

CONTRACT DOCUMENTS

FOR

TRAP DOCK RECONSTRUCTION
CHATHAM, MA



Owner:
Town of Chatham
59 Main Street
Chatham, MA 02633

Design Engineers
GEI Consultants Inc.
124 Grove Street, Suite 300
Franklin, MA 02038
(774) 277 6001

RW Sullivan
529 Main Street
Boston MA
(617) 523 8227



R. J. Titmuss
10/2/19

TOWN OF CHATHAM, MA
TRAP DOCK RECONSTRUCTION

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TOWN OF CHATHAM, MA
TRAP DOCK RECONSTRUCTION

REQUEST FOR WRITTEN BIDS

The Town of Chatham is soliciting written bids pursuant to the provisions of G.L. c. 30, §39M(b) for the Trap Dock Reconstruction, located at the Chatham Trap Dock, 613 Stage Harbor Road, Chatham, MA 02633. The project generally consists of reconstruction of the pier and bulkhead.

Those submitting written bids (hereinafter "Bidders"). Bidders may obtain complete set(s) of Contract Documents electronically from the Project Engineer, GEI Consultants Inc., located at 124 Grove Street Suite 300 Franklin, MA 02038 (tel: 774-277-6001) on or after 10:00 a.m. on **October 2, 2019**. No partial sets will be issued. Requests for electronic delivery of the Contract Documents should be addressed to cmcgillivray@geiconsultants.com. There is no charge for electronic delivery of the contract documents.

The Town will receive bids at the Office of the Town Manager, 549 Main Street, Chatham, MA 02633, no later than **2:00 pm on Wednesday, October 23, 2019**, at which time all bids will be publicly opened and read aloud.

The Town reserves the right to waive any informalities and to reject any or all bids if it be in the public interest to do so in accordance with G.L. c. 30, §39M(b). A Performance Bond in the sum of one hundred percent (100%) of the Contract Price and a Labor and Materials Payment Bond in an amount equal to at least fifty percent (50%) of the contract price, each of a surety company qualified to do business under the laws of the Commonwealth of Massachusetts, satisfactory to the Owner, will be required of the successful general bidder.

Every bid shall be accompanied by a bid deposit in the form of: (1) a bid bond, (2) cash, or (3) a certified check on, or a treasurer's or cashier's check issued by, a responsible bank or trust company, payable to the awarding authority. The amount of the bid deposit shall be five per cent (5%) of the value of the bid.

The award of a contract is subject to the Owner's receipt of all regulatory approvals from local, state or federal agencies. The award is also subject to availability of sufficient funding.

Non-mandatory Pre-Bid Conference/Site Inspection: **2 p.m. Tuesday, October 8, 2019** at project site, 613 Stage Harbor Road, Chatham, MA.

For Information Only

NOTICE TO BIDDERS

TOWN OF CHATHAM

Notice is hereby given that the Town of Chatham will receive bids for furnishing all labor, materials, transportation and services for the project known as:

CHATHAM TRAP DOCK RECONSTRUCTION

located on 613 Stage Harbor Road in Chatham, Massachusetts. Each bid to be in accordance with the plans, specifications and other contract documents now on file at the office of the Project Engineer, GEI Consultants Inc., located at 124 Grove Street, Suite 300, Franklin, MA 02038, where they may be examined and copies obtained for a fee.

- A. Notice is also hereby given that all Bidders may be required to furnish a sworn statement of their financial responsibility, technical ability and experience before award is made to any particular Bidder.
- B. The project generally consists of reconstruction of the existing timber pier and bulkhead with site improvements and removal of the existing building.
- C. A non-mandatory site walk through will be performed by the Project Engineer on **Tuesday October 8, 2019 at 2:00 pm on site**, which will overview and acquaint the Contractor with the work set forth hereunder. All prospective bidders are highly encouraged to attend. If the bidder chooses not to attend this meeting, they shall waive any information provided at this meeting.
- D. Each bid shall be submitted to the Town of Chatham at the Office of the Town Manager, 549 Main Street, Chatham, MA 02633 on or before **2:00 pm on Wednesday, October 23, 2019**, local time (**CASH WILL NOT BE ACCEPTED**). Each bid shall be in a separate sealed envelope, addressed to the Town of Chatham.
- E. Bids will be award based on the Base Bid only.
- F. The Owner reserves the right to reject any or all bids or waive any informality in a bid.
- G. No bidder may withdraw his/her bid for a period of sixty (60) days after the date set for the opening thereof.
- H. Bidders should be aware that all contractors performing work for the Owners are required to present evidence of Workers' Compensation and Employers' Liability Insurance coverages; a certificate of insurance and copies of the information or declaration page(s) for Broad Form Comprehensive General Liability or Commercial General Liability, and Business Automobile Liability Insurance policies of not less than \$1,000,000 for bodily injury or death arising out of any one occurrence and property damage limits of not less than \$3,000,000 arising out of any occurrence for each type of coverage; as well as excess liability coverage in an amount to be no less than \$3,000,000; as well as copies for said General Liability and Business Auto Liability Insurance Policies or an endorsement naming the Owners, its Board, and its officers, agents and employees as additional insureds, a standard cross-liability endorsement, an endorsement precluding cancellation or reduction in coverage before the expiration of thirty (30) days after Owners has received written notification by first class mail from the insurance carrier of such cancellation or reduction, and an endorsement stating that the insurance afforded thereby to Owners and its officers, agents and employees shall be primary insurance to the full limits of the policy, and that if Owners and its officers and employees have other insurance against a loss

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covered by such a policy, such other insurance shall be excess insurance only. Contractor shall further procure for the Owners' benefit, course of construction insurance coverage for all risks of loss in an amount equal to the completed value of the project. The certificates of insurance and copies of information or declaration page(s) and of endorsements are to be reviewed and approved as to form by the Owners before work commences. The award of a contract is subject to the Owner's receipt of all regulatory approvals from local, state and federal agencies.

- I. The "Contract Documents" consist of this Notice to Bidders; the Bid; the list of subcontractors; the non-collision affidavit; Section 00100 (Bidding Requirements); the Agreement; the Agreement; the Faithful Performance Bond; the Payment Bond; the General Conditions; the Special Conditions; the plans and specifications, and any and all exhibits attached to any of the above listed documents. Bidders may obtain a complete set of Contract Documents electronically from Project Engineer, GEI Consultants Inc., located at 124 Grove Street, Suite 300, Franklin, MA 02038 (tel: 774-277-6001) **on or after 10 a.m., October 2, 2019**. Electronic copies of the Contract Documents will be available to registered bidders without charge.
- J. Bidders shall address inquiries regarding availability of Documents, delivery time and other similar matters to the Project Engineer's office. Arrangements for delivery or mailing may be made directly with the Project Engineer's office (Telephone: 774-277-6001). Electronic copies of the Contract Documents will be available to registered bidders without charge. Copies of Addenda will be provided electronically to registered bidders.
- K. Any question pertaining to the plans, specifications, or any of the Contract Documents shall be submitted in writing, addressed to the attention of Kevin Buruchian, and delivered either in person to or, if by mail, addressed to Kevin Buruchian at GEI Consultants Inc., 124 Grove Street, Suite 300, Franklin, MA 02038, or, by email sent to kburuchian@geiconsultants.com. To be given consideration, every question must be received at least seven (7) calendar days prior to the date fixed for the opening of Bids. Any and all interpretations and any supplemental instructions will be in the form of written Addenda to the Contract Documents which, if issued, will be provided to all persons on record as having received a complete set of Contract Documents at the respective addresses furnished for such purposes. Such Addenda will be provided not later than 48 hours prior to the time set for opening of bids. Failure of any Bidder to receive any Addendum or interpretation shall not relieve such bidder from any obligation under his Bid as submitted.
- L. A successful bidder shall provide proof of a current business license issued by the jurisdiction where the work of improvement is to be conducted upon award of the Contract.
- M. The Contract will be awarded to the responsible contractor offering to perform the work at the lowest price. Under G.L. c. 30, §39M, "lowest responsible and eligible bidder" shall mean the bidder: (1) whose bid is the lowest of those bidders possessing the skill, ability and integrity necessary for the faithful performance of the work; (2) who shall certify, that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed in the work; (3) who shall certify that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee; (4) who, where the provisions of section 8B of chapter 29 apply, shall have been determined to be qualified thereunder; and (5) who obtains within

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10 days of the notification of contract award the security by bond required under section 29 of chapter 149.

