

ELIOT
BEECH ROAD
CULVERT REPLACEMENT

WIN: 27911.00

2022

Updated 05/15/2020

STATE PROJECT

MAINTENANCE & OPERATIONS

BIDDING INSTRUCTIONS

1. Use pen and ink to complete all paper Bids. Signatures shall be original. Stamped and copied signatures will not be accepted. Bids are not accepted by email or FAX.
2. As a minimum, the following should be received prior to the time of Bid opening:

For a Paper Bid:

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

For an Electronic Bid:

NOTE: Not all projects accept Electronic Bids. Please review the Notice to Contractors and see if it specifically states that Electronic Bids will be accepted.

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

3. Include prices for all items in the Schedule of Items.
4. Bid Guaranty acceptable forms are:
 - a) a properly completed and signed Bid Bond on the Department's prescribed form (or on a form that does not contain any significant variations from the Department's form as determined by the Department) for 5% of the Bid Amount or
 - b) an Official Bank Check, Cashier's Check, Certified Check, U.S. Postal Money Order or Negotiable Certificate of Deposit in the amount stated in the Notice to Contractors or
 - c) an electronic bid bond submitted with an electronic bid.
5. All Bid Packages which are mailed or sent express, shall be provided in double (one envelope inside the other) envelopes, for security and other reasons. The *Inner Envelope* shall have the following information provided on it:

Bid Enclosed - Do Not Open

WIN:

Towns:

Date of Bid Opening:

Name of Contractor with mailing address and telephone number:

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

Double Envelope: Bid Enclosed

WIN:

Towns:

Date of Bid Opening:

Name of Contractor:

If a paper Bid is to be sent express, please take note that overnight services do not always arrive in time and that delivery may be affected by carrier volume, weather and other factors. Packages using express services should be sent to directly to the DOT Headquarters Building, Maine Department of Transportation, 24 Child Street, Augusta. "FedEx First Overnight" delivery is suggested as the package is delivered directly to the DOT Headquarters Building, Mailroom, 24 Child Street, Augusta. Allow extra days for U.S. Postal Service Express Mail which has proven not to be reliable and sometimes does not deliver directly to the DOT Headquarters Building but instead delivers to the State of Maine Mail Distribution Center.

If a paper bid is to be mailed, the mailing address is Maine Department of Transportation, 16 State House Station, Augusta, ME 04333-0016. Allow additional working days for this mail to pass through the state mail system in addition to the US Postal Service as this mail is not delivered directly to the Department of Transportation.

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

Bid Enclosed: Do Not Open

WIN:

Towns:

Date of Bid Opening:

Name of Contractor:

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

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

NOTICE

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

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

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

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

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

KNOW ALL MEN BY THESE PRESENTS THAT _____

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

as Principal, and _____ as Surety, a

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

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

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

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

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

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

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

_____ and if the Department shall accept said bid

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

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

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

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

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

force, and effect.

Signed and sealed this _____ day of _____ 20_____

WITNESS:

WITNESS

PRINCIPAL:

By _____

By: _____

By: _____

SURETY:

By _____

By: _____

Name of Local Agency: _____

NOTICE

Bidders:

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

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

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

Vendor Registration

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

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

CONTRACTOR INFORMATION

Contractor Name: _____

Mailing Address: _____

Vendor Customer Number: _____

Contact Information (Primary Contact): _____

Phone: _____ **Cell Phone:** _____

Fax: _____

Email: _____

Mailing Address (if different from above): _____

The company has the following organizational structure:

Sole Proprietorship

Limited Liability Company

Partnership

Joint Venture

Corporation

Other: _____

(Date)

(Signature)

(Name and Title Printed)

**STATE OF MAINE DEPARTMENT OF TRANSPORTATION
NOTICE TO CONTRACTORS**

Sealed Bids addressed to the Maine Department of Transportation, Augusta, Maine 04333 and endorsed on the wrapper "Bids for **Culvert Replacement** in the Town of **Eliot**" 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 **August 24, 2022** 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 **Highway** 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: WIN. 27911.00

Location: In York County, project is located on 145 Beech Road in Eliot Maine

Outline of Work: Culvert Replacement, Water Main Relocation, 16" Sewer Sleeve and other incidental work.

The basis of award will be section 1

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, bid results and an electronic form for RFI submittal. For Project-specific information fax all questions to **Gail Iler** at (207) 624-3431, use electronic RFI form or email questions to RFI-Contracts.MDOT@maine.gov, project name and identification number should be in the subject line. Questions received after 12:00 noon of Friday prior to bid date will not be answered. Bidders shall not contact any other Departmental staff for clarification of Contract provisions, and the Department will not be responsible for any interpretations so obtained. TTY users call Maine Relay 711.

Bid Documents, plans, specifications and bid forms can be viewed and obtained digitally at no cost at <http://www.maine.gov/mdot/contractors/>. Plans, specifications and bid forms may be seen at the MaineDOT Building in Augusta, Maine, and at the Department of Transportation's Regional Office in Scarborough. They may be purchased from the Department between the hours of 8:00 a.m. to 4:30 p.m. by cash, credit card (Visa/Mastercard) or check payable to Treasurer, State of Maine sent to Maine Department of Transportation, Attn.: Mailroom, 16 State House Station, Augusta, Maine 04333-0016. They also may be purchased by telephone at (207) 624-3536 between the hours of 8:00 a.m. to 4:30 p.m. Bid Book \$10 (\$13 by mail), payment in advance, all non-refundable.

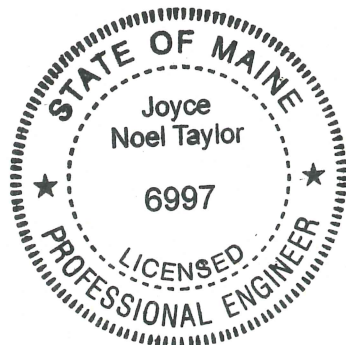
Each Bid must be made upon blank forms provided by the Department and must be accompanied by a bid bond at 5% of the bid amount or an official bank check, cashier's check, certified check, certificate of deposit, or United States postal money order in the amount of 5% of the bid amount, payable to Treasurer,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

This Contract is subject to all applicable State Laws.

All work shall be governed by *State of Maine, Department of Transportation, Standard Specifications, March 2020 Edition*, price \$10 [\$15 by mail], and *Standard Details, March 2020 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
August 10, 2022



JOYCE NOEL TAYLOR, P. E.
CHIEF ENGINEER

**SPECIAL PROVISION 102.7.3
ACKNOWLEDGMENT OF BID AMENDMENTS**

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

Amendment Number	Date

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

CONTRACTOR

Date

Signature of authorized representative

(Name and Title Printed)

7/14/2022

Maine Department of Transportation

Proposal Schedule of Items

Page 1 of 2

Proposal ID: 027911.00

Project(s): 027911.00

SECTION: 1

SECTION 1 - PIPE ARCH BASIS OF AWARD

Alt Set ID:

Alt Mbr ID:

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
0010	603.3840 71 INCH SPAN 47 INCH RISE PIPE ARCH METAL	1.000 EA	_____	 _____	_____	 _____
0020	659.10 MOBILIZATION	LUMP SUM	_____	 LUMP SUM	_____	 _____
Section: 1			Total:		_____	 _____

SECTION: 2

SECTION 2 - RELOCATE WATER MAIN

Alt Set ID:

Alt Mbr ID:

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
0030	822.32 RELOCATE WATER MAIN	LUMP SUM	_____	 LUMP SUM	_____	 _____
Section: 2			Total:		_____	 _____

Maine Department of Transportation

Proposal Schedule of Items

Proposal ID: 027911.00 Project(s): 027911.00

SECTION: 3 SECTION 3 - SEWER PLACEMENT

Alt Set ID: Alt Mbr ID:

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
0040	803.161 SEWER PLACEMENT	LUMP SUM				
		Section: 3				
			Total:			
			Total Bid:			

By signing below, the Bidder (1) represents that the Bidder has examined the Contract Agreement contained in the Bid Documents, the Contract, all documents referenced in said Contract, and the site and scope of work, (2) does hereby bid and offer to enter into this contract to construct and/or perform the Work in strict accordance with the terms and conditions of this Contract at the unit prices bid in the attached "Schedule of Items", (3) represents that the Bidder has given the Department notice of any errors or ambiguities related to the documents or the work that have been discovered by the Bidder, (4) represents that the above-named organization is the legal entity entering into the resulting contract with the Department if they are awarded the contract and, (5) represents that the undersigned is authorized to enter contractual obligations on behalf of the above-named organization.

Bidder acknowledges that the properly completed and signed Schedule of Items provided with the Bid constitutes the Bidder's offer and that this offer shall remain open for 30 calendar days after the date of opening of bids.

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.

Use pen and ink to complete paper bids. Signatures shall be original. Stamped and copied signatures will not be accepted.

Signature Date

(Print Bidder's Name and Title)

CONTRACT AGREEMENT, OFFER & AWARD

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

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

A. **The Work.**

The Contractor agrees to complete all Work as specified or indicated in the Contract including Extra Work in conformity with the Contract **WIN 27911.00** for the **Culvert Replacement** in the town of **Eliot** 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 **October 8, 2022**. Further, the Department may deduct from moneys otherwise due the Contractor, not as a penalty, but as Liquidated Damages in accordance with Sections 107.7 and 107.8 of the *State of Maine Department of Transportation Standard Specifications, March 2020 Edition* and related Special Provisions.

C. Price.

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

Section 1 - PIPE ARCH & MOBILIZATION

\$ _____

Section 2 – RELOCATE WATER MAIN

\$ _____

Section 3 - SEWER PLACEMENT

\$ _____

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, March 2020 Edition, Standard Details March 2020 Edition* as updated through advertisement, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds. It is agreed and understood that this Contract will be governed by the documents listed above.

E. Certifications.

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

1. All of the statements, representations, covenants, and/or certifications required or set forth in the Bid and the Bid Documents, including those in the Contract are still complete and accurate as of the date of this Agreement.
2. The Contractor knows of no legal, contractual, or financial impediment to entering into this Contract.

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

F. Offer.

The undersigned, having carefully examined the site of work, the Plans, *Standard Specifications March 2020 Edition*, *Standard Details March 2020 Edition* as updated through advertisement, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds contained herein for construction of:

WIN 27911.00 for Culvert Replacement in the Town of Eliot

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, March 2020 Edition*, and as addressed in the contract documents.

Second: That the bid bond at 5% of the bid amount or the official bank check, cashier’s check, certificate of deposit or U. S. Postal Money Order in the amount given in the “Notice to Contractors”, payable to the 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 March 2020 Edition* and complete the Work within the time limits given in the Special Provisions of this Contract.

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

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

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

CONTRACTOR

Date

(Signature of Legally Authorized Representative
of the Contractor)

Witness

(Name and Title Printed)

G. Award.

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

Section 1 _____

Section 2 _____

Section 3 _____

The original contract amount is: \$ _____
_____.

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

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

A. **The Work.**

The Contractor agrees to complete all Work as specified or indicated in the Contract including Extra Work in conformity with the Contract **WIN 27911.00** for the **Culvert Replacement** in the town of **Eliot** 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 **October 8, 2022**. Further, the Department may deduct from moneys otherwise due the Contractor, not as a penalty, but as Liquidated Damages in accordance with Sections 107.7 and 107.8 of the *State of Maine Department of Transportation Standard Specifications, March 2020 Edition* and related Special Provisions.

C. Price.

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

Section 1 - PIPE ARCH & MOBILIZATION

\$ _____

Section 2 – RELOCATE WATER MAIN

\$ _____

Section 3 - SEWER PLACEMENT

\$ _____

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, March 2020 Edition, Standard Details March 2020 Edition* as updated through advertisement, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds. It is agreed and understood that this Contract will be governed by the documents listed above.

E. Certifications.

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

1. All of the statements, representations, covenants, and/or certifications required or set forth in the Bid and the Bid Documents, including those in the Contract are still complete and accurate as of the date of this Agreement.
2. The Contractor knows of no legal, contractual, or financial impediment to entering into this Contract.

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

F. Offer.

The undersigned, having carefully examined the site of work, the Plans, *Standard Specifications March 2020 Edition*, *Standard Details March 2020 Edition* as updated through advertisement, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds contained herein for construction of:

WIN 27911.00 for Culvert Replacement in the Town of Eliot

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, March 2020 Edition*, and as addressed in the contract documents.

Second: That the bid bond at 5% of the bid amount or the official bank check, cashier’s check, certificate of deposit or U. S. Postal Money Order in the amount given in the “Notice to Contractors”, payable to the 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 March 2020 Edition* and complete the Work within the time limits given in the Special Provisions of this Contract.

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

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

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

CONTRACTOR

Date

(Signature of Legally Authorized Representative
of the Contractor)

Witness

(Name and Title Printed)

G. Award.

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

Section 1 _____

Section 2 _____

Section 3 _____

The original contract amount is: \$ _____
_____.

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

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

A. The Work.

The Contractor agrees to complete all Work as specified or indicated in the Contract including Extra Work in conformity with the Contract, **WIN 12345.00**, 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, March 2020 Edition* and related Special Provisions.

C. Price.

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

Section 1 - \$ (Place bid here in alphabetical form such as One Hundred Two dollars)

\$ (repeat bid here in numerical terms, such as \$102.00)

Section 2 \$ (Place bid here in alphabetical form such as Two Hundred dollars)

\$ (repeat bid here in numerical terms, such as \$200.00)

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, March 2020 Edition, Standard Details March 2020 Edition*, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds. It is agreed and understood that this Contract will be governed by the documents listed above.

E. Certifications.

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

1. All of the statements, representations, covenants, and/or certifications required or set forth in the Bid and the Bid Documents, including those in Appendix A to Division 100 of the *Standard Specifications March 2020 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, March 2020 Edition, Standard Details March 2020 Edition, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds* contained herein for construction of:

WIN 012345.00 South Nowhere, Hot Mix Asphalt Overlay

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

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

As Offeror also agrees:

First: To do any extra work, not covered by the attached "Schedule of Items," which may be ordered by the Resident, and to accept as full compensation the amount determined upon a "Force Account" basis as provided in the *Standard Specifications, March 2020 Edition*, and as addressed in the contract documents.

Second: That the bid bond at 5% of the bid amount or the official bank check, cashier's check, certificate of deposit or U. S. Postal Money Order in the amount given in the "Notice to Contractors", payable to the 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 March 2020 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 this Agreement and thereby binds itself to all covenants, terms, and obligations contained in the Contract Documents.

CONTRACTOR

(Print Date here)
Date

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

(Witness Sign Here)
Witness

(Print Name Here)
(Name and Title Printed)

G. Award.

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

- Section 1
- Section 2

The original contract amount is: \$ _____
_____.

MAINE DEPARTMENT OF TRANSPORTATION

Date

By: Brian T. Burne
Highway Maintenance Engineer
Bureau of Maintenance & Operations

BOND # _____

CONTRACT PERFORMANCE BOND
(Surety Company Form)

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

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

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

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

WITNESSES:

SIGNATURES:

CONTRACTOR:

Signature.....

.....

Print Name Legibly

Print Name Legibly

SURETY:

Signature

.....

Print Name Legibly

Print Name Legibly

SURETY ADDRESS:

NAME OF LOCAL AGENCY:

.....

ADDRESS

.....

.....

.....

.....

TELEPHONE.....

.....

BOND # _____

CONTRACT PAYMENT BOND
(Surety Company Form)

KNOW ALL MEN BY THESE PRESENTS: That _____
_____ **in the State of** _____, as principal,
and.....

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

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

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

Signed and sealed this day of, 20

WITNESS:

SIGNATURES:

CONTRACTOR:

Signature.....

.....

Print Name Legibly

Print Name Legibly

SURETY:

Signature.....

.....

Print Name Legibly

Print Name Legibly

SURETY ADDRESS:

NAME OF LOCAL AGENCY:

.....

ADDRESS

.....

.....

TELEPHONE

.....

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

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

**2022 Fair Minimum Wage Rates
 Highway & Earth York County**

Occupational Title	Minimum Wage	Minimum Benefit	Total
Carpenter	\$26.40	\$6.45	\$32.85
Cement Masons And Concrete Finisher	\$20.00	\$0.00	\$20.00
Commercial Divers	\$28.00	\$2.50	\$30.50
Construction And Maintenance Painters	\$23.34	\$2.53	\$25.87
Construction Laborer	\$23.00	\$0.00	\$23.00
Control And Valve Installers And Repairers - Except Mechanical Door	\$26.00	\$5.49	\$31.49
Conveyor Operators And Tenders	\$18.00	\$2.71	\$20.71
Crane And Tower Operators	\$31.54	\$6.68	\$38.22
Crushing Grinding And Polishing Machine Operators	\$21.00	\$4.52	\$25.52
Earth Drillers - Except Oil And Gas	\$23.25	\$5.53	\$28.78
Electricians	\$33.37	\$15.69	\$49.06
Excavating And Loading Machine And Dragline Operators	\$28.10	\$4.42	\$32.52
Fence Erectors	\$18.00	\$0.72	\$18.72
Flaggers	\$17.00	\$0.00	\$17.00
Heating And Air Conditioning And Refrigeration Mechanics And Installers	\$26.33	\$4.06	\$30.39
Heavy And Tractor - Trailer Truck Drivers	\$24.00	\$2.67	\$26.67
Highway Maintenance Workers	\$21.50	\$1.87	\$23.37
Industrial Machinery Mechanics	\$26.00	\$5.19	\$31.19
Industrial Truck And Tractor Operators	\$24.00	\$5.61	\$29.61
Light Truck Or Delivery Services Drivers	\$20.00	\$2.30	\$22.30
Millwrights	\$25.13	\$3.51	\$28.64
Mixing And Blending Machine Operators	\$24.71	\$8.59	\$33.30
Mobile Heavy Equipment Mechanics - Except Engines	\$25.13	\$3.28	\$28.41
Operating Engineers And Other Equipment Operators	\$32.20	\$2.00	\$34.20
Paving Surfacing And Tamping Equipment Operators	\$24.34	\$4.28	\$28.62
Pipelayers	\$28.00	\$7.20	\$35.20
Plumbers Pipe Fitters And Steamfitters	\$26.75	\$2.69	\$29.44
Reinforcing Iron And Rebar Workers	\$48.58	\$0.00	\$48.58
Structural Iron And Steel Workers	\$24.00	\$1.36	\$25.36

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


Apprentices – The minimum wage rate for registered apprentices are those set forth in the standards and policies of the Maine State Apprenticeship and Training Council for approved apprenticeship programs.

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

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

Appeal – Any person affected by the determination of these rates may appeal to the Commissioner of Labor by filing a written notice with the Commissioner stating the specific grounds of the objection within ten (10) days from the filing of these rates.

A true copy

Attest: 

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

Expiration Date: 12-31-2022

**STATE OF MAINE
DEPARTMENT OF TRANSPORTATION**

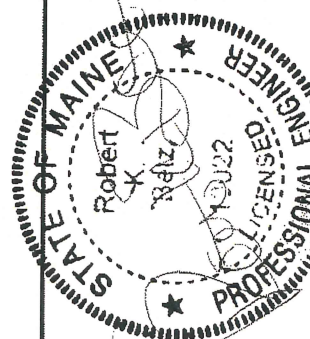


**Eliot Culvert Replacement
York County
Over Great Creek
Beech Road**

SCOPE: Culvert Replacement

TRAFFIC DATA	
CURRENT (2016) AADT.....	750
FUTURE (2036) AADT.....	890
DHV - % OF AADT.....	13%
% HEAVY TRUCKS (AADT).....	21%
% HEAVY TRUCKS (DHV).....	13%
18-KIP EQUIVALENT P 2.0.....	119
18-KIP EQUIVALENT P 2.5.....	114

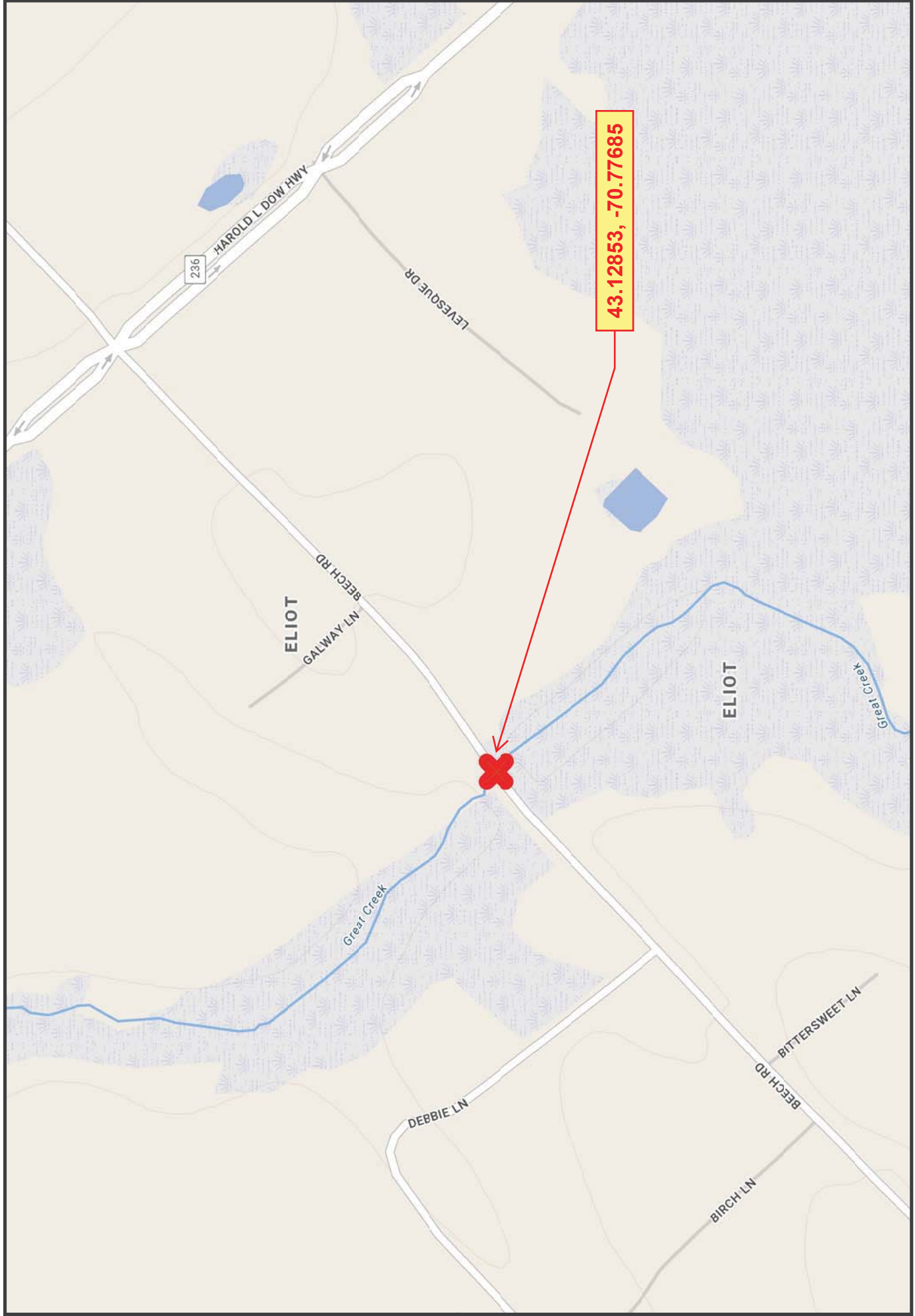
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
WIN 027911.00 Culvert # 1027986




Robert Skidmore
SIGNATURE
13022
P.E. NUMBER
7/11/2022
DATE

STATE OF MAINE DEPARTMENT OF TRANSPORTATION	APPROVED	DATE
COMMISSIONER	<i>[Signature]</i>	8-3-22
CHIEF ENGINEER	<i>[Signature]</i>	8-3-2022
Eliot Culvert Replacement Beech Road		SHEET NUMBER 1
TITLE SHEET		1 OF 1

ELIOT - 027911.00_LOCATION MAP



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

0.1 Miles
1 inch = 0.09 miles

Date: 1/24/2022
Time: 3:29:06 PM

CONSTRUCTION NOTES

ITEM: 603.3840 71” S 47” R PIPE ARCH

Location in Eliot on the Beech Road; GPS coordinates N 43.12853 W-70.77685

Existing: east 36” x 60” CMP, west 30” x 60’ CMP **Centerline Elevation** = 100.00

Proposed: 71” S x 47” R x 60’ Pipe Arch

East Side Existing Pipe	
Inlet Elev. 93.36	Outlet Elev. 92.11
West Side Existing Pipe	
Inlet Elev. 94.22	Outlet Elev. 92.57
Proposed – Pipe Arch	
Inlet Elev. 91.50	Outlet Elev. 91.50

- This is an In Stream location. Downstream flow conditions shall be maintained as required by Special Provision 105 Environmental Requirements. The Contractor shall handle and pump or divert water such that the stream is always flowing, and no dirty water leaves the site. The Contractor shall use sheet pile; sandbags will not be allowed.
- The Contractor shall excavate the inlet/out of the stream to match the existing inlet elevation. The extent of the excavation shall be as directed by the Department in the field and shall extend out to but not exceeding the limits shown in the environmental permit package.
- The Contractor shall place Plain Riprap around the culvert ends. It is estimated 20 yards will be required. Riprap shall not be placed in the streambed.
- The remaining disturbed slopes shall be seeded with the use of erosion control blanket, or 4” of erosion control mix shall be placed.
- All road culvert trenches shall have 6” of hot mix asphalt placed in multiple lifts not to exceed 2.5”. The gradation shall be 12.5 mm for the first 2 lifts and 9.5 mm for the top lift.
- No less than 8’ of pipe will be allowed to be installed on the ends of the pipe run.

ITEM 659.10 MOBILIZATION

ITEM 803.161 SEWER PLACEMENT

- Placement of a sleeve for future sewer main as specified in Special Provision 803, the plans by Underwood Engineering and documents contained herein.

ITEM 822.32 RELOCATE WATER MAIN

- As specified in Special Provision 822, the plans by Wright-Pierce and documents contained herein.

GENERAL NOTES

1. A paper copy of the Maine General Permit must be kept on site. This permit can be found at: <https://www.nae.usace.army.mil/Missions/Regulatory/State-General-Permits/Maine-General-Permit//>
2. The Contractor shall place the new culvert pipes to the elevations and offsets given in the Construction Notes unless otherwise directed by the Department.
3. The Contractor is responsible for maintaining the trenches prior to paving and providing proper signage and traffic control.
4. Any necessary cleaning of the pavement caused by replacement of the culvert pipe shall be incidental to the Contract.
5. Any damage caused to existing ditches, pavement or any other Maine DOT property shall be fixed to the satisfaction of the Department at the Contractor's expense.
6. All work shall be done in accordance with the current Maine Department of Transportation's Best Management Practices for Erosion Control and Sedimentation Control. **All water shall be handled so no dirty water will be leaving the site.**
7. The Contractor is responsible for following dig safe requirements and for communicating with and coordinating with any applicable utilities.
8. When compacting, the entire length of the trench will be compacted including the shoulder/ in slope of the road.

March 14, 2007
Supersedes March 3, 1966

Non-federal Projects Only

NOTICE TO CONTRACTORS - PREFERRED EMPLOYEES

Sec. 1303. Public Works; minimum wage

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

Eliot
WIN: 027911.00
Culvert Replacement
July 11, 2022

SPECIAL PROVISION
SECTIONS 102 BIDDING
& 103 AWARD & CONTRACTING
(Basis of Award)

Bidder MUST bid all (3) sections

The basis for award will be the lowest responsive bid for Section 1 as determined by the Department.

SPECIAL PROVISIONS
SECTION 104
Utilities

UTILITY COORDINATION

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

THE CONTRACTOR SHALL PLAN AND CONDUCT WORK ACCORDINGLY.

MEETING

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

GENERAL INFORMATION

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

The contractor shall give all Utilities 10 working days’ notice prior to beginning any work on this project.

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

Utility	Aerial	Underground
Central Maine Power	X	
Comcast (Berwick Area)	X	
Consolidated Communications	X	
Town of Eliot		X
Kittery Water District		X
Unitil Corp.		X

Utility Contact Information		
Utility/Railroad	Contact Person	Contact Phone
Central Maine Power	Gregory Crosby	(207)459-4217
Comcast (Berwick Area)	Jesse Bibeau	(978)501-4498
Consolidated Communications	David Kestner	(603)703-9311
Town of Eliot	Steve Robinson	(207)439-9451
Kittery Water District	Michael Rogers	(207)451-8316
Unitil Corp.	Derick Giroux	(207)251-2533

Temporary utility adjustments **are** 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.

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

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

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*****

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** dependent upon favorable weather, working conditions, and freedom from emergencies. The Contractor shall have no claim against the Department if they are exceeded.

The contractor shall notify all utility companies **10 working days advance notice** prior to beginning any work on this project.

The Kittery Water District has submitted, and MaineDOT has accepted, a letter of Public Interest Finding allowing the District to purchase water line utility work materials for this project.

The Town of Eliot has submitted, and MaineDOT has accepted, a letter of Public Interest Finding allowing the Town to purchase sewer line utility work materials for this project.

AERIAL

Aerial utility adjustments **are** anticipated as part of this project. If any unexpected utility relocations become necessary, they shall be scheduled in compliance with Section 104 of the Standard Specifications and shall be done by the utilities in conjunction with the work by the Contractor.

Utility Specific Issues:

Central Maine Power Company (CMP) has poles and lines located within the limits of the project. CMP will need to support their pole (CMP 21) in place during the installation of the cross culvert. CMP requires **10 working days advance notification** to have a person onsite while the contractor is digging near their facilities or to make any adjustments to them.

SUBSURFACE

Utility Specific Issues:

Subsurface utility adjustments **are** anticipated as part of this project. If any unexpected utility relocations become necessary, they shall be scheduled in compliance with Section 104 of the Standard Specifications and shall be done by the utilities in conjunction with the work by the Contractor.

Utility	Summary of Work	Estimated Working Days
Kittery Water District	Installing new water main and service piping; valves and fittings	1
Town of Eliot	Installing new sewer main piping/structures/services	1
Total:		2

Town of Eliot plans on installation of a sewer system within the project limits. The town of Eliot shall partner with this MaineDOT highway project to install approximately 36 linear feet of 16" Class 52 ductile iron pipe beneath the proposed 71" X 40" X 60' Pipe Arch Opt. III. These new materials shall be provided by the town of Eliot with the contractor responsible for coordinating delivery/site stocking. All of this sewer scope shall be constructed from plan sheets and specifications created by Underwood Engineers (consulting firm of record). See plan sheet, at the end of the MaineDOT plan set, and appendix sections in the project booklet for the sewer scope specifications. The town of Eliot shall inspect the contractor performing the utility work activities (labor/materials/equipment) necessary for the new sewer force main install. The contractor shall be responsible for coordinating quality control, acceptance of the utility work scope and pay-item quantities directly with the town of Eliot. The town of Eliot requires **10 working days advance notice to schedule their involvement.** See the above table for town of Eliot estimated working days.

Kittery Water District (KWD) has a 10" water main within the project limits. KWD shall partner with this MaineDOT highway project to replace approximately 12 linear feet of 10" ductile iron water main of its existing water system beneath the proposed 71" X 40" X 60' Pipe Arch Opt. III. These new materials shall be provided by KWD with the contractor responsible for coordinating delivery/site stocking. All of this water scope shall be constructed from plan sheets and specifications created by Wright - Pierce (consulting firm of record). See plan sheet at the end of the MaineDOT plan set, and appendix sections in the project booklet for the water scope specifications. KWD shall inspect the contractor performing the utility work activities (labor/materials/equipment) necessary for the new water main install. The contractor shall be responsible for coordinating quality control, acceptance of the utility work scope and pay-item quantities directly with KWD. KWD requires **10 working days advance notice to schedule their involvement.** See the above table for KWD estimated working days.

Unitil has an 8" coated steel pipeline within the project limits. Unitil will need to support their pipeline during excavation efforts for the installation of the cross culvert. Unitil requires **10 working days advance notice** prior to any operations involving work around their pipeline.

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 PROVISION
SECTION 105
(Construction Surveying)

Due to the use of differing control points by MaineDOT, Wright-Pierce and Underwood Engineering the elevations contained herein do not match.

The Department will establish a single control point for this project using the elevations in the Construction Notes. The Contractor shall provide all additional survey layout necessary to complete the work. This will not be measured separately but will be considered incidental to Item 603.3840.

Undetermined locations will be determined by the Department

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

Work within stream (“In Stream Work,” see MaineDOT Standard Specifications 101.2 Definitions) requires special conditions to minimize impacts. The following special conditions shall apply to this project:

- I. In Stream work shall not be allowed between the dates of October 1 and July 14.
(In-Stream work is allowed from July 15 to September 30) This is a time of year restriction.
- II. In Stream work window applies to the following culvert location:
Eliot, Beech Rd cross culvert number XC-1027986, located at 43.12853, -70.77685
(where Great Creek crosses Beech Road)
- III. Special Conditions:
 1. Special Conditions of Army Corps of Engineers (ACOE) PCN permit NAE-2022-00249 apply (see permit and conditions in contract documents).
- IV. Approvals:
 1. Temporary Soil Erosion and Water Pollution Control Plan (SEWPCP)
 2. Permitted Resource Impacts (for cofferdams and dewatered areas), see ACOE permit for locations:
Temporary Stream: +/- 150 s.f.
Temporary Wetland: +/- 240 s.f.
- V. No work is allowed that completely blocks a river, stream, or brook without providing downstream flow.
- VI. All activities are prohibited below the normal highwater mark except for the following:
Work (permitted by the ACOE) within a cofferdam constructed according to MaineDOT’s Standard Specifications, and in adherence with the contractors approved SEWPCP.

NOTE: Regulatory Review and Approval is required to modify the existing In-Stream 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.

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

The Contractor's Traffic Control Plan shall be operationally effective, complete and in conformity with Federal requirements, Contract provisions, the current edition of the MUTCD, and Department policy and procedures as determined by the Department prior to beginning work.

The Contractor shall work in lane closures with two-way traffic when possible and alternating one way traffic when not possible.

MaineDOT will close the Eliot Beech Road for 60 hours on a Friday agreed upon by the Contractor and MaineDOT during the projected project dates. MaineDOT will close the road on a Friday beginning at 5:00 PM and will reopen to a minimum of one-way alternating traffic on Monday 5:00 AM, 60 hours later. For every hour that the contractor needs (not wants) to keep the detour up, they will incur a Supplemental Liquidated Damages at a rate of 250.00 per hour.

MaineDOT will place pre-warning message boards one week prior to the detour. MaineDOT will be responsible for placing signs as well as public safety agency notification and general public press releases related to the detour.

The Contractor will be required to give the MaineDOT a minimum of 14 calendar days, notice prior to wanting the detour in place.

Any and all traffic control for Work prior to, after and outside of the road closure will be the responsibility of the Contractor, including all signs and flaggers. Traffic Control will not be paid for separately but will be considered incidental to Item 603.3840.

A 48-hour notice will be required for any changes in the work schedule.

The Contractor's Soil Erosion and Water Pollution Control Plan must be approved prior to beginning work. Section 656 of the Standard Specifications shall apply.

Any temporary bypass needed shall be addressed in the Contractor's Soil Erosion and Water Pollution Control Plan and approved before excavation begins.

At a minimum, pipe trenches shall be paved on Friday before the Contractor leaves the work area. The Contractor shall maintain the trenches and provide adequate signage until the trench is paved.

Upon award, Suzanne Norton is the Maine DOT's contact person. She may be reached by cell phone at (207) 816-0302 or by email at Suzanne.M.Norton@maine.gov

SPECIAL PROVISION
SECTION 511
COFFERDAMS
(In-Stream Culvert Work)

Section 511, Cofferdams, is deleted in its entirety and replaced with the following:

511.01 Description

This work shall consist of the complete design, construction, maintenance and removal of cofferdams and other related work, including dewatering and inspection, required to allow for the excavation and replacement of culverts; to permit and protect the construction of bridges, roadways, embankments or other structural units; and for the removal and/or construction and maintenance of approach roadways necessary for the maintenance of traffic, in accordance with the Contract.

511.02 Submittals

Temporary Soil Erosion and Water Pollution Control Plan.

511.03 Materials

The Contractor **shall** use steel sheeting or steel plate of adequate strength to allow for the safe execution of the Work.

511.04 Cofferdam Construction

Cofferdams shall, in general, be installed to adequate depths to ensure stability and adequate heights to seal off water. Cofferdams shall be braced and be as watertight as necessary for the safe execution of the Work. The Contractor shall be responsible for the righting and resetting of cofferdams that have tilted or moved laterally, as required for construction.

Cofferdams shall be constructed, dewatered and removed in accordance with the requirements of Section 656 - Temporary Soil Erosion and Water Pollution Control and related Special Provisions.

No sandbags or other material, except for polyethylene sheeting or geotextiles used to prevent erosion from stream bypass measures, shall be placed outside the steel cofferdam.

Cofferdams shall be constructed to protect the Work against damage caused by erosion from the sudden rising of the waterbody.

The Contractor shall minimize, to the extent practical for completing the Work, the construction limits as directed by the Resident or designee.

All disturbed areas associated with the Work shall be restored to the existing condition prior to construction as directed by the Resident or designee.

511.05 Pumping

Sediment-laden water will not be allowed to leave the Project area. The Contractor shall be required to install appropriate erosion and sedimentation control devices as approved by the Resident.

All water and materials pumped from excavation areas shall be pumped into a sedimentation basin which is of sufficient volume to detain the pumped water and materials. The water and materials removed from the excavation area shall be pumped at a rate that permits infiltration of the water into the earth, preventing any overland flow or direct discharge into a stream or other waterbody. Procedures for the removal of all water and materials from cofferdams shall be described in the Soil Erosion and Water Pollution Control Plan.

511.07 Basis of Payment

The accepted cofferdam will not be paid for directly, but will be considered incidental to the Pipe Culvert item. The price shall be full compensation for design, construction, maintenance, inspection, equipment, labor, and removal.

All costs of constructing, maintaining, and removing a sedimentation basin as well as pumping or transporting water and other materials to the sedimentation basin will not be paid for directly but will be considered incidental to the Pipe Culvert Pay Item.

All costs for related temporary soil erosion and water pollution controls, including inspection and maintenance, will not be paid for directly, but will be considered incidental to the Pipe Culvert Pay Item.

SPECIAL PROVISION
SECTION 603
PIPE CULVERTS
(Lump Sum Culvert Pipes)

Description This Work shall consist of supplying and installing culvert pipes in reasonably close conformity with the lines and grades shown on the plans and notes, or established by the Resident; saw cutting and removing the old roadway and disposing of the material; installing cofferdams (if needed); removing and disposing of the existing culvert pipes; furnishing and installing concrete pipe ties; performing all traffic control (supplying all signs, cones, barrels, flagger, etc.) and maintaining the traffic control devices; providing temporary erosion and water pollution control; placing hot mix asphalt in all trenches; placing rip rap, mulch, seed, erosion control bark mulch, and special backfill (if required); and locating and coordinating with all utilities.

Materials All material shall meet the requirements of the Department of Transportation Standard Specification Section 603 – Pipe Culverts and Storm Drains.

Construction Requirements Work shall meet the requirements of the Department of Transportation Standard Specification Section 603 and Standard Details 603 as updated through advertisement. The Contractor shall place the new culvert pipes to the elevations and offsets given unless otherwise directed by Department.

Any required cofferdams shall meet the requirements of the Department of Transportation Standard Specification Section 511 as updated through advertisement, and any Special Provisions and all permit requirements.

Any required concrete pipe ties shall be furnished and installed in conformance with the Standard Details.

The lower lifts of backfill shall be suitable excavation salvaged from the removal of the existing culvert pipes. The top 18” of backfill shall be excavated roadway material, reserved and replaced to best match the adjacent material. If additional material is required to complete the backfill, the top lift shall be of gravel meeting the gradation of Aggregate for Base, Type D as per section 703.06 of the Department of Transportation Standard Specifications.

Placing of backfill material shall not exceed 8” loose measure as per section 206.03 of the Department of Transportation Standard Specifications. The backfill material shall be thoroughly rammed under the haunches of the pipe with power or pneumatic operated hand tampers.