- N. A successful bidder shall, within ten (10) days from the date of a request by the Owners, enter into a contract with the Owners, which contract shall be accompanied by a payment bond and a faithful performance bond, each in a sum equal to 100% of the amount of the bid, and all documents evidencing insurance coverage requested by the Owners.
- O. The date of completion for the Project shall be **May 1, 2020**. If the Owner accepts a bid, it anticipates issuing a "Notice to Proceed" on or about **November 1, 2019**. After the "Notice to Proceed" is issued, the Contractor may begin procuring materials. It is therefore estimated that the Contractor will have **One Hundred and Eighty-Two (182)** calendar days from the date of issuance of a Notice to Proceed to the completion date.
- P. The prevailing wages to be paid mechanics, apprentices, teamsters, chauffeurs, and laborers on the Project shall be established by the Prevailing Wage Schedule, as determined by the Commissioner of Labor and Industries, pursuant to the provisions of M.G.L. Chapter 149, Section 26 to 27D, inclusive, as amended, which schedule is included in the Contract Documents.

The bidding documents may be examined at, but not removed or taken from, the office of Project Engineer at the address stated above or the Office of the Town Manager, 549 Main St, Chatham, MA 02633, during normal business hours.

All procurement procedures will be in accordance with the Massachusetts General Laws Chapter 149, sections 26-27D and General Laws Chapter 30, sections 39M, which are incorporated herein by reference.

END OF SECTION

For Information Only

SECTION 00100

BIDDING REQUIREMENTS

1.01 SECURING DOCUMENTS

Bidders may obtain complete set(s) of Contract Documents electronically from the Project Engineer, GEI Consultants Inc., located at 124 Grove Street Suite 300 Franklin, MA 02038 (tel: 774-277-6001) on or after 10:00 a.m. on **October 2, 2019**. No partial sets will be issued. Requests for electronic delivery of the Contract Documents should be addressed to cmcgillivray@geiconsultants.com. There is no charge for electronic delivery of the contract documents.

1.02 BID REQUIREMENTS

In order to receive consideration, bids shall be prepared and submitted in conformance with the requirements and instructions:

1. Bidders shall carefully examine the site of the proposed work and the Contract Documents. It will be assumed that the bidder has investigated and is satisfied as to the conditions to be encountered, and as to the character, quality and quantities of work to be performed, materials to be furnished, and as to the requirements of these contract documents.
2. Specific data required in regard to the location of existing public utility companies' pipes, conduits and structures as required to perform the work shall be obtained by the Contractor from the respective public utility companies.
3. Bids shall be prepared and submitted only on the forms supplied by the Owner and shall be signed by the bidder. Contractors must complete all bid items; no incomplete bids will be accepted. Written amounts shall prevail over numbers. If the unit price and the total amount named by the bidder for any item do not agree, the unit price shall govern. The Bidder Certification, fully completed and executed by the bidder, shall accompany the bid.
4. If the bid is by an individual, his/her name and address shall be shown; if by a firm, the firm or partnership name shall be shown; or if by a corporation, the bid shall show the name and the State under the laws of which the corporation is chartered, and addresses of the President and of the Secretary and/or Treasurer. All bids shall be signed in long-hand and executed by a principal duly authorized to make contracts. Verbal or telephonic bids or modifications will not be considered. Bidders shall include with their bid a completed Certificate of Vote of Authorization. Such forms are included with the bid documents. Electronic bids will not be accepted.
5. Bids shall not contain any recapitulation of the work to be done. Alternative bids will not be considered, unless called for. The completed form shall be without interlineations or alterations.
6. All bids shall be presented to the Owner under sealed cover, and plainly marked on the outside with the title of the work being proposed and the name of the bidder. It is the sole responsibility of the bidder to ensure that his/her bid is received by the Owner prior to the time specified for receipt of bids. Any bid received after the scheduled closing time for receipt of bids shall be returned to the bidder unopened and will be deemed unresponsive and thus rejected by the Owner(s).

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7. Every bid shall be accompanied by a bid deposit in the form of: (1) a bid bond, (2) cash, or (3) a certified check on, or a treasurer's or cashier's check issued by, a responsible bank or trust company, payable to the awarding authority. The amount of the bid deposit shall be five percent (5%) of the value of the bid.

1.03 BID QUANTITIES

See Bid Form in Section 00110 for Bid Quantities.

1.04 CONTRACTOR'S LICENSE

Prior to submitting bids, bidders shall be licensed (if applicable) as contractors under the laws of the Commonwealth of Massachusetts to perform the type and class of work contemplated by the Contract Documents.

Subcontractors of bidding general contractors shall be licensed under the laws of the Commonwealth of Massachusetts to perform the type and class of work contemplated by the Contract Documents.

1.05 WITHDRAWAL OF BID

Any bid may be withdrawn by the bidder prior to, but not after, the time fixed for the opening of bids, either personally or by telegraphic or written request. The withdrawal of a bid shall not prejudice the right of a bidder to file a new bid. No bid may be withdrawn for a period of sixty (60) calendar days after the bid opening. Any withdrawal after that time shall be in writing and shall not be effective until received by Owner.

1.06 INTERPRETATION OF DOCUMENTS AND PLANS

If any person contemplating submitting a bid for the proposed contract is in doubt as the true meaning of any part of the plans, specifications or other contract documents, or finds discrepancies in, or omissions from the drawings or specifications, he/she may submit to the Project Engineer a written request for an interpretation or corrections thereof. The person submitting the request will be responsible for its prompt delivery. Any interpretation or corrections of the proposed documents will be made only by addendum duly issued and a copy of such addendum will be mailed, emailed, or delivered to all persons known by the Project Engineer to have received a set of Contract Documents. Neither the Owner nor the Project Engineer will be responsible for any other explanations or interpretations of the proposed Contract Documents.

1.07 ADDENDA

The Contract Documents are subject to revision prior to the time fixed for opening bids by submitting the revision, in writing, to all persons who are known by Owner to have secured such documents for purposes of submitting bids. All addenda issued shall become an integral and integrated part of the contract documents and shall be included in any bid submitted. Bidders are responsible for verifying that they have received all addenda.

1.08 OPENING OF BIDS

Written Bids for the Contract will be received by the Office of the Town Manager, 549 Main Street, Chatham, MA 02633, no later than **2:00 pm EST on Wednesday, October 23, 2019**, and at that time and place will be publicly opened and read aloud.

1.09 AWARD OF CONTRACT OR REJECTION OF BIDS

The Contract will be awarded to the lowest responsive bidder.

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Bids may be rejected if they show any alterations of form, additions not called for, conditional bids, incomplete bids, erasures, or irregularities of any kind. The Owner reserves the right to waive any irregularities in the bids as received.

The Owner reserves the right to reject any or all bids. More than one bid from an individual, firm or partnership, corporation or association, under the same or different name, will not be considered. Reasonable grounds for believing that a bidder is interested in more than one bid for work contemplated, will cause the rejection of all bids in which said bidder is interested. Bids in which prices are obviously unbalanced may be rejected by the Owner.

1.10 COMPETENCY OF BIDDERS

Bidders may be required to furnish evidence of financial competency, organizational ability and experience to enable him/her to undertake and successfully complete the work to be performed, including past performance which shall include past performance on projects performed for the Owner.

Bidders shall provide the lists of projects and minimum references as outlined in the Bid.

1.11 BONDS AND INSURANCE

Bidder's attention is directed to the provisions of the contract documents relating to the requirements of contract bonds. The successful bidder, simultaneously with execution of the Agreement, will be required to furnish a faithful performance bond in an amount equal to at least one hundred percent (100%) of the contract price, and a labor and material bond in an amount equal to at least fifty percent (50%) of the contract price; both said bonds to be secured from a corporate surety admitted in the Commonwealth of Massachusetts and shall be satisfactory to the Owner.

Bidder's attention is further directed to the provisions relating to the Contractor's insurance requirements, and the prescribed form of Bidder's Bond, Agreement, Contract Bonds and insurance documentation.