Any excavated material not suitable for use as backfill, shall be used to build slopes or placed in approved waste area as directed by the Department.

All culvert pipe trenches shall be paved with 6" of hot mix asphalt as directed placed in multiple lifts not to exceed 2.5". The gradation shall be 12.5 mm for the first 2 lifts and 9.5 mm for the top lift.

Seeding and Mulching of disturbed soil shall be done daily. The Contractor may seed and mulch by hand.

The Contractor shall submit a traffic control plan that meets the requirement of section 652 of the Department of Transportation Standard Specifications.

The Contractor shall submit a Soil Erosion and Water Pollution Control Plan and a Spill Prevention Control and Countermeasure Plan as per Section 656 of the Department of Transportation Standard Specifications as updated through advertisement, and any Special Provisions and all permit requirements.

Method of Measurement Culvert Pipes of the different types and sizes will be measured by each culvert installed, complete in place, and accepted.

Basis of Payment: The accepted quantity of Culvert Pipe will be paid for at the Contract unit price each.

The following shall be incidental to the culvert:

- a. All culvert pipe excavation, including cutting and removal of the existing pavement and any underlying concrete roadway.
- b. Soil Erosion and Water Pollution Control, including the submittal of a SEWPCP Plan and a SPCCP Plan,
- c. All traffic control and maintenance of the traffic control devices, including the submittal of a Traffic Control Plan, outside of the Department administered 60 hour detour.
- d. Design, construction, maintenance, and removal of cofferdams, including dewatering.
- e. Ditching at pipe ends, as designated in the Construction Notes or as directed.
- f. Furnishing, placing, grading, and compacting of any new gravel and/or fill material. This also includes any granular borrow needed for bedding.
- g. Furnishing and installing concrete pipe ties and all other incidentals to satisfactorily conform to the standard details.
- h. Any grout or mortar necessary to repair chipping.
- i. Any clearing of brush and trees less than 12" in diameter.
- j. Paving the trench with HMA.
- k. Riprap, Seed, Mulch and Erosion Control Mix, Erosion Control Blanket, Erosion Control Geotextile.
- l. Special Backfill.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
603.3840 71" S 47" R PIPE ARCH MCC	EA

SPECIAL PROVISION
SECTION 652
MAINTENANCE OF TRAFFIC

Approaches. Approach signing shall include the following signs at a minimum. Field conditions may warrant the use of additional signs as determined by the Resident.

Road Work Next X* Miles
Road Work 500 Feet (Ahead)
End Road Work

Work Areas. At each work site, signs and channelizing devices shall be used as directed by the Resident.

Signs include:

Road Work xxxx¹.
One Lane Road Ahead
Flagger Sign

Other typical signs include:

Be Prepared to Stop
Low Shoulder
Bump
Pavement Ends

The above lists of Approach signs and Work Area signs are representative of the contract requirements. Other sign legends may be required.

Unless otherwise defined in Special Provision 105/107 or submitted and approved in the Traffic Control Plan, the following shall apply:

- The Contractor shall conduct their operations in such a manner that the roadway will not be restricted to one lane for more than 2,500 feet at each work area and no more than 4,000 feet for paving and milling work areas.
- Where more than one work area restricts traffic to one lane operation, these work areas shall be separated by at least 1 mile of two-way operation.

Temporary Centerline A temporary centerline shall be placed each day on all new pavement to be used by traffic. The temporary centerline, when specified of reflectorized traffic paint, shall conform to the standard marking patterns used for permanent markings. Failure to apply a temporary centerline daily will result in a Traffic Control Violation and suspension of paving operations until temporary markers are applied to all previously placed pavement.

¹ “Road Work Ahead” to be used in short duration operations and “Road Work xx feet” to be used in stationary operations as directed by the Resident.

SPECIAL PROVISION
SECTION 803
SEWER PLACEMENT
Sleeve Installation

The Scope of work to be provided

The Contractor shall install (2) two 18' Long sleeves for future sewer that will be beneath the proposed 71"x 47"x 60' Pipe Arch. Details can be found in the provided plans

Services to be provided by the Town of Eliot are as follows

All sleeve materials

The Contractor shall provide the following Materials

The Contractor shall provide approximately 6 Yards of ¾" Crushed Stone, Incidental to Contract items.

The Contractor shall excavate and install the sleeves.

Method of Measurement

Work shall be measured as Lump Sum for all work complete, installed, and accepted by Town of Eliot

Basis of Payment

The accepted Lump Sum quantity shall be paid for at the contract unit price.

<u>Pay Item</u>	<u>Pay Unit</u>
803.161 Sewer Placement	LS

SECTION 02610

PIPE & PIPE FITTINGS - GENERAL

PART 1 - GENERAL

1.1 DESCRIPTION

- A. This section includes general specifications for pipe appurtenances and specialty items typical to a wide range of pipe types and application. It also provides general information on pipe inspection, installation, cleaning and testing. This section is not all inclusive and may be supplemented by the Engineer as needed.

1.2 SUBMITTALS TO THE ENGINEER

- A. Submit shop drawings in accordance with the General Conditions of the Construction Contract.
- B. If requested by the Engineer, submit manufacturer's "Certification of Conformance" that pipe and pipe fittings meet or exceed the requirements of these Specifications.
- C. Submit other documents as specified in the appropriate Sections of this Division.

1.3 DELIVERY, STORAGE AND HANDLING

- A. Exercise care during loading, transporting, unloading, and handling to prevent damage of any nature to interior and exterior surfaces of pipe, fittings and appurtenances.
- B. Do not drop pipe and fittings.
- C. Store materials on the project site in enclosures or under protective coverings in accordance with manufacturer's recommendations and as directed by the Engineer.
- D. Assure that materials are kept clean and dry. If appropriate protect from freezing.
- E. Do not store materials directly on the ground.
- F. Follow manufacturer's specific instructions, recommendations and requirements.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. See appropriate specification section for detailed pipe specification.
- B. Ductile Iron Pipe & Fittings
 - 1. Conform to the latest AWWA Standard
 - a. Cement lined class 52 unless otherwise noted
 - b. Mechanical restrained joint
 - c. Standard gaskets
- C. PVC Sewer Pipe
 - 1. Shall conform to the following ASTM as appropriate for the pipe size.

Pipe Size	Generic Material	ASTM
4"-15"	PVC Solid Wall	D3034
18"-60"	PVC Solid Wall	F679
4"-48"	PVC, dual wall Corrugated	F794
All Sizes	PVC Recycled	F1780
All Sizes	PVC Pressure Pipe	D2241 and D1784

- D. High Density Polyethylene

1. Pipe shall be high density polyethylene (PE) conforming to the following standard referenced specifications:
 - a. ASTM: D3035 Polyethylene Pipe SDR-PR design
 - b. ASTM: D1248 Polyethylene Molding & Extrusion materials.
 - c. CSA: 41-GP-25 Standard for polyethylene pipe.
- E. Corrugate Polyethylene Drain Pipe
 - a. Pipe shall be high density polyethylene (HDPE) conforming to the following standard referenced specifications:
 - b. AASHTO M294
 - c. ASTM: D1248 Polyethylene Molding & Extrusion materials.
 - d. ASTM D3350 Polyethylene Plastic Pipes and Fittings.
- F. Copper Service Pipe
 - a. Seamless copper water tube, ASTM B88.
 - b. Type K, soft annealed 3/4" (minimum) through 1".
 - c. Type K, hard tempered, 1-1/4 inches and larger.
- G. Marking Tape
 1. Shall be coded in accordance with the NPWA Standards.
 2. Shall be indelibly marked indicating the type of utility it is placed over.
 3. Shall be six (6) inches wide Terra Tape Sentry Line 1350 (Detectable) by Reef Industries, Houston, TX, or approved equal.
 4. Marking tape is required even in cases when tracer wire is installed.
- H. Pipe Lubricant or glue
 1. Use only lubricants or glues suitable for the type of pipe and application.
 2. For potable water pipe use only lubricants or glues clearly marked "NSF 61 approved For Use with Potable Water."
- I. Geotextile
 1. Unless specified elsewhere, geotextile fabric used to encase pipe and bedding material in the trench shall be Application 2 – Separation, Class 3 – Low Strength, Nonwoven fabric.
 2. Acceptable Manufacturers shall be listed in the The National Transportation Product Evaluation Program (NTPEP) for Application, Strength Class and Structure
- J. Tracer Wire:
 1. Tracer Wire shall be No. 10 AWG copper clad steel wire with HDPE insulation.
 - a. Insulation shall be blue for drinking water lines.
 - b. Insulation shall be green for sewers, forcemains and low pressure sewers.
 2. Tracer wire connections will be made with DryConn® by King Innovation waterproof connectors for direct bury, for #22 to #8 AWG wire, part #31556 or approved equal.
 3. Install marking tape even when tracer wire is installed. (See Section G.)
- K. Pipe Insulation:
 1. Where shown on the plans for shallow depth, for separation between pipes or as directed, extruded polystyrene shall be installed.
 2. Insulation shall be Dow® Styrofoam™ Highload 100 or equivalent. Insulation shall be appropriate for direct bury.

3. Thickness shall be as shown on the drawings but in no case less than 2 inches. Insulation thickness shall be appropriate for the actual depth of bury for the pipe.
 4. Width and length shall be as shown or as directed but in no case less than 2 feet wide.
- L. Thrust Restraint is required for all pressure pipe.
1. Mechanical Joint Restraint fittings with the appropriate retainer rings shall be installed at all mechanical joints.
 - a. Additional restraint at pipe bells on either side of the mechanical joint fitting may be required based on thrust restraint calculation available online. Programs are available from Ductile Iron Pipe Association, PVC Pipe Association, Romac Industries, Ebba Iron, etc.
 2. Thrust Blocks of appropriate size and dimensions.
 - a. Thrust blocks shall be cast in place.
 - b. Precast thrust blocks may only be used with the written permission of the Owner and upon approval of supporting calculations relative to size.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Provide all labor and equipment necessary to assist the Engineer to inspect pipe, fittings, gaskets, and other materials.
 1. This shall include all air quality testing equipment, harnesses and manlifts necessary to comply with the appropriate OSHA regulation.
 2. The Engineer shall comply with the Contractors regulations and policies regarding below grade or confined space entry.
- B. Carefully inspect all materials at the time of delivery and just prior to installation.
- C. Carefully inspect all pipe and fittings for:
 1. Defects and damage.
 2. Deviations beyond allowable tolerances for joint dimensions.
 3. Removal of debris and foreign matter.
- D. Examine areas and structures to receive piping for:
 1. Defects, such as weak structural components, which adversely affect the execution and quality of work.
 2. Deviations beyond allowable tolerances for pipe clearances.
- E. All materials and methods not meeting the requirements of these Specifications shall be rejected.
- F. Immediately remove all rejected materials from the project site.
- G. Start work only when conditions are corrected to the satisfaction of the Engineer.

3.2 INSTALLATION

- A. General:
 1. Install all pipe and fittings in strict accordance with the manufacturer's instructions and recommendations and as instructed by the Engineer.
 2. Install all pipes and fittings in accordance with the lines and grades shown on the Drawings and as required for a complete installation.
 3. Install adapters, approved by the Engineer, when connecting pipes constructed from different materials.

4. When applicable, support all piping not being installed in trenches in accordance with the "Pipe Hangers & Supports" Section of these Specifications.
- B. Installation and Trenches:
1. Firmly support the pipe and fittings on bedding material as shown on the Drawings and as specified in the appropriate Sections of these Specifications.
 - a. Where, in the opinion of the Engineers, the subgrade material is unsuitable to support the pipe, over-excavate the unsuitable material and replace the same with suitable gravel or granular borrow.
 - b. If the subgrade material encountered consists of saturated clays or silts, the Engineer may direct the installation of the bedding material and pipe inside a construction fabric wrap as shown on the Drawings.
 2. Do not permanently support the pipe or fittings on saddles, blocking stones, or any material which does not provide firm and uniform bearing along the outside length of the pipe.
 3. Thoroughly compact the material under the pipe to obtain a substantial unyielding bed shaped to fully support the pipe.
 4. Excavate suitable holes for the joints so that only the barrel of the pipe receives bearing pressure from the supporting material after placement.
 5. Lay each pipe length so it forms a close joint with the adjoining length and bring inverts to the required grade.
 6. Set the pipe true to line and grade. Use a transit for line. Use a laser beam aligner for grade.
 7. Do not drive the pipe down to grade by striking it with a shovel handle, timber, rammer or any other unyielding object.
 8. Make all pipe joints watertight with no sand, silt, clay or soil of any description entering the pipeline at the joints.
 9. Immediately after making a joint, fill the holes for the joint with bedding material, and compact.
 10. When each pipe length has been properly set, place and compact enough of the bedding material between the pipe and the sides of the trench to hold the pipe in correct alignment.
 11. After filling the sides of the trench, place and lightly tamp bedding material to complete the bedding as shown on the Drawings.
 12. Take all necessary precautions to prevent flotation of the pipe in the trench.
 13. Where there is evidence of water or soil entering the pipeline, repair the defects to the satisfaction of the Engineer.
 14. Tracer wire shall be positively attached at 3:00 or 9:00 to the non-metallic buried utilities by plastic wire ties every ten (10) feet.
 15. Ends of the tracer wire shall be exposed either in a manhole, above grade at a curb box or valve box or bonded to the curb box or valve box.
 16. Trace wire shall be continuous between access points and shall be tested for continuity in the presence of the RPR or Owner.
- C. Temporary Plugs:
1. When pipe installation work in trenches is not in progress, close open ends of the pipe with temporary watertight plugs.
 2. If water is in the trench when work is resumed, do not remove plugs until all danger of water entering the pipe is eliminated.
 3. Do not use the pipe lines as conductors for trench drainage during construction.

- D. Protection of Water Supplies:
1. There shall be no physical connection between a public or private potable water supply system and a sewer.
 2. Sewer shall be a minimum of ten feet horizontally unless shown otherwise on the drawings.
 3. Whenever sewers must cross water mains, the sewer shall be constructed as follows (unless shown otherwise on the Drawings):
 - a. Sewer pipe shall be class 52 ductile iron or PVC pressure rated pipe (DR-25 min. or SDR-32.5 min.) for a minimum distance of 9 feet each side of the crossing.
 - b. Joints shall be mechanical type water pressure rated with zero leakage when tested at 25 pounds per square inch for gravity sewers and 1-1/2 times working pressure for force mains and joints shall not be located within 9 feet of the crossing.
 - c. Vertical separation of sewer and water main shall not be less than 18".

3.3 CLEANING AND TESTING

- A. Cleaning and Testing Piping - General:
1. Thoroughly clean all piping prior to testing. Remove all dirt, dust, oil, grease and other foreign material. Exercise care while cleaning to avoid damage to linings and coatings.
 2. When the installation is complete, test all pipelines, including service laterals, in the presence of the Engineer and the plumbing or building inspector in accordance with the requirements of the local and state plumbing codes and the appropriate Sections of these Specifications, at no additional cost to the Owner.
 3. Equipment: Supply all labor, equipment, materials, gages, and pumps required to conduct the tests.
 4. Retesting: Perform all retesting required due to failure at no additional cost to the Owner and to the complete satisfaction of the Engineer.
- B. Outside Potable Water Piping (When Applicable)
1. Pressure Test:
 - a. Perform testing in accordance with Section 5 of AWWA Standard C600.
 - b. Hydrostatic testing is required.
 2. Chlorination of Pipelines:
 - a. Prior to chlorination thoroughly flush the lines at sufficient volume to remove any debris and contamination from the pipe.
 - b. Chlorinate all new potable water lines in accordance with the procedure outlined in AWWA C651 Disinfecting Water Mains, latest revision.
 - c. Locate chlorination and sampling points as approved by the Engineer.
 - d. Use a dosage which will produce not less than 10.0 ppm chlorine residual after a contact period of not less than 24 hours.
 - e. During the chlorination period, exercise care to prevent the contamination of water in existing water mains.
 - f. After chlorination, flush the piping with clean potable water until there is only background chlorine residual.
 - g. Chlorinated effluent shall be dechlorinated prior to release to surface waters.

3. Bacteriological Testing:
 - a. Test all new potable water lines for total Coliform bacteria in accordance with AWWA C651 Disinfecting Water Mains (latest edition) at no additional cost to the Owner.
 - b. Bacteriological samples shall be taken after the chlorinated main has been flushed and allowed to rest for 16 hours minimum prior to sampling.
 - c. The length of pipe to be tested and the time of the test shall be as approved by the Engineer.
 - d. The Engineer will observe the taking of samples.
 - e. Have all samples tested by a laboratory approved by the State and submit test results to the Engineer.
 - f. Any segment of a potable water line shall be considered unsuitable for service if a Coliform bacteria count is obtained from that sample.
 - g. Re-disinfect all segments of piping considered unsuitable and retest. Continue to disinfect and test until no Coliform bacteria are present.
 - h. Place piping into service when it has been successfully tested for pressure, leakage and total Coliform bacteria.
- C. Building Interior Potable Water Lines (When Applicable):
 1. Clean and test in accordance with the "Plumbing General" Section in these Specifications.
 2. Test in accordance with local building codes as applicable.
- D. Sewer Lines:
 1. Outside Sewer Lines: Test with a low pressure air test, a visual inspection, and for PVC or other flexible piping, test with a deflectometer after suitable settling time has elapsed.
 2. Pressure sewers shall be tested in accordance with Section 5 of AWWA C-600 latest edition to 1.5 time maximum operating pressure or 100 psi, whichever is greater.
 3. Building Interior Sewer System: Clean and test in accordance with the "Plumbing General" Section in these Specifications.
 4. Test in accordance with local building codes as applicable.
- E. All Other Piping Systems:
 1. Pressure Test:
 - a. Perform a pressure test for all other piping systems at 1-1/2 times maximum system pressure, or at the maximum working pressure of the piping system, or at a pressure indicated in the appropriate Sections of this Specification.
 - b. Tests shall be hydrostatic water, or air pressure as specified or as approved by the Engineer.
 2. Cleaning: Perform all specialized cleaning as specified or required by system.

END OF SECTION

SECTION 02611

DUCTILE IRON PIPE & FITTINGS

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Work Included: Furnish and install ductile iron pipe and ductile iron fittings of the type(s) and size(s) in the location(s) shown on the Drawings and as specified herein.
- B. Work Specified Elsewhere. This section is not a stand-alone Section. Other requirements which relate to this Section are noted elsewhere in these documents. The Contractor and all Subcontractors are required to review this entire document along with the Drawings in an effort to identify all requirements.

1.2 REFERENCE STANDARDS

- A. Cement-mortar lining for water: ANSI A21.4/AWWA C104.
- B. Polyethylene encasement: ANSI/A21.5/AWWA C105
- C. Rubber gasket joints: ANSI A21.11/AWWA C111.
- D. Threaded flanges: ANSI A21.15/AWWA C115.
- E. Ductile iron pipe thickness: ANSI A21.50/AWWA C150.
- F. Ductile iron pipe, centrifugally cast: ANSI A21.51/AWWA C151.
- G. Ductile iron fittings: ANSI 21.53/AWWA C153 (compact fittings) ANSI A21.10/AWWA C110 (standard fittings).
- H. Pipe flanges and fittings: ANSI B16-1, ANSI A-21.12.
- I. Bolts: COR-TEN ASTM A588.
- J. Gaskets: ASTM F477
- K. Disinfection: AWWA C651

1.3 SUBMITTALS TO THE ENGINEER

- A. Submit shop drawings in accordance with the General Conditions of the Construction Contract.
- B. If requested by the Engineer, submit manufacturer's "Certification of Conformance" that pipe and fittings meet or exceed the requirements of these Specifications.
- C. Thrust restraint shall be either thrust block or mechanical restraint. Partial or combination restraint shall not be allowed. If both mechanical restraint and thrust blocks are used, each restraint type shall be calculated to restrain the complete force.

1.4 TRANSPORTATION, STORAGE AND HANDLING

- A. Store and handle pipe in accordance with the manufacturer's instructions.
- B. Pipe shall never be dropped or transported on trucks without being placed on wooden blocks.
- C. Store pipe on level ground free of foreign objects that could damage the pipe.
- D. Pipe shall only be stored one tier high.
- E. Exercise extra care when handling pipe and fittings.

- F. Exercise extra care when handling cement lined pipe and fittings because damage to the lining will render it unfit for use. All pipes that have damaged lining shall be replaced with new pipe at no cost to the Owner.
- G. Protect the spherical spigot ends and the plain ends of all pipes during shipment by wood lagging securely fastened in place.
- H. Use only manufacture-approved slings and straps to move the pipe.
- I. The pipe shall not be dragged.

1.5 QUALITY ASSURANCE

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

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Pipe:
 - 1. All pipes shall conform to the latest AWWA specification C151. Unless otherwise shown on the Drawings, the minimum thickness of ductile iron pipe shall be:
 - a. All ductile iron pipe shall be Class 52, double cement lined.
 - b. Pipe with flanges: Class 53 (formerly Class 3).
 - c. All ductile iron pipe shall have cement lining of double thickness.
 - d. Bridge crossing pipe: All joints shall be restrained using a system equal to the Griffin MECH-LOK Rigid Restrained Joint system, US Pipe TR-Flex pipe or equivalent.
 - 2. Pipe for use with sleeve type couplings shall have plain ends (without bells or beads) cast or machined at right angles to the axis.
 - 3. Pipe for use with split type couplings shall have ends with cast or machined shoulders or grooves that meet the requirements of the manufacturer of the couplings.
 - 4. Factory applied bituminous coatings, as approved by the Engineer, shall be furnished for all underground piping.

5. Each ductile iron pipe shall have conspicuously marked on the exterior the pressure, class, and weight of the pipe.
 6. All ductile iron pipe furnished to the project shall be one uniform length, either 18 feet or 20 feet.
 7. Accepted Manufactures: US Pipe, Atlantic States Pipe, Griffin Pipe or approved equivalent.
- B. Fittings (as shown on the Drawings, specified and applicable):
1. General: All fittings shall be the same pressure class as the pipe unless otherwise shown on the Drawings.
 2. Acceptable manufacturers: Tyler, US Pipe or approved equivalent.
 3. Flanged:
 - a. Provide specially drilled flanges when required for connection to existing piping or special equipment.
 - b. Flanges shall be long-hub screwed tightly on pipe by machine at the foundry prior to facing and drilling.
 - c. Gaskets:
 - (1) Provide full face gaskets compatible with the liquid in the pipe.
 - (2) Thickness of gaskets shall be 1/8 inch.
 - (3) The full face flange gasket shall be compatible with flanges conforming to ANSI/AWWA C115/A21.15, ANSI/AWWA C110/A21.10, ASME B16.1 class 125, and ANSI/AWWA C207 class B, D, and E flanges.
 - d. Fasteners:
 - (1) Make joints with bolt, stubs with a nut on each end, or one tapped flanged with a stud and nut.
 - (2) The number and size of bolts shall meet the requirements of the same American National Standard as the flanges.
 - (3) Nuts, bolts and studs shall be Grade B meeting the requirements of ASTM A307.
 - (4) After jointing, coat entire joint with bituminous material compatible with pipe coating.
 - e. When applicable, provide and install flange clamps as shown on the Drawings.
 - f. Uniflange type connection shall be positively restrained by use of threaded rods (2) or other approved restraint device.
 4. Push-on and Mechanical Joint:
 - a. Provide gaskets manufactured from a composition material suitable for exposure to the liquid to be contained within the pipe.
 5. Grooved split ring couplings, sleeve couplings, flexible joints and couplings: As specified and shown on the Drawings.
 6. Joint Bracing:
 - a. Provide joint bracing to prevent the piping from pulling apart under pressure as required.
 - b. Types of bracing:

- (1) Field Lok 350™ Gasket by US Pipe for Ductile Iron Pipe or approved equivalent.
- (2) Cast in place thrust blocks of sufficient size in accordance with DIPRA and AWWA standards for thrust restraint.
- (3) Mechanical joint ductile iron pipe shall restrained ductile iron glands using mechanical “teeth”, restraining wedges or set screws. Acceptable manufacturers shall be Ebba Iron Mega-Lug, Romac RomaGrip, Sigma One-Loc or approved equivalent.
- (4) Pipe and fittings with approved lugs or hooks cast integrally for use with socket pipe clamps, tie rods, or bridles. Bridles and tie rods shall be a minimum of 3/4 inch diameter except where they replace flange bolts of a smaller size, in which case they shall be fitted with a nut on each side of the pair of flanges. The clamps, tie rods, and bridles shall be coated with an approved bituminous paint after assembly or, if necessary, prior to assembly.
- (5) Other types of bracing as shown on the Drawings.
- (6) See Section 2.1A.1.d above.

C. Standard Fittings:

1. All joints shall conform to the latest AWWA specification C-153.
2. Class 350, Ductile Iron, Cement Lined except as shown on the Drawings or as specified.
3. Joints the same as the pipe with which they are used or as shown on the Drawings.
4. Provide fittings with standard bases where shown on the Drawings.
5. Provide retainer glands on all fittings.
6. Outside surface coated to specifications applicable to pipe.

D. Non-Standard Fittings:

1. Fittings having non-standard dimensions shall be subject to the Engineer's approval.
2. Non-standard fittings shall have the same diameter and thickness as standard fittings and shall meet the specification requirements for standard fittings.
3. The laying lengths and types of joints shall be determined by the particular piping to which they connect.
4. Flanged fittings not meeting the requirements of ANSI A21.10 (i.e., laterals or reducing elbows) shall meet the requirements of ANSI B16.1 in Class 125.

E. Polyethylene encasement shall be high density cross-laminated polyethylene film 4 mil (.004 inch) thick and shall conform to ANSI/AWWA C105/A21.5 (latest editions).

PART 3 - EXECUTION

3.1 INSTALLATION

A. General:

1. Install all pipe and fittings in strict accordance with the manufacturer's instructions and recommendations.
2. Install all pipes and fittings in accordance with the lines and grades shown on the Drawings and as required for a complete installation.
3. Install adapters, approved by the Engineer, when connecting pipes constructed from different materials.
4. Ductile iron pipe and fittings are furnished with a cement lining that is brittle; therefore, the Contractor shall take all precautions not to damage the lining during handling and installation. All pipe that has damaged lining shall be replaced with new pipe at no cost to the Owner.

B. Installation in Trenches:

1. Firmly support the pipe and fittings on bedding material as shown on the Drawings and as specified in the appropriate Sections of these Specifications.
2. Do not permanently support the pipe or fittings on saddles, blocking stones, or any material which does not provide firm and uniform bearing along the outside length of the pipe.
3. When cutting of pipe is required, the Contractor shall make a square cut in the pipe using an approved cutting tool that will not damage the pipe lining.
4. After the cut has been made if the pipe is to be inserted in a bell, the Contractor shall grind a bevel around the pipe with an appropriate hand-held mechanical grinder.
5. Thoroughly compact the material under the pipe to obtain a substantial unyielding bed shaped to fully support the pipe.
6. Excavate suitable holes for the joints so that only the barrel of the pipe receives bearing pressure from the supporting material after placement.
7. Lay each pipe length so it forms a close joint with the adjoining length and bring the inverts up to the required grade.
8. Set the pipe true to line and grade. Use a transit and level or a laser beam aligner as appropriate to the pipe application.
9. Do not drive the pipe down to grade by striking it with a shovel handle, timber, rammer, or any other unyielding object.
10. Make all pipe joints watertight with no visible leakage and no sand, silt, clay or soil of any description entering the pipeline at the joints.
11. Immediately after making a joint, fill the holes for the joints with bedding material and compact.
12. When each pipe length has been properly set, place and compact enough of the bedding material between the pipe and the sides of the trench to hold the pipe in correct alignment.
13. After filling the sides of the trench, place and lightly tamp bedding material to complete the bedding as shown on the Drawings.
14. Take all necessary precautions to prevent flotation of the pipe in the trench.

15. Where there is evidence of water or soil entering the pipeline, repair the defects.
- C. Temporary Plugs:
1. When pipe installation work in trenches is not in progress, close the open ends of the pipe with temporary watertight plugs.
 2. If water is in the trench when work is resumed, do not remove plugs until all danger of water entering the pipe is eliminated.
 3. Do not use the pipelines as conductors for trench drainage during construction.
- D. Assembling Joints:
1. Push-on Joints:
 - a. Insert the gasket into the groove of the bell.
 - b. Uniformly apply a thin film of special lubricant over the inner surface of the gasket that will contact the spigot end of the pipe.
 - c. Insert the chamfered end of the plain pipe into the gasket and push until it seats against the bottom of the socket.
 - d. Where electromagnetic type pipe locators are used or as directed, insert serrated brass wedges at all joints to assure continuity. Use two wedges per joint for 2" through 12" diameter pipe and four wedges for pipes greater than 12" diameter. Each wedge shall be driven into the opening between the plain end and the bell end. Wedges may be omitted with use of Field Lok 350™ gaskets.
 - e. Lubricant used on drinking water supply pipe shall be NSF 61 approved. Use of unapproved lubricant may result in removal and replacement of all pipe installed at the Contractor's expense.
 2. Bolted Joints:
 - a. Remove rust preventive coatings from machined surfaces prior to assembly.
 - b. Thoroughly clean and carefully smooth all burrs and other defects from pipe ends, sockets, sleeves, housings and gaskets.
 3. Flanged Joints:
 - a. Insert the nuts and bolts (or studs), finger tighten, and progressively tighten diametrically opposite bolts uniformly around the flange to the proper tension.
 - b. Execute care when tightening joints to prevent undue strain upon valves, pumps, and other equipment.
 4. Mechanical Joints:
 - a. Thoroughly clean, with a wire brush, surfaces that will be in contact with the gaskets.
 - b. Lubricate the gasket, bell, and spigot.
 - c. Slip the gland and gasket, in that order, over the spigot and insert the spigot into the bell until properly seated.
 - d. Evenly seat the gasket in the bell at all points, center the spigot, and firmly press the gland against the gasket.

- e. Insert the bolts, install the nuts finger tight, and progressively tighten diametrically opposite nuts uniformly around the joint to the proper tension with a torque wrench.
 - f. The correct range of torque (as indicated by a torque wrench) and the length of wrench (if not a torque wrench) shall not exceed:
 - (1) Range of Torque: 60-90 Ft.-lbs.
 - (2) Length of Wrench: 10 inches.
 - g. If effective joint sealing is not attained at the maximum torque specified above, disassemble, thoroughly clean, and reassemble the joint. Do not overstress the bolts to tighten a leaking joint.
 - h. Once the retainer gland has been properly tightened, the restrainer gland set screws shall be set. Hand-tighten all screws so that are in contact with the pipe and set diametrically opposite screw to the manufactured-specified torque.
 - i. Retainer glands shall be used on all joints.
 - j. Restrainer glands and/or thrust blocks shall be used at all fittings as directed by the Engineer.
 - k. Place a sheet of roofing felt or plastic over all fittings and retainer glands prior to placement of the concrete for thrust restraint. Install wooden form to control the size of the thrust block. Place the concrete such that the bearing area of the concrete against undisturbed soil meets the minimum bearing areas as noted on the drawings.
- E. Fabrication:
- 1. Tapped Connections:
 - a. Make all tapped connections where shown on the Drawings or where directed by the Engineer.
 - b. Make all connections watertight and of adequate strength to prevent pullout.
 - c. Drill and tap normal to the longitudinal axis of the pipe.
 - d. The maximum sizes of taps in pipes and fittings without busses shall not exceed the sizes listed in the appendix of ANSI A21.51 based on 3 full threads for cast iron and 2 full threads for ductile iron.
 - 2. Cutting:
 - a. Perform all cutting with machines having rolling wheel cutters or knives designed to cut cast or ductile iron. Do not use a hammer and chisel to cut pipe.
 - b. After cutting, examine all cut ends for possible cracks.
 - c. Carefully chamfer all cut ends to be used with push-on joints to prevent damage to gaskets when pipe is installed.
 - d. When cutting of pipe is required, the Contractor shall make a square cut in the pipe using an approved cutting tool that will not damage the pipe lining. After the cut has been made, the Contractor shall grind a bevel around the pipe with a hand-held mechanical grinder.
- F. Polyethylene encasement shall be installed in agreement with ANSI/AWWA C105/A21.5 and per manufacturer's recommendations. Tube end shall be

overlapped and secured with adhesive tape or plastic string. Repair any rips or defects prior to backfilling.

G. Pipe Deflection:

1. Push-on and Mechanical Joints:

a. The maximum permissible deflection of alignment at joints, in inches for 18 foot lengths:

<u>Size of Pipe</u>	<u>Push-On</u>	<u>Mechanical</u>
6	19	27
8	19	20
10	19	20
12	11	20
14	11	13.5
16	11	13.5
18	11	11
20	11	11
24	11	9

b. The maximum permissible deflection for other lengths shall be in proportion of such lengths to 18 feet.

2. Flexible Joints: The maximum deflection in any direction shall not exceed the manufacturer's instructions and recommendations.

H. Testing to be performed in accordance with the appropriate section of Section 02610 Pipe and Pipe Fittings – General.

END OF SECTION

CORRUGATED POLYETHYLENE (CPE) PIPE & FITTINGS

SECTION 02625CORRUGATED POLYETHYLENE (CPE) PIPE & FITTINGSPART 1 -- GENERAL1.1 DESCRIPTION

- A. Work Included: Furnish, install, anchor, support and test pipe and pipe fittings of the types and sizes in the locations shown on the Drawings and/or as directed by the Engineer.
- B. Work Specified Elsewhere. This Section is not a stand-alone Section. Other requirements which relate to this Section are noted elsewhere in these documents. The Contractor and all Subcontractors are required to review this entire document along with the Drawings in an effort to identify all requirements.

1.2 REFERENCE STANDARDS

- A. Tubing four (4) inches to ten (10) inches: AASHTO M252
- B. Pipe twelve (12) inches to forty eight (48) inches: AASHTO M294
- C. Polyethylene Plastic Pipes and Fittings: ASTM D3350
- D. Polyethylene Moulding & Extrusion materials: ASTM: D1248
- E. Water Tight Performance: ASTM D3212

1.3 QUALITY ASSURANCE

- A. Pipe, pipe fittings and where applicable, geotextile wrap or sock shall be provided by a single manufacturer, and a certificate of compliance will be submitted to the Engineer for approval.

1.4 SUBMITTALS

- A. Submit manufacturer's literature, test reports, and certificates in accordance with the General Conditions and Section 01340 - Submittals.

1.5 TRANSPORTING, HANDLING AND STORING PIPE

- A. Transporting
 - 1. Care shall be taken during the transportation of the pipe in trucks and trailers so that it is not damaged from cuts and kinks.

CORRUGATED POLYETHYLENE (CPE) PIPE & FITTINGS

- B. Handling
 - 1. The handling and lifting of pipe lengths and fittings shall be such as to avoid damage and shall be done by means of ropes, fabric or rubber protected slings and straps.
 - 2. The pipe shall not be lifted by means of metal slings, chains, cables or hooks inserted into the pipe ends. Slings shall be positioned to prevent excessive flexing of the pipe lengths to avoid kinking or damage to the pipe ends.
 - 3. The pipe lengths shall not be dragged from the transportation media or allowed to fall onto unprepared or rocky ground.
 - 4. The handling of the joined pipe line shall be done in such a manner that the pipe is not damaged by dragging it over sharp and cutting objects.
- C. Storing
 - 1. The stacking of the polyethylene pipe shall be limited to such a height as to not cause excessive deformation of the bottom layers of pipes under anticipated temperature conditions.
 - 2. The surface where the pipe shall be stored shall be level and free of foreign objects which could damage the pipe.
 - 3. Where necessary due to ground conditions, the pipe shall be stored on wooden sleepers of sufficient bearing and spacing.

1.6 INSPECTION

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

PART 2 -- PRODUCTS2.1 MATERIALS

A. General

1. The prescribed sizes of pipes are nominal inside diameters. Pipes shall be of the size and length shown on the plans.
2. **All drainage pipe shall be smooth interior** unless otherwise noted.
3. Resin used in the manufacturing of pipe and fittings shall meet the requirements of cell class 324420C (for 4-inch through 10-inch diameters) and 335420C (for 12-inch through 60-inch) diameters) as defined in ASTM 3350.
4. Carbon black content shall not exceed 5%.

B. Smooth Interior Corrugated Polyethylene Pipe

1. The product supplied under this specification shall be high density polyethylene corrugated exterior/smooth interior pipe. Four (4) to ten (10) inch diameters shall conform to AASHTO M252 Type S. Twelve (12) to forty-eight (48) inch diameters shall conform to AASHTO M294-97 Type S. Fifty-four (54) inch to sixty (60) inch diameters shall confirm to AASHTO MP7-97.

C. Perforated Corrugated Polyethylene Pipe

1. Pipe shall be heavy duty corrugated polyethylene (PE) tubing, type SP with Class 2 perforations. The water inlet area shall be a minimum of 2.0 square inch per linear foot.

D. Coupling Bands and Fittings

1. Coupling bands shall cover at least one full corrugation on each section of pipe. When gasketed coupling bands are required, the gasket shall be made of closed-cell synthetic expanded rubber meeting the requirements of ASTM D1056, Type 2. Gaskets shall be installed on the coupling band by the pipe manufacturer. All coupling bands shall meet or exceed the soil-tightness requirement of the AASHTO Standard Specification for Highway Bridges, section 23, paragraph 23.3.1.5.4(e).
2. Furnish fittings of approved equal to the pipe and having connection configurations identical to that of the pipe.
3. Pipe fittings shall conform to the same AASHTO standards of the pipe being joined.

E. Synthetic Filter Wrap (when specified for perforated pipe)

1. When specified, the geotextile wrap or sock shall be factory installed by the pipe manufacturer and shall have to filter characteristics appropriate for the soil types encountered.
2. The Contractor shall, in the shop drawing submittal, include the data on the appropriate geotextile.

F. Acceptable Manufacturers:

1. Hancor, Inc., Findlay Ohio
2. Advanced Drainage Systems, Columbus Ohio
3. or approved equal.

G. All Drainage Pipe shall be supplied by one manufacturer.

CORRUGATED POLYETHYLENE (CPE) PIPE & FITTINGS

- H. All Piping shall be silt tight.