1.12 CONTRACT PROGRESS SCHEDULE

Bidder's attention is directed to the provisions of the Contract Documents relating to the requirement for the submission of a contract progress schedule with the Contractors Bid. Contractors shall provide a project schedule with their bids.

1.13 LEGAL RELATIONS AND RESPONSIBILITIES

Bidder's attention is specifically directed to the provisions of the General Conditions concerning laws to be observed, hours of labor, minimum wages, employment of labor, safety codes, patents, taxes, and other matters of concern to the bidder.

The prevailing wages to be paid mechanics, apprentices, teamsters, chauffeurs, and laborers on the Project shall be established by the Prevailing Wage Schedule, as determined by the Commissioner of Labor and Industries, pursuant to the provisions of M.G.L. Chapter 149, Section 26 to 27D, inclusive, as amended, which schedule is included in the Contract Documents.

1.14 SUBCONTRACTORS

Each bidder must state in his/her bid the subcontractors he/she intends to employ to perform any work or labor, or render service to the Contractor for the construction of the work or improvement in an amount in excess of one half of one percent of the Contractor's bid. This statement shall include the name of each subcontractor, the location of his/her place of business, and the nature of the work to be performed by him/her.

END OF SECTION

SECTION 00110

BID

Dear Owner:

The undersigned, as a bidder, declares that he/she has carefully examined the location of the proposed work, the bid form of Agreement, and Contract Documents, and he/she proposes and agrees that, if this bid is accepted, he/she will contract with the Owner to provide all necessary machinery, tools and apparatus, to perform all the work and furnish all the materials specified in the Contract Documents in the manner and time therein set forth required to complete the

**TRAP DOCK RECONSTRUCTION
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The work to be performed pursuant to this Bid shall be in strict conformity with the Contract Documents prepared therefore by the Owner, copies of which are on file in the office of the Project Engineer, which Contract Documents are hereby made a part thereof, and incorporated by this reference as if fully set forth herein.

The bidder proposes and agrees to contract with the Owner to furnish and perform all of the above described work, for the following price, to wit:

(\$) _____
_____ U.S. Dollars

A breakdown of the Contract price is attached hereto marked Exhibit "A" and incorporated by this reference.

Owner reserves the right to add or delete items from this list. The price of the contract shall be adjusted accordingly. The price set forth herein includes any and all costs and expenses of whatever source or nature for the work to be performed pursuant to the terms and conditions of the Contract Documents.

If awarded the contract, the undersigned hereby agrees to sign said contract and to furnish the necessary bonds within ten (10) days after being requested to do so by the Owner.

The undersigned has examined the location of the proposed work and is familiar with the Contract Documents and the local conditions at the place where the work is to be done.

The undersigned has checked carefully all of the above figures and understands that the Owner will not be responsible for any errors or omissions on the part of the undersigned in making up this bid.

The undersigned hereby certifies that this bid is genuine, and not sham or collusive, or made in the interest or in behalf of any person not herein named, and that the undersigned has not directly or indirectly induced or solicited any other bidder to put in a sham bid or any other person, firm or corporation to refrain from bidding and that the undersigned has not in any manner sought by collusion to secure for himself or herself an advantage over any other bidder

The undersigned has satisfied him/herself by personal examination of the location of proposed work, and by such other measures as they may prefer, as to the actual conditions and requirements of the

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work, and shall not, after submission of the bid, dispute, complain or assert that there was any misunderstanding in regard to the nature or amount of the work to be done.

Contractor acknowledges receipt of Addenda Nos. _____ through _____.

Contractor : _____

Signature : _____

Signed by : _____

Title : _____

Address: _____

Telephone : _____

Facsimile : _____

Dated this _____ day of _____, 20 _____

License No. _____ Class(es) _____

Exp. Date: _____

NOTE: Bidders must hold current licenses as required under the laws of the Commonwealth of Massachusetts and all Federal Statutes.

For Information Only

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EXHIBIT "A"
BID ITEMS

ITEM NO.	DESCRIPTION AND UNIT PRICES WRITTEN	ESTIMATED QUANTITY	UNIT PRICE IN FIGURES	ITEM AMOUNT
1	Mobilization (Item 02000-1) Unit Price in Words: _____ _____	Lump Sum	\$ _____	\$ _____
2	Site Preparation (Item 02000-2) Unit Price in Words: _____ _____	Lump Sum	\$ _____	\$ _____
3	Demolition (Item 02110-1) Unit Price in Words: _____ _____	Lump Sum	\$ _____	\$ _____
4	Debris (Item 02110-2) Unit Price in Words: _____ _____	500 (Tons)	\$ _____	\$ _____
5	Articulated Concrete Mat (Item 02250-1) Unit Price in Words: _____ _____	Lump Sum	\$ _____	\$ _____
6	Pier Piles Unit Price in Words: _____ _____	26 (EACH)	\$ _____	\$ _____
7	Bulkhead No 1 Unit Price in Words: _____ _____	Lump Sum	\$ _____	\$ _____
8	Bulkhead No 2 Unit Price in Words: _____ _____	Lump Sum	\$ _____	\$ _____

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9	Fender Piles Unit Price in Words: _____ _____	21 (EACH)	\$ _____	\$ _____
10	Concrete Pier Unit Price in Words: _____ _____	Lump Sum	\$ _____	\$ _____
11	Concrete Site Improvements Unit Price in Words: _____ _____	Lump Sum	\$ _____	\$ _____
12	Pier Jib Crane Unit Price in Words: _____ _____	Lump Sum	\$ _____	\$ _____
13	Pier Ladders Unit Price in Words: _____ _____	3 (EACH)	\$ _____	\$ _____
14	Marine Timber Unit Price in Words: _____ _____	Lump Sum	\$ _____	\$ _____
15	Electrical System Unit Price in Words: _____ _____	Lump Sum	\$ _____	\$ _____
15	Pier Water Utilities Unit Price in Words: _____ _____	Lump Sum	\$ _____	\$ _____
	Total Base Bid Unit Price in Words: _____ _____ \$ _____		\$ _____	

For Information Only

LIST OF SUB-CONTRACTORS

Any person making a bid or offer to perform the work, shall in his or her bid or offer, set forth: (a) The name and location of the place of business of each subcontractor who will perform work or labor or render service to the prime Contractor in or about the construction of the work or improvement, or a subcontractor licensed by the Commonwealth of Massachusetts who, under subcontract to the primary Contractor specially fabricates and installs a portion of the work or improvement according to detailed drawings contained in the plans and specifications, in an amount in excess of one-half of 1 percent of the prime Contractor's total bid; (b) The portion of the work which will be done by each such subcontractor under this act. The prime Contractor shall list only one subcontractor for each such portion as defined by the prime Contractor in his or her bid.

Any item of work, which does not set forth a designated Sub-Contractor will be done by the Prime Contractor.

Name & Address

Portion of Work

Name & Address	Portion of Work
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

(Prime Contractor)

Signed by: _____

Title: _____

For Information Only

**NON-COLLUSION AFFIDAVIT TO BE EXECUTED BY BIDDER AND
SUBMITTED WITH BID**

Commonwealth of Massachusetts

County of _____

_____, being first duly sworn, deposes and says that he or she is _____ of _____, the party making the foregoing bid that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation, that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the Owner awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true; and, further, that the bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

Signature _____

(NOTARY) I, _____ as a notary public certify under the pains and penalties of perjury that I witnessed the signature of the aforementioned signatory on behalf of the Bidder, and the individual's identity was verified, on this date: _____, 20_____. My commission expires on: _____.

OR

(CORPORATE CLERK) I, _____ as corporate clerk of the Bidder/Contractor certify under the pains and penalties of perjury that I witnessed the signature of the aforementioned signatory and the signatory is authorized to execute contracts and other instruments and legally bind the Bidder/Contractor. This date: _____, 20_____.

AFFIX NOTARY SEAL OR CORPORATE SEAL HERE:

BIDDER CERTIFICATIONS

1.01 GENERAL

A. The undersigned Bidder certifies to the Owner, as set forth in sections 1 through 12 below.

1. Certificate of Non-Discrimination

By my signature hereunder, on behalf of the Bidder making this Bid, the undersigned certifies that there will be no discrimination in employment with regard to race, color, religion, gender, sexual orientation, or national origin; that all federal, state, and local directives and executive orders regarding non-discrimination in employment will be complied with; and that the principle of equal opportunity in employment will be demonstrated positively and aggressively.

2. State of Convictions

By my signature hereunder, I hereby swear, under penalty of perjury, that no more than one final, unappealable finding of contempt of court by a Federal Court has been issued against Bidder within the past two years because of failure to comply with an order of a Federal Court or to comply with an order of the National Labor Relations Board.

3. Previous Disqualifications

By my signature hereunder, I hereby swear, under penalty of perjury, that the below indicated Bidder, any officer of such Bidder, or any employee of such Bidder who has a proprietary interest in such Bidder, has never been disqualified, removed or otherwise prevented from bidding on, or completing a Federal, State, or local government project because of a violation of law or a safety regulation except as indicated on the separate sheet attached hereto entitled "Previous Disqualifications." If such exceptions are attached, please explain the circumstances.

4. Certification of Workers Compensation Insurance

By my signature hereunder, as the Contractor, I certify that I am aware of the provisions of Title 28-29 Labor and Labor Relations of the General Laws of Massachusetts which require every employer to be insured against liability for worker's compensation or to undertake self-insurance in accordance with the provisions of that law, and I will comply with such provisions before commencing the performance of the Work of this Contract.

5. Certificate of Non-Collusion:

In accordance with Massachusetts General Law Chapter 30, Section 39M: Undersigned certifies under penalties of perjury that this bid, or bid is in all respects bona fide and fair and has been made and submitted in good faith without collusion or fraud with any other person. As used in this certification, the work "person" shall mean any natural person, joint venture, business, partnership, corporation, union, committee, club, organization, group of individuals, or other business or legal entity.

6. Conflict of Interest:

The bidder must certify that no official or employee of the Town of Chatham has a financial interest in the bidder's bid or executed Contract, or in the expected profit to arise therefrom, unless there has been compliance with the provisions of MGL C 43, Section 27 (Interest in Public Contracts by Public Employees) and of provisions of MGL C 268A, Section 20 (Conflict of Interest Law).

7. Indemnification Agreement:

The contracted Bidder hereby indemnifies and shall at all times save and hold harmless the Town of Chatham, and its officers, attorneys, employees, and agents from and against any and all claims (including workers' compensation and wage claims), demands, suits, actions, liabilities, damages, penalties, judgments, and costs and expenses, including without limitation the costs and expenses of litigation, of or by anyone that in any way

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is caused by, arises out of, or is occasioned by the performance, activities, operations, conducts, negligence, or omissions of the contracted Bidder, or any of its agents or employees.

8. Taxes Paid:

Pursuant to Massachusetts General Laws, Chapter 62C, Section 49A, the undersigned certifies under the penalties of perjury that, to the best of my knowledge and belief, all Massachusetts State Tax returns and all Massachusetts State Taxes required under law have been paid, and I have complied with the reporting of employees and contractors, and withholding and remitting of child support.

9. Right to Know Law:

Bidder agrees to submit a Material Safety Data Sheet (MSDS) for each toxic or hazardous substance or mixture containing such substance, pursuant to MGL Chapter 111F, Sections 8, 9, 10 and the regulations contained in 454 CMR 21.06 when deliveries are made; and agrees to deliver all containers properly labeled pursuant to MGL Chapter 111F, Section 7 and 454 CMR 21.05. Failure to submit an MSDS and/or label on each container will place the vendor in non-compliance with the Purchase Order and/or Contract. Failure to furnish MSDS and/or labels on each container may result in civil or criminal penalties. All vendors furnishing substances or mixtures subject to MGL Chapter 111F or 454 CMR are cautioned to obtain and read the Law and Rules and Regulations. Failure to comply with these requirements could result in cancellation of Contract.

10. Foreign Corporation:

In Accordance with Massachusetts General Laws Chapter 30, Section 39L, any foreign contractor or subcontractor is required to provide a certificate from the Secretary of State stating that such corporation has complied with Massachusetts General Laws Chapter 181, Section 3 and 5, including the date of compliance. Further, bidder's attention is called to Massachusetts General Laws Chapter 268A, in connection with which the bidder is requested to submit the information requested in the signature section of this document.

11. Compliance:

The undersigned is in compliance with all of the provisions, and shall remain in full compliance with the provisions for the life of any Contract resulting from this solicitation. Bidder is qualified to perform any such Contract and possesses, or shall obtain, all requisite licenses and/or permits to complete performance; shall maintain all unemployment, workers' compensation, and personal liability insurance policies sufficient to cover its performance under any such Contract; and shall comply with relevant prevailing wage rates and employment laws. To the best of its knowledge and belief has paid all local taxes, tax titles, utilities, motor vehicle excise taxes, water and wastewater bills in Massachusetts as required by Law.

12. Affirmative Action Plan:

In witness whereof, the bidder certifies under the pains and penalties of perjury, that as an employer, it is committed to non-discrimination in employment and if selected to execute contracts with the Commonwealth of Massachusetts and/or the Town of Chatham shall also be committed to procure commodities, services and supplies from certified minority and women-owned business enterprises, businesses owned by individuals with disabilities and businesses owned and controlled by socially or economically disadvantaged individuals, both in the performance of contracts with the Commonwealth of Massachusetts and/or the Town of Chatham and in the performance of its business generally, as certified by the execution of this certification by an authorized signatory of the bidder as of the last date indicated below.

1.02 INSURANCE AND BOND VERIFICATION

A. The undersigned Bidder Certifies that he has the following insurance coverage:

1. Workers' Compensation:

Carrier: _____

Address: _____

Phone and Fax: _____

Policy Number: _____

2. General Liability:

Carrier: _____

Address: _____

Phone and Fax: _____

Policy Number: _____

Policy Limits: \$ _____

A.M. Best Rating: _____

3. Automotive Liability:

Carrier: _____

Address: _____

Phone and Fax: _____

Policy Number: _____

Policy Limits: \$ _____

A.M. Best Rating: _____

4. All-risk Course of Construction:

Carrier: _____

Address: _____

Phone and Fax: _____

Policy Number: _____

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TRAP DOCK RECONSTRUCTION

Policy Limits: \$ _____

A.M. Best Rating: _____

5. **Excess Liability (if applicable):**

Carrier: _____

Address: _____

Phone and Fax: _____

Policy Number: _____

Policy Limits: \$ _____

A.M. Best Rating: _____

Additional endorsements to insurance are required for the following coverages:

1. **Additional Insured:**

It is hereby understood and agreed that Additional Insured for General Liability and Auto Liability Coverage shall include: The Owner, its Board, commissions, committees, boards, officers, employees, and agents as additional insured as respects to work done by Named Insured.

2. **Primary Coverage**

With respect to claims arising out of the operations of the Name Insured, such insurance as afforded by the policy is primary, and is not additional to or contributing with any other insurance carried by or for the benefit of the above Additional Insureds.

3. **Cross Liability/Severability of Interest**

The naming of more than one person, firm or corporation as insured under this policy shall not, for that reason alone, extinguish any rights of the insured against another, but this endorsement, and the naming of multiple insureds, shall not increase the total liability of the Company under this policy.

4. **Notice of Cancellation for General Liability and Auto Liability:**

It is understood and agreed that in the event of cancellation of or reduction in the policy for any reason, including non-payment of premium, 30 days' written notice will be sent to the Project Engineer.

The name of the Bidder's Bonding Company is as follows:

Carrier/Surety: _____

Address: _____

Phone and Fax: _____

A.M. Best Rating: _____

1.03 RELEVANT EXPERIENCE

- A. List Bidder's comparable projects (Minimum of five projects of similar size and scope, minimum of one project performed for a Massachusetts Municipality or State Agency) completed by Bidder in the last ten years, with Owner contact information. (Attach separate sheets if necessary).
- B. List any projects where Bidder has been default terminated by an Owner or has been involved in arbitration/litigation with an Owner on a construction project. Provide Owner contact information:
- C. Contractors shall provide a list of all projects completed within the last five years.

1.04 SAFETY & EXPERIENCE RECORD

- A. The following statements as to safety and experience of Bidder are submitted, and Bidder guarantees the truthfulness and accuracy of the information:

1. **Safety**

- a. List Bidder's Interstate Experience Modification Rate for the last three years.