PART 3 -- EXECUTION

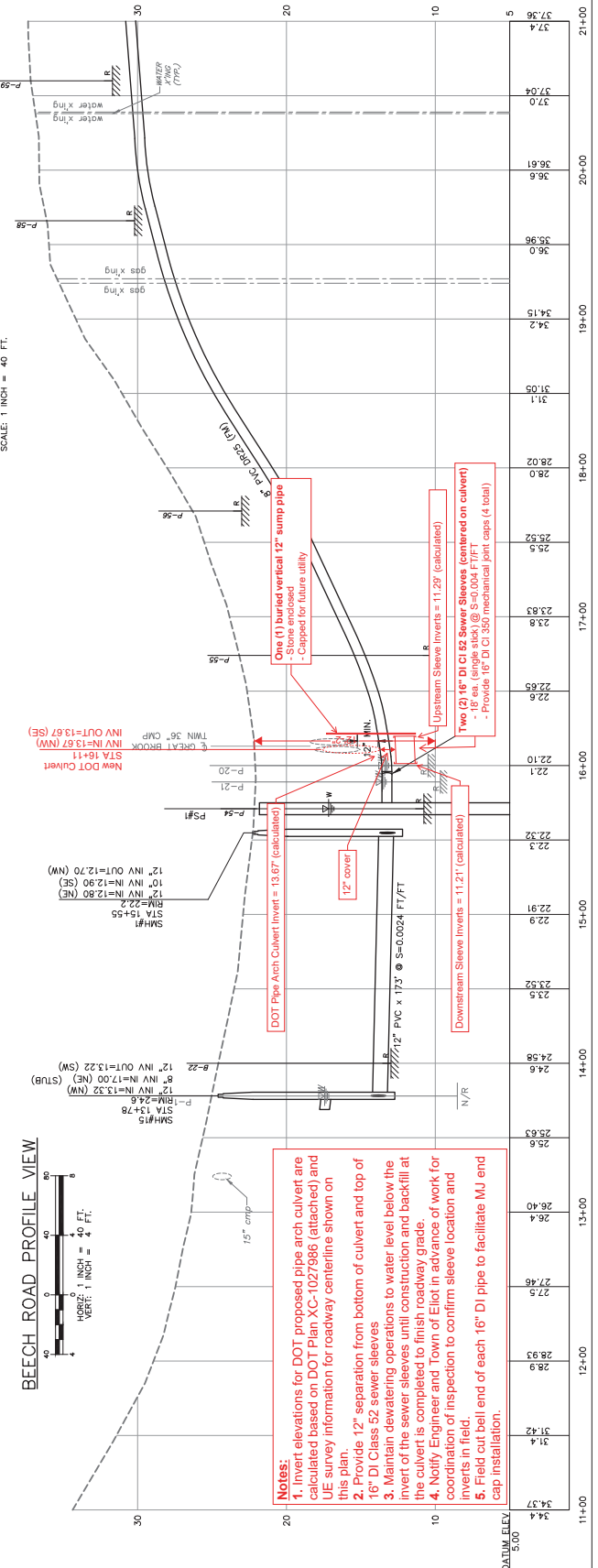
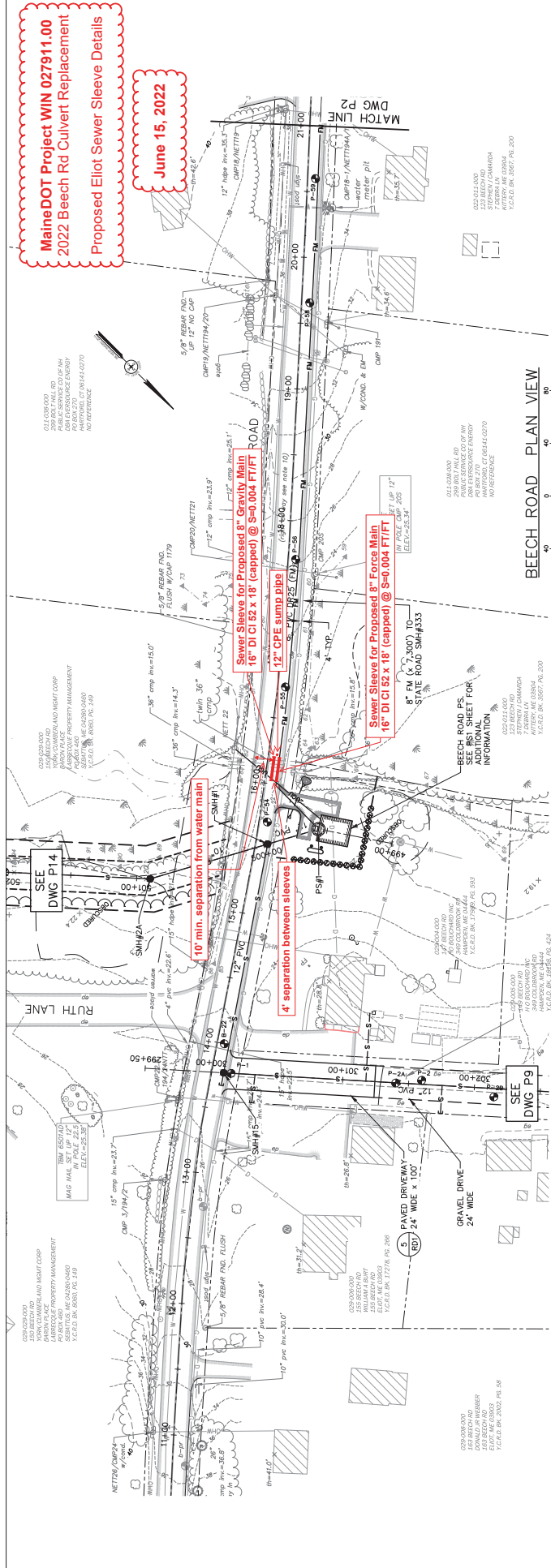
3.1 INSTALLATION

- A. Installation shall be in accordance with manufacturer's recommendations and as shown on the drawings.
- B. Prior to backfilling, exercise extra care to maintain water level in open excavation below the pipe invert to avoid flotation of pipe already set to line and grade.
- C. Flared end sections shall be fully supported.
- D. Stones larger than 3 inches in diameter shall not contact the pipe, fittings or appurtenances.

3.2 INSPECTION AND CLEANING

- A. Inspect all drain pipes in the presence of the Owner and the Engineer. All pipes not demonstrating uniform slope and alignment shall be replaced at no additional cost to the Owner.
- B. At the end of the project and prior to acceptance by the Owner, all drainage pipe shall be thoroughly cleaned and where accessible visually inspected.

END OF SECTION



SPECIAL PROVISION
SECTION 822
RELOCATE WATER MAIN

The Scope of work to be provided

The Contractor shall remove the Existing 10inch Ductile Iron Water Main,
The Contractor shall Install a New 10-inch Ductile Iron Water Main with the approximate 12 Linear Feet Long that will be beneath the proposed 71"x 47"x 60' Pipe Arch.

Services to be provided by the Kittery Water District are as follows

- Isolation of the section of Water Main to be Lowered providing a 100% tight shut down.
- Filling and Flushing of the New Pipe.
- Pressure Testing and Chlorination of the New Pipe.
- Dispose of the old water main.
- Provide 21 Feet of 10" Class 52 Ductile Iron Pipe.
- Provide 4 - 10" 45 Degree Ductile Iron MJ Bends.
- Provide 8 – 10" Romac Grip Accessory Packs.
- Provide 2 – 10" Romac Alpha Restrained Couplings.

The Contractor shall provide the following Materials

The Contractor shall provide approximately 6 Yards of ¾" Crushed Stone, Incidental to Contract items.
The Contractor shall construct the water main and fittings to be bedded in 6" of crushed stone and backfilled with 12" over the pipe fittings.

Method of Measurement

Work shall be measured as Lump Sum for all work complete, installed, and accepted by Kittery Water District.

Basis of Payment

The accepted Lump Sum quantity shall be paid for at the contract unit price.

<u>Pay Item</u>	<u>Pay Unit</u>
822.32 Relocate Water Main	LS

SECTION 02610

PIPE & PIPE FITTINGS - GENERAL

PART 1 - GENERAL

1.1 DESCRIPTION

- A. This section includes general specifications for pipe appurtenances and specialty items typical to a wide range of pipe types and application. It also provides general information on pipe inspection, installation, cleaning and testing. This section is not all inclusive and may be supplemented by the Engineer as needed.

1.2 SUBMITTALS TO THE ENGINEER

- A. Submit shop drawings in accordance with the General Conditions of the Construction Contract.
- B. If requested by the Engineer, submit manufacturer's "Certification of Conformance" that pipe and pipe fittings meet or exceed the requirements of these Specifications.
- C. Submit other documents as specified in the appropriate Sections of this Division.

1.3 DELIVERY, STORAGE AND HANDLING

- A. Exercise care during loading, transporting, unloading, and handling to prevent damage of any nature to interior and exterior surfaces of pipe, fittings and appurtenances.
- B. Do not drop pipe and fittings.
- C. Store materials on the project site in enclosures or under protective coverings in accordance with manufacturer's recommendations and as directed by the Engineer.
- D. Assure that materials are kept clean and dry. If appropriate protect from freezing.
- E. Do not store materials directly on the ground.
- F. Follow manufacturer's specific instructions, recommendations and requirements.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. See appropriate specification section for detailed pipe specification.
- B. Ductile Iron Pipe & Fittings
 - 1. Conform to the latest AWWA Standard
 - a. Cement lined class 52 unless otherwise noted
 - b. Mechanical restrained joint
 - c. Standard gaskets
- C. PVC Sewer Pipe
 - 1. Shall conform to the following ASTM as appropriate for the pipe size.

Pipe Size	Generic Material	ASTM
4"-15"	PVC Solid Wall	D3034
18"-60"	PVC Solid Wall	F679
4"-48"	PVC, dual wall Corrugated	F794
All Sizes	PVC Recycled	F1780
All Sizes	PVC Pressure Pipe	D2241 and D1784

- D. High Density Polyethylene

1. Pipe shall be high density polyethylene (PE) conforming to the following standard referenced specifications:
 - a. ASTM: D3035 Polyethylene Pipe SDR-PR design
 - b. ASTM: D1248 Polyethylene Molding & Extrusion materials.
 - c. CSA: 41-GP-25 Standard for polyethylene pipe.
- E. Corrugate Polyethylene Drain Pipe
 - a. Pipe shall be high density polyethylene (HDPE) conforming to the following standard referenced specifications:
 - b. AASHTO M294
 - c. ASTM: D1248 Polyethylene Molding & Extrusion materials.
 - d. ASTM D3350 Polyethylene Plastic Pipes and Fittings.
- F. Copper Service Pipe
 - a. Seamless copper water tube, ASTM B88.
 - b. Type K, soft annealed 3/4" (minimum) through 1".
 - c. Type K, hard tempered, 1-1/4 inches and larger.
- G. Marking Tape
 1. Shall be coded in accordance with the NPWA Standards.
 2. Shall be indelibly marked indicating the type of utility it is placed over.
 3. Shall be six (6) inches wide Terra Tape Sentry Line 1350 (Detectable) by Reef Industries, Houston, TX, or approved equal.
 4. Marking tape is required even in cases when tracer wire is installed.
- H. Pipe Lubricant or glue
 1. Use only lubricants or glues suitable for the type of pipe and application.
 2. For potable water pipe use only lubricants or glues clearly marked "NSF 61 approved For Use with Potable Water."
- I. Geotextile
 1. Unless specified elsewhere, geotextile fabric used to encase pipe and bedding material in the trench shall be Application 2 – Separation, Class 3 – Low Strength, Nonwoven fabric.
 2. Acceptable Manufacturers shall be listed in the The National Transportation Product Evaluation Program (NTPEP) for Application, Strength Class and Structure
- J. Tracer Wire:
 1. Tracer Wire shall be No. 10 AWG copper clad steel wire with HDPE insulation.
 - a. Insulation shall be blue for drinking water lines.
 - b. Insulation shall be green for sewers, forcemains and low pressure sewers.
 2. Tracer wire connections will be made with DryConn® by King Innovation waterproof connectors for direct bury, for #22 to #8 AWG wire, part #31556 or approved equal.
 3. Install marking tape even when tracer wire is installed. (See Section G.)
- K. Pipe Insulation:
 1. Where shown on the plans for shallow depth, for separation between pipes or as directed, extruded polystyrene shall be installed.
 2. Insulation shall be Dow® Styrofoam™ Highload 100 or equivalent. Insulation shall be appropriate for direct bury.

3. Thickness shall be as shown on the drawings but in no case less than 2 inches. Insulation thickness shall be appropriate for the actual depth of bury for the pipe.
 4. Width and length shall be as shown or as directed but in no case less than 2 feet wide.
- L. Thrust Restraint is required for all pressure pipe.
1. Mechanical Joint Restraint fittings with the appropriate retainer rings shall be installed at all mechanical joints.
 - a. Additional restraint at pipe bells on either side of the mechanical joint fitting may be required based on thrust restraint calculation available online. Programs are available from Ductile Iron Pipe Association, PVC Pipe Association, Romac Industries, Ebba Iron, etc.
 2. Thrust Blocks of appropriate size and dimensions.
 - a. Thrust blocks shall be cast in place.
 - b. Precast thrust blocks may only be used with the written permission of the Owner and upon approval of supporting calculations relative to size.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Provide all labor and equipment necessary to assist the Engineer to inspect pipe, fittings, gaskets, and other materials.
 1. This shall include all air quality testing equipment, harnesses and manlifts necessary to comply with the appropriate OSHA regulation.
 2. The Engineer shall comply with the Contractors regulations and policies regarding below grade or confined space entry.
- B. Carefully inspect all materials at the time of delivery and just prior to installation.
- C. Carefully inspect all pipe and fittings for:
 1. Defects and damage.
 2. Deviations beyond allowable tolerances for joint dimensions.
 3. Removal of debris and foreign matter.
- D. Examine areas and structures to receive piping for:
 1. Defects, such as weak structural components, which adversely affect the execution and quality of work.
 2. Deviations beyond allowable tolerances for pipe clearances.
- E. All materials and methods not meeting the requirements of these Specifications shall be rejected.
- F. Immediately remove all rejected materials from the project site.
- G. Start work only when conditions are corrected to the satisfaction of the Engineer.

3.2 INSTALLATION

- A. General:
 1. Install all pipe and fittings in strict accordance with the manufacturer's instructions and recommendations and as instructed by the Engineer.
 2. Install all pipes and fittings in accordance with the lines and grades shown on the Drawings and as required for a complete installation.
 3. Install adapters, approved by the Engineer, when connecting pipes constructed from different materials.

4. When applicable, support all piping not being installed in trenches in accordance with the "Pipe Hangers & Supports" Section of these Specifications.
- B. Installation and Trenches:
1. Firmly support the pipe and fittings on bedding material as shown on the Drawings and as specified in the appropriate Sections of these Specifications.
 - a. Where, in the opinion of the Engineers, the subgrade material is unsuitable to support the pipe, over-excavate the unsuitable material and replace the same with suitable gravel or granular borrow.
 - b. If the subgrade material encountered consists of saturated clays or silts, the Engineer may direct the installation of the bedding material and pipe inside a construction fabric wrap as shown on the Drawings.
 2. Do not permanently support the pipe or fittings on saddles, blocking stones, or any material which does not provide firm and uniform bearing along the outside length of the pipe.
 3. Thoroughly compact the material under the pipe to obtain a substantial unyielding bed shaped to fully support the pipe.
 4. Excavate suitable holes for the joints so that only the barrel of the pipe receives bearing pressure from the supporting material after placement.
 5. Lay each pipe length so it forms a close joint with the adjoining length and bring inverts to the required grade.
 6. Set the pipe true to line and grade. Use a transit for line. Use a laser beam aligner for grade.
 7. Do not drive the pipe down to grade by striking it with a shovel handle, timber, rammer or any other unyielding object.
 8. Make all pipe joints watertight with no sand, silt, clay or soil of any description entering the pipeline at the joints.
 9. Immediately after making a joint, fill the holes for the joint with bedding material, and compact.
 10. When each pipe length has been properly set, place and compact enough of the bedding material between the pipe and the sides of the trench to hold the pipe in correct alignment.
 11. After filling the sides of the trench, place and lightly tamp bedding material to complete the bedding as shown on the Drawings.
 12. Take all necessary precautions to prevent flotation of the pipe in the trench.
 13. Where there is evidence of water or soil entering the pipeline, repair the defects to the satisfaction of the Engineer.
 14. Tracer wire shall be positively attached at 3:00 or 9:00 to the non-metallic buried utilities by plastic wire ties every ten (10) feet.
 15. Ends of the tracer wire shall be exposed either in a manhole, above grade at a curb box or valve box or bonded to the curb box or valve box.
 16. Trace wire shall be continuous between access points and shall be tested for continuity in the presence of the RPR or Owner.
- C. Temporary Plugs:
1. When pipe installation work in trenches is not in progress, close open ends of the pipe with temporary watertight plugs.
 2. If water is in the trench when work is resumed, do not remove plugs until all danger of water entering the pipe is eliminated.
 3. Do not use the pipe lines as conductors for trench drainage during construction.

- D. Protection of Water Supplies:
1. There shall be no physical connection between a public or private potable water supply system and a sewer.
 2. Sewer shall be a minimum of ten feet horizontally unless shown otherwise on the drawings.
 3. Whenever sewers must cross water mains, the sewer shall be constructed as follows (unless shown otherwise on the Drawings):
 - a. Sewer pipe shall be class 52 ductile iron or PVC pressure rated pipe (DR-25 min. or SDR-32.5 min.) for a minimum distance of 9 feet each side of the crossing.
 - b. Joints shall be mechanical type water pressure rated with zero leakage when tested at 25 pounds per square inch for gravity sewers and 1-1/2 times working pressure for force mains and joints shall not be located within 9 feet of the crossing.
 - c. Vertical separation of sewer and water main shall not be less than 18".

3.3 CLEANING AND TESTING

- A. Cleaning and Testing Piping - General:
1. Thoroughly clean all piping prior to testing. Remove all dirt, dust, oil, grease and other foreign material. Exercise care while cleaning to avoid damage to linings and coatings.
 2. When the installation is complete, test all pipelines, including service laterals, in the presence of the Engineer and the plumbing or building inspector in accordance with the requirements of the local and state plumbing codes and the appropriate Sections of these Specifications, at no additional cost to the Owner.
 3. Equipment: Supply all labor, equipment, materials, gages, and pumps required to conduct the tests.
 4. Retesting: Perform all retesting required due to failure at no additional cost to the Owner and to the complete satisfaction of the Engineer.
- B. Outside Potable Water Piping (When Applicable)
1. Pressure Test:
 - a. Perform testing in accordance with Section 5 of AWWA Standard C600.
 - b. Hydrostatic testing is required.
 2. Chlorination of Pipelines:
 - a. Prior to chlorination thoroughly flush the lines at sufficient volume to remove any debris and contamination from the pipe.
 - b. Chlorinate all new potable water lines in accordance with the procedure outlined in AWWA C651 Disinfecting Water Mains, latest revision.
 - c. Locate chlorination and sampling points as approved by the Engineer.
 - d. Use a dosage which will produce not less than 10.0 ppm chlorine residual after a contact period of not less than 24 hours.
 - e. During the chlorination period, exercise care to prevent the contamination of water in existing water mains.
 - f. After chlorination, flush the piping with clean potable water until there is only background chlorine residual.
 - g. Chlorinated effluent shall be dechlorinated prior to release to surface waters.

3. Bacteriological Testing:
 - a. Test all new potable water lines for total Coliform bacteria in accordance with AWWA C651 Disinfecting Water Mains (latest edition) at no additional cost to the Owner.
 - b. Bacteriological samples shall be taken after the chlorinated main has been flushed and allowed to rest for 16 hours minimum prior to sampling.
 - c. The length of pipe to be tested and the time of the test shall be as approved by the Engineer.
 - d. The Engineer will observe the taking of samples.
 - e. Have all samples tested by a laboratory approved by the State and submit test results to the Engineer.
 - f. Any segment of a potable water line shall be considered unsuitable for service if a Coliform bacteria count is obtained from that sample.
 - g. Re-disinfect all segments of piping considered unsuitable and retest. Continue to disinfect and test until no Coliform bacteria are present.
 - h. Place piping into service when it has been successfully tested for pressure, leakage and total Coliform bacteria.
- C. Building Interior Potable Water Lines (When Applicable):
 1. Clean and test in accordance with the "Plumbing General" Section in these Specifications.
 2. Test in accordance with local building codes as applicable.
- D. Sewer Lines:
 1. Outside Sewer Lines: Test with a low pressure air test, a visual inspection, and for PVC or other flexible piping, test with a deflectometer after suitable settling time has elapsed.
 2. Pressure sewers shall be tested in accordance with Section 5 of AWWA C-600 latest edition to 1.5 time maximum operating pressure or 100 psi, whichever is greater.
 3. Building Interior Sewer System: Clean and test in accordance with the "Plumbing General" Section in these Specifications.
 4. Test in accordance with local building codes as applicable.
- E. All Other Piping Systems:
 1. Pressure Test:
 - a. Perform a pressure test for all other piping systems at 1-1/2 times maximum system pressure, or at the maximum working pressure of the piping system, or at a pressure indicated in the appropriate Sections of this Specification.
 - b. Tests shall be hydrostatic water, or air pressure as specified or as approved by the Engineer.
 2. Cleaning: Perform all specialized cleaning as specified or required by system.

END OF SECTION

SECTION 02611

DUCTILE IRON PIPE & FITTINGS

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Work Included: Furnish and install ductile iron pipe and ductile iron fittings of the type(s) and size(s) in the location(s) shown on the Drawings and as specified herein.
- B. Work Specified Elsewhere. This section is not a stand-alone Section. Other requirements which relate to this Section are noted elsewhere in these documents. The Contractor and all Subcontractors are required to review this entire document along with the Drawings in an effort to identify all requirements.

1.2 REFERENCE STANDARDS

- A. Cement-mortar lining for water: ANSI A21.4/AWWA C104.
- B. Polyethylene encasement: ANSI/A21.5/AWWA C105
- C. Rubber gasket joints: ANSI A21.11/AWWA C111.
- D. Threaded flanges: ANSI A21.15/AWWA C115.
- E. Ductile iron pipe thickness: ANSI A21.50/AWWA C150.
- F. Ductile iron pipe, centrifugally cast: ANSI A21.51/AWWA C151.
- G. Ductile iron fittings: ANSI 21.53/AWWA C153 (compact fittings) ANSI A21.10/AWWA C110 (standard fittings).
- H. Pipe flanges and fittings: ANSI B16-1, ANSI A-21.12.
- I. Bolts: COR-TEN ASTM A588.
- J. Gaskets: ASTM F477
- K. Disinfection: AWWA C651

1.3 SUBMITTALS TO THE ENGINEER

- A. Submit shop drawings in accordance with the General Conditions of the Construction Contract.
- B. If requested by the Engineer, submit manufacturer's "Certification of Conformance" that pipe and fittings meet or exceed the requirements of these Specifications.
- C. Thrust restraint shall be either thrust block or mechanical restraint. Partial or combination restraint shall not be allowed. If both mechanical restraint and thrust blocks are used, each restraint type shall be calculated to restrain the complete force.

1.4 TRANSPORTATION, STORAGE AND HANDLING

- A. Store and handle pipe in accordance with the manufacturer's instructions.
- B. Pipe shall never be dropped or transported on trucks without being placed on wooden blocks.
- C. Store pipe on level ground free of foreign objects that could damage the pipe.
- D. Pipe shall only be stored one tier high.
- E. Exercise extra care when handling pipe and fittings.

- F. Exercise extra care when handling cement lined pipe and fittings because damage to the lining will render it unfit for use. All pipes that have damaged lining shall be replaced with new pipe at no cost to the Owner.
- G. Protect the spherical spigot ends and the plain ends of all pipes during shipment by wood lagging securely fastened in place.
- H. Use only manufacture-approved slings and straps to move the pipe.
- I. The pipe shall not be dragged.

1.5 QUALITY ASSURANCE

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

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Pipe:
 - 1. All pipes shall conform to the latest AWWA specification C151. Unless otherwise shown on the Drawings, the minimum thickness of ductile iron pipe shall be:
 - a. All ductile iron pipe shall be Class 52, double cement lined.
 - b. Pipe with flanges: Class 53 (formerly Class 3).
 - c. All ductile iron pipe shall have cement lining of double thickness.
 - d. Bridge crossing pipe: All joints shall be restrained using a system equal to the Griffin MECH-LOK Rigid Restrained Joint system, US Pipe TR-Flex pipe or equivalent.
 - 2. Pipe for use with sleeve type couplings shall have plain ends (without bells or beads) cast or machined at right angles to the axis.
 - 3. Pipe for use with split type couplings shall have ends with cast or machined shoulders or grooves that meet the requirements of the manufacturer of the couplings.
 - 4. Factory applied bituminous coatings, as approved by the Engineer, shall be furnished for all underground piping.

5. Each ductile iron pipe shall have conspicuously marked on the exterior the pressure, class, and weight of the pipe.
 6. All ductile iron pipe furnished to the project shall be one uniform length, either 18 feet or 20 feet.
 7. Accepted Manufactures: US Pipe, Atlantic States Pipe, Griffin Pipe or approved equivalent.
- B. Fittings (as shown on the Drawings, specified and applicable):
1. General: All fittings shall be the same pressure class as the pipe unless otherwise shown on the Drawings.
 2. Acceptable manufacturers: Tyler, US Pipe or approved equivalent.
 3. Flanged:
 - a. Provide specially drilled flanges when required for connection to existing piping or special equipment.
 - b. Flanges shall be long-hub screwed tightly on pipe by machine at the foundry prior to facing and drilling.
 - c. Gaskets:
 - (1) Provide full face gaskets compatible with the liquid in the pipe.
 - (2) Thickness of gaskets shall be 1/8 inch.
 - (3) The full face flange gasket shall be compatible with flanges conforming to ANSI/AWWA C115/A21.15, ANSI/AWWA C110/A21.10, ASME B16.1 class 125, and ANSI/AWWA C207 class B, D, and E flanges.
 - d. Fasteners:
 - (1) Make joints with bolt, stubs with a nut on each end, or one tapped flanged with a stud and nut.
 - (2) The number and size of bolts shall meet the requirements of the same American National Standard as the flanges.
 - (3) Nuts, bolts and studs shall be Grade B meeting the requirements of ASTM A307.
 - (4) After jointing, coat entire joint with bituminous material compatible with pipe coating.
 - e. When applicable, provide and install flange clamps as shown on the Drawings.
 - f. Uniflange type connection shall be positively restrained by use of threaded rods (2) or other approved restraint device.
 4. Push-on and Mechanical Joint:
 - a. Provide gaskets manufactured from a composition material suitable for exposure to the liquid to be contained within the pipe.
 5. Grooved split ring couplings, sleeve couplings, flexible joints and couplings: As specified and shown on the Drawings.
 6. Joint Bracing:
 - a. Provide joint bracing to prevent the piping from pulling apart under pressure as required.
 - b. Types of bracing:

- (1) Field Lok 350™ Gasket by US Pipe for Ductile Iron Pipe or approved equivalent.
- (2) Cast in place thrust blocks of sufficient size in accordance with DIPRA and AWWA standards for thrust restraint.
- (3) Mechanical joint ductile iron pipe shall be restrained ductile iron glands using mechanical “teeth”, restraining wedges or set screws. Acceptable manufacturers shall be Ebba Iron Mega-Lug, Romac RomaGrip, Sigma One-Loc or approved equivalent.
- (4) Pipe and fittings with approved lugs or hooks cast integrally for use with socket pipe clamps, tie rods, or bridles. Bridles and tie rods shall be a minimum of 3/4 inch diameter except where they replace flange bolts of a smaller size, in which case they shall be fitted with a nut on each side of the pair of flanges. The clamps, tie rods, and bridles shall be coated with an approved bituminous paint after assembly or, if necessary, prior to assembly.
- (5) Other types of bracing as shown on the Drawings.
- (6) See Section 2.1A.1.d above.

C. Standard Fittings:

1. All joints shall conform to the latest AWWA specification C-153.
2. Class 350, Ductile Iron, Cement Lined except as shown on the Drawings or as specified.
3. Joints the same as the pipe with which they are used or as shown on the Drawings.
4. Provide fittings with standard bases where shown on the Drawings.
5. Provide retainer glands on all fittings.
6. Outside surface coated to specifications applicable to pipe.

D. Non-Standard Fittings:

1. Fittings having non-standard dimensions shall be subject to the Engineer's approval.
2. Non-standard fittings shall have the same diameter and thickness as standard fittings and shall meet the specification requirements for standard fittings.
3. The laying lengths and types of joints shall be determined by the particular piping to which they connect.
4. Flanged fittings not meeting the requirements of ANSI A21.10 (i.e., laterals or reducing elbows) shall meet the requirements of ANSI B16.1 in Class 125.

E. Polyethylene encasement shall be high density cross-laminated polyethylene film 4 mil (.004 inch) thick and shall conform to ANSI/AWWA C105/A21.5 (latest editions).

PART 3 - EXECUTION

3.1 INSTALLATION

A. General:

1. Install all pipe and fittings in strict accordance with the manufacturer's instructions and recommendations.
2. Install all pipes and fittings in accordance with the lines and grades shown on the Drawings and as required for a complete installation.
3. Install adapters, approved by the Engineer, when connecting pipes constructed from different materials.
4. Ductile iron pipe and fittings are furnished with a cement lining that is brittle; therefore, the Contractor shall take all precautions not to damage the lining during handling and installation. All pipe that has damaged lining shall be replaced with new pipe at no cost to the Owner.

B. Installation in Trenches:

1. Firmly support the pipe and fittings on bedding material as shown on the Drawings and as specified in the appropriate Sections of these Specifications.
2. Do not permanently support the pipe or fittings on saddles, blocking stones, or any material which does not provide firm and uniform bearing along the outside length of the pipe.
3. When cutting of pipe is required, the Contractor shall make a square cut in the pipe using an approved cutting tool that will not damage the pipe lining.
4. After the cut has been made if the pipe is to be inserted in a bell, the Contractor shall grind a bevel around the pipe with an appropriate hand-held mechanical grinder.
5. Thoroughly compact the material under the pipe to obtain a substantial unyielding bed shaped to fully support the pipe.
6. Excavate suitable holes for the joints so that only the barrel of the pipe receives bearing pressure from the supporting material after placement.
7. Lay each pipe length so it forms a close joint with the adjoining length and bring the inverts up to the required grade.
8. Set the pipe true to line and grade. Use a transit and level or a laser beam aligner as appropriate to the pipe application.
9. Do not drive the pipe down to grade by striking it with a shovel handle, timber, rammer, or any other unyielding object.
10. Make all pipe joints watertight with no visible leakage and no sand, silt, clay or soil of any description entering the pipeline at the joints.
11. Immediately after making a joint, fill the holes for the joints with bedding material and compact.
12. When each pipe length has been properly set, place and compact enough of the bedding material between the pipe and the sides of the trench to hold the pipe in correct alignment.
13. After filling the sides of the trench, place and lightly tamp bedding material to complete the bedding as shown on the Drawings.
14. Take all necessary precautions to prevent flotation of the pipe in the trench.

15. Where there is evidence of water or soil entering the pipeline, repair the defects.
- C. Temporary Plugs:
1. When pipe installation work in trenches is not in progress, close the open ends of the pipe with temporary watertight plugs.
 2. If water is in the trench when work is resumed, do not remove plugs until all danger of water entering the pipe is eliminated.
 3. Do not use the pipelines as conductors for trench drainage during construction.
- D. Assembling Joints:
1. Push-on Joints:
 - a. Insert the gasket into the groove of the bell.
 - b. Uniformly apply a thin film of special lubricant over the inner surface of the gasket that will contact the spigot end of the pipe.
 - c. Insert the chamfered end of the plain pipe into the gasket and push until it seats against the bottom of the socket.
 - d. Where electromagnetic type pipe locators are used or as directed, insert serrated brass wedges at all joints to assure continuity. Use two wedges per joint for 2" through 12" diameter pipe and four wedges for pipes greater than 12" diameter. Each wedge shall be driven into the opening between the plain end and the bell end. Wedges may be omitted with use of Field Lok 350™ gaskets.
 - e. Lubricant used on drinking water supply pipe shall be NSF 61 approved. Use of unapproved lubricant may result in removal and replacement of all pipe installed at the Contractor's expense.
 2. Bolted Joints:
 - a. Remove rust preventive coatings from machined surfaces prior to assembly.
 - b. Thoroughly clean and carefully smooth all burrs and other defects from pipe ends, sockets, sleeves, housings and gaskets.
 3. Flanged Joints:
 - a. Insert the nuts and bolts (or studs), finger tighten, and progressively tighten diametrically opposite bolts uniformly around the flange to the proper tension.
 - b. Execute care when tightening joints to prevent undue strain upon valves, pumps, and other equipment.
 4. Mechanical Joints:
 - a. Thoroughly clean, with a wire brush, surfaces that will be in contact with the gaskets.
 - b. Lubricate the gasket, bell, and spigot.
 - c. Slip the gland and gasket, in that order, over the spigot and insert the spigot into the bell until properly seated.
 - d. Evenly seat the gasket in the bell at all points, center the spigot, and firmly press the gland against the gasket.

- e. Insert the bolts, install the nuts finger tight, and progressively tighten diametrically opposite nuts uniformly around the joint to the proper tension with a torque wrench.
 - f. The correct range of torque (as indicated by a torque wrench) and the length of wrench (if not a torque wrench) shall not exceed:
 - (1) Range of Torque: 60-90 Ft.-lbs.
 - (2) Length of Wrench: 10 inches.
 - g. If effective joint sealing is not attained at the maximum torque specified above, disassemble, thoroughly clean, and reassemble the joint. Do not overstress the bolts to tighten a leaking joint.
 - h. Once the retainer gland has been properly tightened, the restrainer gland set screws shall be set. Hand-tighten all screws so that are in contact with the pipe and set diametrically opposite screw to the manufactured-specified torque.
 - i. Retainer glands shall be used on all joints.
 - j. Restrainer glands and/or thrust blocks shall be used at all fittings as directed by the Engineer.
 - k. Place a sheet of roofing felt or plastic over all fittings and retainer glands prior to placement of the concrete for thrust restraint. Install wooden form to control the size of the thrust block. Place the concrete such that the bearing area of the concrete against undisturbed soil meets the minimum bearing areas as noted on the drawings.
- E. Fabrication:
- 1. Tapped Connections:
 - a. Make all tapped connections where shown on the Drawings or where directed by the Engineer.
 - b. Make all connections watertight and of adequate strength to prevent pullout.
 - c. Drill and tap normal to the longitudinal axis of the pipe.
 - d. The maximum sizes of taps in pipes and fittings without busses shall not exceed the sizes listed in the appendix of ANSI A21.51 based on 3 full threads for cast iron and 2 full threads for ductile iron.
 - 2. Cutting:
 - a. Perform all cutting with machines having rolling wheel cutters or knives designed to cut cast or ductile iron. Do not use a hammer and chisel to cut pipe.
 - b. After cutting, examine all cut ends for possible cracks.
 - c. Carefully chamfer all cut ends to be used with push-on joints to prevent damage to gaskets when pipe is installed.
 - d. When cutting of pipe is required, the Contractor shall make a square cut in the pipe using an approved cutting tool that will not damage the pipe lining. After the cut has been made, the Contractor shall grind a bevel around the pipe with a hand-held mechanical grinder.
- F. Polyethylene encasement shall be installed in agreement with ANSI/AWWA C105/A21.5 and per manufacturer's recommendations. Tube end shall be

overlapped and secured with adhesive tape or plastic string. Repair any rips or defects prior to backfilling.

G. Pipe Deflection:

1. Push-on and Mechanical Joints:

a. The maximum permissible deflection of alignment at joints, in inches for 18 foot lengths:

<u>Size of Pipe</u>	<u>Push-On</u>	<u>Mechanical</u>
6	19	27
8	19	20
10	19	20
12	11	20
14	11	13.5
16	11	13.5
18	11	11
20	11	11
24	11	9

b. The maximum permissible deflection for other lengths shall be in proportion of such lengths to 18 feet.

2. Flexible Joints: The maximum deflection in any direction shall not exceed the manufacturer's instructions and recommendations.

H. Testing to be performed in accordance with the appropriate section of Section 02610 Pipe and Pipe Fittings – General.

END OF SECTION

CORRUGATED POLYETHYLENE (CPE) PIPE & FITTINGS

SECTION 02625CORRUGATED POLYETHYLENE (CPE) PIPE & FITTINGSPART 1 -- GENERAL1.1 DESCRIPTION

- A. Work Included: Furnish, install, anchor, support and test pipe and pipe fittings of the types and sizes in the locations shown on the Drawings and/or as directed by the Engineer.
- B. Work Specified Elsewhere. This Section is not a stand-alone Section. Other requirements which relate to this Section are noted elsewhere in these documents. The Contractor and all Subcontractors are required to review this entire document along with the Drawings in an effort to identify all requirements.

1.2 REFERENCE STANDARDS

- A. Tubing four (4) inches to ten (10) inches: AASHTO M252
- B. Pipe twelve (12) inches to forty eight (48) inches: AASHTO M294
- C. Polyethylene Plastic Pipes and Fittings: ASTM D3350
- D. Polyethylene Moulding & Extrusion materials: ASTM: D1248
- E. Water Tight Performance: ASTM D3212

1.3 QUALITY ASSURANCE

- A. Pipe, pipe fittings and where applicable, geotextile wrap or sock shall be provided by a single manufacturer, and a certificate of compliance will be submitted to the Engineer for approval.

1.4 SUBMITTALS

- A. Submit manufacturer's literature, test reports, and certificates in accordance with the General Conditions and Section 01340 - Submittals.

1.5 TRANSPORTING, HANDLING AND STORING PIPE

- A. Transporting
 - 1. Care shall be taken during the transportation of the pipe in trucks and trailers so that it is not damaged from cuts and kinks.

CORRUGATED POLYETHYLENE (CPE) PIPE & FITTINGS

- B. Handling
 1. The handling and lifting of pipe lengths and fittings shall be such as to avoid damage and shall be done by means of ropes, fabric or rubber protected slings and straps.
 2. The pipe shall not be lifted by means of metal slings, chains, cables or hooks inserted into the pipe ends. Slings shall be positioned to prevent excessive flexing of the pipe lengths to avoid kinking or damage to the pipe ends.
 3. The pipe lengths shall not be dragged from the transportation media or allowed to fall onto unprepared or rocky ground.
 4. The handling of the joined pipe line shall be done in such a manner that the pipe is not damaged by dragging it over sharp and cutting objects.
- C. Storing
 1. The stacking of the polyethylene pipe shall be limited to such a height as to not cause excessive deformation of the bottom layers of pipes under anticipated temperature conditions.
 2. The surface where the pipe shall be stored shall be level and free of foreign objects which could damage the pipe.
 3. Where necessary due to ground conditions, the pipe shall be stored on wooden sleepers of sufficient bearing and spacing.

1.6 INSPECTION

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

PART 2 -- PRODUCTS2.1 MATERIALS

A. General

1. The prescribed sizes of pipes are nominal inside diameters. Pipes shall be of the size and length shown on the plans.
2. **All drainage pipe shall be smooth interior** unless otherwise noted.
3. Resin used in the manufacturing of pipe and fittings shall meet the requirements of cell class 324420C (for 4-inch through 10-inch diameters) and 335420C (for 12-inch through 60-inch) diameters) as defined in ASTM 3350.
4. Carbon black content shall not exceed 5%.

B. Smooth Interior Corrugated Polyethylene Pipe

1. The product supplied under this specification shall be high density polyethylene corrugated exterior/smooth interior pipe. Four (4) to ten (10) inch diameters shall conform to AASHTO M252 Type S. Twelve (12) to forty-eight (48) inch diameters shall conform to AASHTO M294-97 Type S. Fifty-four (54) inch to sixty (60) inch diameters shall confirm to AASHTO MP7-97.

C. Perforated Corrugated Polyethylene Pipe

1. Pipe shall be heavy duty corrugated polyethylene (PE) tubing, type SP with Class 2 perforations. The water inlet area shall be a minimum of 2.0 square inch per linear foot.

D. Coupling Bands and Fittings

1. Coupling bands shall cover at least one full corrugation on each section of pipe. When gasketed coupling bands are required, the gasket shall be made of closed-cell synthetic expanded rubber meeting the requirements of ASTM D1056, Type 2. Gaskets shall be installed on the coupling band by the pipe manufacturer. All coupling bands shall meet or exceed the soil-tightness requirement of the AASHTO Standard Specification for Highway Bridges, section 23, paragraph 23.3.1.5.4(e).
2. Furnish fittings of approved equal to the pipe and having connection configurations identical to that of the pipe.
3. Pipe fittings shall conform to the same AASHTO standards of the pipe being joined.

E. Synthetic Filter Wrap (when specified for perforated pipe)

1. When specified, the geotextile wrap or sock shall be factory installed by the pipe manufacturer and shall have to filter characteristics appropriate for the soil types encountered.
2. The Contractor shall, in the shop drawing submittal, include the data on the appropriate geotextile.

F. Acceptable Manufacturers:

1. Hancor, Inc., Findlay Ohio
2. Advanced Drainage Systems, Columbus Ohio
3. or approved equal.

G. All Drainage Pipe shall be supplied by one manufacturer.

CORRUGATED POLYETHYLENE (CPE) PIPE & FITTINGS

- H. All Piping shall be silt tight.