2015: _____
2016: _____
2017: _____

- b. State the name of Bidder's safety engineer/manager or Site Safety Officer:

1.05 CONTRACTOR EXPLANATION OR NOTES ON ANY OF THE ABOVE:

1.06 LIST OF ALL EQUIPMENT TO BE USED ON THIS PROJECT (include year, type, size and condition):

1.07 CONTRACTOR'S NARRATIVE ON CONSTRUCTION SCHEDULE AND METHODOLOGY: (Please describe in as much detail as possible how your firm/company will proceed with the work as described within the contract documents. Attach or utilize additional sheets if necessary. The Construction Schedule shall be provided with the Contractors Bid.

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BIDDER CERTIFIES, UNDER PENALTY OF PERJURY UNDER THE LAWS OF THE COMMONWEALTH OF MASSACHUSETTS, THAT THE FOREGOING INFORMATION IS CURRENT AND ACCURATE AND AUTHORIZES OWNER AND ITS AGENTS AND REPRESENTATIVES TO OBTAIN A CREDIT REPORT AND/OR VERIFY ANY OF THE ABOVE INFORMATION.

BIDDER: _____
(COMPANY NAME)

BY: _____ TITLE _____
NAME

BY: _____ DATE _____
SIGNATURE

NOTE: This bid must bear the written signature of the Bidder. If the Bidder is a partnership, the bid must be signed by a partner. If the Bidder is a corporation, the bid must be signed by a duly authorized officer or agent of such corporation.

For Information Only

CERTIFICATE OF VOTE OF AUTHORIZATION

I, Clerk of _____
(Name of Corporation)

the principal office of which is located at:

(Address of Principal Office)

do hereby certify that a duly authorized meeting of the Board of Directors of the above-named corporation held on: _____, at which all Directors were
(Date)

present or waived notice, it was VOTED that:

(Name)

_____ of this corporation and hereby is authorized to
(Office)

execute contracts, bonds, and other instruments in the name and behalf of said corporation and affix its corporate seal thereto, and such execution of any contract or other instrument or obligation in this corporation's name on its behalf by the above-named officer shall be valid and binding on this corporation.

I hereby certify that I am the Clerk of this corporation and that the above-named officer was duly elected to the above-stated office and that the above-stated VOTE has not been amended or rescinded and remains in full force and effect as of the date of this contract executed with the Town of Chatham.

A true copy,

Attest: _____, Clerk

(Corporate Seal)

For Information Only

NOTICE OF AWARD

Dated: _____

TO: _____

ADDRESS: _____

RE:

**TOWN OF CHATHAM, MASSACHUSETTS
TRAP DOCK RECONSTRUCTION**

The Contract Sum of your contract is _____
_____ Dollars (\$).

Two copies of each of the Contract Documents accompanying will be delivered separately or otherwise made available to you.

You must comply with the following conditions precedent within ten (10) calendar days after the date of this Notice of Award, that is by _____.

1. You must deliver to the Owner four (4) fully executed counterparts of the Agreement. Each of the Contract Documents must bear your signature.
2. You must deliver to the Owner the Performance Bond, executed by you and your surety.
3. You must deliver to the Owner the Construction Labor and Material Payment Bond, executed by you and your surety.
4. Provide all certificates of insurance and endorsement pages required hereunder to the Owner.

Further, you may deliver any requests for substitution within thirty-five (35) days of the date of this Notice of Award, that is by _____.

Failure to comply with these conditions within the time specified will entitle the Owner to consider your Bid abandoned, to annul this Notice of Award, and to declare your Bid Security forfeited.

Within ten (10) Days after you comply with those conditions, the Owner will return to you one fully signed counterpart of the Agreement Owner: (Town of Chatham)

BY: _____
(Name and Title)

END OF SECTION

AGREEMENT

Town of Chatham (the "Owner") and _____, hereinafter referred to as "Contractor", for the consideration hereinafter stated, hereby agree as follows:

1. PROJECT. Contractor shall perform everything required to be performed, shall provide and furnish all of the labor, equipment, materials, and tools to perform, within **One Hundred and Eighty Two (182)** calendar days after the NOTICE TO PROCEED, which is anticipated to be given no later than **November 1, 2019** for the following work:

**TRAP DOCK RECONSTRUCTION
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in strict accordance with the Contract Documents pertaining thereto and signed by the Engineer for the Owner, which Documents are incorporated herein and made a part of this Agreement as if herein fully set forth. Subject to all authorized modifications, Substantial Completion as certified by the Project Engineer, must be achieved no later than April 16, 2020 and Final Completion of all construction activities must be achieved no later than **May 1, 2020**.

CONTRACT AMOUNT. Owner shall pay to Contractor, as full consideration for the faithful performance by Contractor of the aforementioned work, the amount of _____ Dollars (\$ _____) computed in accordance with Contractor's accepted Bid dated _____, which accepted Bid is incorporated herein by reference thereto and if herein fully set forth.

2. SUPERVISION. All of the work to be done shall be done under the direction and supervision of, and to the approval of, Owner or its authorized representative, and the work shall be done in the best workmanlike manner, conforming strictly to the provisions of the specifications and plans made thereof.
3. EARLY COMPLETION BONUS. Time is of the essence with respect to completion of the Project. If substantial completion of all Project Work is achieved prior to the Contract Completion Date set forth in Paragraph 1, as such date may be amended hereunder, and certified as complete by the Project Engineer, the Owner shall pay the Contractor at the time of Final Payment an early completion bonus in the amount of \$1,500 per day for each day subsequent to final completion up to, and including, said Contract Completion Date. In no event shall the early completion bonus exceed \$15,000.
4. COMPLIANCE WITH LAWS. (a) Contractor shall comply with all applicable provisions of the Massachusetts General Laws inclusionary of any and all Labor and Labor Relations Statutes.

Before the Agreement between Owner and Contractor is entered into, Contractor shall submit written evidence that it and any subcontractors have obtained for the period of the Contract, full Workers' Compensation insurance coverage for all persons whom they employ or may employ in carrying out the work under this Contract. This insurance shall be in accordance with the requirements of the most current and applicable state Workers' Compensation insurance laws. The Contractor in signing this Agreement certifies to Owner as true the following statement:

I am aware of the provisions of Massachusetts General Laws, which requires every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that Code, and I will comply with such provisions before commencing the performance of the work of this Contract.

TOWN OF CHATHAM, MA
TRAP DOCK RECONSTRUCTION

5. **PERFORMANCE STANDARDS.** The Work must be performed and completed in accordance with all requirements of law and no Work shall be undertaken until Contractor has been issued all required permits from all applicable municipal, state and federal governmental bodies. "Completion" of the Work includes obtaining all certificates, or amendments of existing certificates, as the case may be, which relate to the performance of the Work. Unless otherwise specified in this Agreement, the Work must be performed in a good and workmanlike manner and in accordance with the best modern practice and with materials and workmanship of the highest quality. Contractor shall check and verify all dimensions, grades, and levels before commencement of performance and whenever necessary during the progress thereof.
6. **PAYMENTS.** Owner shall pay the Contractor for complete and accepted performance of the Work, subject to additions and deductions by Change Orders. The Contractor agrees to provide with each payment application (invoice), lien waivers sufficient to discharge any liability from the Owner to Contractor. Partial payments shall cover work completed through the 25th calendar day of each month for contracts where the number of working days exceeds twenty (20). No partial payments will be made for contracts having a time limit of twenty (20) days or less, unless completion has been significantly delayed by causes which are clearly not the fault of the Contractor. When partial payments are to be made, the Contractor shall submit to the Owner, on Owner's forms, an estimate of the total amount of work accomplished, which will show the computed amount due less a retention which shall be 10% of the value of the work accomplished. No partial payments will be made for materials stored on the job but not yet installed, unless otherwise provided in the Contract Documents. Each request for payment application must be approved by the Project Engineer and will not be considered as submitted until the Owner, Contractor and Project Engineer agree to unit qualities covered by the payment application. Once Owner has received the approved request for payment application, Owner shall process the Contractor's invoice and pay Contractor any undisputed amount within thirty (30) calendar days from the date of receipt of a complete application for payment from Contractor.
7. **JOB SITE.** The Contractor shall at all times enforce strict discipline and good order among its employees and shall not employ on the Work any unfit person or anyone not skilled in the assigned task. The Contractor at all times shall keep the job site free from accumulation of waste materials or rubbish caused by its operations. At the completion of the Work, it shall remove all its waste materials and rubbish from and about the job site as well as its tools, construction equipment, machinery and surplus materials. The Contractor shall comply with all laws, ordinances, rules, regulations, and lawful orders of any public authority bearing on the performance of the Work, the safety of persons and property and their protection from damage, injury, or loss. Contractor shall provide repair response within twenty-four (24) hours of request by Owner during the course of performance of the Work under this Agreement for any repair work that has been poorly constructed and or performed or any work that results in either consequential or actual damage to any property associated with the Contractor's operations.
8. **STORAGE OF MATERIALS.** Materials and equipment shall be stored in a neat and orderly manner at locations designated by the Owner, taking all necessary precautions to prevent fire hazards and spontaneous combustion and to conform to the requirements of all applicable regulatory agencies and insurance policies.
9. **EQUIPMENT AND MATERIALS.** Contractor shall furnish all labor, tools, scaffolding, ladders, equipment, supplies and materials required in performing all Work under this Agreement. Owner assumes no liability or responsibility for the care, safety, or