PART 3 -- EXECUTION

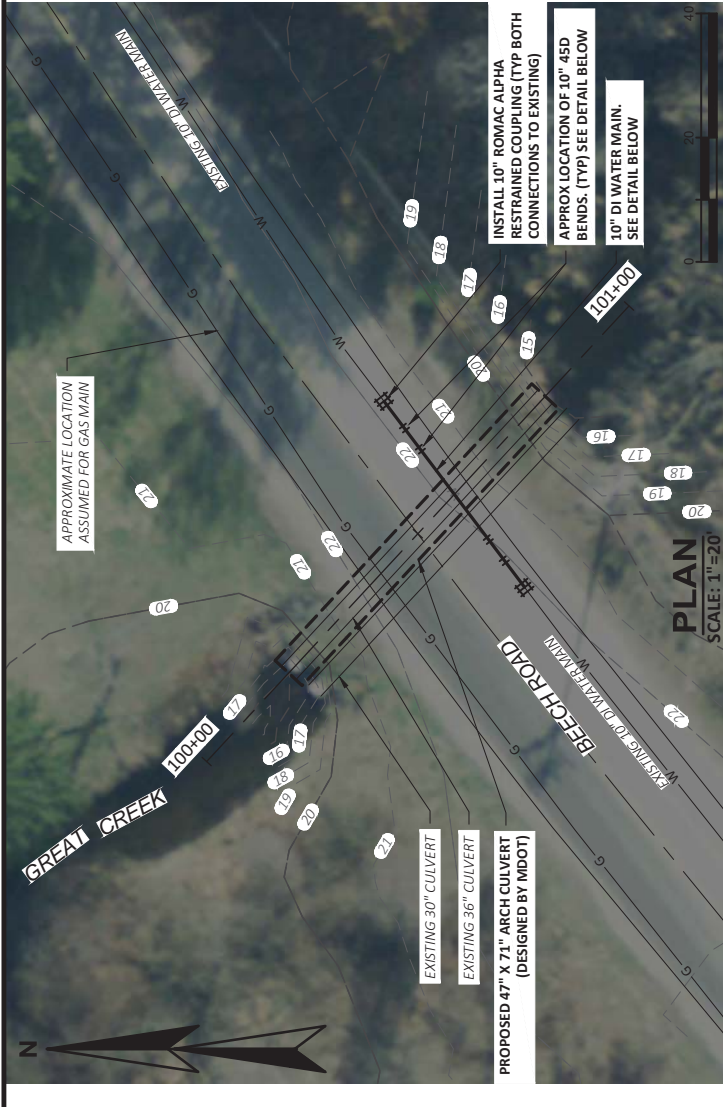
3.1 INSTALLATION

- A. Installation shall be in accordance with manufacturer's recommendations and as shown on the drawings.
- B. Prior to backfilling, exercise extra care to maintain water level in open excavation below the pipe invert to avoid flotation of pipe already set to line and grade.
- C. Flared end sections shall be fully supported.
- D. Stones larger than 3 inches in diameter shall not contact the pipe, fittings or appurtenances.

3.2 INSPECTION AND CLEANING

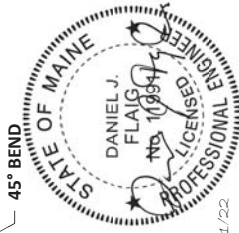
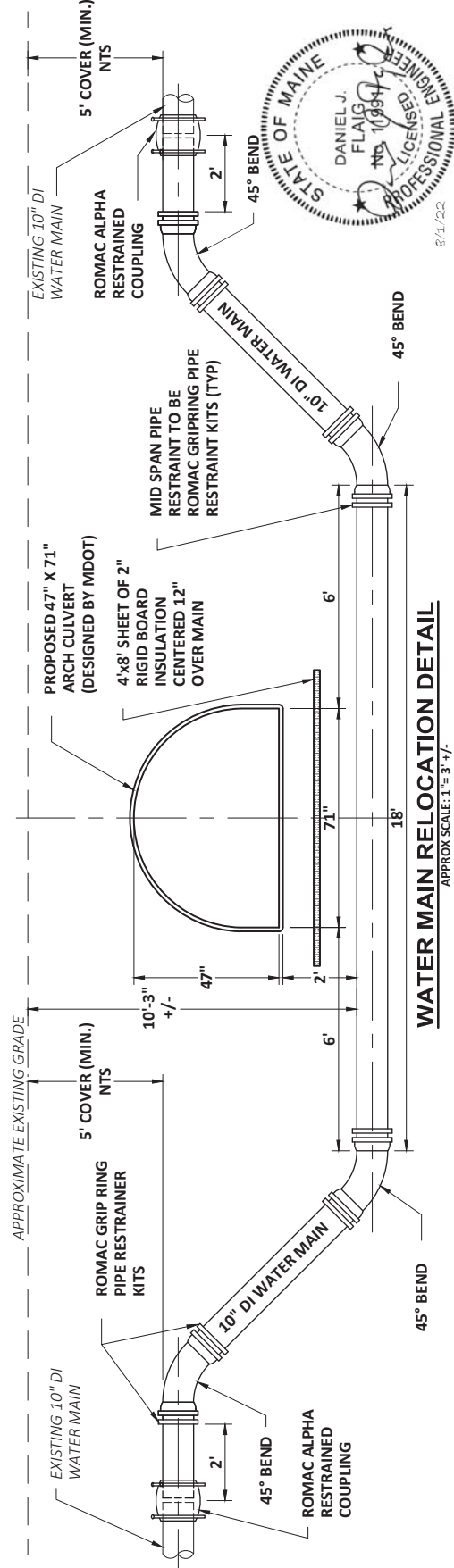
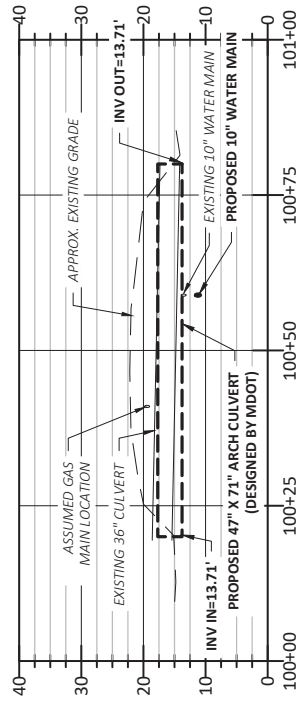
- A. Inspect all drain pipes in the presence of the Owner and the Engineer. All pipes not demonstrating uniform slope and alignment shall be replaced at no additional cost to the Owner.
- B. At the end of the project and prior to acceptance by the Owner, all drainage pipe shall be thoroughly cleaned and where accessible visually inspected.

END OF SECTION



NOTES:

1. WATER MAIN MATERIALS TO BE FURNISHED BY THE KITTELY WATER DISTRICT.
2. CULVERT DESIGN AND FIELD SURVEY COMPLETED BY MAINE DEPARTMENT OF TRANSPORTATION (MDOT). ASSUMED DATUM REFERENCED ON MDOT SURVEY ADJUSTED TO LIDAR DATA REFERENCE SHOWN ON THIS PLAN TO DEPICT THE WATER MAIN RELOCATION.
3. EXISTING UTILITY LOCATIONS ARE APPROXIMATE. ALL UTILITY LOCATIONS SHALL BE CONFIRMED BY THE CONTRACTOR AND MDOT.



PROJECT NO.: 13942	DATE: APRIL 2022
KITTELY WATER DISTRICT BEECH ROAD - ELIOT, MAINE	
FIGURE: 1	

GRIPRING™ PIPE RESTRAINER

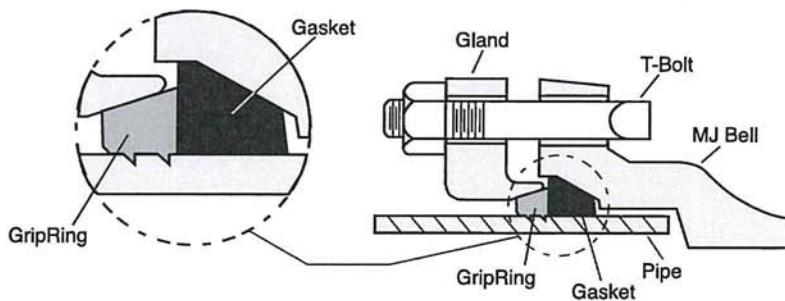
FOR USE ON DUCTILE IRON, C-900, & IPS SIZE PVC¹



A ROMAC ORIGINAL
GripRing™
 U.S. PAT. NO. 5335946

The GripRing's articulating wedge action provides the restraint required for virtually any pressure.

- **Full circumferential pipe restraint.**
 This spreads the restraining forces more evenly than restrainers using radial bolts or pads.
- **Built-in stop to prevent damage to pipe.**
 The "gap" in each GripRing is designed to completely close before a pipe can be excessively stressed.
- **Easy to install.**
 The GripRing™ uses standard mechanical joint gasket and T-bolts. There are no radial bolts or pads for the installer to forget to tighten. When the T-bolts on the gland are tightened, the GripRing restraint system is engaged.
- **The GripRing flexes to accommodate deflection allowed in a Mechanical Joint.**
 Restrains under the misalignment conditions often found in the field.
- **Rated to full working pressure of pipe.**
 GripRing pipe restrainers may be used at the full rated capacity of the pipe, including an allowance for pressure surges.
- **The gland is painted yellow to avoid confusion.**
 Since the gland used with the GripRing restraint system is similar in looks to a standard MJ gland, it is painted yellow. The inspector can easily see that a restrainer has in fact, been used.



NSF61 certified upon request.

Certified to NSF/ANSI 61 & 572

GRIPRING™ PIPE MATERIAL COMPATIBILITY CHART

PIPE MATERIAL	RING COLOR	WORKING PRESSURE	COMMENTS
² Ductile Iron - AWWA C151	Black	350	
Cast Iron - Obsolete Std.	Black	350	O.D. is same as DI, C151.
² PVC - D.I. Size, AWWA C900	Black	Rating of pipe	Class 235 & 305.
PVC - "Class Pipe", ASTM D2241	Red	Rating of pipe	4"-8" Class 160-200. 10" & 12" Class 200 only.
PVC - ASTM D1785	Red	Rating of pipe	4"-8" Class Sched. 40-80. 10" & 12" Sched. 80 only.
PVC Molecularly Oriented (C909)	-	-	GripRing is not for use on C909 pipe.

For pipe and classes not listed in the compatibility chart above, contact Romac Industries.

¹ Consult GripRing Pipe Material Compatibility Chart.

² UL Listed & FM Approved.



GRIPRING™ ACCESSORY PACK

MATERIAL SPECIFICATIONS

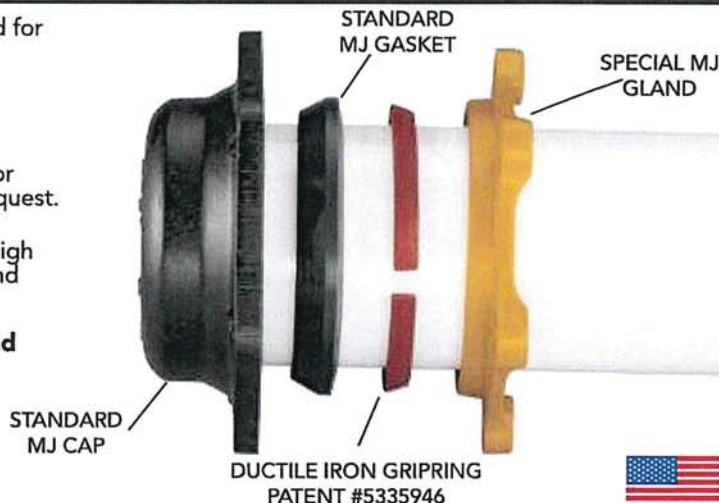
GRIPRING: Hardened ductile iron. GripRing is painted red for IPS, and black for D.I. and C-900.

GLAND: Ductile iron per ASTM A536, Grade 65-45-12. Gland is painted yellow.

GASKET: SBR per ASTM D2000 MBA 710, compounded for water and sewer service. Other compounds available on request.

T-BOLTS AND NUTS: 3/4" UNC T-bolts, heavy hex nuts, high strength, low alloy steel per AWWA C111. Stainless steel and R-Blue¹ available upon request.

Not for use on polyethylene pipe, steel pipe, plain end mechanical joint fittings, Molecularly Oriented Polyvinylchloride (PVC) AWWA C909-02. See pipe material compatibility chart for details.



NSF61 certified upon request.

MEETS AWWA C111

DUCTILE IRON AND C-900

NOM. PIPE SIZE	ACCESSORY PACK (Gland, GripRing, Gasket, Bolts & Nuts)					NOM. PIPE SIZE	GLAND & GRIPRING ONLY		
	CATALOG NUMBER	BOLTS (Qty: Size)	WEIGHT (lbs.)	LIST PRICE			CATALOG NUMBER	WEIGHT (lbs.)	LIST PRICE
				STD. B&N	R-BLUE ¹ B&N				
4"	4" GRAP-DI	4: 3/4" x 3 1/2"	8#	\$119.28	\$142.21	4"	4" GR-DI	4#	\$80.02
6"	6" GRAP-DI	6: 3/4" x 4"	11#	138.68	167.62	6"	6" GR-DI	6#	91.64
8"	8" GRAP-DI	6: 3/4" x 4"	14#	197.69	226.64	8"	8" GR-DI	8#	140.29
10"	10" GRAP-DI	8: 3/4" x 4"	18#	283.22	321.81	10"	10" GR-DI	11#	210.99
12"	12" GRAP-DI	8: 3/4" x 4"	20#	386.93	431.55	12"	12" GR-DI	13#	306.04

PVC-IRON PIPE SIZE (IPS)

NOM. PIPE SIZE	ACCESSORY PACK (Gland, GripRing, Gasket, Bolts & Nuts)					NOM. PIPE SIZE	GLAND & GRIPRING ONLY		
	CATALOG NUMBER	BOLTS (Qty: Size)	WEIGHT (lbs.)	LIST PRICE			CATALOG NUMBER	WEIGHT (lbs.)	LIST PRICE
				STD. B&N	R-BLUE ¹ B&N				
4"	4" GRAP-IP	4: 3/4" x 3 1/2"	8#	\$136.36	\$159.29	4"	4" GR-IP	4#	\$97.42
6"	6" GRAP-IP	6: 3/4" x 4"	11#	165.52	194.47	6"	6" GR-IP	6#	118.43
8"	8" GRAP-IP	6: 3/4" x 4"	14#	232.22	261.17	8"	8" GR-IP	9#	174.81
10"	10" GRAP-IP	8: 3/4" x 4"	18#	403.15	441.74	10"	10" GR-IP	12#	330.82
12"	12" GRAP-IP	8: 3/4" x 4"	20#	427.61	466.27	12"	12" GR-IP	14#	347.55

¹ R-BLUE Bolts and Nuts, see page 10-3 for more information.

TO ORDER: Specify catalog number.

ALPHA™

WIDE RANGE RESTRAINED COUPLING



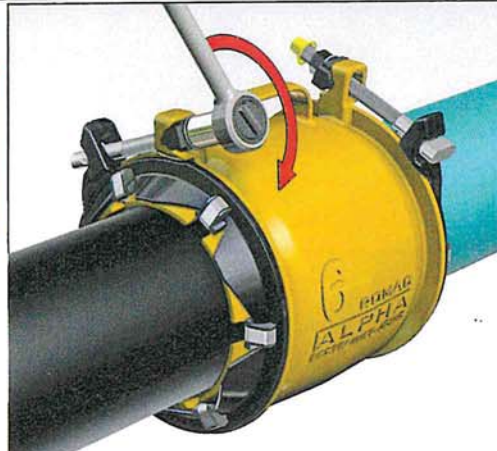
- With just two nuts to tighten, installation takes about three minutes, regardless of pipe diameter.
- Standard Alpha accommodates IPS PVC pipe through Ductile Iron pipe diameters.
- Alpha XL covers Ductile Iron through Oversize Cast Iron pipe sizes.
- Accommodates up to 8 degrees of deflection (4 on each side).
- The handle, located on top of the coupling, helps when positioning the coupling during installation.
- Manufactured in the U.S.A.
- US Patent: 8,894,100



SIMPLE AND FAST INSTALLATION



STEP 1: Slide ALPHA over the pipe gap.



STEP 2: Tighten nuts to the appropriate torque.



A restrained joint with a working pressure of up to 350 psi installed in less than 3 minutes.

ALPHA™



WIDE RANGE RESTRAINED COUPLING

MATERIAL SPECIFICATIONS

CASTINGS: All cast components (end ring, center ring and bolt guide) are ductile iron, meeting or exceeding the requirements of ASTM A 536, grade 65-45-12.

GRIPPERS: Ductile (nodular) iron, meeting or exceeding ASTM A 536, grade 65-45-12. Machine sharpened and heat treated. Xylan 1424 coated for enhanced corrosion protection.

GASKET: SBR compounded for water and sewer service per ASTM D2000 - classified by UL to meet NSF61, or NBR compounded for water and sewer service in accordance with ASTM D2000 and NSF61 Certified. Other compounds available upon request.

DRAW-HOOK FASTENERS: 304L stainless steel.

RAMP RUNNERS: Reinforced nylon.

BOLT & NUT: 304 stainless steel, 5/8-11 bolt with heavy hex e-coated nut. Fasteners provided with anti-galling protection.

COATINGS: Center ring is Romacoat fusion bonded epoxy. End ring is Romabond Polyester.

WORKING PRESSURE: up to 350 PSI.

GASKET RANGE CONFIGURATION OPTIONS

Alpha can be configured in one of three ways.



STANDARD ALPHA

Standard Alpha accommodates IPS PVC through Ductile Iron pipe diameters.



ALPHA XL

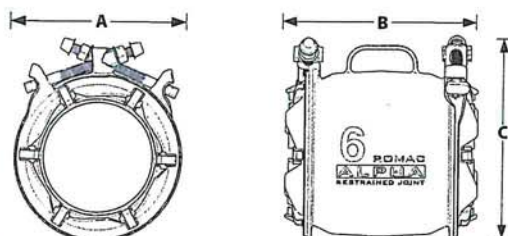
Alpha XL accommodates Ductile Iron through Oversize Cast Iron pipe diameters.



ALPHA TRANSITION COUPLING

In this configuration, Alpha provides a transition from IPS PVC pipe diameters up to Oversize Cast Iron pipe diameters.

DIMENSIONS



ALPHA GASKET RANGE CONFIGURATIONS

NOM. PIPE SIZE

SIDE ONE →
select gasket range

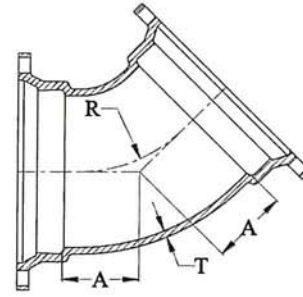
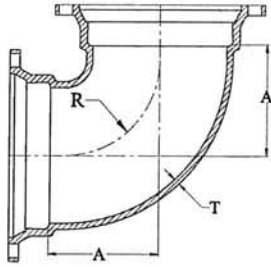


← **SIDE TWO**
select gasket range

NOM. PIPE SIZE	SIDE ONE		BY	SIDE TWO		DIMENSIONS			APPROXIMATE WEIGHT (lbs.)
	ALPHA RANGE	GASKET RANGE		ALPHA RANGE	GASKET RANGE	A O.D.	B LENGTH	C HEIGHT	
4"	STD. ALPHA	4.50 - 4.90	X	STD. ALPHA	4.50 - 4.90	9.18	11.85	10.53	40
	ALPHA XL	4.80 - 5.10		ALPHA XL	4.80 - 5.10				
6"	STD. ALPHA	6.60 - 7.00	X	STD. ALPHA	6.60 - 7.00	10.33	11.98	12.77	50
	ALPHA XL	6.90 - 7.20		ALPHA XL	6.90 - 7.20				
8"	STD. ALPHA	8.60 - 9.10	X	STD. ALPHA	8.60 - 9.10	13.45	13.19	15.67	75
	ALPHA XL	9.05 - 9.40		ALPHA XL	9.05 - 9.40				
10"	STD. ALPHA	10.75 - 11.20	X	STD. ALPHA	10.75 - 11.20	15.54	12.74	17.61	95
	ALPHA XL	11.10 - 11.45		ALPHA XL	11.10 - 11.45				
12"	STD. ALPHA	12.75 - 13.30	X	STD. ALPHA	12.75 - 13.30	17.59	13.30	19.73	100
	ALPHA XL	13.20 - 13.60		ALPHA XL	13.20 - 13.60				

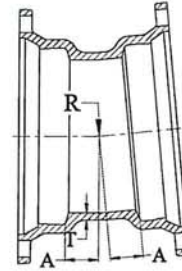
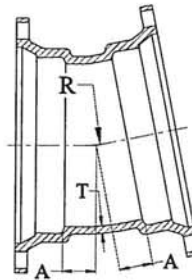
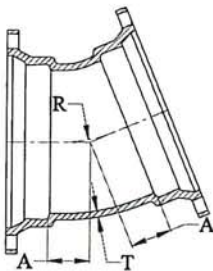
Information contained in this document is subject to change. Contact Romac Industries for any updates.

C153 DUCTILE IRON COMPACT FITTINGS



90° Bends (1/4)								45° Bends (1/8)				
Domestic				Import				Domestic			Import	
Size	T	A	R	Weight	T	A	Weight	A	R	Weight	A	Weight
3	0.34	3.50	2.50	26	0.33	3.50	19	2.00	2.41	17	1.50	16
4	0.35	4.00	3.00	26	0.34	4.00	24	2.50	3.56	22	2.00	22
6	0.37	6.00	5.00	45	0.36	5.00	39	3.50	7.25	38	3.00	32
8	0.39	7.00	6.00	62	0.38	6.50	57	4.00	8.44	51	3.50	46
10	0.41	7.50	6.50	89	0.40	7.50	89	5.00	10.88	75	4.50	70
12	0.43	9.00	8.00	114	0.42	9.00	108	5.98	13.25	108	5.50	101
14	0.51	12.00	11.50	210	0.47	11.50	210	5.50	12.06	156	5.00	160
16	0.52	13.00	12.50	268	0.50	12.50	264	5.50	10.42	191	5.50	202
18	0.59	14.00	13.00	375	0.54	14.00	335	6.00	11.18	252	6.00	250
20	0.60	17.00	15.50	443	0.57	15.00	400	7.00	13.59	303	7.00	305
24	0.62	17.00	15.50	663	0.61	16.75	565	7.50	14.89	398	7.50	405
30	0.66	21.50	19.00	1005	0.66	21.50	930	10.50	9.31	850	10.50	780
36	0.74	24.50	22.00	1540	0.74	24.50	1450	11.50	21.73	1135	11.50	1135
42	0.82	29.25	26.70	2380	0.82	29.25	2205	14.00	27.76	1675	14.00	1610
48	0.90	33.25	30.80	3084	0.90	33.25	2990	15.00	30.17	2196	15.00	2090

**NOTE: Other sizes available, contact Tyler Union for information



22 1/2° Bends (1/16)						11 1/4° Bends (1/32)					5 - 5/8 Bends (1/64) MJ x MJ		
Domestic			Import			Domestic			Import		Import		
Size	A	R	Weight	A	Weight	A	R	Weight	A	Weight	A	R	Weight
3	1.50	2.51	16	1.00	15	1.25	2.53	15	1.00	14	1.25	5.08	16
4	1.75	3.81	21	1.50	18	1.50	5.12	21	1.30	16	1.50	7.61	18
6	2.25	6.35	31	2.00	31	1.50	5.12	30	1.50	30	1.50	10.15	29
8	2.85	11.80	44	2.50	46	2.06	15.80	43	1.80	42	1.75	12.69	45
10	3.35	14.35	67	3.00	64	2.32	18.36	58	2.00	58	2.00	15.23	59
12	3.86	16.90	81	3.50	80	2.56	20.90	68	2.30	67	2.30	17.77	82
14	3.93	17.25	139	3.75	136	2.59	21.25	123	2.50	93	2.50	20.31	136
16	3.98	17.50	172	3.75	172	2.62	21.50	145	2.50	148	2.50	20.31	157
18	4.50	15.11	275	4.50	255	3.00	16.52	205	3.00	205	3.00	25.38	283
20	4.50	15.07	341	4.50	310	3.00	15.23	245	3.00	245	3.00	25.38	374
24	4.50	15.51	333	4.50	366	3.00	16.10	304	3.00	315	3.00	25.38	487
30	6.75	21.36	670	6.75	665	4.75	22.84	551	4.80	600	3.75	32.97	600
36	7.75	26.39	978	7.75	960	5.00	25.38	870	5.00	820	4.00	34.55	820
42	9.00	32.68	1352	9.00	1350	6.00	35.54	1163	6.00	1180	5.00	42.71	1180
48	10.00	27.70	1757	10.00	1760	6.50	40.61	1474	6.50	1475	5.50	47.35	1475

NOTE: Contact Tyler Union for details on 54" through 64" NOTE: For projects where product weights, specifications or dimensions are critical, advise upon order placement.

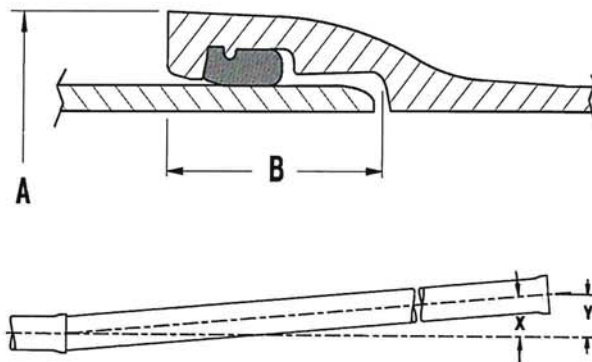


Ductile Iron Pipe TYTON JOINT® Pipe Thickness Class Designation

Specifications

Pipe shall be ductile iron manufactured in accordance with the requirements of ANSI/AWWA C151/A21.51. Push-on joints for such pipe shall be in accordance with ANSI/AWWA C111/A21.11. Pipe shall be Griffin or equal. Pipe thickness shall be designed in accordance with ANSI/AWWA C150/A21.50 and shall be based on laying conditions and internal pressure as specified in the project plans.

Pipe shall have cement mortar lining and seal coating, where applicable, in accordance with ANSI/AWWA C104/A21.4.



Dimensions & Weights

Pipe Barrel							Laying Length			
							18 ft.		20 ft.	
Size in.	Thick. Class	Nom. Thick. in.	Nom. O.D. in.	A Bell O.D. in.	B Bell Depth in.	X Defl. Angle deg.	Wt. Per Lgth.† lb.	Y Max. Defl. in.	Wt. Per Lgth.† lb.	Y Max. Defl. in.
3	51	0.25	3.96	5.48	3.00	5	168	19		
	52	0.28	3.96	5.48	3.00	5	186	19		
	53	0.31	3.96	5.48	3.00	5	204	19		
	54	0.34	3.96	5.48	3.00	5	221	19		
	55	0.37	3.96	5.48	3.00	5	238	19		
	56	0.40	3.96	5.48	3.00	5	254	19		
4	51	0.26	4.80	6.52	3.15	5	214	19		
	52	0.29	4.80	6.52	3.15	5	236	19		
	53	0.32	4.80	6.52	3.15	5	258	19		
	54	0.35	4.80	6.52	3.15	5	280	19		
	55	0.38	4.80	6.52	3.15	5	301	19		
	56	0.41	4.80	6.52	3.15	5	321	19		
6	50	0.25	6.90	8.66	3.38	5	304	19	336	21
	51	0.28	6.90	8.66	3.38	5	337	19	372	21
	52	0.31	6.90	8.66	3.38	5	370	19	409	21
	53	0.34	6.90	8.66	3.38	5	402	19	445	21
	54	0.37	6.90	8.66	3.38	5	434	19	481	21
	55	0.40	6.90	8.66	3.38	5	466	19	516	21
8	50	0.27	9.05	10.82	3.69	5	431	19	477	21
	51	0.30	9.05	10.82	3.69	5	475	19	526	21
	52	0.33	9.05	10.82	3.69	5	519	19	574	21
	53	0.36	9.05	10.82	3.69	5	562	19	622	21
	54	0.39	9.05	10.82	3.69	5	605	19	670	21
	55	0.42	9.05	10.82	3.69	5	648	19	718	21
56	0.45	9.05	10.82	3.69	5	691	19	765	21	

*NOTE: 10" THRU 24"
continued on back.*

TYTON JOINT® is a registered trademark of U.S. Pipe and Foundry Co.

Plants and Regional Sales Offices:

Council Bluffs, Iowa 51501
2601 Ninth Avenue
712/325-5131 Fax 712/325-5139

Florence, New Jersey 08518
1100 West Front Street
609/499-1400
Fax 609/499-4868

Lynchburg, Virginia 24505
Adams St. - Upper Basin, Box 740
804/522-4742 Fax 804/522-4739

Ductile Iron Pipe

TYTON JOINT® Pipe Dimensions & Weights Continued

Pipe Barrel						Laying Length				
						18 ft.		20 ft.		
Size in.	Thick. Class	Nom. Thick. in.	Nom. O.D. in.	A Bell O.D. in.	B Bell Depth in.	X Defl. Angle deg.	Wt. Per Lgth.† lb.	Y Max. Defl. in.	Wt. Per Lgth.† lb.	Y Max. Defl. in.
10	50	0.29	11.10	12.91	3.75	5	569	19	630	21
	51	0.32	11.10	12.91	3.75	5	624	19	690	21
	52	0.35	11.10	12.91	3.75	5	678	19	750	21
	53	0.38	11.10	12.91	3.75	5	732	19	810	21
	54	0.41	11.10	12.91	3.75	5	785	19	870	21
	55	0.44	11.10	12.91	3.75	5	839	19	929	21
	56	0.47	11.10	12.91	3.75	5	892	19	988	21
12	50	0.31	13.20	15.05	3.75	5	724	19	801	21
	51	0.34	13.20	15.05	3.75	5	790	19	874	21
	52	0.37	13.20	15.05	3.75	5	854	19	946	21
	53	0.40	13.20	15.05	3.75	5	919	19	1,017	21
	54	0.43	13.20	15.05	3.75	5	983	19	1,089	21
	55	0.46	13.20	15.05	3.75	5	1,047	19	1,160	21
	56	0.49	13.20	15.05	3.75	5	1,111	19	1,230	21
14	50	0.33	15.30	17.62	5.00	5	909	19	1,004	21
	51	0.36	15.30	17.62	5.00	5	985	19	1,088	21
	52	0.39	15.30	17.62	5.00	5	1,060	19	1,172	21
	53	0.42	15.30	17.62	5.00	5	1,135	19	1,256	21
	54	0.45	15.30	17.62	5.00	5	1,210	19	1,339	21
	55	0.48	15.30	17.62	5.00	5	1,285	19	1,422	21
	56	0.51	15.30	17.62	5.00	5	1,359	19	1,504	21
16	50	0.34	17.40	19.74	5.00	5	1,066	19	1,177	21
	51	0.37	17.40	19.74	5.00	5	1,152	19	1,273	21
	52	0.40	17.40	19.74	5.00	5	1,239	19	1,369	21
	53	0.43	17.40	19.74	5.00	5	1,325	19	1,465	21
	54	0.46	17.40	19.74	5.00	5	1,410	19	1,560	21
	55	0.49	17.40	19.74	5.00	5	1,496	19	1,655	21
	56	0.52	17.40	19.74	5.00	5	1,581	19	1,750	21
18	50	0.35	19.50	21.86	5.00	5			1,356	21
	51	0.38	19.50	21.86	5.00	5			1,464	21
	52	0.41	19.50	21.86	5.00	5			1,572	21
	53	0.44	19.50	21.86	5.00	5			1,679	21
	54	0.47	19.50	21.86	5.00	5			1,787	21
	55	0.50	19.50	21.86	5.00	5			1,894	21
	56	0.53	19.50	21.86	5.00	5			2,000	21
20	50	0.36	21.60	23.98	5.50	5			1,542	21
	51	0.39	21.60	23.98	5.50	5			1,662	21
	52	0.42	21.60	23.98	5.50	5			1,782	21
	53	0.45	21.60	23.98	5.50	5			1,902	21
	54	0.48	21.60	23.98	5.50	5			2,021	21
	55	0.51	21.60	23.98	5.50	5			2,140	21
	56	0.54	21.60	23.98	5.50	5			2,259	21
24	50	0.38	25.80	28.16	5.95	5			1,953	21
	51	0.41	25.80	28.16	5.95	5			2,097	21
	52	0.44	25.80	28.16	5.95	5			2,241	21
	53	0.47	25.80	28.16	5.95	5			2,385	21
	54	0.50	25.80	28.16	5.95	5			2,528	21
	55	0.53	25.80	28.16	5.95	5			2,671	21
	56	0.56	25.80	28.16	5.95	5			2,814	21

† Including bell.

Pipe is normally manufactured with a cement-mortar lining. Above weights do not include lining. Standard lining thickness for 4" - 12" diameter pipe is 1/16" minimum; for 14" - 24" diameter pipe is 1/32" minimum.

2020 STANDARD DETAIL UPDATES

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

<u>Detail #</u>	<u>Description</u>	<u>Revision Date</u>
502(19)	Bridge Drains	12/08/2021
507(20)	Steel Approach Railing 3-Bar	2/11/2021
507(21)	Steel Approach Railing 3-Bar	2/11/2021
507(22)	Steel Approach Railing 3-Bar	2/11/2021
507(23)	Steel Approach Railing 3-Bar	2/11/2021
507(27)	Steel Approach Railing	2/11/2021
526(01)	Portable Concrete Barrier	1/14/2021
526(01A)	Portable Concrete Barrier	1/14/2021
526(01B)	Portable Concrete Barrier	1/14/2021
526(02)	Portable Concrete Barrier	1/14/2021
526(02A)	Portable Concrete Barrier	1/14/2021
526(03)	Portable Concrete Barrier	1/14/2021
526(04)	Portable Concrete Barrier	1/14/2021
526(04A)	Portable Concrete Barrier	1/14/2021
526(04B)	Portable Concrete Barrier	1/14/2021
603(10)	Concrete Pipe Ties	6/10/2021
605(01)	Underdrain	8/13/2021
606(17)	Midway Splice Guardrail Transition	6/10/2022
606(23)	Standard Bridge Transition – Type “1”	2/11/2021
606(24)	Standard Bridge Transition – Type “1A”	2/11/2021
608(02)	Detectable Warnings	6/10/2021
609(09)	Precast Concrete Vertical Curb	2/11/2021
627(07)	Crosswalk	2/22/2022
627(08)	Crosswalk	2/22/2022
643(11)	ATCC Cabinet	12/14/2020
801(11)	Pedestrian Ramp Notes	6/10/2021
801(12)	Pedestrian Ramp Requirements	8/13/2021
801(13)	Ramp Length Table	6/10/2021
801(14)	Parallel Pedestrian Ramp	6/10/2021

801(15)	Perpendicular Pedestrian Ramp – Option 1	6/10/2021
801(16)	Parallel Pedestrian Ramp – Option 2A	6/10/2021
801(17)	Perpendicular Pedestrian Ramp – Option 2A	6/10/2021
801(18)	Parallel Pedestrian Ramp – Option 2B	6/10/2021
801(19)	Perpendicular Pedestrian Ramp – Option 2B	6/10/2021
801(20)	Parallel Pedestrian Ramp – Option 3	6/10/2021
801(21)	Perpendicular Pedestrian Ramp – Option 3	6/10/2021
801(22)	Side Street Pedestrian Ramp	6/10/2021
801(23)	Parallel Pedestrian Ramp – Esplanade	6/10/2021
801(24)	Perpendicular Pedestrian Ramp – Esplanade	6/10/2021
801(25)	Island Crossings	6/10/2021
801(26)	Blended Transition	6/10/2021
801(27)	Pedestrian Ramp Adjacent to Driveway or Entrance	6/10/2021
802(05)	Roadway Culvert End Slope Treatment	1/03/2017

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

SECTION 101
CONTRACT INTERPRETATION

101.2 Definitions

Holidays Amend this paragraph by adding “**Juneteenth**” between ‘Memorial Day’ and ‘Independence Day’.

SECTION 102
BIDDING

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

“The Bid is not signed by a duly authorized representative of the Bidder.

- **Properly submitted electronic bids meet this requirement.**
- **Paper bids must include at least one signed copy of the Contract Agreement Offer & Award form.”**

SECTION 104
GENERAL RIGHTS AND RESPONSIBILITIES

104.2.1 Furnishing of Right-of-Way Revise the last sentence in the first paragraph by removing “105.4.5 – Special Detours” and replacing it with “**105.4.5 – Maintenance of Existing Structures.**”.

SECTION 105
GENERAL SCOPE OF WORK

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

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

SECTION 106
QUALITY

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

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

Revise Subsection “B” by removing it and replacing it with:

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

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

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

“Method B: $PF = [70 + (\text{Quality Level} * 0.33)] * 0.01$ ”

SECTION 107 TIME

107.3.1 General Amend this paragraph by adding “**Juneteenth**” between ‘Patriot’s Day’ and ‘the Friday after Thanksgiving’.

SECTION 108 PAYMENT

108.4.1 Price Adjustment for Hot Mix Asphalt Revise the first paragraph of this section by replacing the first sentence with the following:

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

SECTION 110
INDEMNIFICATION, BONDING, AND INSURANCE

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

SECTION 206
STRUCTURAL EXCAVATION

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

206.04 Method of Measurement – Drainage and Minor Structures Paragraph 1, sentence 2, delete the remainder of the sentence beginning with “...provided the maximum allowable...”

And replace with: “**...in accordance with the following limits:**”

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

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

SECTION 401
HOT MIX ASPHALT PAVEMENT

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

SECTION 502
STRUCTURAL CONCRETE

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

“502.10 Placing Concrete

A. **General Concrete shall not be placed until forms”**

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

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

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

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

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

TEST	TEST METHOD	SAMPLING LOCATION	FREQUENCY
Gradation	AASHTO T-27 & T-11	Stockpile	One set per proposed grading before production. One set every 100 yd ³ (Min. 1 set per month)
Organic Impurities	AASHTO T-21	Stockpile	Once per fine aggregate per year **
% Absorption	AASHTO T-84 & T-85	Stockpile	Once per aggregate per year
Specific Gravity	AASHTO T-84 & T-85	Stockpile	Once per aggregate per year
Total Moisture in Aggregate	AASHTO T-255	Stockpile	One set per day's production
Free Water and Aggregate Wt.	N/A		One per day's production
% Entrained Air	AASHTO T-152	On Project	On first two loads and every third load thereafter provided consistent results are achieved
Compressive Strength	AASHTO T-22	On Project	One set per subplot
Compressive Strength	AASHTO T-22 @ 7days	On Project	One set per subplot

* Additional QC testing will be required any time a process change occurs during a placement, including changes in type or dosage of admixture. Additional testing shall include, but is not limited to, entrained air testing.

**** If the color produced is a laboratory designation Plate III, then the fine aggregate shall be tested once per month.**

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

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

(Also see 535.24 and 535.25 for related changes)

SECTION 503 REINFORCING STEEL

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

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

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

- Normal weight concrete
- Minimum 28-day concrete compressive strength from 4,000 psi to 10,000 psi
- Class B tension lap splice
- Minimum center-to-center spacing between bars of 6 inches
- Minimum clear cover of 2 inches
- Nominal reinforcing steel yield strengths
 - Low-carbon Chromium = 100 ksi
 - Stainless = 75 ksi
 - All others = 60 ksi
- Reinforcement with yield strengths greater than 75 ksi shall have beam transverse reinforcement and column ties provided over the required lap splice length in accordance with the current edition of the AASHTO LRFD Bridge Design Specifications

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

SECTION 506 SHOP APPLIED PROTECTIVE COATING – STEEL

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

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

SECTION 523
BEARINGS

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

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

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

SECTION 526
CONCRETE BARRIER

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

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

The types of concrete barrier are designated as follows:

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

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

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

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

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

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

526.02 Materials

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

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

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

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

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

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

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

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

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

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

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

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

526.03 Construction Requirements

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

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

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

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

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

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

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

- a. Cross-sectional dimensions shall not vary from design dimensions by more than $\frac{1}{4}$ inch. The vertical centerline shall not be out of plumb by more than $\frac{1}{4}$ inch.
- b. Longitudinal dimensions shall not vary from the design dimensions by more than $\frac{1}{4}$ inch per 10 feet of barrier section and shall not exceed $\frac{3}{4}$ inches per section.
- c. Location of anchoring holes shall not vary by more than $\frac{1}{2}$ inch from the dimensions shown in the concrete barrier details on the Plans.
- d. Surface straightness shall not vary more than $\frac{1}{4}$ inch under a 10-foot straightedge.
- e. The barrier shall have no significant cracking. Significant cracking is defined as fractures or cracks passing through the section, or any continuous crack extending for a length of 12 inches or more, regardless of position in the section. **526.04 Method of Measurement** Permanent Concrete Barrier Type II, IIIa, IIIb, Texas Classic Rail, and Precast Median Barrier will be measured for payment by lump sum, complete in place.