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preservation of any tools, machinery, equipment, material or supplies and all risks thereof are assumed by Contractor.

10. **SAFETY PROCEDURES.** Contractor shall at all times take all necessary and customary precautions in introducing and maintaining safety measures to protect the persons and property of others on or adjacent to the Work site against all damage, loss, or injury resulting from the Work involved under this Agreement. Contractor shall comply with any site-specific safety plans for the individual project properties. Protective arrangements will be taken in all instances to prevent Work operations from in any way damaging the premises or any personal property or any other work or operations, and from causing or allowing any pollution to leak, flow, or escape into any waterway or sewer. Contractor's obligation to protect shall include the duty to provide, place, and adequately maintain at or about the Worksite suitable and sufficient guards, lights, barricades, and enclosures. Contractor shall dispose of all hazardous materials used or produced in connection with this Agreement in the manner required by law.
11. **PERMITS AND TAXES.** The Contractor shall pay any and all federal, state, and municipal taxes for which the Contractor may be liable in carrying out this Agreement.
12. **LIQUIDATED DAMAGES.** Subject to all authorized modifications, It is hereby agreed by the parties to the Agreement that in case all work called for under the Agreement is not finished or completed on or before the time set forth in this Agreement, damage will be sustained by Owner, and that it is and will be impracticable and extremely difficult to ascertain and determine the actual damage which the Owner will sustain in event of and by reason of such delay; Liquidated damages have been read, negotiated and agreed to by both parties as set forth in the project specification. Time is of the essence in all respects on this Contract. Contractor shall accordingly prosecute all Work diligently, using such means and methods of construction as will assure full completion not later than the dates set forth, respectively, as such dates may for good cause (as set forth in the Construction Documents) be extended by the Owner. Nothing in this Article, however, grants the Contractor the privilege to use means or methods that do not accord with sound and accepted practices. The amounts of liquidated damages shall be cumulative and may, at Owner' option, be deducted in whole or in part as a credit from any Contract Sum amounts then owed Contractor or which may have been paid to the Contractor. If no amounts are then owed to Contractor, Contractor shall pay to Owner the amount of liquidated damages upon written demand. The liquidated damages shall cease once the Contractor has fully and completely any breach as set forth hereunder.
13. **ABANDONMENT; INCREASE.** All Work shall be performed according to a mutually agreed upon schedule. The suspension of work by the Contractor for any reason (other than the sole fault of the Owner) which exceeds four hundred and eighty hours (480) hours shall be deemed abandonment of the project by the Contractor, and the Owner shall have available any and all remedies, including but not limited to surety participation pursuant to the terms of the Performance Bond.

It is further agreed that in case the work called for under this Agreement is not completed in all of its parts and requirements within the number of calendar days specified, Owner shall have the right to increase the number of calendar days or not, as may seem best to serve the interest of Owner; and if it is decided to increase the said number of calendar days, Owner shall further have the right to charge to Contractor, and deduct from the final payment for the work, all or any part, as Owner may deem proper, of the actual cost of engineering, inspection, superintendence, and other overhead expenses of Owner which are directly chargeable to this Agreement, except that the cost of final surveys and the

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preparation of the final estimate shall not be included in such charges to be paid by Contractor.

14. **GUARANTY.** Except as otherwise may be provided herein, Contractor hereby expressly guarantees for two (2) full years from the date of the final completion of the work under this Agreement and acceptance thereof by Owner, to repair or replace any part of the work performed hereunder which constitutes a defect resulting from the use of inferior or defective materials, equipment or workmanship. If, within said period, any repairs or replacements in connection with the work are, in the opinion of the Project Engineer, rendered necessary as a result of the use of inferior or defective materials, equipment or workmanship, Contractor agrees, upon receipt of notice from Owner, and without expense to Owner, to promptly repair or replace such material or workmanship and/or correct any and all defects therein. If Contractor, after such notice, fails to proceed promptly to comply with the terms of this guarantee, Owner may perform the work necessary to effectuate such correction and recover the cost thereof from Contractor or his sureties.

Any and all other special guarantees which may be applicable to certain parts of the work under this Agreement shall be considered as an additional guarantee and shall not reduce or limit the guarantee as provided by Contractor pursuant to this paragraph during the first year of the life of such guarantee.

As security for the faithful performance by the Contractor for maintenance for the period herein required, the Contractor shall, upon acceptance of the work performed under the Contract, in addition to the Performance and Material and Labor Bonds required, also provide the owner with a Maintenance Bond in the penal sum of ten percent (10%) of the contract price.

15. **INDEMNIFICATION.** The Contractor hereby indemnifies and shall at all times save and hold harmless the Town of Chatham, and its officers, attorneys, employees, and agents from and against any and all claims (including workers' compensation and wage claims), demands, suits, actions, liabilities, damages, penalties, judgments, and costs and expenses, including without limitation additional engineering costs and attorney's fees and the costs and expenses of litigation, or by anyone that in any way is caused by, arises out of, or is occasioned by the performance, activities, operations, conducts, negligence, or omissions of the Contractor, or any of its agents or employees, including subcontractors.

16. **INSURANCE.** Contractor, at its sole cost and expense, shall acquire and maintain in full force and effect throughout the term of this Agreement Workers' Compensation, employer's liability, commercial general liability, and owned, non-owned and hired automobile liability insurance coverage relating to Contractor's Work to be performed hereunder covering Owner' and Department's respective risks, as their interest may appear, in form subject to the approval of the Owner. The minimum amounts of coverage corresponding to the aforesaid categories of insurance per insurable event shall be as follows:

Insurance Category	Minimum Limits
Workers' Compensation	Statutory minimum and endorsement for United States Longshoremen's & Harbor Workers Act, the Jones Act Coverages
Employer's Liability	\$1,000,000.00 per accident for bodily injury or disease.

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Commercial General Liability	\$3,000,000.00 per occurrence for bodily injury, personal injury and property damage.
Excess Liability (Umbrella)	\$3,000,000.00 per occurrence for bodily injury, personal injury and property damage.
Automobile Liability	\$1,000,000.00 per accident for bodily injury and property damage (coverage required to the extent applicable to Contractor's vehicle usage in performing work hereunder).

Any deductibles or self-insured retentions must be declared to, and approved by Owner. At the option of Owner either Contractor's insurer shall reduce or eliminate the deductibles or self-insured retentions with respect to Owner, its Board, commissions, boards, committees, officers, agents and employees, or Contractor shall procure a bond guaranteeing payment of losses and related investigations, claim administration and defense expenses.

Concurrently with the execution of this Agreement Contractor shall furnish Owner with certificates of the insurance required hereunder and, with respect to evidence of commercial general liability automobile liability and fire insurance coverage, original endorsements:

- a. Precluding cancellation or reduction in coverage before the expiration of thirty (30) days after Owner shall have received written notification of cancellation or reduction in coverage first class mail.
- b. Providing that Contractor's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability (cross liability endorsements);
- c. Naming Owner, its Board, commissions, boards, committees, officers, employees and agents as additional insured's; and
- d. Providing that Contractor's insurance shall be primary insurance relating to Contractor's work hereunder with respect to Owner, and further providing that any insurance or self-insurance maintained by Owner shall not be excess of Contractor's insurance and shall not be contributory with it.