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

The Contractor shall replace sections of portable concrete barrier, including anchored barrier damaged by the traveling public when directed by the Resident. Replacement

sections will be measured for payment in accordance with Standard Specification 109.7, Equitable Adjustments to Compensation and Time.

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

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

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

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

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

The accepted quantity of all types of concrete barrier, whether portable or permanent, will be paid for at the lump sum or per each price, as applicable, which payment shall be full compensation for all materials, including reinforcing steel, protective coating, reflective delineators, steel plates and hardware, equipment, labor and incidentals required, as necessary, to complete the work.

Payment will be made under:

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

SECTION 527
ENERGY ABSORBING UNIT

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

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

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

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

SECTION 535
PRECAST, PRESTRESSED CONCRETE SUPERSTRUCTURE

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

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

SECTION 606
GUARDRAIL

Amend this section by replacing it with the following:

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

31” W-Beam Guardrail - Mid-Way Splice

Galvanized steel w-beam, 8” wood or composite offset blocks, galvanized steel posts

Thrie Beam

Galvanized steel thrie beam, 8” wood or composite offset blocks, galvanized steel posts

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

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

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

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

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

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

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

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

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

for ASTM D 4956 Type III reflective sheeting. The marker shall be secured to the guardrail post with two fasteners, as shown in the Standard Details.

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

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

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

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

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

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

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

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

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

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

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

606.03 Posts Posts for guardrail shall be set plumb in holes or they may be driven if suitable driving equipment is used to prevent battering and distorting the post. When posts are driven through pavement, the damaged area around the post shall be repaired with approved bituminous patching. Damage to lighting and signal conduit and conductors shall be repaired by the Contractor.

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

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

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

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

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

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

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

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

Additional bolt holes required in existing beams shall be drilled or punched, but the size of the holes shall not exceed the dimensions given in the Standard Details. Metal around the holes shall be

thoroughly cleaned and painted with two coats of approved aluminum rust resistant paint. Holes shall not be burned.

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

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

606.06 Mail Box Post Single wood post shall be installed at the designated location for the support of the mailbox. The multiple mailbox assemblies shall be installed at the designated location in accordance with the Standard Details and as recommended by the Manufacturer. Attachment of the mailbox to the post will be the responsibility of the home or business owner.

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

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

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

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

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

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

606.09 Basis of Payment The accepted quantities of guardrail will be paid for at the contract unit price per linear foot for the type specified, complete in place. Reflectorized beam guardrail (“butterfly”-type) delineators will not be paid for directly but will be considered incidental to guardrail items. Reflectorized flexible guardrail marker, terminal end, anchorage assembly, bridge transition, bridge connection, multiple mailbox post, and single post will be paid for at the contract unit price each for the kind specified complete in place.

Guardrail terminals will be paid for at the contract price each, complete in place which price shall be full payment for furnishing and installing all components including the terminal section, posts, offset blocks, "w" beam, cable foundation posts, plates and for all incidentals necessary to complete the installation within the limits as shown on the Standard Details or the Manufacturer’s installation

instructions. Pay limits for a flared terminal will be 37.5 feet. Pay limits for a tangent terminal will be 50 feet. Each guardrail terminal will be clearly marked with the Manufacturer's name and model number to facilitate any future needed repair. Such payment shall also be full compensation for furnishing all material, excavating, backfilling holes, assembling, and all incidentals necessary to complete the work, except that for excavation for posts or anchorages in solid ledge rock, payment will be made under 109.7.5 – Force Account. Type III Retroreflective Adhesive Sheeting shall be applied to the approach buffer end sections and sized to substantially cover the end section. On all roadways, the ends shall be marked with alternating black and retroreflective yellow stripes. The stripes shall be 3 in wide and sloped down at an angle of 45 degrees toward the side on which traffic is to pass the end section. Guardrail terminals shall also include a set of installation drawings supplied to the Resident.

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

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

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

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

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

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

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

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

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

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

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

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

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
606.1301 31” W-Beam Guardrail - Mid-Way Splice – Single Faced	Linear Foot
606.1302 31” W-Beam Guardrail - Mid-Way Splice – Double Faced	Linear Foot
606.1303 31” W-Beam Guardrail - Mid-Way Splice, 15’ Radius and Less	Linear Foot
606.1304 31” W-Beam Guardrail - Mid-Way Splice, Over 15’ Radius	Linear Foot
606.1305 31” W-Beam Guardrail - Mid-Way Splice Flared Terminal	Each
606.1306 31” W-Beam Guardrail - Mid-Way Splice Tangent Terminal	Each
606.1307 Bridge Transition (Asymmetrical) – Type IA	Each
606.1721 Bridge Transition - Type I	Each
606.1722 Bridge Transition - Type II	Each
606.1731 Bridge Connection - Type I	Each
606.1732 Bridge Connection - Type II	Each
606.178 Guardrail Beam	Linear Foot
606.25 Terminal Connector	Each
606.257 Terminal Connector - Thrie Beam	Each
606.259 Anchorage Assembly	Each
606.265 Terminal End-Single Rail - Galvanized Steel	Each
606.266 Terminal End-Single Rail - Corrosion Resistant Steel	Each
606.275 Terminal End-Double Rail - Galvanized Steel	Each
606.276 Terminal End-Double Rail - Corrosion Resistant Steel	Each
606.352 Reflectorized Beam Guardrail Delineators (“Butterfly” type)	Each
606.3521 Linear Delineation System Panel	Each
606.353 Reflectorized Flexible Guardrail Marker	Each
606.354 Remove and Reset Reflectorized Flexible Guardrail Marker	Each

606.356	Underdrain Delineator Post	Each
606.358	Guardrail, Modify	Linear Foot
606.362	Guardrail, Adjust	Linear Foot
606.365	Guardrail, Remove, Modify, and Reset	Linear Foot
606.366	Guardrail, Remove and Reset	Linear Foot
606.367	Replace Unusable Existing Guardrail Posts	Each
606.3671	Replace Unusable Offset Blocks	Each
606.47	Single Wood Post	Each
606.48	Single Galvanized Steel Post	Each
606.50	Single Steel Pipe Post	Each
606.51	Multiple Mailbox Support	Each
606.568	Guardrail, Modify - Double Rail	Linear Foot
606.63	Thrie Beam Rail Beam	Linear Foot
606.64	Guardrail Thrie Beam - Double Rail	Linear Foot
606.65	Guardrail Thrie Beam - Single Rail	Linear Foot
606.66	Terminal End Thrie Beam	Each
606.70	Transition Section - Thrie Beam	Each
606.71	Guardrail Thrie Beam - 15 ft radius and less	Linear Foot
606.72	Guardrail Thrie Beam - over 15 ft radius	Linear Foot
606.73	Guardrail Thrie Beam - Single Rail Bridge Mounted	Linear Foot
606.74	Guardrail - Single Rail Bridge Mounted	Linear Foot
606.753	Widen Shoulder for Low Volume Guardrail End	Each
606.754	Widen Shoulder for Flared Guardrail Terminal	Each
606.78	Low Volume Guardrail End	Each
606.80	Buried-in-Slope Guardrail End	Each

SECTION 608 SIDEWALKS

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

SECTION 609 CURB

609.02 Materials Revise the paragraph beginning “The Contractor shall submit a concrete mix...” so that it reads:

“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 concrete fill.”

609.03 Vertical Stone Curb, Terminal Section and Transition Sections and Portland Cement Concrete Curb, Terminal Sections and Transition Sections Revise this section by underlining the section number and title so that it reads in the spec book as:

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

Revise the last paragraph beginning with “The Contractor may elect...” so that it reads:

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

SECTION 610

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

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

SECTION 618

SEEDING

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

SECTION 619

MULCH

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

SECTION 626

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

Section 626.021 Miscellaneous Materials Revise this section by removing the fourth paragraph beginning with “ All Concrete for concrete encasement...” and replace it with **“All concrete for concrete encasement of conduit shall be Class S or Class Fill concrete in accordance with the**

applicable requirements of Section 502 – Structural Concrete, or a Prepackaged Concrete Mix from the Department’s Qualified Products List (QPL).”

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

626.034 Concrete Foundations Revise this Section by changing ‘626.037’ to ‘**626.036**’ in the Second Paragraph which begins with “Foundations shall consist of cast-in-place...”.

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

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

SECTION 627 PAVEMENT MARKINGS

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

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

Revise this subsection by replacing the paragraph beginning with “ If the final reflectivity values are less...” with the following:

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

If, after repainting, analysis of the final reflectivity values results in the need for a second repainting, the Contractor will submit in writing a plan of action to meet the reflectivity

minimums prior to continuing any work. Once the plan has been reviewed and approved by the Department, the Contractor shall reapply at no cost to the Department.

SECTION 643 TRAFFIC SIGNALS

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

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

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

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

And by removing the paragraphs beginning with “ A service ground rod shall be installed...” and “A total of 4, 10’ service...” and replace them with **“A total of 4, 10’ service ground rods shall be installed and properly connected together on the outside of the cabinet foundation. One ground rod shall be located at each corner and shall be either flush or slightly below finished grade. The connection between the ground rod and the ground wire shall be an exothermic connection such as a Cadweld. The ground wire from the interconnected ground rods shall be routed through a conduit in the foundation and into the base of the cabinet”**.

SECTION 645 HIGHWAY SIGNING

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

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

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

SECTION 652
MAINTENANCE OF TRAFFIC

Amend this Section by adding the following new subsection:

“652.2.6 Device Crashworthiness MainedOT is transitioning to MASH2016 criteria for Work Zone Traffic Control Devices on the following schedule:

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

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

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

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

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

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

SECTION 681
PRECAST AGGREGATE-FILLED, CONCRETE BLOCK GRAVITY WALL

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

SECTION 703
AGGREGATES

Add the following to Section 703 - Aggregates

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

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

Fine aggregate shall have a sand equivalent value of not less than 75 when tested in accordance with AASHTO T 176.

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

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

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

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves
$\frac{3}{8}$ inch	100
No. 4	95-100
No. 8	80-100
No. 16	50-85
No. 30	25-60
No. 50	10-30
No. 100	2-10
No. 200	0-5.0

703.02 Coarse Aggregate for Concrete Coarse aggregate for concrete shall consist of crushed stone or gravel having hard, strong, durable pieces, free from adherent coatings and of which the

composite blend retained on the 3/8 inch sieve shall contain no more than 15 percent, by weight of flat and elongated particles when performed in accordance with test method ASTM D 4791, Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate, using a dimensional ratio of 1:5.

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

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

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

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

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves			
	A	AA	S	LATEX
Grading	A	AA	S	LATEX
Aggregate Size	1 inch	3/4 inch	1 1/2 inch	1/2 inch
2 inch			100	
1 1/2 inch	100		95-100	
1 inch	95-100	100	-	
3/4 inch	-	90-100	35-70	100
1/2 inch	25-60	-	-	90-100
3/8 inch	-	20-55	10-30	40-70
No. 4	0-10	0-10	0-5	0-15
No. 8	0-5	0-5	-	0-5
No. 16	-	-	-	-
No. 50	-	-	-	-
No. 200	0 - 1.5	0 - 1.5	0 - 1.5	0 - 1.5

703.0201 Alkali Silica Reactive Aggregates All coarse and fine aggregates proposed for use in concrete shall be tested for Alkali Silica Reactivity (ASR) potential under AASHTO T 303 (ASTM C 1260), Accelerated Detection of Potentially Deleterious Expansion of Mortar Bars Due to Alkali-Silica Reaction, prior to being accepted for use. Acceptance will be based on testing performed by an accredited independent lab submitted to the Department. Aggregate submittals will be required on a 5-year cycle, unless the source or character of the aggregate in question has changed within 5 years from the last test date.

As per AASHTO T 303 (ASTM C 1260): Use of a particular coarse or fine aggregate will be allowed with no restrictions when the mortar bars made with this aggregate expand less than or equal to 0.10 percent at 30 days from casting. Use of a particular coarse or fine aggregate will be classified as potentially reactive when the mortar bars made with this aggregate expand greater than 0.10

percent at 30 days from casting. Use of this aggregate will only be allowed with the use of cement-pozzolan blends and/or chemical admixtures that result in mortar bar expansion of less than 0.10 percent at 30 days from casting as tested under ASTM C 1567.

Acceptable pozzolans and chemical admixtures that may be used when an aggregate is classified as potentially reactive include, but are not limited to the following:

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

Pozzolans or chemical admixtures required to offset the effects of potentially reactive aggregates will be incorporated into the concrete at no additional cost to the Department.

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

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves
3/8 inch	85-100
No. 200	0-5.0

703.06 Aggregate for Base and Subbase The following shall apply to Sections (a.) and (c.) below. The material shall have a Micro-Deval value of 25.0 or less as determined by AASHTO T 327. If the Micro-Deval value exceeds 25.0, the Washington State Degradation DOT Test Method T113, Method of Test for Determination of Degradation Value (January 2009 version) shall be performed, except that the test shall be performed on the portion of the sample that passes the 1/2 in sieve and is retained on the No. 10 sieve. If the material has a Washington Degradation value of less than 15, the material shall be rejected.

The material used in Section (b.) below shall have a Micro-Deval value of 25.0 or less as determined by AASHTO T 327. If the Micro-Deval value exceeds 25.0 the material may be used if it does not exceed 25 percent loss on AASHTO T 96, Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Table 4: Maximum Percent RAP According to Test Results

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

Table 5: RAP Verification Limits

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

For specification purposes, RAP will be categorized as follows:

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

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

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

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

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

SECTION 709 REINFORCING STEEL AND WELDED STEEL WIRE FABRIC

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

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

SECTION 710 FENCE AND GUARDRAIL

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

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

Remove the fourth paragraph which starts “ That portion of wood posts...”.

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

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

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

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

Revise the next paragraph so that it reads:

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

710.08 Guardrail Hardware Revise this subsection by replacing “AASHTO M 298” with “ASTM B965”

SECTION 712 MISCELLANEOUS HIGHWAY MATERIAL

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

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

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

“b. Air content shall be 5.0% to 8.0%.”

SECTION 713 STRUCTURAL STEEL AND RELATED MATERIAL

Section 713.02 High Strength Bolts

Revise the second sentence of this subsection so that it reads “Nuts shall meet the requirement of ASTM A563”. Revise the third sentence of this subsection so that it reads “Circular and beveled washers shall conform to the requirement of ASTM F436”.

SECTION 718
TRAFFIC SIGNALS MATERIAL

718.03 Signal Mounting Amend the paragraph beginning with “All trunions, brackets and...” by adding **“For polycarbonate signal heads with more than 3 sections or requiring mounting extensions greater than 12 inches in length, reinforcing plates shall be used to reinforce the housings at the point of attachment.”** to the end of the paragraph.

718.08 Controller Cabinet Revise this subsection by replacing the paragraph beginning with “The cabinet shall be supplied with LED light panels...” on or about page 7-66 with **“The cabinet shall be supplied with white LED light panels which shall automatically illuminate via a door open switch whenever one of the four main cabinet doors are opened for the ground mount cabinet or two main doors for the side of pole cabinet. The ground mounted cabinet shall contain four LED light panels per side totaling eight panels for the cabinet; one panel each at the top and bottom portion of the front side and back side on the Control side and Power/Auxiliary side of the cabinet. Each light panel shall produce a minimum of 250 lumens for a total minimum lumen output of 2000 lumens with all eight panels illuminated. The minimum output per side would be 1000 lumens. The LED panels shall be protected by a clear shatterproof shield. The side of pole mounted cabinet shall contain four light panels; one at the top of the rack assembly and one at the bottom rack assembly on each side of the cabinet. A second door open status switch per door shall activate a controller input to log a report event that one of the doors was opened. All door open status switches shall be connected to the same controller input. For the ground mount cabinet, there shall be two switches on each of the four main doors. For the side-of-pole mount cabinet, there shall be two switches on each of the two main doors.”**

Revise this subsection by replacing the paragraph beginning with “The cabinet shall be supplied with a generator panel ...” on or about page 7-68 with:

“The cabinet shall be supplied with a generator panel. The generator panel shall consist of a manual transfer switch and a twist-lock connector for generator hookup. The transfer switch knob and twist-lock connector shall be located inside a stainless steel enclosure with a separate lockable door accessed with a Corbin #2 key. The unit shall be mounted on the left, exterior of the control side wall of the ground mount cabinet a minimum of 36” above the surrounding grade and on the lower left side of the pole mounted cabinet. The generator transfer switch shall be a Reliance C30A1N Signa Series or approved equal. “

Revise this subsection by removing the following from the paragraph beginning with “The ground mounted cabinet shall be supplied and installed with an electric service meter socket trim and electrical service disconnect switch ...” on or about page 7-69: **“(removed: thus preventing that space from being used either by equipment supplied as part of the project, or future equipment that would be installed in the rack system. Joe indicated that he would add this language to the detail so it is covered.)”**.

Revise this subsection by replacing the following in the paragraph beginning with “The Contractor shall reconfigure the default user name...” on or around page 7-70; “MaineDOT IT” with **“MaineDOT Traffic Division”**.

In the paragraph beginning with “Tests shall be conducted by the contractor...” on or around page 7-73, amend this subsection by removing “**in the state of Maine and**” after “The facility shall be”.

Amend this Section by adding the following subsection:

718.13 Field Monitoring Unit (FMU) This item of work shall conform to this specification. This item shall consist of furnishing and installing a Field Monitoring Unit (FMU) and software, as well as all needed accessories required for a full and complete installation, including but not limited to power adapters, Ethernet cables, and interface cables, as described herein.

Where applicable, communications from MaineDOT’s cloud-based Central Management System (CMS) to the on-street traffic signal controllers shall be made through fiber optic interconnect cable connected back to existing internet connections and/or the Field Monitoring Unit (FMU). The Contractor shall furnish and install all materials necessary for a complete and operational fiber optic interconnection to all project intersections as shown on the plans. All connections to the CMS cloud-based system shall be via a secure VPN network.

The FMU shall be the only remote connection device used by isolated intersections to connect to the cloud-based system. All connections shall be encrypted VPN tunnels. The Contractor shall coordinate all configuration settings with MaineDOT IT and the Engineer.

The FMU central web based interface shall be a separate element from the CMS.

MATERIALS: The materials for this work shall conform to the following requirements:

1. The work under this item specifies the requirements for the FMU. The FMU shall operate independent of the brand/type of intersection controller deployed in the ATC traffic cabinet.
2. The FMU shall conform to the following requirements:
 - 2.1 The FMU shall function correctly between -34 degrees C and +74 degrees C.
 - 2.2 The FMU shall be provided with appropriately rated connectors that allows the FMU to be exchanged by unplugging connectors, without tools.
 - 2.3 The FMU shall monitor and log all ATC Controller and ATC cabinet faults and or alarms.
 - 2.4 The FMU shall be wired directly to the ATC cabinet.
 - 2.5 The FMU shall have an internal cellular modem running at 4G LTE.
 - 2.5.1 The Cellular modem shall be designed to be replaced / upgraded to 5G service when available.
 - 2.6 The FMU shall incorporate an integrated GPS and cell modem.
 - 2.7 The configuration of the FMU shall be accomplished by accessing the internal web server with a browser. It shall be possible to configure the FMU without any special software.

- 2.8 The FMU shall be powered via a standard 120V input power.
- 2.9 The FMU shall allow for the routing of the controller configuration packets to and from the controller (either by Ethernet or serial communications) for any type of controller utilized by the MaineDOT. In this way it shall be possible to configure the controller and utilize the controller specific software to interrogate the controller, and the FMU shall provide the communications pipe which allows this to be accomplished.
- 2.10 The FMU shall, within the size limitations above, include a battery and battery charging/monitoring circuit, to allow the FMU to function correctly even when all power to the intersection has failed. The battery shall continue to power the FMU for a minimum of 5 hours after all power has failed to the intersection.
- 2.11 The FMU shall incorporate an integrated GPS which will allow the FMU to geo-locate itself on the FMU management software map, without configuration.
- 2.12 The FMU shall operate without requiring a static IP address. The only configuration required at the FMU is to enter the URL of where the FMU management software is hosted.
- 2.13 In the event that the cell service is interrupted or is not available, the FMU shall store any events that occur in internal memory and forward these events automatically to the FMU management software when the cell service is restored. In this way, a complete record of events at the device can be maintained even if cell service is interrupted for a period. The system will store 5000 events.
- 2.14 The FMU shall utilize HTTP and HTTPS protocols, and XML data structures, for communication with the FMU management software. In this way the data will be open for future expansion and competition. The use of secret proprietary protocols is not permitted.
- 2.15 The FMU shall include Ethernet communications via an Ethernet Port with RJ45 connector.
- 2.16 The FMU shall include weather proof antennas.

3. Map Display FMU Management Software

- 3.1 The FMU shall include a scrollable, zoomable map display, with the intersections and other monitored devices shown as representative icons on the map. The map shall include the ability to see the intersections using Google Streetview.
- 3.2 The alarm status of the intersection shall be clearly indicated on the icon on the map, so that the user can see at a glance which intersections are in alarm.
- 3.3 The map display shall also include a list of intersections, with the number and priority of alarms indicated on the list. Intersections in high priority alarm shall be moved to the top

of the list, followed by medium priority, low priority and then finally by intersections not in alarm.

- 3.4 The icons shall change to be able to clearly indicate if an intersection is offline.
- 3.5 Clicking on the icon on the map shall expose a box with the current parameters of the intersection shown.
- 3.6 The default map display position and zoom shall be configurable by user, so that the user's view will default to show the intersections that the user is responsible for managing.
- 3.7 The map view shall have the ability to show Google traffic overlays on the map.

4. **Intersection Detail Display FMU Management Software**

- 4.1 It shall be possible to drill down, either from the map icon or from the list, to a device level detail for the intersection, which as a minimum shall display the following parameters:
 - 4.1.1 The alarm status, with priority indicated, and a text description of the alarm (if an alarm is present for this device).
 - 4.1.2 The time since the last communication with the device
 - 4.1.3 The following parameters (real time now values, minimum for the day values, maximum for the day values, and average for the day values)
 - 4.1.3.1 The AC mains voltage (value)
 - 4.1.3.2 The battery back-up voltage (value)
 - 4.1.3.3 The cabinet temperature (value)
 - 4.1.3.4 The cabinet humidity (value)
 - 4.1.3.5 The presence of AC power (OK or Fail)
 - 4.1.3.6 The flashing status of the intersection (OK or Flashing)
 - 4.1.3.7 Stop Time status (OK or Stop Time Active)
 - 4.1.3.8 The cabinet door status (Open or Closed)
 - 4.1.3.9 The intersection fan status (Fan On or Fan off)
 - 4.1.4 It shall be possible to view graphs of each of the value parameters in graphical form, over the recent two-week period. This includes real time graphs of:
 - 4.1.4.1 The AC mains voltage
 - 4.1.4.2 The battery back-up voltage
 - 4.1.4.3 The cabinet temperature

4.1.4.4 The cabinet humidity

5. **Diagnostics and Log Display FMU Management Software**

- 5.1 From the device level detail within the FMU management software, it shall be possible to drill down to get the raw data; the error logs; and the communications logs to allow a technician to fault-find problems.
- 5.2 It shall be possible to filter the logs by Device; by Device Type and/or by Group as well as between dates.
- 5.3 It shall be possible to print these selected logs to a local printer or a PDF file.
- 5.4 It shall be possible to export these logs to Excel on the local computer for further analysis.

6. **Alarms FMU Management Software**

- 6.1 The FMU management software shall have a comprehensive alarm generation capability
- 6.2 It shall be possible to configure alarms to be generated on any parameter becoming out of tolerance, including analog values, digital values and enumerated values.
- 6.3 Alarms shall be configurable to be of Low, High or Critical Priority.
- 6.4 The alarm priority shall be displayed throughout the FMU management software, on all displays, using color codes such as red-critical; yellow – high; and amber-low to indicate the priority of the alarm.
- 6.5 The current active alarms shall be accessible for view via an expandable window, to see which alarms are active and when the alarm occurred. The highest priority alarms shall rise to the top of the list.

7. **Alerts FMU Management Software**

- 7.1 The FMU management software shall have comprehensive alerting capability, to enable the response personnel to be notified when an abnormal situation has occurred.
- 7.2 It shall be possible to configure alerts to one or more personnel for each alarm. This will cause, as selected, an SMS and/or an email to be sent to the person when an alarm occurs.
- 7.3 The alert shall be configurable to optionally send via email and/or via SMS a message when an alarm clears.
- 7.4 The intention is that the FMU management software provides the alerts to the user in near real time. The SMS and email shall be issued within 30 seconds of the occurrence of event which results in an alert being issued.

8. **Hosting and Connectivity and Service FMU / FMU Management Software**

8.1 The contractor shall supply the FMU with the FMU manufacturers 10 year options for Connectivity and Service, as part of the purchase price. The Connectivity and Service agreement shall include at a minimum:

- 8.1.1 Cellular Connectivity
- 8.1.2 No cellular overage charges
- 8.1.3 Extended warranty on the hardware for the period of the Connectivity and Service Agreement
- 8.1.4 Over-the-air software updates
- 8.1.5 Over-the-air security updates
- 8.1.6 Future Connected Vehicles Service

SECTION 720 STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS

720.12 Wood Sign Posts Revise the first sentence so that it reads:

Wood sign posts shall be rectangular, straight and sound timber, cut from live growing native spruce, red pine, hemlock, cedar trees or other AWWA approved species, free from loose knots or other structurally weakening defects of importance, such as shake or holes or heart rot.

Revise the third paragraph that starts with “When pressure treated...” so that it reads:

All sign posts shall be pressure-treated in accordance with AASHTO M 133 and AWWA Standard U1, UC4A, Commodity Specification A: Sawn Products.



Environmental Summary Sheet

WIN: 27911.00
Towns/Road: Eliot, Beech Road
ENV Team Leader: Audie Arbo
ENV Field Contact: Deborah Moore

Date Submitted: 3/4/2022

NEPA Complete: NEPA to be completed by USACE Section 404 permit

[X] Section 106
PA-C Programmatic Agreement

[] Section 4(f) and 6(f)
Not Applicable: No USDOT funds or approvals; no ROW takes

[] Maine Department of Inland Fisheries and Wildlife Essential Habitat
Not Applicable Timing Window: Not Applicable

[X] Section 7
No Effect based on scope

[X] Essential Fish Habitat
Not mapped

[] Maine Department of Conservation/Public Lands, Submerged Land Lease
Not Applicable

[] Maine Land Use Regulation Commission
Not Applicable

[] Maine Department of Environmental Protection
Exempt per MRSA 480Q 2D

[X] Army Corps of Engineers, Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act.
Pre-Construction Notification - Corps Permit #NAE-2022-00249
-Work Start Notification form to be completed by ENV Field Contact and submitted to ACOE with copy to Team Leader.
-Compliance Certification Form to be completed by ENV Field Contact and submitted to ACOE with copy to Team Leader.

*Applicable Standards and Permits are included with the contract

[X] Stormwater Review
No quality treatment required, MS4- meets MDEP MOU.

[X] Special Provisions Required

Table with 2 columns: Provision Name and Applicability (N/A or Applicable with checkboxes).

*All permits and approvals based on plans/scope as provided to ENV: 1/19/2022



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
NEW ENGLAND DISTRICT, CORPS OF ENGINEERS
696 VIRGINIA ROAD
CONCORD, MASSACHUSETTS 01742-2751

ENVIRONMENTAL OFFICE
MAINE DEPT. OF TRANSPORTATION
16 STATE HOUSE STATION
AUGUSTA, MAINE 04333
Deborah.Moore@Maine.Gov

CORPS PERMIT # NAE-2022-00249
CORPS GPs 22
STATE ID# NRPA

DESCRIPTION OF WORK:

Place temporary fill below the ordinary high water mark of Great Creek and freshwater wetlands off of Beech Road in Eliot, Maine in order to replace existing culverts with a 6 foot wide by 4 foot tall by 60 foot long pipe arch with rip rap armoring. This work will result in approximately 150 s.f. of temporary stream bed impact, and 240 s.f. of temporary wetland impact and is shown on the attached plans entitled "Beech Road" on 1 sheet and not dated. "PROJ. NO WIN:27911.00" on 1 sheet and dated "1/20/2022", and "CONSTRUCTION PLANS" on 1 sheet and not dated. DOT WIN: 27911.00
See Special and General Conditions attached.

LAT/LONG COORDINATES: 43.12853° °N -70.77685° °W USGS QUAD: DOVER EAST

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 Permits (GPs) which can be found at: <https://www.nae.usace.army.mil/Missions/Regulatory/State-General-Permits/Maine-General-Permit/>** Accordingly, we do not plan to take any further action on this project.

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 GPs, including the GPs conditions beginning on page 5, to familiarize yourself with its contents. You are responsible for complying with all of the GPs 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 45 of the GPs (page 19) provides one year for completion of work that has commenced or is under contract to commence prior to the expiration of the GPs on October 14, 2025. You will need to apply for reauthorization for any work within Corps jurisdiction that is not completed by October 14, 2026.

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: 1/27/21 LEVEL OF REVIEW: SELF-VERIFICATION: _____ PRE-CONSTRUCTION NOTIFICATION: X

AUTHORITY (Based on a review of plans and/or State/Federal applications): SEC 10 _____, 404 X 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 978-318-8676 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

RICHARD KRISTOFF
SENIOR PROJECT MANAGER
MAINE PROJECT OFFICE

FRANK J. DEL GIUDICE
CHIEF, PERMITS & ENFORCEMENT BRANCH
REGULATORY DIVISION



**US Army Corps
of Engineers®**
New England District

**PLEASE NOTE THE FOLLOWING GENERAL AND SPECIAL CONDITIONS FOR
DEPARTMENT OF THE ARMY
MAINE GENERAL PERMITS 22
PERMIT NO. NAE-2022-00249**

GENERAL CONDITIONS

3. Other Permits. Permittees shall obtain other Federal, State, or local authorizations as required by law. Permittees are responsible for applying for and obtaining all required State of Maine or local approvals including a Flood Hazard Development Permit issued by the town/city. Work that is not regulated by the State of Maine, but is subject to Corps jurisdiction, may still be eligible for authorization under these GPs.

23. 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.

26. Temporary Fill.

a. Temporary fills, including but not limited to 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.

b. 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. Temporary fill shall be placed in a manner that will prevent it from being eroded by expected high flows.

c. Unconfined temporary fill authorized for discharge into waters of the U.S. shall consist of material that minimizes impacts to water quality (e.g. washed stone, stone, etc.).

d. Appropriate measures shall 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. Materials shall be placed 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.

e. Construction debris and/or deteriorated materials shall not be placed or otherwise located in waters of the U.S.

33. Permit(s)/Authorization Letter On-Site. The permittee shall ensure that a copy of the terms and conditions of these GPs and any accompanying authorization letter with attached plans are at the site of the work authorized by these GPs whenever work is being performed and that all construction personnel performing work which may affect waters of the U.S. are fully aware of the accompanying 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 these GPs. This shall be achieved by including the entire permit authorization in the specifications for work. The term "entire permit authorization" means all terms and conditions of the GPs, the GPs, and the authorization letter (including its drawings, plans, appendices and other attachments) and subsequent permit modifications as applicable. 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,

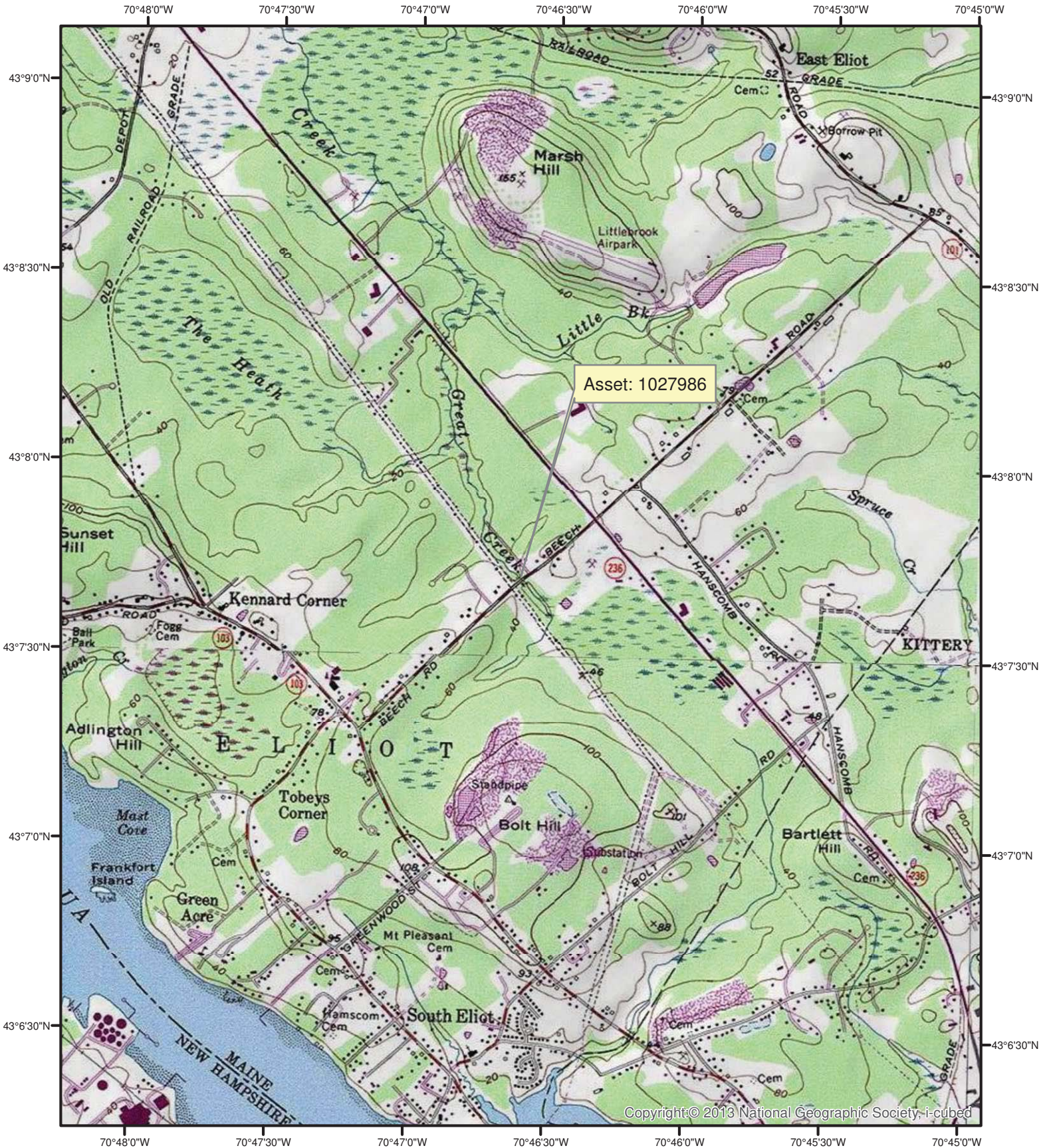
34. Inspections. The permittee shall allow the Corps to make periodic inspections at any time deemed necessary in order to ensure that the work is eligible for authorization under these GPs, is being, or has been performed in accordance with the terms and conditions of these GPs. To facilitate these inspections, the permittee shall complete and return to the Corps the Work-Start Notification Form and the Compliance Certification Form when either is provided with an authorization letter. **These forms are attached after the plans.**

SPECIAL CONDITIONS

1. In water work shall be conducted from July 15 to September 30 in order to minimize potential impacts to fisheries and local water quality.
2. This project shall be performed in accordance with erosion control measures conforming with the latest versions of the *State of Maine Department of Transportation Standard Specifications for Highways and Bridges* and the *Department of Transportation's Best Management Practices for Erosion and Sediment Control*. Temporary Erosion and Sedimentation Control shall be achieved in full compliance of the Basic Standards of Chapter 500 Stormwater Management Rules as agreed to in the Memorandum of Agreement for Stormwater Management between the Maine Department of Transportation, Maine Turnpike Authority and Maine Department of Environmental Protection (2007).

MaineDOT Standard Specification 656 requires the contractor to write and submit the Soil Erosion and Water Pollution Control Plan meeting the requirements in the Standard and in accordance with the Maine Department of Transportation Best Management Practices for Erosion and Sedimentation Control (2008). The Plan is submitted for revision and approval prior to construction. MaineDOT field staff ensure compliance with the Plan.

Section 3: Project Location Map

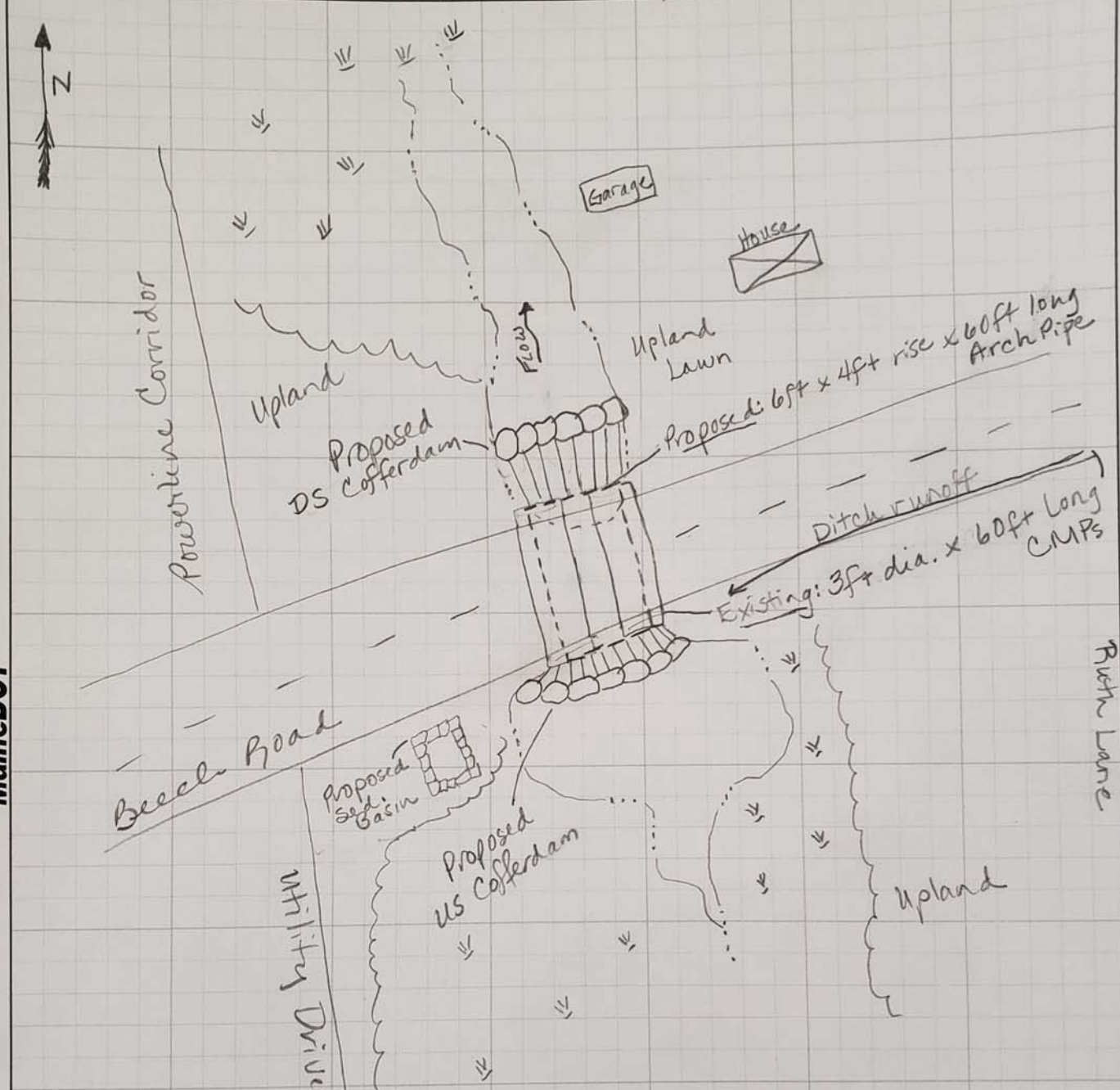


Beech Road
 WIN: 27911.00
 Eliot, Maine (York County)
 Dover East, NH USGS 24k Topo Map



Asset Coordinates:
 43.12853, -70.77685





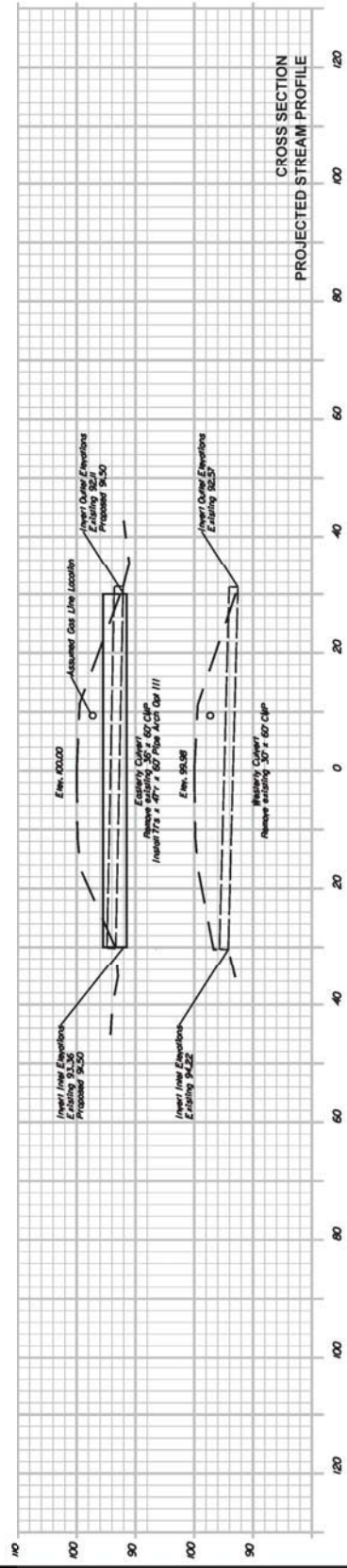
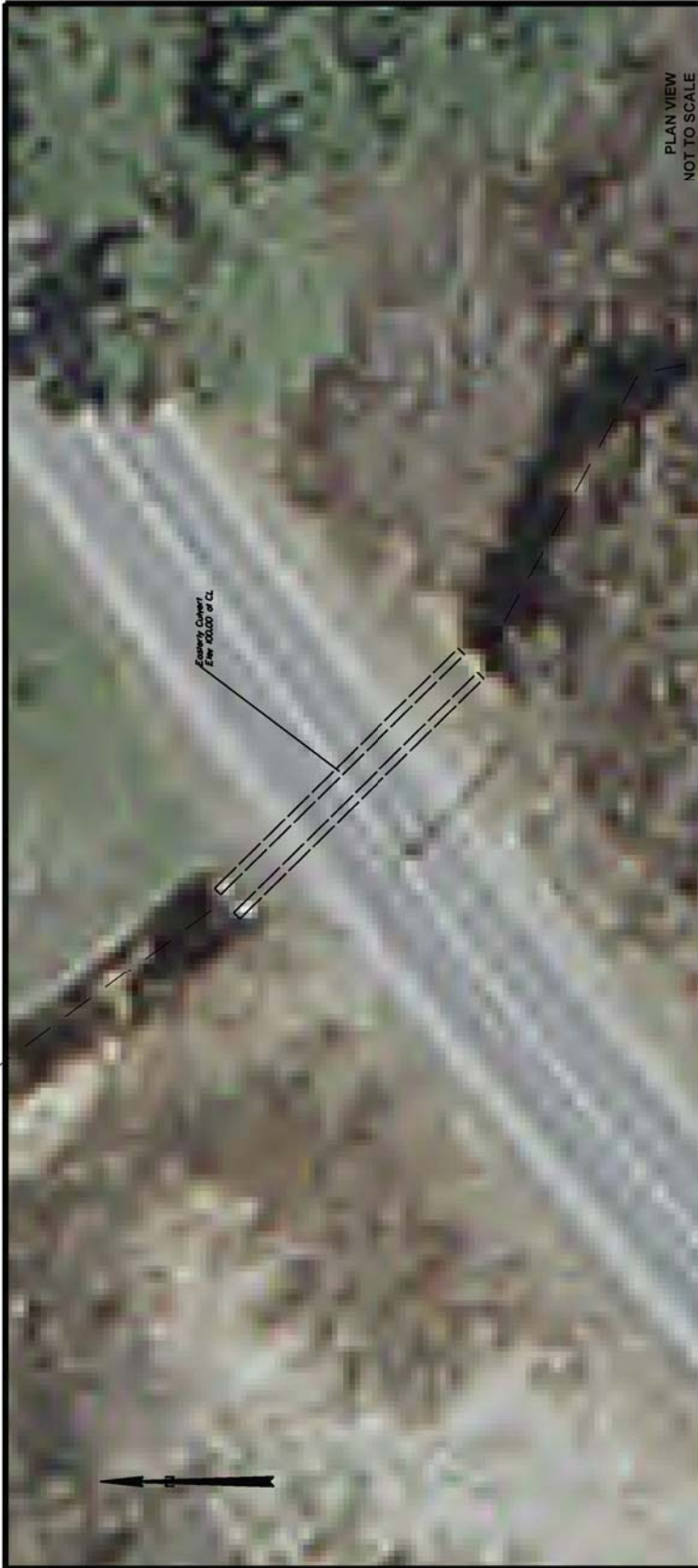
MaineDOT

MaineDOT

Impacts (TEMP)

<u>RUS</u>	US: ± 0
	DS: ± 150
<u>PEM/PSS</u>	US: ± 240
	DS: ± 0

NOT TO SCALE



CONSTRUCTION PLANS	XC-1027986	STATE OF MAINE DEPARTMENT OF TRANSPORTATION
		WIN 27911.00



**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

Corps of Engineers Permit No: NAE-2022-00249

Name of Permittee: Maine Dept. of Transportation

Permit Issuance Date: February 22, 2022

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 *
 * Policy & Technical Support Branch *
 * 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



**US Army Corps
of Engineers**®
New England District

**GENERAL PERMIT
WORK-START NOTIFICATION FORM**
(Minimum Notice: Two weeks before work begins)

EMAIL TO: Richard.C.Kristoff@usace.army.mil

-or-

MAIL TO: Richard Kristoff
U.S. Army Corps of Engineers, Maine Project Office
442 Civic Center Drive, Suite 350
Augusta, Maine 04330

A Corps of Engineers Permit (No. NAE-2022-00249) was issued to the Maine Dept. of Transportation. The permit authorized the permittee to place permanent and temporary fill below the ordinary high water mark of Great Creel and freshwater wetlands off of Beech Hill Road in Eliot, Maine in order to replace existing pipes.

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: _____

Telephone: () _____ () _____

Proposed Work Dates: Start: _____

Finish: _____

PERMITTEE'S SIGNATURE: _____ DATE: _____

PRINTED NAME: _____ TITLE: _____

FOR USE BY THE CORPS OF ENGINEERS

Project Manager: Kristoff Submittals Required: No

Inspection Recommendation: None

**DEPARTMENT OF THE ARMY
GENERAL PERMITS FOR
THE STATE OF MAINE**

The New England District of the U.S. Army Corps of Engineers (Corps) hereby issues 23 General Permits (GPs), listed below, for activities subject to Corps jurisdiction in waters of the United States within the boundaries of the State of Maine including tribal lands, and in adjacent ocean waters to the seaward limit of the outer continental shelf. These GPs are issued in accordance with Corps regulations at 33 CFR 320 – 332 and specifically 33 CFR 325.2(e)(2). These GPs will protect the aquatic environment and the public interest while effectively authorizing activities that have no more than minimal individual and cumulative adverse environmental effects.

This document contains the following sections:		Pages
I.	CORPS JURISDICTION	1
II.	GENERAL CRITERIA	2
III.	PROCEDURES	3 – 4
IV.	GENERAL CONDITIONS	5 – 19
V.	MAINE GENERAL PERMITS	20 – 35
VI.	SELF-VERIFICATION NOTIFICATION FORM	36
VII.	CONTENT OF A PRE-CONSTRUCTION NOTIFICATION	37 – 42
VIII.	AGENCY CONTACTS	43 – 45
IX.	DEFINITIONS	46 – 51

I. CORPS JURISDICTION

1. Permits are required from the Corps for the following work:
 - a. The construction of any structure in, over, or under any navigable water of the U.S. (see 33 CFR 328), 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. including wetlands. The Corps regulates these activities under Section 404 of the Clean Water Act (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 of 1972 (see 33 CFR 324).

2. Related laws: Section 408 of the Rivers and Harbors Act of 1899, Section 401 of the Clean Water Act, Section 402 of the Clean Water Act, Section 307(c) of the Coastal Zone Management Act of 1972, Section 106 of the National Historic Preservation Act of 1966, Section 7 of the Endangered Species Act, the Fish and Wildlife Coordination Act of 1956, the Magnuson-Stevens Fishery Conservation and Management Act, Section 302 of the Marine Protection, Research and Sanctuaries Act of 1972, and Section 7(a) of the Wild and Scenic Rivers Act.

II. GENERAL CRITERIA

1. In order for activities to qualify for these General Permits (GPs), they shall meet the GPs terms and eligibility criteria on pages 1-4, all applicable general conditions (GCs) in Section IV, and terms of the Maine General Permits in Section V. Any activity not specifically listed may still be eligible for authorization under these GPs; prospective permittees are advised to contact the Corps for specific eligibility determination.
2. Under these GPs, activities may qualify for the following:
 - **SELF-VERIFICATION (SV)**: Notification to the Corps is required at least two weeks before work commences; the Corps will acknowledge receipt and GP eligibility of the SV activity in writing.
 - **PRE-CONSTRUCTION NOTIFICATION (PCN)**: Notification to and written verification from the Corps is required. *No work under PCN may proceed until written verification from the Corps is received.*

The thresholds for activities eligible for SV and PCN are defined in the general conditions in Section IV and Maine General Permits in Section V.

3. Prospective permittees shall review:
 - a. Section I to determine if the activity requires Corps authorization.
 - b. Sections III , IV, and V to determine if the activity is eligible for authorization under these GPs, and specifically whether it is eligible for SV, or whether a PCN is required.
4. Prospective permittees are encouraged to contact the Corps with questions at any time (U.S. Army Corps of Engineers, Maine Project Office, 442 Civic Center Drive, Suite 350, Augusta, Maine 04330, ph. 207-623-8367). Pre-application meetings, whether arranged by the Corps or requested by a prospective permittee, are encouraged to facilitate the review of projects. Pre-application meetings and/or site visits help streamline the authorization process by alerting the prospective permittee to potentially time-consuming factors 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, vernal pools, and dredging of contaminated sediments).
5. Permittees shall ensure compliance with all applicable GCs in Section IV and GPs in Section V. Non-compliance with these GPs and GCs may subject the permittee to criminal, civil, or administrative criminal penalties, and/or an ordered restoration, and/or the permit may be modified, suspended or revoked by the Corps.

III. PROCEDURES

1. State Approvals. Applicants are responsible for applying for and obtaining any required state or local approvals. Federal and state jurisdiction and review criteria may differ in some instances. State permits may be required for specific projects regardless of the GP category.

In order for authorizations under these GPs to be valid, when any of the following state approvals or statutorily-required reviews is also required, the approvals shall 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 Agriculture, Conservation and Forestry: Land Use Planning Commission (LUPC) permit.
- Maine Department of Marine Resources: Aquaculture Leases and Licenses.
- Maine Department of Agriculture, Conservation and Forestry, Bureau of Parks and Lands, Submerged Lands: Submerged Lands Lease.

2. How to Obtain/Apply for Corps Authorization.

a. **Self-Verification (SV):** Prospective permittees shall confirm that the activity meets all the applicable terms and conditions of SV. 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 (GC 15), the Endangered Species Act (GC 16), the Magnuson-Stevens Fishery Conservation and Management Act (GC 17), and the Wild and Scenic Rivers Act (GC 13). Activities that are eligible for SV are authorized under these GPs provided the prospective permittee has:

- i. Confirmed that the activity meets all applicable terms and conditions of SV.
- ii. Provided notifications to the State Historic Preservation Officer (SHPO) (the SHPO in the State of Maine is the Maine Historic Preservation Commission, or MHPC) and all five federally-recognized tribes in the State of Maine (Tribal Historic Preservation Officers, or THPOs) listed in Section VIII before submitting the SV to the Corps in order to be reviewed for the presence of historic, archeological, architectural, or tribal resources in the action area that the activity may affect (see GC 15). Prospective permittees are not required to wait for a response to their notifications before submitting the SV to the Corps.
- iii. At least two weeks before work is to commence, submitted to the Corps a Self-Verification Notification Form (SVNF, page 36) with all of the following attachments: location map, project plans, and an Official Species List of federally threatened and endangered species that may occur in the activity's action area and the email address of the person who generated the list (see GC 16).

NOTE: A copy of a state permit application form may be an acceptable surrogate for the SVNF itself; however, the applicant shall not rely on the state permitting agency to provide the Corps a copy of their state permit application.

b. **Pre-Construction Notification (PCN):** Notification to, and written verification from the Corps is required. For activities that do not qualify for SV or where otherwise required by the terms and conditions of the GPs, the prospective permittee shall submit a PCN and obtain written verification from the Corps before starting work in Corps jurisdiction. The Corps will coordinate review of all PCN activities with other federal and state agencies, as appropriate. The Corps will attempt to issue written verification of the PCN within 60 days of receiving a complete application.

All prospective permittees for PCN activities shall follow the instructions on found on pages 37 – 42, and in particular:

- i. Submit directly to the Corps application form *ENG Form 4345* (pages 40 – 42), or the surrogate state permit application form as noted above.

- ii. Provide project information outlined on pages 37 – 42 (Content of a Pre-Construction Notification).
- iii. Submit an Official Species List of federally threatened and endangered species that may occur in the activity's action area and the email address of the person who generated the list (GC 16).
- iv. Provide notifications to the SHPO (MHPC) and all five THPOs in the State of Maine listed in Section VIII before submitting the PCN to the Corps in order to be reviewed for the presence of historic, archeological, architectural, or tribal resources in the action area that the activity may affect (see GC 15). The PCN shall include documentation that MHPC and all of the THPOs were notified (a copy of the prospective permittee's cover letter or emails to MHPC and the THPOs is acceptable). Prospective permittees are not required to wait for a response to their notifications before submitting a PCN to the Corps.

c. Individual Permit (IP): Projects that are not eligible for these GPs require an IP (33 CFR 325.5(b)) and prospective permittees shall submit an application directly to the Corps. These GPs do not affect the Corps IP review process or activities exempt from Corps regulation. For general information regarding IPs prospective permittees are encouraged to contact the Corps. ***In addition, the Corps retains discretionary authority on a case-by-case basis to elevate GP-eligible activities 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 a prospective permittee that an IP is required, no work in Corps jurisdiction may be conducted until the Corps issues the required authorization in writing indicating that the work may proceed.***

d. Emergency Situations: Contact the Corps immediately in the event of an emergency situation for information on the verification process. Emergency situations are limited to sudden, unexpected occurrences that could potentially 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 an application under standard procedures. Emergency work is subject to the same terms and conditions of these GPs as non-emergency work, and similarly, must qualify for authorization under these GPs; otherwise an IP is required. The Corps will work with all applicable agencies to expedite verification according to established procedures in emergency situations.

IV. GENERAL CONDITIONS

An activity is authorized under the General Permits (GPs) only if that activity and the permittee satisfy all of the applicable GPs terms and following general conditions (GCs):

1. Federal Jurisdiction.
2. Minimal Direct, Secondary and Cumulative Effects.
3. Other Permits.
4. Water Quality and Coastal Zone Management.
5. Fills Within 100-Year Floodplains.
6. Discretionary Authority.
7. Single and Complete Project.
8. Use of Multiple General Permits.
9. Mitigation (Avoidance, Minimization, and Compensatory Mitigation).
10. Corps Projects and Property.
11. Navigation.
12. National Lands.
13. Wild and Scenic Rivers.
14. St. John/St. Croix Rivers.
15. Historic Properties.
16. Federal Threatened and Endangered Species.
17. Essential Fish Habitat.
18. Aquatic Life Movements and Management of Water Flows.
19. Spawning, Breeding, and Migratory Areas.
20. Vernal Pools.
21. Restoration of Special Aquatic Sites (Including Wetland Areas).
22. Invasive and Other Unacceptable Species.
23. Soil Erosion, Sediment, and Turbidity Controls.
24. Time-of-Year Work Windows/Restrictions.
25. Pile Driving and Pile Removal in Navigable Waters.
26. Temporary Fill.
27. Heavy Equipment in Wetlands or Mudflats.
28. Bank and Shoreline Stabilization Including Living Shorelines.
29. Stream Work and Crossings, and Wetland Crossings.
30. Utility Line Installation and Removal.
31. Storage of Seasonal Structures.
32. Aquaculture.
33. Permit(s)/Authorization Letter On-Site.
34. Inspections.
35. Maintenance.
36. Federal Liability.
37. Property Rights.
38. Previously Authorized Activities.
39. Transfer of GP Verifications.
40. Modification, Suspension, and Revocation.
41. Special Conditions.
42. False or Incomplete Information.
43. Abandonment.
44. Enforcement Cases.
45. Duration of Authorization.

1. Federal Jurisdiction.

a. Applicability of these GPs shall be evaluated with reference to federal jurisdictional boundaries (e.g. mean high water mark, high tide line, ordinary high water mark, and wetland boundary). Activities shall be evaluated with reference to “waters of the U.S.” under the Clean Water Act (33 CFR 328) and “navigable waters of the U.S.” under Section 10 of the Rivers and Harbors Act of 1899 (33 CFR 329). Prospective permittees are responsible for ensuring that the boundaries used satisfy the federal criteria defined at 33 CFR 328 – 229. These sections prescribe the policy, practice and procedures to be used in determining the extent of the Corps jurisdiction. Note: Waters of the U.S. includes all waters pursuant to 33 CFR 328.3(a), and in adjacent wetlands as that term is defined in 33 CFR 328.3(c).

b. Permittees shall identify on project plans wetlands, other special aquatic sites (SAS) including vegetated shallows (or submerged aquatic vegetation, SAV) and mudflats, and other waters, such as lakes and ponds, and perennial and intermittent streams on the project site. Wetlands shall be delineated in accordance with the Corps of Engineers Wetlands Delineation Manual and the most recent regional supplement pertaining to the State of Maine. GP-eligible activities may utilize wetland determinations conducted by State of Maine staff in-lieu of a wetland delineation. For activities located in Essential Fish Habitat (GC 17), permittees shall also identify on project plans natural rocky habitats and shellfish areas in order to satisfy the Magnuson-Stevens Fishery Conservation and Management Act.

2. Minimal Direct, Secondary and Cumulative Effects. To be eligible and subsequently authorized by these GPs, an activity shall 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 these GPs and GCs. This may require project modifications involving avoidance, minimization, or compensatory mitigation for unavoidable impacts to ensure that the net adverse effects of an activity are no more than minimal.

3. Other Permits. Permittees shall obtain other Federal, State, or local authorizations as required by law. Permittees are responsible for applying for and obtaining all required State of Maine or local approvals including a Flood Hazard Development Permit issued by the town/city. Work that is not regulated by the State of Maine, but is subject to Corps jurisdiction, may still be eligible for authorization under these GPs.

4. Water Quality and Coastal Zone Management.

a. Permittees shall satisfy any conditions imposed by the State of Maine and EPA, where applicable, in their Clean Water Act Section 401 Water Quality Certification (WQC) for these GPs, or in any Individual Section 401 WQC. See Section VIII for state-specific contact info 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 these GPs shall be designed, constructed and operated to minimize or eliminate the discharge of pollutants.

b. Permittees shall satisfy any additional conditions imposed by the State of Maine in their Coastal Zone Management (CZM) Act of 1972 consistency concurrences for these GPs, 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.

5. Fills Within 100-Year Floodplains. The activity shall comply with applicable Federal Emergency Management Agency (FEMA) approved State of Maine or municipal floodplain management requirements. Permittees should contact FEMA and/or the State of Maine Floodplain Management Program regarding floodplain management requirements (see Section VIII for Federal and state-specific contact info).

6. Discretionary Authority. Notwithstanding compliance with the terms and conditions of these GPs, the Corps retains discretionary authority to require a PCN or IP review based on concerns for the aquatic environment or for any other factor of the public interest (see 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.

7. Single and Complete Project. 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. These GPs shall not be used for piecemeal work and shall be applied to single and complete projects and as such, the same GP shall not be used more than once for the same single and complete project.

a. For non-linear projects, a single and complete project shall have independent utility. 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.

b. Unless the Corps determines the activity has independent utility, 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. If any component of a single and complete project requires a PCN, the entire single and complete project shall be reviewed under PCN.

c. For linear projects such as power lines or pipelines with multiple crossings, a “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.

8. Use of Multiple General Permits. The use of more than one GP for a single and complete project is prohibited, except when the acreage loss of waters of the U.S. authorized by the GPs does not exceed the acreage limit of the GPs with the highest specified acreage limit. For example, if a road crossing over waters is constructed under GP 10, with an associated utility line crossing authorized by GP 9, if the maximum acreage loss of waters of the U.S. for the total project is ≥ 3 acres it shall be evaluated as an IP.

9. Mitigation (Avoidance, Minimization, and Compensatory Mitigation).

a. Activities shall be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the U.S. to the maximum extent practicable to ensure that adverse effects to the aquatic environment are no more than minimal.

b. Compensatory mitigation for unavoidable impacts to waters of the U.S., including direct, secondary and temporal loss, will generally be required for permanent impacts that exceed the SV limits (SV limits are detailed in Section V), and may be required for temporary impacts that exceed the SV 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 secondary effects may generally be excluded from this requirement.

c. Mitigation proposals shall follow the guidelines found in the Compensatory Mitigation for Losses of Aquatic Resources; Final Rule April 10, 2008; 33 CFR 332 (which can be found at: www.nae.usace.army.mil/Missions/Regulatory/Mitigation under “Compensatory Mitigation for Losses of Aquatic Resources, 33 CFR 332 (Compensatory Mitigation Rule)”) and any other regulation. Permittees considering the use of a monetary payment *in-lieu* of permittee-responsible mitigation as compensation for unavoidable impacts to waters of the U.S. in the State of Maine may utilize the Maine Natural Resources Conservation Program (MNRCP). Information regarding this compensatory program can be found at: www.mnrpc.org For unavoidable jurisdictional impacts affecting federally-endangered Atlantic salmon and/or its critical habitat, permittees may be required to compensate for the impacts by utilizing the Maine Atlantic Salmon Restoration and Conservation Program. Information regarding this *in-lieu-fee* compensatory program can be found at: www.maine.gov/dmr/science-research/searun/programs/ilffacts.html

10. Corps Projects and Property.

a. Corps projects and property can be found at: www.nae.usace.army.mil/Missions/Civil-Works

b. In addition to any authorization under these GPs, prospective permittees shall 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.

c. Any proposed temporary or permanent modification or use of a Federal project (including but not limited to a levee, dike, floodwall, channel, anchorage, breakwater, seawall, bulkhead, jetty, wharf, pier, or other work built or maintained but not necessarily owned by the United States), which may obstruct or impair the usefulness of the Federal project in any manner, is not eligible for SV and requires review and approval by the Corps pursuant to 33 USC 408 (Section 408).

d. A PCN is required for all work in, over, under, or within a distance of three times the authorized depth of a Corps Federal Navigation Project (FNP) and may require permission under Section 408.

e. Any structure or work that extends closer to the horizontal limits of any FNP 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.

f. Where a Section 408 permission is applicable, written verification for the PCN will not be issued prior to the decision on the Section 408 permission request.

11. Navigation

a. There shall be no unreasonable interference with general 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.

b. Work in, over, under, or within a distance of three times the authorized depth of an FNP shall specifically comply with GC 10.

c. Any safety lights and/or signals prescribed by the U.S. Coast Guard, State of Maine or municipality, through regulations or otherwise, shall be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the U.S.

d. The permittee understands and agrees that, if future operations by the U.S. 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.

12. National Lands. Activities that impinge upon the value of any National Lands or Federal Properties including but not limited to a National Wildlife Refuge, National Forest, or any area administered by the National Park Service, U.S. Fish and Wildlife Service or U.S. Forest Service are not eligible for SV and require PCN.

13. Wild and Scenic Rivers.

a. The following activities in designated rivers of the National Wild and Scenic River (NWSR) System, or in a river designated by Congress as a "study river" for possible inclusion in the system, require a PCN unless the National Park Service has determined in writing to the prospective permittee that the proposed work will not adversely affect the NWSR designation or study status:

- i. Activities that occur in NWSR segments, in and 0.25 miles up or downstream of NWSR segments, or in tributaries within 0.25 miles of NWSR segments.
- ii. Activities that occur in wetlands within 0.25 miles of NWSR segments.
- iii. Activities that have the potential to alter free-flowing characteristics in NWSR segments.

b. As of October 14, 2020, National Wild and Scenic Rivers and congressional study rivers in Maine include: the 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 92.5 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 tributaries (the York River is currently under study).

14. St. John/St. Croix Rivers. A PCN is required for any work within the Saint John and Saint Croix River basins that requires approval of the International Joint Commission. In addition, a PCN is required if any temporary or permanent use, obstruction or diversion of international boundary waters could affect the natural flow or levels of waters on the Canadian side of the 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.

15. Historic Properties.

a. No undertaking shall cause effects (as 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, 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 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 archeological consultants in coordination with the Corps and the State Historic Preservation Officer (SHPO) (the SHPO in the State of Maine is the Maine Historic Preservation Commission, MHPC) and/or the five federally-recognized tribes in the State of Maine (Tribal Historic Preservation Officers, or THPOs). The MHPC, the THPOs, 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 archeological consultants in consultation with the Corps and MHPC and/or the THPO(s).

b. For activities eligible for these GPs, permittees shall ensure that the activity will not cause effects as stated above in 15(a). In order to comply with this condition, both SV and PCN prospective permittees shall notify MHPC and all five THPOs for their identification of historic properties. MHPC and the THPOs will generally respond within 30 days of receiving the notification if they believe that the activity may have an adverse effect to historic properties. A PCN is required if an activity may have an adverse effect to historic properties. The PCN shall be submitted as soon as possible if a proposed activity may cause effects as stated above in 15(a) a to ensure that the Corps is aware of any potential effects of the proposed activity on any historic property to ensure all Section 106 requirements are met.

c. All PCNs shall:

- i. Show notification to MHPC and all five THPOs 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 MHPC or the THPO(s) indicating that there are or are not historic properties affected.

d. The requirements to comply with Section 106 of the NHPA may be satisfied by a Programmatic Agreement (PA) or Programmatic Consultation (PC) with the Corps, New England District or another federal agency. New England District PAs and PCs are found at www.nae.usace.army.mil/Missions/Regulatory

e. If the permittee discovers any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by these permits, the permittee shall immediately notify the district engineer of what was found, and 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.

f. Federal agencies should follow their own procedures for complying with the requirements of Section 106 of the NHPA. Federal permittees shall provide the Corps with the appropriate documentation to demonstrate compliance with those requirements.

g. Federal and non-federal applicants should coordinate with the Corps before conducting any onsite archeological work (reconnaissance, surveys, recovery, etc.) requested by MHPC or the THPOs, as the Corps will determine the Permit Area for the consideration of historic properties based on 33 CFR 325 Appendix C. This is to ensure that work done is in accordance with Corps requirements.

16. Federal Threatened and Endangered Species.

- a. No activity is authorized by these GPs 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 or proposed 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;
 - iii. Is “likely to adversely affect” a listed species or critical habitat unless Section 7 consultation has been completed by the Corps or another lead action agency in coordination with the Corps under the provisions of a Programmatic Agreement (PA) or Programmatic Consultation (PC); or
 - iv. Violates the ESA.

b. All prospective permittees shall attach to their SVNF or PCN an Official Species List obtained from the U.S. Fish and Wildlife Service’s Information for Planning and Consultation (IPaC) found at: <https://ecos.fws.gov/ipac> and provide the email address of the person who generated the list.

c. For proposed activities in tidal waters, prospective permittees should also refer to the National Oceanic and Atmospheric Administration (NOAA) Fisheries’ Section 7 Mapper for federally-listed species found at: <https://noaa.maps.arcgis.com/apps/webappviewer/index.html>

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, may be affected by the proposed work. An activity may remain eligible for SV if the only listed species affected is the northern long-eared bat (*Myotis septentrionalis*), and only after Section 7 consultation has been completed by the Corps under the 4(d) Rule Streamlined Consultation.

e. Federal agencies shall follow their own procedures for complying with the requirements of the ESA while ensuring that the Corps and any other federal action agencies are included in the consultation process.

f. Non-federal representatives designated by the Corps to conduct informal consultation or prepare a biological assessment shall follow the requirements in the designation document(s) and the ESA. Non-federal representatives shall also provide the Corps with the appropriate documentation to demonstrate compliance with those requirements. The Corps will review the documentation and determine whether it is sufficient to address ESA compliance for the GP activity, or whether additional ESA consultation is necessary.

g. The requirements to comply with Section 7 of the ESA may be satisfied by a Programmatic Agreement (PA) or Programmatic Consultation (PC) with the Corps, New England District or another federal agency. New England District PAs and PCs are found at: www.nae.usace.army.mil/Missions/Regulatory

17. Essential Fish Habitat (EFH).

a. PCN activities in tidal waters and the following rivers and streams, including all tributaries to the extent that they are currently or were historically accessible for salmon migration, shall be reviewed for the potential to adversely affect EFH (activities meeting SV criteria have been determined to result in no more than minimal adverse effects to EFH and therefore need no additional review):

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			

b. Prospective permittees may be required to describe and identify potential adverse effects to EFH and should refer to the NOAA Fisheries’ EFH Mapper found at:

www.fisheries.noaa.gov/resource/map/essential-fish-habitat-mapper

c. The requirements to comply with the Magnuson-Stevens Fishery Conservation and Management Act may be satisfied by a Programmatic Agreement (PA) or Programmatic Consultation (PC) with the Corps, New England District or another federal agency. New England District PAs and PCs are found at:

www.nae.usace.army.mil/Missions/Regulatory

18. Aquatic Life Movements and 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 permanently 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 and wetlands shall be:

- i. Suitably spanned, bridged, culverted, 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 crossing.

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. For work in tidal waters, in-stream controls (e.g. cofferdams) should be installed in such a way as to not obstruct fish passage.

d. To the maximum extent practicable, the preconstruction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization, storm water management activities, and temporary and permanent road crossings, except as provided below. The activity must be constructed to withstand expected high flows. The activity shall 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 pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g. stream restoration or relocation activities).

e. Activities that temporarily or permanently adversely impact upstream or downstream flood conditions require a PCN.

19. Spawning, Breeding, and Migratory Areas.

a. Jurisdictional activities in waters of the U.S. such as certain excavations, discharges of dredged or fill material, and/or suspended sediment producing activities 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 U.S. that provide value as breeding areas for migratory birds must be avoided to the maximum extent practicable. The permittee is responsible for ensuring their action complies with the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. The permittee is responsible for contacting the U.S. Fish and Wildlife's Maine Field Office (see Section VIII for contact info) to determine applicable measures to reduce impacts to migratory birds or eagles, including whether "incidental take" permits are necessary and available under the Migratory Bird Treaty Act or Bald and Golden Eagle Protection Act for a particular activity.

20. Vernal Pools.

a. A PCN is required if a discharge of dredged or fill material is proposed within a vernal pool depression located within waters of the U.S.

b. GC 20(a) above does not apply to projects that are within a municipality that meets the provisions of a Corps-approved vernal pool Special Area Management Plan (SAMP) and are otherwise eligible for SV, and the applicant meets the requirements to utilize the vernal pool SAMP.

21. Restoration of Special Aquatic Sites (Including Wetland Areas).

a. In areas of authorized temporary disturbance, if trees are cut they 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.

b. The introduction or spread of invasive plant species in disturbed areas shall be controlled. If construction mats are to be used in areas of invasive plant species, they shall be thoroughly cleaned before re-use.

c. Wetland areas where permanent disturbance is not authorized shall be restored to their original condition and elevation. Original condition means 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. Restoration shall typically commence no later than the completion of construction.

d. Upon completion of construction, all areas of authorized disturbed wetland area shall be stabilized with a wetland seed mix containing only plant species native to New England and shall not contain any species listed in the “Invasive and Other Unacceptable Plant Species” Appendix K in the “New England District Compensatory Mitigation Guidance” found at: www.nae.usace.army.mil/Missions/Regulatory/Mitigation

22. Invasive and Other Unacceptable Species.

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 these GPs. 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 shall justify the use of non-native species or cultivars.

c. For the purposes of these GPs, plant species that are considered invasive and unacceptable are provided in Appendix K “Invasive and Other Unacceptable Plant Species” of the most recent “New England District Compensatory Mitigation Guidance” and is found at: www.nae.usace.army.mil/Missions/Regulatory/Mitigation The June 2009 “U.S. Army Corps of Engineers Invasive Species Policy” provides policy, goals and objectives and is located at www.nae.usace.army.mil/Missions/Regulatory/Invasive-Species If an Invasive Species Control/Management Plan has been prepared it should be included with any SV or PCN.

23. 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, geotextilesilt 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.

24. Time-of-Year Work (TOY) Windows/Restrictions. In-water work shall be conducted during the following TOY work windows (work allowed) under SV and any in-water work proposed during the following TOY restrictions (no work) shall be reviewed under PCN (and shall contain written justification for deviation from the work allowed windows). The term “in-water work” does not include conditions where the work site is “in-the-dry” (e.g. intertidal areas exposed at low tide). The term also does not include work contained in a cofferdam so long as the cofferdam was installed and subsequently removed within the work allowed window.

	<u>TOY Restriction (no work)</u>	<u>TOY Work Window (work allowed)</u>
Non-tidal waters	Oct. 1 st to Jul. 14 th	Jul. 15 th to Sep. 30 th
Tidal waters	Apr. 10 th to Nov. 7 th	Nov. 8 th to Apr. 9 th

Alternate work windows proposed under PCN will generally be coordinated with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, Maine Department of Inland Fisheries and Wildlife, and/or Maine Department of Marine Resources and resulting written verifications may include species-specific work allowed windows.

25. Pile Driving and Pile Removal in Navigable Waters.

- a. Derelict, degraded, or abandoned piles and sheet piles in the project area shall be removed in their entirety as practicable and properly disposed of in an upland location and not in wetlands. In areas of fine-grained substrates, piles/sheets shall be removed by direct, vibratory, or clamshell pull method in order to minimize potential turbidity and sedimentation impacts. If removal is not practicable, said piles/sheets shall be cut off or driven to a depth of at least one foot below substrate.
- b. Work involving pile installation and/or removal should adhere to one of the five methods below:
 - i. "In-the-dry", or
 - ii. In-water between Nov. 8th to Apr. 9th, or
 - iii. Drilled and pinned to ledge, or
 - iv. Vibratory hammers used to install any size and quantity of wood, concrete, or steel, or impact hammers limited to one hammer and <50 piles installed/day with the following: wood piles of any diameter, concrete piles ≤18-inches diameter, steel piles ≤12-inches diameter if: (1) the hammer is ≤3,000 pounds and a wood cushion or equivalent is used between the hammer and steel pile, or (2) a soft start is used. Soft starts require an initial set of three strikes from the impact hammer at 40% energy, followed by a 1-minute waiting period between subsequent three-strike sets. The soft-start procedure shall be conducted any time hammering ceases for more than 30 minutes.

26. Temporary Fill.

- a. Temporary fills, including but not limited to 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.
- b. 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. Temporary fill shall be placed in a manner that will prevent it from being eroded by expected high flows.
- c. Unconfined temporary fill authorized for discharge into waters of the U.S. shall consist of material that minimizes impacts to water quality (e.g. washed stone, stone, etc.).
- d. Appropriate measures shall 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. Materials shall be placed 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.
- e. Construction debris and/or deteriorated materials shall not be placed or otherwise located in waters of the U.S.

27. Heavy Equipment in Wetlands or Mudflats. Operating heavy equipment (drill rigs, fixed cranes, etc.) within wetlands shall be minimized, and to the maximum extent practicable such equipment shall not be stored, maintained or repaired in wetlands. Where construction requires heavy equipment operation in wetlands, the equipment shall: a) have low ground pressure (typically <3 psi); b) be placed on swamp/construction/timber mats (herein referred to as "mats") that are adequate to support the equipment in such a way as to minimize disturbance of wetland soil and vegetation; or c) be operated on adequately dry or frozen wetlands such that shear pressure does not cause subsidence of the wetlands immediately beneath equipment and upheaval of adjacent wetlands. Mats are to be placed in the wetland from the upland or from equipment positioned on mats if already working within a wetland. Other support structures that are capable of safely supporting equipment may be used with written Corps authorization. Similarly, the permittee may request written authorization from the Corps to waive use of mats during frozen or dry conditions. Construction mats should be managed in accordance with construction mat best management practices (BMPs) found at: www.nae.usace.army.mil/Missions/Regulatory/State-General-Permits/Maine-General-Permit

28. Bank and Shoreline Stabilization Including Living Shorelines.

a. Projects involving construction of or repair, replacement, and maintenance of bank or shoreline stabilization structures including living shorelines within Corps jurisdiction shall be designed to minimize environmental effects, effects to neighboring properties, scour, etc. to the maximum extent practicable.

b. Prospective permittees shall design and construct these stabilization projects using this sequential avoidance and minimization process: avoidance of aquatic resource impacts, diversion of overland flow, vegetative stabilization, living shorelines, stone-sloped surfaces, and walls/bulkheads. New vertical walls/bulkheads shall only be used in situations where reflected wave energy can be tolerated. Prospective permittees proposing new vertical walls/bulkheads shall provide written justification demonstrating why other methods of stabilization are not practicable and how the surrounding area would be affected by the resulting reflected wave energy.

Additional conditions to meet SV eligibility criteria for *non-tidal* bank and shoreline stabilization activities:

- a. Fill shall be ≤ 500 linear feet in total length as measured below the plane of the ordinary high watermark (OHWM), includes total if more than one stream bank.
- b. Fill placed below the plane of the OHWM shall be ≤ 1 cubic yard per linear foot.
- c. Fill shall not be angled steeper than 1H:1V.
- d. No discharge of fill in special aquatic sites other than wetlands.
- e. Stone revetment shall be comprised of angular material.
- f. No material shall be of the type, or placed in any location, or in any manner, to impair surface water flow into or out of any water of the U.S.
- g. No material shall be 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).
- h. The activity shall not be a stream channelization activity.

Additional conditions to meet SV eligibility criteria for *tidal* bank and shoreline stabilization activities:

- a. All in-water work shall be conducted "in-the-dry".
- b. Fill shall be ≤ 500 linear feet in total length as measured below the plane of the high tide line (HTL) and shall be ≤ 200 linear feet in total length as measured below the plane of the mean high water mark (MHW), includes total for more than one bank. Vertical structures shall be ≤ 200 linear feet in total length as measured below the plane of the MHW and shall be ≤ 18 inches waterward of the existing vertical face.
- c. Fill placed below the plane of the HTL shall be ≤ 1 cubic yard per linear foot.
- d. Stone revetment shall be comprised of angular material.
- e. Shall not impact special aquatic sites (SAS, incl. submerged aquatic vegetation, SAV), impacts to natural rocky habitats are ≤ 100 square feet, and impacts to intertidal and shellfish areas are $\leq 1,000$ square feet).
- f. No structures/fill shall be steeper than 1H:1V.
- g. No new groins, breakwaters, or jetties.