17. FAITHFUL PERFORMANCE BOND. Contractor shall provide, on the execution of this Agreement, a good and sufficient corporate surety bond in the penal sum of one hundred percent (100%) of amount bid, which bond shall be conditioned upon the faithful performance of all work required to be performed by Contractor under this Agreement. Said bond shall be liable for any and all penalties and obligations which may be incurred by Contractor under this Agreement. Acceptance of the bond by the Owner is subject to the review and approval of the bond by the Owner Counsel's office.

18. PAYMENT BOND. In addition to the faithful performance bond required herein, Contractor shall furnish a good and sufficient corporate surety bond in the penal sum of

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fifty percent (50%) of amount of bid. Acceptance of the bond by the Owner is subject to the review and approval of the bond by the Owner Counsel's office.

19. **TIME DELAYS.** If the Contractor is delayed in the performance of the Work due to changes ordered in the Work by the Owner or, by labor disputes, fire, unusual delay in transportation, unavoidable casualties, certified natural disasters, then the contract time may be extended by a Change Order for such reasonable time as both parties have mutually agreed upon. Winter weather conditions are not a reason for a delay in the performance of work. Contractor agrees, as a special inducement to the Owner, to make no claim for damages for delay in the performance of this Contract occasioned by the Owner act, or omission to act, or anyone acting on the Owner' behalf; and Contractor agrees that any claim for delays by the Owner shall be fully compensated for by an extension of time to complete performance of the Contract Work.
20. **PAYMENT OF MATERIALMAN AND LABORERS.** The Contractor shall make prompt payment of all claims for labor performed and materials furnished, used or consumed in the Work, including without limitation fuel, lumber, building materials, machinery, vehicles, tractors, equipment, fixtures, apparatus, tools, appliances, supplies, electric energy, gasoline and other motor oil, lubricating oil and greases, and the premiums for Worker's Compensation insurance. Contractor shall indemnify and hold Owner harmless for any and all losses or expenses from any and all mechanic's or material man's liens from being filed on any Owner' Property. Should any mechanic's liens or materials man's liens be filed by Contractor agrees to have any and all releases cleared and satisfied prior to any payments being released. The Owner shall in its discretion notify Contractor and or Contractor's representative of any lien and require Contractor to release liens as a condition precedent to further monthly progress payments.
21. **FINAL PAYMENT.** Upon completion of all the Work included under the Contract, the Contractor shall submit its final invoice. The Owner will, at the expiration of thirty (30) days after delivery of the approved payment application and acceptance, pay, and hereby binds itself to pay the Contractor for accepted work, except such sum or sums of money as may have been already paid, and as may be lawfully retained under any of the provisions of the Agreement herein set forth. Prior to the final payment, Contractor will deliver to the Owner waivers of lien from all those who supplied labor, material, or services in completion of the Contract, together with satisfactory proof of full payment to such supplier.
22. **PAYMENTS AND COMPLETION.** Any payment not made when duly due and owing to the Contractor shall bear interest at the rate of seven percent (7%) per annum from the date on which said amount is found to be due and payable until the date, which it is paid. Payments may be withheld on account of (1) Work defects not remedied, (2) claims filed, (3) failure of the Contractor to make payments properly to sub-Contractor's or for labor, materials or equipment, (4) damage of the Owner' property or neighboring property, or (5) failure to carry out the Work in accordance with this Agreement or any other breach of this Agreement.
23. **CHANGE ORDERS.** (a) Contractor understands that the Owner may modify or change the details of the Project so as to require the performance of extra Work. All change orders or modifications to the Agreement shall be in writing, signed by the Contractor and the Owner. If any changes are made, Contractor will perform the same but only after receiving a written order for such performance from the Owner, it being understood by Contractor that under no circumstances shall any extra Work be performed unless and until such

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written order is given to Contractor by the Owner. For any such extra Work performed, Contractor shall be compensated by the Owner at the unit prices set forth in the Contract Documents, or for unspecified items shall be negotiated by the Owner and Contractor in a commercially reasonable amount at the time the Change Order is signed. The Owner may at its election omit items from the Contract Work whenever the Owner deems it advisable to do so. And if the Owner shall notify Contractor of such omission, the omitted Work shall not be performed and there shall be deducted from the Contract price at the stated amounts set forth in the Contract Documents or for unspecified items, a commercially reasonable amount at the time the Change Order is signed to compensate for the omission.

If any dispute shall arise at any time on a claim by Contractor that an item of Work is not Contract Work but extra Work, Contractor shall nevertheless perform the same if directed to do so by the Owner. However, to preserve Contractor's right to claim extra compensation for the disputed Work, Contractor must, prior to the commencement of the disputed Work, notify the Owner in writing that Contractor is performing the same under protest. The same procedure shall prevail as to any dispute as to a deduction for omitted Work (or as the case may be, to sustain Contractor's contention as to the appropriate compensation for extra Work that is not disputed to be an "extra") the notice in that circumstance to be given no later than ten (10) days after the tender of payment by the Owner to Contractor of the reduced amount (failing such written protest, it shall be deemed that Contractor has acquiesced to the Owner's contention that the Work is not extra but Contract Work or that the reduction (or amount of compensation for a non-disputed "extra" is correct, as the case may be). The giving of the protest provided for above, and giving it timely, are express conditions precedent to maintaining any remedial procedure, whether arbitration or otherwise, pertaining to Contractor's claim.

24. **WARRANTIES AND CORRECTION OF WORK.** Contractor warrants materials and workmanship to be in compliance with all applicable codes, ordinances and laws, constructed according to sound engineering and construction standards, in a workmanlike manner, and to be free from defects and liens at the time of installation and performance and as of the Completion Date. Contractor shall promptly perform such work and supply such materials necessary to correct, at its own expense, defects in materials and workmanship, and any Work failing to conform to the Agreement. In the event that Contractor fails to perform any Warranty Work within thirty (30) days of written notice by the Owner, or in the event that performance is not possible within such time period because of weather or other unavoidable delays and if the Contractor fails to provide a written undertaking to the Owner to perform such Warranty Work within a specific time period after notice, then the Owner shall be entitled to contract for the repairs or replacement of the defective work with a third party and Contractor agrees to reimburse the Owner for the costs of such Warranty Work promptly upon demand, together with interest at the rate provided herein on any sums unpaid under the Agreement and all costs of collection, including reasonable attorney's fees, if such reimbursement is not made within thirty (30) days of written demand therefore by the Owner.
25. **COOPERATION WITH CONSULTANT.** Contractor understands and agrees that the Owner has hired GEI Consultants Inc. as, Project Engineer / Project Consultant and Pomroy Associates LLC as Construction Management and/or oversight. Contractor agrees to fully cooperate with the all selected Owners Representatives or any other such person or organization with regard to such oversight.
26. **DEFAULT AND TERMINATION.** The following shall be considered to be Events of Default under the Contract:

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- a. Contractor's failure to complete all Work in accordance with the schedule provided for in the Agreement;
- b. Contractor's failure to perform the Work described in the Agreement in accordance with the scope of services and specifications provided;
- c. The dissolution, termination of existence, insolvency, or business failure of the Contractor;
- d. The appointment of a receiver for any property belonging to Contractor;
- e. Contractor's making of an assignment for the benefit of creditors, or the commencement of proceedings under a bankruptcy or insolvency law by or against the Contractor;
- f. The failure of the Contractor to obtain or maintain any insurance coverage required under the contract; and
- g. Contractor's failure to comply with any of the Agreement terms as set forth in the specifications plans and permits required.

If an Event of Default is not corrected or remedied within five (5) working days of written notice of such default, then the Owner shall be entitled to terminate this Agreement without further notice. In such event, the Owner shall be entitled to contract for the completion of the Work to be performed under the Agreement by a third party and Contractor shall be responsible for all extra costs and damages incurred by the Owner.