29. Stream Work and Crossings, and Wetland Crossings.

a. A PCN is required for all new and replacement crossings in navigable waters.

b. In order to effectively size and configure crossings in navigable waters, new and replacement crossings shall consider factors including but not limited to: local tidal elevations over the range of tidal heights, basin topography and bathymetry, existing and proposed road elevations. Flood risk tolerance, conditions of habitat and natural community types present, and sea level rise during the useful life of the crossing.

c. A PCN is required for activities that result in unavoidable impacts to wetlands in excess of SV thresholds.

d. In-stream work and crossings and wetland crossings shall adhere to all applicable GCs including but not limited to:

- i. GC 16 (Federally Threatened and Endangered Species)
- ii. GC 17 (Essential Fish Habitat)
- iii. GC 18 (Aquatic Life Movements and Management of Water Flows)

- iv. GC 23 (Soil Erosion, Sediment and Turbidity Controls)
- v. GC 24 (Time-of-Year Work Windows/Restrictions)
- vi. GC 26 (Temporary Fill)
- vii. GC 28 (Bank Stabilization)
- e. Slip Lining. Work resulting in a decreased width, height, or diameter of an existing crossing (e.g. slip lining and invert lining) is discouraged and requires PCN. Written justification shall be provided for this activity.
- f. Culvert Extensions. A PCN is required for any extension to an existing culvert.
- g. Scour protection or armoring of the inlet and/or outlet of a crossing shall not disrupt normal flow patterns or 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 (see GC 18).
- h. 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 18. 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 temporary stream crossings).

Additional conditions to meet SV eligibility criteria for Stream Work and Crossings:

- a. Crossings shall be designed and constructed using the techniques and principles outlined in Stream Simulation, Stream Smart, Habitat Connectivity Design.
- b. Crossings shall be designed to be at least 1.2 times bankfull width. Any footings, abutments, and/or abutment armoring shall also be at least 1.2 times bankfull width.
- c. Crossings shall have a natural bottom substrate under or within the structure matching the characteristics of the substrate in the natural stream channel. Crossings shall be designed and constructed with appropriate streambed forms and streambed characteristics so that water depths and velocities are comparable to those found in the adjacent natural channel at a variety of flows.
- d. Crossings shall include a bank on both sides of the stream matching the horizontal profile of the existing stream and banks in order to allow terrestrial passage for wildlife and to prevent undermining of the footings as applicable.
- e. Closed bottom culverts shall be embedded at least 25 percent of the maximum height of the culvert.
- f. No unconfined fill or excavation in flowing waters is allowed. In-stream construction work shall be conducted “in-the-dry” under no-flow conditions or by using cofferdams, temporary flume pipes, culverts, etc. Downstream flows shall be maintained during in-stream construction. It is recommended that project plans include pertinent details for working in-the-dry and maintaining downstream flows.
- g. Conditions (a) thru (e) immediately above do not apply to temporary stream crossings; however, in addition to conditions (f) immediately above, temporary stream crossings shall adhere to the following:
 - i. Be 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 shall be large enough to allow for easy removal without disrupting the streambed.
 - ii. Be designed and maintained to withstand and pass high flows. Water height shall be no higher than the top of the culvert’s inlet. A minimum culvert diameter of two feet is required to pass debris. Culverts shall be aligned to prevent bank erosion or streambed scour.
 - iii. Be equipped with energy dissipating devices installed downstream if necessary to prevent scour.
 - iv. Be designed and maintained to prevent soil from entering the waterbody.
 - v. Be removed upon the completion of work. Impacts to the streambed or banks requires restoration to their original condition using the methods in (a) above.

PCN Conditions for Stream Work and Crossings:

- a. Crossings are recommended to meet the conditions for SV; written justification shall be provided for any deviation from SV conditions.
- b. Crossings shall 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, Stream Smart, or Habitat Connectivity.

Additional Conditions for Wetland Crossings:

a. New and replacement wetland crossings that are permanent shall be constructed in such a manner as to preserve hydraulic and ecological connectivity, at its present level, between the wetlands on either side of the road. Crossing structures commonly include but are not limited to spans and culverts. To meet this condition, spans or culverts should be placed at least every 50 feet with an opening at least 2 feet high and 3 feet wide at ground level. Closed bottom culverts should be embedded at least 6 inches and should have a natural bottom substrate within the structure. Alternative crossing designs that preserve wetland hydraulic and ecological connectivity (e.g. “rock sandwiches”) may also be considered.

b. Any work that results in flooding, or impacts to wetland drainage from the upgradient side of the wetland crossing does not qualify for SV.

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.

30. Utility Line Installation and Removal.

a. Utility lines in jurisdictional waters should be installed subsurface and shall be maintained in such a way so that they remain subsurface. If it is necessary to discharge dredged or filled material 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 casting into wetlands from utility trenches).

b. For subsurface utility lines the bottom and side slope cover associated with the initial installation under Federal Navigation Projects (FNPs) is a technical determination. The depth requirement varies based on geotechnical (composition of bottom materials and layering), hydraulic (current, or wave induced scour depth), navigation (propeller induced scour depth and ships’ anchor penetration), maintenance dredging (penetration of barge spuds), construction factors (energy from blasting potentially transmitted to utility crossings), physical conditions (exposed open water conditions or sheltered/harbor conditions), and the proposed location of the utility crossing within any FNP or within navigable waters, including areas dredged by others. On a case-by-case basis, the Corps will determine the depth and cover requirements for each proposed utility crossing. Additional conditions to the GP will be attached to address pre and post installation requirements. 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 crossing navigable waters require PCN and shall meet minimum clearances per 33 CFR 322.5(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 these GPs. 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. For new installations within waters of the U.S., any abandoned or inactive utility lines should be removed and faulty lines (e.g., leaking hazardous substances, petroleum products, etc.) shall be removed or repaired to the extent practicable. A PCN 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.

g. Trenches should be backfilled with native sediment immediately after completion of work.

h. Pre-construction elevations should be re-established. Any additional material needed to accomplish this should be of consistent type and grain-size as the existing substrate sediment.

i. Utility line activities in non-tidal waters adjacent to special aquatic sites, and all work in tidal waters should utilize horizontal directional drilling as practicable.

31. 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 shall be stored in an upland location and not in wetlands, tidal wetlands, their substrate, or on mudflats. These seasonal structures may be stored on the fixed, pile-supported portion of a structure that is waterward of the mean high water mark or the ordinary high water mark, e.g. the storage of a ramp or gangway on the pile-supported pier. Seasonal storage of structures in navigable waters, e.g., in a protected cove, requires prior Corps approval and local harbormaster approval.

32. Aquaculture. Activities involving the cultivation of Atlantic salmon and other salmonids, or other federally-listed threatened or endangered species are not eligible for authorization under these GPs. All other aquaculture activities shall adhere to all applicable GCs including but not limited to:

- a. GC 3 (Other Permits) In particular, permittees shall maintain a current State of Maine Department of Marine Resources lease or license.
- b. GC 10 (Corps Projects and Property)
- c. GC 11 (Navigation)
- d. GC 16 (Federal Threatened and Endangered Species)
- e. GC 17 (Essential Fish Habitat)
- f. GC 18 (Aquatic Life Movements and Management of Water Flows)
- g. GC 31 (Storage of Seasonal Structures)

Additional conditions to meet SV eligibility criteria for Tidal Aquaculture:

- a. Shall not exceed 400 square feet in area.
- b. Shall receive signed approval from Harbormaster or appropriate Town Official.
- c. Shall not include enclosures or impoundments.
- d. Shall not be located in or within a distance of three times the authorized depth of a FNP.
- e. Shall not be located in or impinge upon the value of National Lands and Federal Properties including but not limited to National Parks and National Wildlife Refuges.
- f. Shall not impact special aquatic sites (SAS, incl. submerged aquatic vegetation, SAV), impacts to natural rocky habitats are ≤ 100 square feet, and impacts to intertidal and shellfish areas are $\leq 1,000$ square feet.
- g. No structures, cages, gear, or shell hash shall be located in/within 25 feet of SAV.
- h. All gear, except for mooring tackle, when not in use on the site shall be stored in an upland location above the mean high water mark and not on wetland (incl. salt marsh).

33. Permit(s)/Authorization Letter On-Site. The permittee shall ensure that a copy of the terms and conditions of these GPs and any accompanying authorization letter with attached plans are at the site of the work authorized by these GPs whenever work is being performed and that all construction personnel performing work which may affect waters of the U.S. are fully aware of the accompanying 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 these GPs. This shall be achieved by including the entire permit authorization in the specifications for work. The term "entire permit authorization" means all terms and conditions of the GPs, the GPs, and the authorization letter (including its drawings, plans, appendices and other attachments) and subsequent permit modifications as applicable. 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.

34. Inspections. The permittee shall allow the Corps to make periodic inspections at any time deemed necessary in order to ensure that the work is eligible for authorization under these GPs, is being, or has been performed in accordance with the terms and conditions of these GPs. To facilitate these inspections, the permittee shall

complete and return to the Corps the Work-Start Notification Form and the Compliance Certification Form when either is provided with an authorization letter. The Corps may also require post-construction engineering drawings and/or photographs for completed work or post-dredging survey drawings for any dredging work to verify compliance.

35. Maintenance. The permittee shall maintain the activity authorized by these GPs in good condition and in conformance with the terms and condition of these permits. This does not include maintenance dredging, related disposal, or beach nourishment projects, which are subject to review thresholds for GP 5 on page 30, unless specified in written authorization from the Corps.

36. Federal Liability. In issuing these permits, 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; or
- e. Damage claims associated with any future modification, suspension, or revocation of this permit.

37. Property Rights. Per 33 CFR 320.4(g)(6), these GPs do 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.

38. Previously Authorized Activities.

- a. Projects that received prior authorization from the Corps (via Category 1 or 2) and that completed authorized work under the previous nationwide permits, programmatic permits, regional general permits or letters of permission, shall remain authorized in accordance with the original terms and conditions of those authorizations, including their terms, general conditions, expiration date, and any special conditions provided in a written verification.
- b. Activities authorized pursuant to 33 CFR Part 330.3 (“Activities occurring before certain dates”) are not affected by these GPs.
- c. Any work not commenced, not under contract to commence, nor completed that was originally authorized by the Corps under the GP in effect between October 13, 2015 and October 13, 2020 remains authorized subject to the terms and general conditions of this GP along with any special conditions included in written authorizations. Exception: if previously authorized work has not commenced or not under contract to commence and a new federally-listed threatened or endangered species may be affected, the Corps shall consult with the U.S. Fish and Wildlife Service or NOAA Fisheries prior to re-authorizing the work under these GPs. Requests for re-authorization shall include an Official Species List per GC 16.

39. Transfer of GP Verifications. 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 to validate the transfer. A copy of the GP verification shall be attached to the letter, the letter shall contain the name, address, phone number and email of the transferee (new owner), shall include the following statement and signature, and be mailed to: U.S. Army Corps of Engineers, Maine Project Office, 442 Civic Center Drive, Suite 350, Augusta, Maine 04330:

“When the structures or work authorized by these GPs are still in existence at the time the property is transferred, the terms and conditions of these GPs, including any special conditions, will continue to be binding on the new owner(s) of the property.”

Transferee Printed Name

Transferee Signature Date

40. Modification, Suspension, and Revocation. These GPs and any individual authorization issued thereof may be either modified, suspended, or revoked, in whole or in part, pursuant to the policies and procedures of 33 CFR 325.7, and any such action shall not be the basis for any claim for damages against the U.S.

41. Special Conditions. The Corps may independently or in coordination with federal resource agencies impose special conditions on a project authorized pursuant to these GPs 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.

42. False or Incomplete Information. If the Corps makes a determination regarding the eligibility of a project under these GPs 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.

43. Abandonment. If the permittee decides to abandon the activity authorized under these GPs, 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.

44. Enforcement cases. These GPs do 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.

45. Duration of Authorization.

a. These GPs expire on October 14, 2025 unless otherwise specifically indicated in an individual authorization letter. Activities authorized under these GPs that have either commenced or are under contract to commence in reliance upon this authorization will have an additional year from the expiration date to complete the work. The permittee must be able to document to the Corps' satisfaction that the activity commenced or was under contract to commence by the expiration date of these GPs. If work is not completed within the one year extended timeframe, the permittee must contact the Corps. The Corps may issue a new authorization, provided the activity meets the applicable terms and conditions of the Maine GPs that are in effect at the time.

b. Activities authorized under these GPs will remain authorized until these GPs expire, unless discretionary authority has been exercised on a case-by-case basis to modify, suspend, or revoke the authorization in accordance with 33 CFR 325.2(e)(2). Activities completed under the SV or PCN authorizations of these GPs will continue to be authorized after its expiration date.

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Tammy R. Turley
Chief, Regulatory Division

V. MAINE GENERAL PERMITS

An activity is authorized under General Permits 1 through 23 listed below only if that activity and the permittee satisfy all of the applicable GP terms and general conditions. Any activity not specifically listed may still be eligible for authorization under these GPs; prospective permittees are advised to contact the Corps for specific eligibility determination.

1. **Repair, Replacement, and Maintenance of Authorized Structures and Fills;**

Repair, rehabilitation, or replacement of any previously authorized, currently serviceable structure, or fill and minor expansions thereof.

2. **Moorings**

New moorings and mooring fields, the relocation of previously authorized moorings, expansions, boundary reconfigurations or modifications of previously authorized mooring fields, conversion of mooring types (e.g. private to rental), and maintenance and replacement of moorings. Moored floats, lobster cars, rafts, and similar float structures are not included in this GP.

3. **Structures, Floats and Lifts**

New, expansions, reconfigurations or modifications of structures for navigational access in waters of the U.S. including but not limited to temporary/seasonal or permanent pile and crib-supported piers, floats, stairs, shore outhauls, and boat and float lifts/ways. Floats may include lobster cars, work floats, moored floats, swim floats, and shellfish upweller floats.

4. **Aids to Navigation, and Temporary Recreational Structures**

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, chapter I, subchapter C, part 66) and temporary buoys, markers, small floating docks, and similar structures placed for recreational use during specific events such as fireworks displays, water skiing competitions, and boat races or seasonal use.

5. **Dredging, Disposal of Dredged Material, Beach Nourishment, and Rock Removal and Relocation**

New, maintenance, and improvement dredging, including: a) Disposal of dredged material at a confined aquatic disposal, beach nourishment, near shore, designated open water or ocean water disposal site(s), provided the Corps finds the dredged material to be suitable for such disposal; (b) Beach nourishment not associated with dredging; (c) Rock removal and relocation for navigation.

6. **U.S. Coast Guard Approved Bridges and Causeways**

Discharges of dredged or fill material incidental to the construction and modification of bridges across navigable waters of the U.S., including cofferdams abutments, foundation seals, piers, approach fills, and temporary construction and access fills provided that the USCG authorizes the construction of the bridge structure under Section 9 of the Rivers and Harbors Act of 1899 or other applicable laws.

7. **Bank and Shoreline Stabilization Including Living Shorelines**

Bank stabilization activities necessary for erosion protection along the banks of lakes, ponds, streams, and marine/tidal waters. Includes bulkheads, seawalls, riprap, revetments or slope protection & similar structures as well as vegetative planting, soil bioengineering or alternative techniques that are a combination of the two (i.e. living shorelines), specifically for the purpose of shoreline protection.

8. **Residential, Commercial and Institutional Developments, and Recreational Facilities**

Discharges of dredged or fill material into waters of the U.S for the construction or expansion of: residences and residential subdivisions; commercial and institutional buildings or subdivisions; and recreational facilities; and attendant features including but not limited to roads, parking lots, garages, stormwater management facilities, yards, and utilities.

9. Utility Line Activities

Activities required for (a) the construction, maintenance, relocation, repair, & removal of utility lines, including outfall and intake structures, and the associated excavation, backfill, or bedding for utility lines; (b) the construction, maintenance or expansion of utility line substation facilities associated with a power/utility line in non-tidal waters; and (c) the construction and maintenance of foundations for overhead utility line towers, poles, and anchors provided the foundations are the minimum size necessary and separate footings for each tower leg (rather than a larger single pad) are used where feasible. This GP authorizes the construction of access roads to facilitate construction of the above activities provided the activity, in combination with all other activities included in one single and complete project.

10. Linear Transportation Projects

Activities required for the construction, expansion, modification, or improvement of linear transportation projects (e.g., driveways, roads, highways, railways, trails, airport runways, and taxiways) and attendant features.

11. Mining Activities

Temporary or permanent discharges of dredged or fill material into waters of the U.S. for mining activities.

12. Boat Ramps and Marine Railways

Temporary or permanent discharges of dredged or fill material, excavation and other work in waters of the U.S. required for the construction of temporary or permanent boat ramps and marine railways.

13. Land and Water-Based Renewable Energy Generation Facilities and Hydropower Projects

Structures and work and discharges of dredged or fill material into waters of the U.S. for the construction, expansion, modification or removal of: (a) land-based renewable energy production facilities (e.g. solar and wind) and their attendant features; (b) water-based wind or hydrokinetic renewable energy generation pilot projects and their attendant features; and (c) discharges of dredged or fill material associated with hydropower projects. Attendant features may include, but are not limited to, land-based collection and distribution facilities, control facilities, and parking lots.

14. Reshaping Existing Drainage Ditches and Mosquito Management

Discharges to modify the cross-sectional configuration of currently serviceable drainage ditches constructed in waters of the U.S., for the purpose of improving water quality by regrading the drainage ditch with gentler slopes, which can reduce erosion, increase growth of vegetation, and increase uptake of nutrients and other substances by vegetation. Also authorized are mosquito reduction activities.

15. Response Operations for Oil or Hazardous Substances

Activities conducted in response to a discharge or release of oil and hazardous substances that are subject to the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR 300) including containment, cleanup, and mitigation efforts, provided activities are done under either (i) The Spill Prevent, Control & Countermeasure Plan require by 40 CFR 112.3; (ii) The direction or oversight of the Federal on-site coordinator designated by 40 CFR 300; or (iii) Any approved existing State, regional or local contingency plan provided that the Regional Response Team (if one exists in the area) concurs with the proposed response efforts or does not object to the response effort. Activities required for the cleanup of oil releases in waters of the U.S. from electrical equipment that are governed by EPA's polychlorinated biphenyl (PCB) spill response regulations at 40 CFR 761. Booms placed in tidal waters. Use of temporary structures & fills for spill response training exercises.

16. Cleanup of Hazardous and Toxic Waste

Specific 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.

17. Scientific Measurement Devices

Scientific devices for measuring and recording scientific data, such as staff gauges, tide and current gauges, meteorological stations, water recording and biological observation devices, water quality testing and improvement devices, and similar structures.

18. Survey Activities

Survey activities such as soil borings, core sampling, seismic exploratory operations, plugging of seismic shot holes and other exploratory-type bore holes, exploratory trenching and historic resources surveys (but not recovery).

19. Agricultural Activities

Regulated discharges of dredged or fill material in non-tidal waters of the U.S. for agricultural activities, including the construction of building pads for farm buildings. Authorized activities include: (a) installation, placement, or construction of drainage tiles, ditches, or levees; mechanized land clearing; land leveling; the relocation of existing serviceable drainage ditches; and similar activities; (b) construction of farm ponds, excluding perennial streams, provided the farm pond is used solely for agricultural purposes; and (c) discharges of dredged or fill material to relocate existing serviceable drainage ditches constructed in non-tidal streams.

20. Fish and Wildlife Harvesting, Enhancement, and Attraction Devices

Activities in waters of the U.S. associated with fish and wildlife harvesting devices including pound nets, crab and lobster traps, crab dredging, eel pots, duck blinds, and clam and oyster digging, fish aggregating devices, and small fish attraction devices such as open water fish concentrators (sea kites, etc.). This GP does not include aquaculture activities.

21. Habitat Restoration, Establishment and Enhancement Activities

Activities in waters of the U.S. associated with the restoration, enhancement and establishment of non-tidal and tidal wetlands and riparian areas, including invasive, non-native or nuisance species control; the restoration and enhancement of non-tidal streams and other non-tidal open waters; the relocation of non-tidal waters, including non-tidal streams & associated wetlands for reestablishment of a natural stream morphology and reconnection of the floodplain; the restoration and enhancement of shellfish, finfish and wildlife; and the rehabilitation or enhancement of tidal streams, tidal wetlands and tidal open waters; provided those activities result in net increases in aquatic resource functions and services. Also included are shellfish enhancement measures including but not limited to “brushing”, clam pots, boxes, and netting.

22. Stream and Wetland Work and Crossings

Activities required for the construction, expansion, modification, or improvement of linear transportation projects that cross waters of the U.S. (e.g., driveways, roads, highways, railways, trails, airport runways, and taxiways) and attendant features. Crossing structures include, but are not limited to temporary or permanent jurisdictional spans, bridges, culverts, and fords. Any stream channel modification is limited to the minimum necessary to construct or protect the project; such modifications must be in the immediate vicinity of the project.

23. Aquaculture

The installation of buoys, floats, racks, trays, nets, lines or other structures in waters of the U.S. for the containment and cultivation of fish, shellfish and seaweed/kelp. Also authorized are anchored upweller floats, small-scale shellfish hatchery seawater intake/discharge structures, and discharges of dredged or fill material associated with cultivation such as the placement of cultch or spatting-shell on bottom.

USER NOTE: All Self-Verification and Pre-Construction Notification activities shall comply with all applicable terms (pages 1 - 4), General Conditions (pages 5 - 19), and additional terms below.

GENERAL PERMITS FOR THE STATE OF MAINE

<p>A. INLAND WATERS AND WETLANDS</p>	<p>Inland Waters and Wetlands are defined as waters that are regulated under Section 404 of the Clean Water Act, including rivers, streams, lakes, ponds, and wetlands, and <i>excludes Section 10 Navigable Waters of the U.S.</i> The jurisdictional boundaries are the ordinary high water mark (OHWM) in the absence of adjacent wetlands; beyond the OHWM to the limit of adjacent wetlands when adjacent wetlands are present; and the wetland limit when only wetlands are present. For the purposes of these GPs and designated activities, fill placed in the area between the mean high water mark (MHWM) and the high tide line (HTL), and in the bordering and contiguous wetlands to tidal waters are reviewed in the Navigable Waters section below beginning on page 28.</p>	<p>Activities not meeting the Self-Verification terms below require Pre-Construction Notification and activities not meeting the Pre-Construction Notification terms below require an application for an Individual Permit (IP).</p>
<p>GENERAL PERMIT #</p>	<p>SELF-VERIFICATION (SV)</p>	<p>PRE-CONSTRUCTION NOTIFICATION (PCN)</p>
<p>1. Repair, Replacement, and Maintenance of Authorized Structures and Fills <i>(for stream crossings see GP 22)</i></p>	<p>Repair, replacement, and maintenance of existing, currently serviceable, authorized fills with no expansion or change in use, provided:</p> <ul style="list-style-type: none"> • Conditions of the original authorization apply. • Minor deviations in fill design allowed. • 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 work is commenced, or is under contract to commence, within two years of the date of their destruction or damage. • Drawdown of impoundments for dam/levee repair does not exceed 18 months and one growing season (Apr-Sept). 	<p>Repair, replacement, and maintenance of existing authorized fills not eligible for SV, provided:</p> <ul style="list-style-type: none"> • <3 acres of permanent and/or temporary inland waterway and/or wetland fill, and associated secondary impacts.
<p>2. Moorings</p>	<p>Not Applicable – these activities in non-navigable inland waters do not require Corps authorization.</p>	<p>Not Applicable – these activities in non-navigable inland waters do not require Corps authorization.</p>
<p>3. Structures, Floats, and Lifts</p>	<p>Pile-supported structures, floats and lifts located in non-navigable inland waters do not require Corps authorization.</p> <p>Solid fill or crib-supported structures with <15,000 SF of permanent and/or temporary inland waterway and/or wetland fill, and associated secondary impacts.</p>	<p>Fill activities associated with structures, floats, and lifts not eligible for SV, provided:</p> <ul style="list-style-type: none"> • <3 acres of permanent and/or temporary inland waterway and/or wetland fill, and associated secondary impacts.
<p>4. Aids to Navigation and Temporary Recreational Structures</p>	<p>Not Applicable – these activities in non-navigable inland waters do not require Corps authorization.</p>	<p>Not Applicable – these activities in non-navigable inland waters do not require Corps authorization.</p>
<p>5. Dredging, Disposal of Dredged Material, Beach Nourishment, and Rock Removal and Relocation</p>	<p>Those activities with <15,000 SF of permanent and/or temporary inland waterway and/or wetland fill, and associated secondary impacts, provided:</p> <ul style="list-style-type: none"> • No stream channelization, relocation, or loss of streambed including impoundments or discharges of tailings into streams. 	<p>Those activities not eligible for SV, provided:</p> <ul style="list-style-type: none"> • <3 acres of permanent and/or temporary inland waterway and/or wetland fill, and associated secondary impacts.

SELF-VERIFICATION (SV)

PRE-CONSTRUCTION NOTIFICATION (PCN)

<p>6. U.S. Coast Guard Approved Bridges and Causeways</p>	<p>Not applicable in inland waters and wetlands; see B. Navigable Waters on page 31 below.</p>	<p>Not applicable in inland waters and wetlands; see B. Navigable Waters on page 31 below.</p>
<p>7. Bank and Shoreline Stabilization Including Living Shorelines (see also GC 28)</p>	<p>Bank and shoreline stabilization activities with <15,000 SF of permanent and/or temporary inland waterway and/or wetland fill, and associated secondary impacts, provided:</p> <ul style="list-style-type: none"> • Fill is ≤500 LF in total length as measured below the plane of the OHWM, includes total if more than one stream bank. • Fill placed below the plane of the OHWM is ≤1 CY per linear foot. • There is no discharge in special aquatic sites other than wetlands. • Revetment is comprised of angular material. • In-stream work is limited to Jul. 15th to Sep. 30th • No structures angled steeper than IH:IV. 	<p>Bank and shoreline stabilization activities not eligible for SV, provided:</p> <ul style="list-style-type: none"> • <3 acres of permanent and/or temporary inland waterway and/or wetland fill, and associated secondary impacts.
<p>8. Residential, Commercial and Institutional Developments, and Recreational Facilities</p>	<p>Those developments and facilities with <15,000 SF of permanent and/or temporary inland waterway and/or wetland fill, and associated secondary impacts. Fill area includes all temporary and permanent fill, and regulated discharges associated with excavation. Provided:</p> <ul style="list-style-type: none"> • The historic fill and proposed fill area <15,000 SF specifically complies with GC 5 Single and Complete Projects. • No work in special aquatic sites other than wetlands. 	<p>Those developments and facilities not eligible for SV, provided:</p> <ul style="list-style-type: none"> • <3 acres of permanent and/or temporary inland waterway and/or wetland fill, and associated secondary impacts. <p><i>Mechanical clearing of areas within Corps jurisdiction without grubbing or other soil disturbance >3 acres as a secondary impact may still be eligible for PCN at the discretion of the Corps.</i></p>
<p>9. Utility Line Activities (see also GC 30)</p>	<p>Utility line activities with <15,000 SF of permanent and/or temporary inland waterway and/or wetland fill (excluding mats), and associated secondary impacts, provided:</p> <ul style="list-style-type: none"> • There is no permanent change in pre-construction contours in waters in the U.S. • 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 is not dispersed by current or other forces. • The line does not run parallel to, or along a streambed. • No stream channelization, relocation, or loss of streambed including impoundments. • There is no discharge in special aquatic sites other than wetlands. • Construction mats of any area necessary to conduct activities provided mats are removed as soon as work is completed and shall be in place no longer than one single growing season. • In-stream work is limited to Jul. 15th to Sep. 30th • In-water work is conducted in-the-dry. • Intake structures that are dry hydrants used exclusively for firefighting activities with no stream impoundments. • Construction mats of any area necessary to conduct activities provided mats are removed as soon as work is completed and shall be in place no longer than one single growing season. 	<p>Utility line activities not eligible for SV, provided:</p> <ul style="list-style-type: none"> • <3 acres of permanent and/or temporary inland waterway and/or wetland fill, and associated secondary impacts. <p><i>Mechanical clearing of areas within Corps jurisdiction without grubbing or other soil disturbance >3 acres as a secondary impact may still be eligible for PCN at the discretion of the Corps.</i></p>

SELF-VERIFICATION (SV)

PRE-CONSTRUCTION NOTIFICATION (PCN)

<p>10. Linear Transportation Projects <i>(for stream crossings refer to GP 22)</i></p>	<p>Linear transportation activities with <15,000 SF of permanent and/or temporary inland waterway and/or wetland fill (excl. mats), and associated secondary impacts, provided:</p> <ul style="list-style-type: none"> • The historic fill and proposed fill area <15,000 SF specifically complies with GC 5 Single and Complete Projects. • There is no discharge in special aquatic sites other than wetlands. • Construction mats of any area necessary to conduct activities provided mats are removed as soon as work is completed and shall be in place no longer than one single growing season. 	<p>Linear transportation activities not eligible for SV, provided:</p> <ul style="list-style-type: none"> • <3 acres of permanent and/or temporary inland waterway and/or wetland fill, and associated secondary impacts. <p><i>Mechanical clearing of areas within Corps jurisdiction without grubbing or other soil disturbance > 3 acres as a secondary impact may still be eligible for PCN at the discretion of the Corps.</i></p>
<p>11. Mining Activities</p>	<p>Mining activities with <15,000 SF of permanent and/or temporary inland waterway and/or wetland fill, and associated secondary impacts, provided:</p> <ul style="list-style-type: none"> • No stream channelization, relocation, or loss of streambed including impoundments. 	<p>Mining activities not eligible for SV, provided:</p> <ul style="list-style-type: none"> • <3 acres of permanent and/or temporary inland waterway and/or wetland fill, and associated secondary impacts.
<p>12. Boat Ramps</p>	<p>Boat ramps with <15,000 SF of permanent and/or temporary inland waterway and/or wetland fill, and associated secondary impacts, and temporary fills.</p>	<p>Boat ramps not eligible for SV, provided:</p> <ul style="list-style-type: none"> • <3 acres of permanent and/or temporary inland waterway and/or wetland fill, and associated secondary impacts.
<p>13. Land and Water-Based Renewable Energy Generation Facilities and Hydropower Projects</p>	<p>Those facilities and projects with <15,000 SF of permanent and/or temporary inland waterway and/or wetland fill, and associated secondary impacts, provided:</p> <ul style="list-style-type: none"> • No stream channelization, relocation, or loss of streambed including impoundments. • No new water-based facilities are eligible. 	<p>Those facilities and projects not eligible for SV, provided:</p> <ul style="list-style-type: none"> • <3 acres of permanent and/or temporary inland waterway and/or wetland fill, and associated secondary impacts. <p><i>Mechanical clearing of areas within Corps jurisdiction without grubbing or other soil disturbance > 3 acres as a secondary impact may still be eligible for PCN at the discretion of the Corps.</i></p>
<p>14. Reshaping Existing Ditches and Mosquito Management</p>	<p>Not applicable in inland waters and wetlands; see B. Navigable Waters on page 33 below.</p>	<p>Not applicable in inland waters and wetlands; see B. Navigable Waters on page 33 below.</p>
<p>15. Response Operations for Oil or Hazardous Substances</p>	<p>The SVNf or a surrogate state reporting form may be submitted after-the-fact for response operations.</p> <p>This GP also authorizes the use of temporary structures and fills in waters of the U.S. for spill response training exercises with <15,000 SF of permanent and/or temporary inland waterway and/or wetland fill, and associated secondary impacts (<i>SVNF is required prior to the activity</i>).</p>	<p>Those response operations not eligible for SV, provided:</p> <ul style="list-style-type: none"> • <3 acres of permanent and/or temporary inland waterway and/or wetland fill, and associated secondary impacts.

SELF-VERIFICATION (SV)

PRE-CONSTRUCTION NOTIFICATION (PCN)

<p>16. Cleanup of Hazardous and Toxic Waste</p>	<p>Those cleanup activities with <15,000 SF of permanent and/or temporary inland waterway and/or wetland fill, and associated secondary impacts, provided:</p> <ul style="list-style-type: none"> No stream channelization, relocation, or loss of streambed including impoundments. The activity does not involve establishing new disposal sites or expanding existing sites used for the disposal of hazardous or toxic waste. 	<p>Those cleanup activities not eligible for SV, provided:</p> <ul style="list-style-type: none"> <3 acres of permanent and/or temporary inland waterway and/or wetland fill, and associated secondary impacts. The activity does not involve establishing new sites for the disposal of hazardous or toxic waste.
<p>17. Scientific Measurements Devices</p>	<p>Those devices with <15,000 SF of permanent and/or temporary inland waterway and/or wetland fill, and associated secondary impacts, provided:</p> <ul style="list-style-type: none"> No biological sampling devices. Devices do not restrict or concentrate movement of aquatic organisms. Upon completion of use, the devices and any associated fills shall be removed in their entirety. 	<p>Those devices not eligible for SV, provided:</p> <ul style="list-style-type: none"> <3 acres of permanent and/or temporary inland waterway and/or wetland fill, and associated secondary impacts.
<p>18. Survey Activities</p>	<p>Those survey activities with <15,000 SF of permanent and/or temporary inland waterway and/or wetland fill, and associated secondary impacts, provided:</p> <ul style="list-style-type: none"> Exploratory trenches are restored in accordance with GC 21. No discharge of excavated material from test wells for oil and gas exploration (the plugging of such wells is authorized). 	<p>Those survey activities not eligible for SV, provided:</p> <ul style="list-style-type: none"> <3 acres of permanent and/or temporary inland waterway and/or wetland fill, and associated secondary impacts.
<p>19. Agricultural Activities</p>	<p>Those agricultural activities subject to Corps jurisdiction with <15,000 SF of permanent and/or temporary inland waterway and/or wetland fill, and associated secondary impacts, provided:</p> <ul style="list-style-type: none"> No stream channelization, relocation, or loss of streambed including impoundments. 	<p>Those agricultural activities subject to Corps jurisdiction not eligible for SV, provided:</p> <ul style="list-style-type: none"> <3 acres of permanent and/or temporary inland waterway and/or wetland fill, and associated secondary impacts.
<p>20. Fish and Wildlife Harvesting, Enhancement and Attraction Devices and Activities</p>	<p>Not applicable in inland waters and wetlands; see B. Navigable Waters on page 34 below.</p>	<p>Not applicable in inland waters and wetlands; see B. Navigable Waters on page 34 below.</p>
<p>21. Habitat Restoration, Establishment, and Enhancement</p>	<p>Those activities with <15,000 SF of permanent and/or temporary inland waterway and/or wetland fill, and associated secondary impacts, provided:</p> <ul style="list-style-type: none"> No water impoundments allowed. No conversion of a stream to wetland or vice versa, a wetland to a pond or uplands, or one wetland type to another. No dam removal. 	<p>Those activities not eligible for SV, provided:</p> <ul style="list-style-type: none"> <3 acres of permanent and/or temporary inland waterway and/or wetland fill, and associated secondary impacts.

SELF-VERIFICATION (SV)

PRE-CONSTRUCTION NOTIFICATION (PCN)

<p>22. Stream and Wetland Work and Crossings (see also GC 29)</p>	<p>Stream work and crossings with <15,000 SF of permanent and/or temporary inland waterway and/or wetland fill, and associated secondary impacts, provided:</p> <ul style="list-style-type: none"> No work in designated or proposed critical habitat for endangered species. Crossings are designed and constructed using the techniques and principles outlined in Stream Simulation, Stream Smart, or Habitat Connectivity Design. Crossings are designed to be 1.2 times bankfull width. Crossings have a natural bottom substrate. Crossings include a bank on both sides of the channel. Closed bottom culverts are embedded at least 25% of the maximum width of the culvert. In-stream work is limited to Jul. 15th to Sep. 30th In-stream work is conducted “in-the-dry”. No slip lining. No culvert extensions. No stream channelization, relocation, or loss of streambed including impoundments. <p>Wetland work and crossings, provided:</p> <ul style="list-style-type: none"> No flooding or impacts to wetland drainage from the upgradient side of the crossing. 	<p>Stream and Wetland Work and Crossings not eligible for SV, provided:</p> <ul style="list-style-type: none"> <3 acres of permanent and/or temporary inland waterway and/or wetland fill, and associated secondary impacts.
<p>23. Aquaculture (see also GC 32)</p>	<p>Aquaculture activities with <15,000 SF of permanent and/or temporary inland waterway and/or wetland fill, and associated secondary impacts, provided:</p> <ul style="list-style-type: none"> No water impoundments allowed. No conversion of i) a stream to wetland or vice versa, a wetland to a pond or uplands, and ii) one wetland type to another. 	<p>Aquaculture activities not eligible for SV, provided:</p> <ul style="list-style-type: none"> <3 acres of permanent and/or temporary inland waterway and/or wetland fill, and associated secondary impacts.

USER NOTE: All Self-Verification and Pre-Construction Notification activities shall comply with all applicable terms (pages 1 - 4), General Conditions (pages 5 - 19), and additional terms below.

<p>B. NAVIGABLE WATERS</p>	<p>Navigable Waters of the U.S. are defined as those waters that are subject to the ebb and flow of the tide in addition to the non-tidal portions of the following federally-designated waters in Maine (the Kennebec River to Moosehead Lake, the Penobscot River to the confluence of the East and West Branch at Medway and, Lake Umbagog within the State of Maine) (Section 10 Rivers and Harbors Act of 1899). The jurisdictional limits are the mean high water mark (MHW) in tidal waters and the ordinary high water mark (OHWM) in non-tidal portions of the federally-designated navigable rivers. For the purposes of these GPs, fill placed in the area between the mean high water mark (MHW) and the high tide line (HTL), and in the bordering and contiguous wetlands to tidal waters are also reviewed in this Navigable Waters section.</p> <p>Activities not meeting the Self-Verification terms below require Pre-Construction Notification and activities not meeting the Pre-Construction Notification terms below require an application for an Individual Permit.</p>
<p>GENERAL PERMIT #</p>	<p>PRE-CONSTRUCTION NOTIFICATION</p>
<p>1. Repair, Replacement, and Maintenance of Authorized Structures and Fills <i>*See GC 25 for pile driving and removal conditions.</i></p>	<p>SELF-VERIFICATION</p> <p>Repair, replacement, or maintenance of previously authorized, currently serviceable structures or fills, provided:</p> <ul style="list-style-type: none"> • Conditions of the original authorization apply. • No expansion or change in use. Shall be rebuilt in same footprint, however minor deviations in design allowed. • The repair, rehabilitation, or replacement of those structures or fills destroyed or damaged by storms, floods, fire or other discrete events is authorized, provided that work is commenced, or is under contract to commence, within two years of the date of their destruction or damage. • In-water work is conducted “in-the-dry” (see GC 24). • No impacts to special aquatic sites (SAS) (incl. submerged aquatic vegetation, SAV), impacts to natural rocky habitat ≤100 SF, and impacts to intertidal area ≤1,000 SF • Slope stabilization is ≤500 LF in total length as measured below the plane of the HTL and is ≤200 LF in total length as measured below the plane of the MHW or OHWM. Vertical structures are ≤200 LF in total length as measured below the plane of the MHW or OHWM and are ≤18 inches waterward of existing face. • Dam and flood control, or levee work does not alter water levels or flood elevations. • Discharge of accumulated bottom sediments from or through a dam is not more than <i>de minimus</i>. • Tide gate work has a Corps-approved operation and maintenance plan and no effect to hydraulic regime, or tide gates that solely convey stormwater and/or Maine National Pollutant Discharge Elimination System-permitted discharges. <p>PRE-CONSTRUCTION NOTIFICATION</p> <p>Repair, replacement, or maintenance of previously authorized structures or fills not eligible for SV, provided:</p> <ul style="list-style-type: none"> • ≤0.5 acre temporary or permanent impacts, fill, excavation, and/or secondary impacts. • Temporary and/or permanent fill or excavation in SAV <1,000 SF • Permanent fill or excavation in other SAS <4,300 SF

SELF-VERIFICATION (SV)

PRE-CONSTRUCTION NOTIFICATION (PCN)

2. Moorings

Private, non-commercial, non-rental, single-boat moorings, provided:

- Authorized by the local harbormaster/town.
- Not associated with any boating facility (e.g. marinas).
- Not located within a Federal Navigational Project (other than in a Federal Anchorage) or within a distance of three times the authorized depth of a Federal Navigation Project. Moorings in a Federal Anchorage must not be associated with a boating facility and must not be for rent.
- No interference with navigation.
- Mooring is not located in SAS (incl. SAV) or intertidal areas.

Minor relocation of previously authorized moorings, provided:

- Authorized by the local harbormaster/town.
- Relocation is not within a Federal Navigational Project (other than in a Federal Anchorage) or within a distance of three times the authorized depth of a Federal Navigation Project.
- No interference with navigation.
- Relocated mooring is not located in SAS (incl. SAV) or intertidal areas.

**SV Moorings above do not require a SVN/F.*

Moorings not eligible for SV and don't require an IP. This includes private moorings with no harbormaster or means of local approval or moorings associated with a boating facility (e.g. marina).

Locating new moorings in SAS (incl. SAV) shall be avoided to the maximum extent practicable. If SAS cannot be avoided, consideration shall be given to alternative mooring systems that prevents mooring chains from resting or dragging on the bottom substrate at all tides.

An IP is required for moorings located within the horizontal limits, or with moored vessels that extend into the horizontal limits of a Federal Navigation Project (other than in a Federal Anchorage).

3. Structures, Floats, and Lifts

Reconfiguration of such existing authorized structures with all intertidal work conducted "in-the-dry" (see GC 24).

Minor relocation of previously authorized floats provided:

- Relocation is not into a Federal Navigation Project or within a distance of three times the authorized depth of a Federal Navigation Project (other than a Federal Anchorage).
- No interference with navigation.
- Not relocated in or within 25 feet of SAV.
- Seasonal floats are stored above the MHHM and not on wetland (incl. salt marsh).

New private, non-commercial ramp and float structures attached to land (no piers) or new floats provided:

- Not located in or within a distance of three times the authorized depth of a Federal Navigation Project.
- No interference with navigation.
- No structure extends across >25% of the waterway width at mean low water.
- Not located in or within 25 feet of SAV.
- Ramp is <150 LF over salt marsh waterward of the MHHM and is $\geq 1:1$ height:width ratio over salt marsh.

New structures, floats, and/or lifts including floatways/skidways, built to access waterway (both seasonal and permanent). Includes pile-supported, solid fill-supported, and crib-supported structures. Also includes expansions to existing authorized boating facilities (e.g. marinas).
Provided:

- <1 acre temporary or permanent impacts, fill, excavation, and/or secondary impacts.
- Temporary and/or permanent fill or excavation in SAV <1,000 SF
- Permanent fill or excavation in other SAS <4,300 SF

*See GC 25 for pile driving and pile removal conditions.

Compliance with the following is recommended:

- *Lowest part of floats are ≥ 18 inches above the substrate during all tides.*
- *Structures are $\geq 1:1$ height:width ratio over salt marsh.*
- *Structures and floats are not located in or within 25 feet of SAV.*
- *Moored vessels are not positioned over SAV.*
- *Structures attached to land are located ≥ 25 feet from the property line (The Corps may require a letter of no objection from the abutter if located within 25 feet of the property line.)*

SELF-VERIFICATION (SV)

PRE-CONSTRUCTION NOTIFICATION (PCN)

<p>Cont'd from page 29</p>	<ul style="list-style-type: none"> Ramp and floats attached to land are located ≥ 25 feet from the property line. Seasonal ramp and floats are stored above the HTL and not on wetland (incl. salt marsh). <p>Compliance with the following is recommended:</p> <ul style="list-style-type: none"> Lowermost part of floats is ≥ 18 inches above the substrate during all tides. 	<ul style="list-style-type: none"> No structure extends across $> 25\%$ of the waterway width at mean low water. Not located within a distance of three times the authorized depth of a Corps Federal Navigation Project. <p>An IP is required for structures, floats, and/or lifts including floatways/skidways, located in such that they and/or vessels docked or moored at them are within the horizontal limits of a Corps Federal Navigation Project. An IP is also required for structures and floats associated with a new or previously unauthorized boating facility (e.g. marinas).</p>
<p>4. Aids to Navigation and Temporary Recreational Structures</p>	<p>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). *These SV Aids do not require a SVNPF.</p> <p>Temporary buoys, markers, floats, etc. for recreational use during specific events, provided:</p> <ul style="list-style-type: none"> They are removed within 30 days after the specific event has concluded. No interference with navigation. No impact to SAV. 	<p>Aids and temporary structures not eligible for SV.</p>
<p>5. Dredging, Disposal of Dredged Material, Beach Nourishment, and Rock Removal and Relocation</p>	<p>Maintenance dredging of $< 1,000$ CY for navigational purposes with upland disposal including return water from upland contained disposal area, provided:</p> <ul style="list-style-type: none"> Proper siltation controls are used. No expansion of footprint. No dredging in or within a distance of three times the authorized depth of a Federal Navigation Project. Dredging operation is limited to Nov. 8th to Apr. 9th (it is recommended that in areas populated by winter flounder, dredging should cease by March 15th). No impacts to SAS (incl. SAV), impacts to natural rocky habitat ≤ 100 SF, and impacts to intertidal area $\leq 1,000$ SF. No dredging within 25 feet of SAV. No dredging in or within 100 feet of shellfish areas. No blasting. No dredging in designated or proposed critical habitat for endangered species. 	<p>Maintenance dredging not eligible for SV and new dredging $< 25,000$ CY Includes return water from upland contained disposal areas. Disposal includes:</p> <ul style="list-style-type: none"> Upland. Beach nourishment (above MHW line) 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. <p>Beach nourishment associated with dredging when the primary purpose is not navigation requires at least a PCN.</p> <p>Temporary and/or permanent fill or excavation in SAV $< 1,000$ SF and Permanent fill or excavation in other SAS $< 4,300$ SF</p>

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<p>6. U.S. Coast Guard Approved Bridges and Causeways</p>	<p>Discharges of dredged or fill material associated with U.S. Coast Guard Approved Bridges and Causeways, provided:</p> <ul style="list-style-type: none"> • In-water work is conducted “in-the-dry” (see GC 24). • Discharge of dredged or fill material <15,000 SF • No impacts to SAS (incl. SAV), impacts to natural rocky habitat ≤100 SF, and impacts to intertidal area ≤1,000 SF <p>Compliance with the following is recommended:</p> <ul style="list-style-type: none"> • <i>Discharge of dredged or fill material should not occur within 100 feet of SAV or within 25 feet of natural rocky habitat or other SAS.</i> <p><i>Note: new causeways and approach fills are not eligible for SV.</i></p>	<p>Discharges of dredged or fill material associated with U.S. Coast Guard Approved Bridges and Causeways not eligible for SV, provided:</p> <ul style="list-style-type: none"> • <1 acre temporary or permanent impacts, fill, excavation, and/or secondary impacts. • Temporary and/or permanent fill or excavation in SAV <1,000 SF • Permanent fill or excavation in other SAS <4,300 SF
<p>7. Bank and Shoreline Stabilization Including Living Shorelines (see also GC 28)</p>	<p>Bank and shoreline stabilization activities, provided:</p> <ul style="list-style-type: none"> • In-water work is conducted “in-the-dry” (see GC 24). • Fill is ≤500 LF in total length as measured below the plane of the HTL and is ≤200 LF in total length as measured below the plane of the MHHW or OHWM (includes total for more than one bank). Replacement vertical structures are ≤200 LF in total length as measured below the plane of the MHHW or OHWM and are ≤18 inches waterward of existing face. • Fill placed below HTL is ≤1 CY per linear foot. • Stone revetment is comprised of angular material. • No fills angled steeper than 1H:1V. • No impacts to SAS (incl. SAV), impacts to natural rocky habitat ≤100 SF, and impacts to intertidal or shellfish areas ≤1,000 SF • No new groins, breakwaters, or jetties. 	<p>Bank and shoreline stabilization activities not eligible for SV, provided:</p> <ul style="list-style-type: none"> • <1 acre temporary or permanent impacts, fill, excavation, and/or secondary impacts, provided: • Temporary and/or permanent fill or excavation in SAV <1,000 SF • Permanent fill or excavation in other SAS <4,300 SF
<p>8. Residential, Commercial and Institutional Developments, and Recreational Facilities</p>	<p>Not Eligible</p>	<p>Residential, commercial and institutional developments and recreational facilities, provided:</p> <ul style="list-style-type: none"> • <1 acre temporary or permanent impacts, fill, excavation, and/or secondary impacts, provided: • Temporary and/or permanent fill or excavation in SAV <1,000 SF • Permanent fill or excavation in other SAS <4,300 SF <p>Conversions of previously authorized pile-supported buildings over navigable waters to residences, offices, or other non-water dependent uses require PCN. Floating house boats or businesses on floats require PCN.</p>

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<p>9. Utility Line Activities (see also GC 30)</p>	<p>Repair, replacement, or maintenance of previously authorized, currently serviceable utilities with no expansion or change in use, provided:</p> <ul style="list-style-type: none"> • Conditions of the original authorization apply. • In-water work limited to Nov. 8th to Apr. 9th. • Trenching or filling confined to existing footprint and <100 LF; trenches shall be backfilled immediately. • Jet-plow, fluidization, or other direct burial methods confined to existing footprint and <200 LF • No impacts to SAS (incl. SAV), impacts to natural rocky habitat ≤100 SF, and impacts to intertidal or shellfish areas ≤1,000 SF • No work in designated or proposed critical habitat for endangered species. <p>New work in, over, or under navigable waters including new outfalls and any intake structure work requires PCN.</p> <p>Aerial utility lines over navigable waters requires PCN.</p>	<p>Those utility activities not eligible for SV, provided:</p> <ul style="list-style-type: none"> • <1 acre temporary or permanent impacts, fill, excavation, and/or secondary impacts. • Temporary and/or permanent fill or excavation in SAV <1,000 SF • Permanent fill or excavation in other SAS <4,300 SF
<p>10. Linear Transportation Projects (for stream crossings refer to GPs 6 and 22)</p>	<p>Not Eligible</p>	<p>Linear transportation projects, provided:</p> <ul style="list-style-type: none"> • <1 acre temporary or permanent impacts, fill, excavation, and/or secondary impacts. • Temporary and/or permanent fill or excavation in SAV <1,000 SF • Permanent fill or excavation in other SAS <4,300 SF
<p>11. Mining Activities</p>	<p>Not Eligible</p>	<p>Not Eligible</p>
<p>12. Boat Ramps and Marine Railways</p>	<p>No new boat ramps or marine railways.</p> <p>In-water work is conducted “in-the-dry” (see GC 24).</p> <p>No impacts to SAS (incl. SAV), impacts to natural rocky habitat ≤100 SF, and impacts to intertidal or shellfish areas ≤1,000 SF</p> <p>Boat ramp and marine railway work not eligible for maintenance (i.e. not currently serviceable) may be replaced “in-kind” with minor deviations provided:</p> <ul style="list-style-type: none"> • Work is confined to the intertidal zone. • No impacts to SAS (incl. SAV), impacts to natural rocky habitat ≤100 SF, and impacts to intertidal or shellfish areas ≤1,000 SF 	<p>Those ramps and railways not eligible for SV, provided:</p> <ul style="list-style-type: none"> • <1 acre temporary or permanent impacts, fill, excavation, and/or secondary impacts, provided: • Temporary and/or permanent fill or excavation in SAV <1,000 SF • Permanent fill or excavation in other SAS <4,300 SF

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<p>13. Land and Water-Based Renewable Energy Generation Facilities and Hydropower Projects</p>	<p>Not Eligible</p>	<p>Work associated with those facilities and projects, provided:</p> <ul style="list-style-type: none"> • <1 acre temporary or permanent impacts, fill, excavation, and/or secondary impacts. • Temporary and/or permanent fill or excavation in SAV <1,000 SF • Permanent fill or excavation in other SAS <4,300 SF <p>For each single and complete project, no more than 10 generation units (e.g., wind turbines or hydrokinetic devices) may be authorized.</p> <p>No new impoundments.</p>
<p>14. Reshaping Existing Ditches and Mosquito Management</p>	<p>≤500 LF 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 shall be the same as originally constructed and it cannot drain additional wetlands or other waters of the U.S.).</p> <p>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 shall be approximately the same as the location of the centerline of the original drainage ditch.</p> <p>No impacts to SAS (incl. SAV), impacts to natural rocky habitat ≤100 SF, and impacts to intertidal or shellfish areas ≤1,000 SF</p>	<p>Those activities not eligible for SV, provided:</p> <ul style="list-style-type: none"> • <1 acre temporary or permanent impacts, fill, excavation, and/or secondary impacts. • Temporary and/or permanent fill or excavation in SAV <1,000 SF • Permanent fill or excavation in other SAS <4,300 SF
<p>15. Response Operations for Oil or Hazardous Substances</p>	<p>The SVNf or a surrogate state reporting form may be submitted after-the-fact for spill response activities.</p> <p>This GP also authorizes the use of temporary structures and fills in waters of the U.S. for spill response training exercises (<i>SVNF is required prior to the activity</i>), provided:</p> <ul style="list-style-type: none"> • No impacts to SAS (incl. SAV), impacts to natural rocky habitat ≤100 SF, impacts to intertidal or shellfish areas ≤1,000 SF, and impacts to tidal resources <0.5 acre 	<p>Those response operations not eligible for SV, provided:</p> <ul style="list-style-type: none"> • <1 acre temporary or permanent impacts, fill, excavation, and/or secondary impacts. • Temporary and/or permanent fill or excavation in SAV <1,000 SF • Permanent fill or excavation in other SAS <4,300 SF
<p>16. Cleanup of Hazardous and Toxic Waste</p>	<p>Only booms placed for hazardous and toxic waste containment and absorption and prevention are eligible for SV. A <i>SVNF is not required for these eligible containment booms.</i></p>	<p>Cleanup activities not eligible for SV, provided:</p> <ul style="list-style-type: none"> • <1 acre temporary or permanent impacts, fill, excavation, and/or secondary impacts. • Temporary and/or permanent fill or excavation in SAV <1,000 SF • Permanent fill or excavation in other SAS <4,300 SF <p>An IP is required for the establishment of new disposal sites or expanding existing sites used for the disposal of hazardous or toxic waste.</p>

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<p>17. Scientific Measurements Devices</p>	<p>Those scientific measurements devices, provided:</p> <ul style="list-style-type: none"> • Devices do not restrict or concentrate movement of aquatic organisms. • No interference with navigation. • No blasting. • No biological sampling devices. • No impacts to SAS (incl. SAV), impacts to natural rocky habitat ≤100 SF, impacts to intertidal areas ≤1,000 SF, and impacts to tidal resources ≤0.5 acre • Upon completion of use, the devices and any associated structures or fills are removed in their entirety. 	<p>Those scientific measurements devices not eligible for SV, provided:</p> <ul style="list-style-type: none"> • <1 acre temporary or permanent impacts, fill, excavation, and/or secondary impacts. • Temporary and/or permanent fill or excavation in SAV <1,000 SF • Permanent fill or excavation in other SAS <4,300 SF
<p>18. Survey Activities</p>	<p>Those survey activities, provided:</p> <ul style="list-style-type: none"> • No blasting. • No interference with navigation. • No seismic exploratory operations. • No oil and gas exploration. • No trenching or other silt-producing activities. • No fill for roads or construction pads. • No impacts to SAS (incl. SAV), impacts to natural rocky habitat ≤100 SF, impacts to intertidal areas ≤1,000 SF, and impacts to tidal resources <0.5 acre • No blasting. • No biological sampling devices. <p><i>A SVNF is not required for required sediment sampling for Corps-regulated dredge proposals.</i></p>	<p>Those survey activities not eligible for SV, provided:</p> <ul style="list-style-type: none"> • <1 acre temporary or permanent impacts, fill, excavation, and/or secondary impacts. • Temporary and/or permanent fill or excavation in SAV <1,000 SF • Permanent fill or excavation in other SAS <4,300 SF
<p>19. Agricultural Activities</p> <p>20. Fish and Wildlife Harvesting, Enhancement and Attraction Devices and Activities <i>(for aquaculture refer to GP 23)</i></p>	<p>Not Eligible</p> <p>Those devices and activities, provided:</p> <ul style="list-style-type: none"> • No impacts to SAS (incl. SAV), impacts to natural rocky habitat ≤100 SF, impacts to intertidal areas ≤1,000 SF, and impacts to tidal resources ≤0.5 acre • No interference with navigation. • No artificial reefs or enclosures • No impoundments or semi-impoundments for the culture or holding of motile species such as lobster, or the use of covered oyster trays or clam racks. • Structures and shell hash should not be located within 25 feet of SAV. • All gear, except for mooring tackle, when not in use on the site is stored in an upland location above the MHWMM and not on wetland (incl. salt marsh). <p><i>A SVNF is not required for these eligible devices and activities.</i></p>	<p>Not Eligible</p> <p>Those devices and activities not eligible for SV, provided:</p> <ul style="list-style-type: none"> • <1 acre temporary or permanent impacts, fill, excavation, and/or secondary impacts. • Temporary and/or permanent fill or excavation in SAV <1,000 SF • Permanent fill or excavation in other SAS <4,300 SF <p>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 <0.5 acre</p>

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<p>21. Habitat Restoration, Establishment, and Enhancement</p>	<p>Those activities, provided:</p> <ul style="list-style-type: none"> No impacts to SAS (incl. SAV), impacts to natural rocky habitat ≤100 SF, impacts to intertidal areas ≤1,000 SF, and impacts to tidal resources <0.5 acre No thin layer deposition for salt marsh restoration. SAS planting and transplanting is <100 SF No artificial or living reefs. The activity is authorized in writing by a local, state, or non-Corps federal environmental agency. Water impoundments require PCN. No conversion of i) a stream to wetland or vice versa, wetland to a pond or uplands, and ii) one wetland type to another. No dam removal. 	<p>Those activities not eligible for SV provided those activities are proactive and result in net increases in aquatic resource functions and services.</p>
<p>22. Stream and Wetland Work and Crossings (see also GC 29) (see GP 6 for bridges & causeways)</p>	<p>Not Eligible</p>	<p>Those crossings of tidal navigable water not including bridges and causeways, provided:</p> <ul style="list-style-type: none"> <1 acre temporary or permanent impacts, fill, excavation, and/or secondary impacts. Temporary and/or permanent fill or excavation in SAV <1,000 SF Permanent fill or excavation in other SAS <4,300 SF
<p>23. Aquaculture* (see also GC 32)</p>	<p>Shellfish and marine algae installations that do not exceed 400 SF in area, provided:</p> <ul style="list-style-type: none"> Signed approval from Harbormaster or appropriate Town Official. No enclosures or impoundments. Not located in or within a distance of three times the authorized depth of a Federal Navigation Project. Not located in or impinge upon the value of any National Lands or Federal Properties. No impacts to SAS (incl. SAV), impacts to natural rocky habitat ≤100 SF, and impacts to intertidal and shellfish areas ≤1,000 SF No structures, cages, gear, or shell hash located in/within 25 feet of SAV. All gear, except for mooring tackle, when not in use on the site is stored in an upland location above the MHWM and not on wetland (incl. salt marsh). 	<p>Shellfish, finfish, and marine algae 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.</p> <p>*State of Maine Aquaculture guidelines are provided at: www.maine.gov/dmr/aquaculture/index.html</p>



Section VI: Self-Verification Notification Form
(for all tidal and non-tidal projects in Maine subject to Corps jurisdiction)

**US Army Corps
of Engineers**®
New England District

At least two weeks before work commences, complete all fields (write “none” if applicable) below or use the fillable form found at www.nae.usace.army.mil/Missions/Regulatory/State-General-Permits/Maine-General-Permit/ The two-week lead time is not required for emergency situations. **Send this form, an Official Species List, and project plans to the following email address: cenae-r-me@usace.army.mil**

Maine Project Office
U.S. Army Corps of Engineers
442 Civic Center Drive, Suite 350
Augusta, Maine 04330

State Permit #: _____
Date of State Permit: _____
State Project Manager: _____

Permittee: _____
Address, City, State, Zip: _____
Email, Phone: _____

Agent: _____
Address, City, State, Zip: _____
Email, Phone: _____

Contractor: _____
Address, City, State, Zip: _____
Email, Phone: _____

Project Name: _____
Address, City, State, Zip: _____
Lat °N, Long °W: _____ Tax Map/Lot: _____
Waterway Name: _____
Description of Work: _____

Proposed Starting Date: _____ Proposed Finish Date: _____

Area of wetland impact (SF): Permanent: _____ Temporary: _____
Area of waterway impact (SF): Permanent: _____ Temporary: _____

Work will be done under the following Section V General Permits (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
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

Have MHPC and all five federally-recognized tribes in Maine been notified of the proposed work? _____ Yes _____ No

Your signature below, as permittee, indicates that you accept and agree to comply with the terms, eligibility criteria, and general conditions for Self-Verification under the Maine General Permit.

Permittee Signature: _____ Date: _____



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New England District

Section VII: Content of a 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:

- DIGITAL SUBMISSIONS ARE ENCOURAGED (email PCN to cenae-r-me@usace.army.mil)
- Completed Corps application form (ENG Form 4345 attached below or found electronically at www.usace.army.mil/Missions/Civil-Works/Regulatory-Program-and-Permits/Obtain-a-Permit) or appropriate state application form. Forms may need to be supplemented to include the information noted below.
- Proof of notification to MHPC and all five federally-recognized tribes (see Section VIII for contact info).
- Official Species List for any federally-listed endangered or threatened species and email address of the person who generated the list.
- 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 8.5"x11", with bar scale (plans overlaid on aerial photos are discouraged). Wetland area impact sheets shall 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.
- 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.
 - Document on project plans wetlands, other special aquatic sites (SAS) including vegetated shallows (or submerged aquatic vegetation, SAV) and mudflats, natural rocky habitat, shellfish areas, vernal pools, and other waters, such as lakes and ponds, and perennial, and intermittent streams on the project site (GC1).
 - MLW line, MHW mark, and HTL elevations in tidal waters. Show OHWM elevation in lakes and non-tidal streams.
 - Existing and proposed conditions.**
- 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 OHWM in inland waters and below the HTL in coastal waters.
- If applicable, a restoration plan showing how all temporary fills and structures will be removed and the area restored to pre-project conditions (see GC 21).

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 and projects in towns bordering coastal waters shall be in U.S. survey feet and referenced to MLLW and include current tidal epoch, with a reference chart showing conversion factor to the North American Vertical Datum of 1988. 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 shown on plan and elevation views and shall be in the North American Datum of 1983 (NAD83) State Plane Coordinate System in U.S. survey feet.
- 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;
- Alternatives analysis;
- Wetland delineation data sheets;
- 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 (see GC 17).
- Identification of potential discharges of pollutants to waters, including potential impacts to impaired waters, in the project area.
- Invasive Species Control Plan (see GC 22). For sample control plans, see www.nae.usace.army.mil/Missions/Regulatory/Invasive-Species
- Wildlife Action Plan (WAP) maps. Contact the Maine Department of Inland Fisheries & Wildlife (Section VIII) or online at 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 must 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 tidal crossing projects that may be required:

- A graphic longitudinal elevation profile plot of the tidal stream channel thalweg, both up and downstream of the proposed project site. Thalweg elevations shall extend from the crossing to beyond the zone of scour, channel widening, or other channel alteration resulting from the present or pre-existing crossings. The profile plot should include labeled elevations for the:
 - crossing invert and top of the inlet and outlet
 - roadbed crown
 - lowest and highest recorded tides at the site
 - reference datums, such as MLLW, MHHW, and astronomical high tide
 - hydraulic controls and nearest crossings that could influence or be influenced by the proposed crossing
- A graphic plot of continuous tidal water levels recorded up and downstream, simultaneously, of the proposed crossing for an entire lunar cycle. The water level plot should include labeled elevations for the:
 - crossing invert and crossing top at the inlet and outlet
 - roadbed crown
 - reference datums, such as MLLW, MHHW, and astronomical high tide
- A map showing projected extents of maximum flooding within the area influenced by the crossing under current conditions and as a result of sea level rise. The present minimum sea level rise scenario suggested for planning purposes by the Maine Climate Council Scientific and Technical Subcommittee is the Intermediate Scenario, which projects an increase of 3.0-4.6 feet by 2100.

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 should also include:
 - Results of coordination with Harbor Master and U.S. Coast Guard
 - Whether canopy predator nets are being used.

U.S. Army Corps of Engineers (USACE)
APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT
 33 CFR 325. The proponent agency is CECW-CO-R.

Form Approved -
OMB No. 0710-0003
Expires: 02-28-2022

The public reporting burden for this collection of information, OMB Control Number 0710-0003, is estimated to average 11 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or burden reduction suggestions to the Department of Defense, Washington Headquarters Services, at whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. PLEASE DO NOT RETURN YOUR APPLICATION TO THE ABOVE EMAIL.

PRIVACY ACT STATEMENT

Authorities: Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Programs of the Corps of Engineers; Final Rule 33 CFR 320-332. Principal Purpose: Information provided on this form will be used in evaluating the application for a permit. Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public and may be made available as part of a public notice as required by Federal law. Submission of requested information is voluntary, however, if information is not provided the permit application cannot be evaluated nor can a permit be issued. One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (see sample drawings and/or instructions) and be submitted to the District Engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned. System of Record Notice (SORN). The information received is entered into our permit tracking database and a SORN has been completed (SORN #A1145b) and may be accessed at the following website: <http://dpcl.d.defense.gov/Privacy/SORNsIndex/DOD-wide-SORN-Article-View/Article/570115/a1145b-ce.aspx>

(ITEMS 1 THRU 4 TO BE FILLED BY THE CORPS)

1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE APPLICATION COMPLETE
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(ITEMS BELOW TO BE FILLED BY APPLICANT)

5. APPLICANT'S NAME First - Middle - Last - Company - E-mail Address -	8. AUTHORIZED AGENT'S NAME AND TITLE (agent is not required) First - Middle - Last - Company - E-mail Address -
6. APPLICANT'S ADDRESS: Address- City - State - Zip - Country -	9. AGENT'S ADDRESS: Address- City - State - Zip - Country -
7. APPLICANT'S PHONE NOs. w/AREA CODE a. Residence b. Business c. Fax	10. AGENTS PHONE NOs. w/AREA CODE a. Residence b. Business c. Fax

STATEMENT OF AUTHORIZATION

11. I hereby authorize, _____ to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application.

 SIGNATURE OF APPLICANT DATE

NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY

12. PROJECT NAME OR TITLE (see instructions)	
13. NAME OF WATERBODY, IF KNOWN (if applicable)	14. PROJECT STREET ADDRESS (if applicable) Address City - State- Zip-
15. LOCATION OF PROJECT Latitude: N Longitude: W	
16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (see instructions) State Tax Parcel ID Municipality Section - Township - Range -	

17. DIRECTIONS TO THE SITE

18. Nature of Activity (Description of project, include all features)

19. Project Purpose (Describe the reason or purpose of the project, see instructions)

USE BLOCKS 20-23 IF DREDGED AND/OR FILL MATERIAL IS TO BE DISCHARGED

20. Reason(s) for Discharge

21. Type(s) of Material Being Discharged and the Amount of Each Type in Cubic Yards:

Type Amount in Cubic Yards	Type Amount in Cubic Yards	Type Amount in Cubic Yards
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22. Surface Area in Acres of Wetlands or Other Waters Filled (see instructions)

Acres
or
Linear Feet

23. Description of Avoidance, Minimization, and Compensation (see instructions)

24. Is Any Portion of the Work Already Complete? Yes No IF YES, DESCRIBE THE COMPLETED WORK

25. Addresses of Adjoining Property Owners, Lessees, Etc., Whose Property Adjoins the Waterbody (if more than can be entered here, please attach a supplemental list).

a. Address-

City - State - Zip -

b. Address-

City - State - Zip -

c. Address-

City - State - Zip -

d. Address-

City - State - Zip -

e. Address-

City - State - Zip -

26. List of Other Certificates or Approvals/Denials received from other Federal, State, or Local Agencies for Work Described in This Application.

AGENCY	TYPE APPROVAL*	IDENTIFICATION NUMBER	DATE APPLIED	DATE APPROVED	DATE DENIED
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

* Would include but is not restricted to zoning, building, and flood plain permits

27. Application is hereby made for permit or permits to authorize the work described in this application. I certify that this information in this application is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.

SIGNATURE OF APPLICANT

DATE

SIGNATURE OF AGENT

DATE

The Application must be signed by the person who desires to undertake the proposed activity (applicant) or it may be signed by a duly authorized agent if the statement in block 11 has been filled out and signed.

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than \$10,000 or imprisoned not more than five years or both.

Section VIII: Agency Contacts

1. Federal

U.S. Army Corps of Engineers
Maine Project Office
442 Civic Center Drive, Suite 350
Augusta, Maine 04330
(207) 623-8367; (207) 623-8206 (fax)
Email: cenae-r-me@usace.army.mil

U.S. Environmental Protection Agency
5 Post Office Square
Suite 100 (OEP05-2)
Boston, Massachusetts 02109-3912
(617) 918-1589

U.S. Fish and Wildlife Service
Maine Field Office
P.O. Box A
East Orland, Maine 04431
(207) 469-7300; (207) 902-1588 (fax)
(Federal endangered species)

National Marine Fisheries Service
Maine Field Office
17 Godfrey Drive, Suite 1
Orono, Maine 04473
(207) 866-7379; (207) 866-7342 (fax)
(Federal endangered species)

FEMA Region 1
Federal Insurance and Mitigation Division
99 High Street 6th Floor
Boston, Massachusetts 02110
(floodplains)

2. State of Maine

a. Department of Environmental Protection *(State permits & Water Quality Certifications)*

Augusta Regional Office
17 State House Station
Augusta, Maine 04333
(207) 287-7688

Southern Maine Regional Office
312 Canco Road
Portland, Maine 04103
(201) 822-6300

Federal Emergency Management Agency
99 High Street
Boston, Massachusetts 02110
(877) 336-2734
(Floodplain Management)

National Marine Fisheries Service
55 Great Republic Drive
Gloucester, Massachusetts 01930
(978) 281-9102; (978) 281-9301 (fax)
(Federal endangered species & EFH)

National Park Service
North Atlantic Region
15 State Street
Boston, Massachusetts 02109
(617) 223-5203
(Wild and Scenic Rivers)

Commander (dpb)
First Coast Guard District
One South Street - Battery Building
New York, New York 10004-1466
(212) 668-7021; (212) 668-7967 (fax)
(bridge permits)

Eastern Maine Regional Office
106 Hogan Road
Bangor, Maine 04401
(207) 941-4570

Northern Maine Regional Office
1235 Central Drive
Presque Isle, Maine 04769
(207) 764-0477

b. Department of Agriculture, Conservation and Forestry

i. Maine Land Use Planning Commission (LUPC) (*State permits & Water Quality Certifications for the unorganized areas of the State*)

Augusta Office
22 State House Station
Augusta, Maine 04333-0022
(207) 287-2631; (207) 287-7439 (fax)

Downeast Regional Office
106 Hogan Road, Suite 8
Bangor, Maine 04401
(207) 215-4685; (207) 941-4222 (fax)

Greenville Regional Office
43 Lakeview Drive
P.O. Box 1107
Greenville, Maine 04441
(207) 695-2466; (207) 695-2380 (fax)

Ashland Regional Office
45 Radar Road
Ashland, Maine 04732-3600
(207) 435-7963; (207) 435-7184 (fax)

Western Region Office
932 U.S. Route 2
East Wilton, Maine 04992
(207) 670-7492; (207) 287-7439 (fax)

Eastern Region Office
191 Main Street
East Millinocket, Maine 04430
(207) 399-2176; (207) 746-2243 (fax)

ii. Maine Coastal Program

21 State House Station
Augusta, Maine 04333
(207) 707-2324; (207) 624-6024 (fax)
(*CZM consistency determinations*)

iii. Division of Parks and Public Lands

22 State House Station
Augusta, Maine 04333
(207) 287-3061; (207) 287-6170 (fax)
(*submerged lands leases*)

iv. Maine Floodplain Management Program

17 Elkins Lane
Augusta, Maine 04333
(207) 287-8063
(*floodplains*)

c. Department of Marine Resources

21 State House Station
Augusta, Maine 04333
(207) 633-9500; (207) 624-6024 (fax)
(*aquaculture leases/licenses*)

3. Historic Properties

a. State Historic Preservation Officer (SHPO)

Kirk F. Mohny, Director
Maine Historic Preservation Commission
65 State House Station
Augusta, Maine 04333-0065
(207) 287-2132; (207) 287-2335 (fax)

b. Tribal Historic Preservation Officers (THPOs)

Houlton Band of Maliseet Indians
88 Bell Road
Littleton, Maine 04730
(207) 532-4273, x215; (207) 532-6883 (fax)
istjohn@maliseets.com

Passamaquoddy Tribe of Indians
Pleasant Point Reservation
P.O. Box 343
Perry, Maine 04667
(207) 853-2600; (207) 853-6039 (fax)
soctomah@gmail.com

Passamaquoddy Tribe of Indians
Indian Township Reservation
P.O. Box 301
Princeton, Maine 04668
(207) 796-2301; (207) 796-5256 (fax)
soctomah@gmail.com

Aroostook Band of Micmacs
7 Northern Road
Presque Isle, Maine 04769
(207) 764-1972; (207) 764-7667 (fax)
jdennis@micmac-nsn.gov

Penobscot Nation
Cultural and Historic Preservation Dept.
12 Wabanaki Way
Indian Island, Maine 04468
(207) 817-7471
chris.sockalexis@penobscotnation.org

Section IX: Definitions

Action Area: 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].”

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)). Prospective permittees are strongly advised to contact the Corps for a determination of whether their activity is exempt or requires a permit.

Attendant Features: Occurring with or as a result of; accompanying.

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 January 6, 2017 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 shall be planted at the site.

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.

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 mark 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.

Brushing: 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.”

Currently Serviceable: Useable as-is or with some maintenance, but not so degraded as to essential require reconstruction.

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.

Fill area: Fill area includes all temporary and permanent fill (including mats), and regulated discharges associated with excavation.

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.

Habitat Connectivity Design: projects designed and constructed for consistency with natural stream dimensions, profiles, and dynamics, in accordance with the following technical references: U.S. Forest Service guide (Forest Service Stream-Simulation Working Group 2008), augmented by documents published by the states of Washington (Barnard et al. 2013), Vermont (Bates and Kirn 2009) and California (Love and Bates 2009).

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.

Living Shoreline: Living shorelines stabilize banks and shores in coastal waters along shores with small fetch and gentle slopes that are subject to low-to mid-energy waves. A living shoreline has a footprint that is made up mostly of native material. It incorporates vegetation or other living, natural “soft” elements alone or in combination with some type of harder shoreline structure (e.g., oyster or mussel reefs or rock sills) for added protection and stability. Living shorelines shall maintain the natural continuity of the land-water interface, and retain or enhance shoreline ecological processes. Living shorelines must have a substantial biological component, either tidal or lacustrine fringe wetlands or oyster or mussel reef structures.

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 SV 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 SV or PCN thresholds in Section V.

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 PCN.

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.”

The following definition is also 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 environmental effects resulting from such repair, rehabilitation, or replacement are minimal.

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.

Natural Rocky Habitats: Natural rocky habitats are intertidal and subtidal substrates composed of pebble-gravel, cobble, boulder, or rock ledge and outcrops. Manufactured stone (e.g. cut or engineered rip-rap) is not considered a natural rocky habitat. Natural rocky habitats are either found as pavement (consolidated pebble-gravel, cobble, or boulder areas) or as a mixture with fines (i.e. clay and sand) and other substrates.

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.

Pre-construction notification (PCN): A request submitted by a prospective permittee 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.

Re-establishment: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/ historic functions to a former aquatic resource. Re-establishment results in rebuilding a former aquatic resource and results in again in aquatic resource area and functions.

Rehabilitation: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/historic functions to a degraded aquatic resource. Rehabilitation results in a gain in aquatic resource function, but does not result in a gain in aquatic resource area. Restoration: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: re-establishment and rehabilitation.

Restoration: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: re-establishment and rehabilitation.

Riffle and pool complexes: Riffle and pool complexes are special aquatic sites under the 404(b)(1) Guidelines. Riffle and pool complexes sometimes characterize steep gradient sections of streams. Such stream sections are recognizable by their hydraulic characteristics. The rapid movement of water over a coarse substrate in riffles results in a rough flow, a turbulent surface, and high dissolved oxygen levels in the water. Pools are deeper areas associated with riffles. A slower stream velocity, a streaming flow, a smooth surface, and a finer substrate characterize pools.

Secondary effects: See “Direct, secondary, and cumulative effects.”

Shellfish Areas: Areas that currently support molluscan shellfish. Information regarding these locations can be obtained from the State of Maine GeoLibrary Data Catalog at: www.maine.gov/geolib/catalog.html

Shellfish seeding: The placement of shellfish seed and/or suitable substrate to increase shellfish production. Shellfish seed consists of immature individual shellfish or individual shellfish attached to shells or shell fragments (i.e., spat on shell). Suitable substrate may consist of shellfish shells, shell fragments, or other appropriate materials placed into waters for shellfish habitat.

Single and complete linear project: A linear project is a project constructed for the purpose of getting people, goods, or services from a point of origin to a terminal point, which often involves multiple crossings of one or more waterbodies at separate and distant locations. The term “single and complete project” is defined as that portion of the total linear project proposed or accomplished by one owner/developer or partnership or other association of owners/developers that includes all crossings of a single water of the 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 shall have independent utility (see definition).

Special aquatic sites (SAS): These are defined at 40 CFR 230 Subpart E. They include sanctuaries and refuges, wetlands, mud flats, vegetated shallows (submerged aquatic vegetation, SAV), coral reefs, and riffle and pool complexes.

Stream: The term “stream” in the document means rivers, streams, brooks, etc.

Stream bed: The substrate of the stream channel between the ordinary high water marks. The substrate may be bedrock or inorganic particles that range in size from clay to boulders. Wetlands contiguous to the stream bed, but outside of the ordinary high water marks, are not considered part of the stream bed.

Stream 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.

Stream Simulation: A method for designing and building road-stream crossings intended to permit free and unrestricted movements of any aquatic species. Reference: <https://www.nae.usace.army.mil/Missions/Regulatory/Stream-and-River-Continuity/>

Stream Smart Design: projects designed to allow the stream to act like a stream by passing fish and wildlife as well as the higher flows that come with large infrequent storms while protecting the stability of the road and public safety. Stream Smart Design follows the “Four S’s”: The culvert must SPAN the stream, allowing for passage of aquatic and terrestrial wildlife. The culvert has to be SET at the right elevation. The SLOPE of the culvert must match the stream. There must be SUBSTRATE (natural sediment) in the crossing. Reference: www1.maine.gov/mdot/publications/docs/brochures/pocket_guide_stream_smart_web.pdf

Temporary impacts: Temporary impacts include waters of the U.S. that are temporarily filled, flooded, excavated, drained or mechanically cleared because of the regulated activity.

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).

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/Submerged Aquatic Vegetation (SAV): Permanently inundated areas that under normal circumstances support communities of rooted aquatic vegetation, such as eelgrass in marine systems as well as a number of freshwater species in rivers and lakes. Note: Eelgrass surveys should be conducted between May and October unless otherwise directed.

Vernal pools (VPs): The State of Maine, Department of Environmental Protection has specific protections for VPs. For the purposes of these GPs, 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). In most years, VPs support one or more of the following obligate indicator species: wood frogs (*Rana sylvatica*), spotted salamanders (*Ambystoma maculatum*), blue-spotted salamanders (*Ambystoma laterale*), and fairy shrimp (*Eubranchipus* sp.). However, they should preclude sustainable populations of predatory fish.

Water dependency: activity requiring access or proximity to or siting within a special aquatic site (SAS) to fulfill its basic project purpose.

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 United States (U.S.)

Waters of the 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 shall not be taken as an indication that the waterbody is not navigable: In Maine, navigable waters are those waters that are subject to the ebb and flow of the tide in addition to the non-tidal portions of the following federally-designated waters in Maine (the Kennebec River to Moosehead Lake, the Penobscot River to the confluence of the East and West Branch at Medway and, Lake Umbagog within the State of Maine).

Non-tidal wetland: A non-tidal wetland is a wetland that is not subject to the ebb and flow of tidal waters. Non-tidal wetlands contiguous to tidal waters are located landward of the high tide line (i.e., spring high tide line).

Tidal wetland: A tidal wetland is a jurisdictional wetland that is inundated by tidal waters. Tidal waters rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the water surface can no longer be practically measured in a predictable rhythm due to masking by other waters, wind, or other effects. Tidal wetlands are located channelward of the high tideline.