27. NOTICES. Notices to be given under this Agreement shall be in writing and may be personally delivered or sent by United States mail, first class postage prepaid, addressed to the respective party at the address set forth above, or to such other addresses that the parties shall designate in writing from time to time. Notices shall be deemed given when personally delivered or three (3) business days after mailing.
28. CAPTIONS. Any caption, title or headings of the sections, paragraphs or subparagraphs of this Agreement are solely for the convenience of the parties, are not a part of this Agreement and shall not be used for the interpretation or determination of the validity of this Agreement or any provision hereof.
29. INCONSISTENCIES. To the extent that any term or provision of the Contractor's Bid is inconsistent with any term or provision contained in this document, the terms and provisions contained in this document shall supersede and control this Agreement. To the extent that any term or provision in this agreement is found to be void or unenforceable, nevertheless any and all remaining terms shall remain in full force.
30. DEFINITIONS. Terms and phrases, which are defined in any part of this Agreement, shall have the defined meanings wherever used throughout this Agreement. The terms "hereunder" and "herein" and similar terms used in this Agreement shall refer to this Agreement in its entirety and not merely the article, section, sub-section, paragraph or subparagraph in which they are used.
31. STATE LAW. This Agreement and its application shall be governed by the laws of the Commonwealth of Massachusetts. Any and all disputes shall be brought in the trial court for **Barnstable County**, Massachusetts
32. ENTIRE AGREEMENT; INTEGRATION. This Agreement supersedes any and all other Agreements, either oral or in writing, and contains all of the covenants and agreements between the parties. Each party to this Agreement acknowledges that no representations,

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inducements, promises or agreements, orally or otherwise, have been made by either party or anyone acting on behalf of any party to this Agreement, which are not embodied herein, and that no other agreement, statement or promise not contained in this Agreement shall be valid or binding. Any modification of this Agreement will be effective only if it is in writing, signed by the party to be charged. If any provision in this Agreement is held by a court of competent jurisdiction to be invalid, void or unenforceable, the remaining provisions will nevertheless continue in full force without being impaired or invalidated in any way. Failure of any party hereto at any time to require performance by the other party of any provision of this Agreement shall not affect the right of such party to require performance of that provision, and any waiver by any party of any breach of any provision of this Agreement shall not be construed as a waiver of any continuing or succeeding breach of such provision, a waiver of the provision itself, or a waiver of any right under this Agreement. This Agreement may be executed in any number of counterparts by different parties hereto in separate counterparts, each of which when so executed and delivered shall be deemed to an original and all of which counterparts of this Agreement, taken together, shall constitute but one and the same instrument. Neither Contractor nor Owner shall assign, sublet or transfer any rights under or interest of this Agreement (including, but without limitation, moneys that may become due or moneys that are due) without the prior written consent of the other, except to the extent that any assignment, subletting or transfer is mandated by law or the effect of this limitation may be restricted by law. Unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under this Agreement. Contractor and Owner each is hereby bound, and the partners, successors, approved assigns, executors, administrators, and legal representatives of each are hereby bound to the other party to this Agreement and to the partners, successors, approved assigns, executors, administrators, and legal representatives of such other party, in respect to all covenants, agreements and obligations of this Agreement.

The documents listed below are part of the Contract Documents and are incorporated by this reference as if fully set forth herein. Contractor shall pay particular attention to any and all mitigation measures set forth in the permit documents and shall comply with same.

- A. Contract Specifications
- B. Contract Plans
- C. Addendums
- D. Notice to Bidders
- E. Bidding Requirements
- F. Bid Notice of Award
- G. Agreement
- H. Faithful Performance and Payment Bonds
- I. General and Special Conditions
- J. Technical Specifications
- K. Regulatory Permits
- L. Attachment A: Prevailing Wage Rates

33. **UNDISPUTED PAYMENTS.** The acceptance by Contractor of an undisputed payment made under the terms of the Contract shall operate as, and shall be, a release to Owner, and their duly authorized agents, from all claim of and/or liability to Contractor arising by

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virtue of the Contract related to those amounts. Disputed contract claims in stated amounts may be, specifically excluded by Contractor from the operation of the release.

34. **SUBSTITUTION OF SECURITIES.** The Contractor may substitute securities for the amounts retained by the Owner to ensure performance of the Contract in a form acceptable to the Owner(s).
35. **STATEMENT UNDER PENALTY OF PERJURY.** The representations made herein, including the Bidder's licensing information hereinafter furnished, are made under penalty of perjury. The undersigned understands that any bid not containing said licensing information, or containing any information, which is subsequently proven false, shall be considered non-responsive, and shall be rejected by Owner.
36. **UNENFORCEABILITY.** In the event that any provision of this Agreement is unenforceable or held to be unenforceable, then the parties agree that all other provisions of this Agreement have force and effect and shall not be affected thereby.
37. **FINAL PAYMENT SUBJECT TO ACCEPTANCE.** Final Payment is subject to acceptance of the Project by Owner.
38. **FORCE MAJEURE.** Either party's performance under this agreement is subject to acts of God, war (declared or undeclared), government regulation, terrorism, disaster, strikes, civil disorder, curtailment of transportation facilities, or similar occurrence beyond the party's control, making it impossible, illegal or commercially impracticable for one or both parties to perform its obligations under this agreement, in whole or in part. Either party may terminate this agreement without liability for any one or more of such reasons upon written notice to the other party within ten (10) days of such occurrence or receipt of notice of any of the above occurrences.
39. **AUTHORIZATION.** Each party by signing below hereby warrants that they are fully and duly authorized to enter into this agreement, do so freely and have read and understand the conditions and terms set forth herein along with any and all other documents forming the Contract Documents.

For Information Only

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IN WITNESS WHEREOF, the respective parties hereto have hereinto set their hands and seals

the day _____ of _____, 20_____.

TOWN OF CHATHAM

ATTEST:

BY: _____
(Name) (Title)

THE CONTRACTOR

ATTEST:

BY: _____
(Name) (Title)

END OF SECTION

For Information Only

SECTION 02010

FAITHFUL PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: that, WHEREAS, Town of Chatham ("Owner"), Commonwealth of Massachusetts, has awarded to _____, hereinafter designated as the "Principal", a contract (the "Contract"), the terms and provisions of which Contract are incorporated herein by reference, for constructing the following project:

**TRAP DOCK RECONSTRUCTION
CHATHAM, MA**

WHEREAS, said Principal is required under the terms of said Contract to furnish a bond for the faithful performance of said Contract;

NOW, THEREFORE, we, the Principal, and _____, as surety, are held and firmly bound unto Owner in the penal sum of _____ and _____/100 Dollars (\$ _____), lawful money of the United States, being one hundred percent (100%) of the Contract amount, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that if the above bounden Principal, his or its heirs, executors, administrators, successors or assigns, shall in all things stand to and abide by, and will truly keep and faithfully perform the covenants, conditions, and agreements in the said Contract and any alterations made as therein provided, on his or their part, to be kept and performed at the time and in the manner therein specified, and in all respects according to their true intent and meaning, and shall indemnify and leave harmless, Owner, its Board, officers, employees and agents, as therein stipulated, then this obligation shall be null and void; otherwise it shall be and remain in full force and virtue.

As a condition precedent to the satisfactory completion of the said Contract, the above obligation shall hold good for a period of one (1) year after the completion and acceptance of the said work, during which time if the above bounded Principal, his or its heirs, executors, administrators, successors or assigns shall fail to make full, complete and satisfactory repair and replacements or totally protect the said Owner from loss or damage made evident during said period of one (1) year from the date of acceptance of said work, and resulting from or caused by defective materials or faulty workmanship, in the prosecution of the work done, the above obligation shall be and remain in full force and virtue.

And the said Surety, for value received, hereby stipulates and agrees to waive any consent to change, extension of time, alteration, or addition to the terms of the Contract or to the work to be performed thereunder or the Specifications accompanying the same shall in any way affect its obligations on this bond; and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract, or to the work, or to the Specifications.

In the event Owner, or its successors or assigns, shall be the prevailing party in an action brought upon this bond, then, in addition to the penal sum hereinabove specified, we agree to pay to the

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said Owner, or its successors or assigns, a reasonable sum on account of attorney's fees in such action, which sum shall be fixed by the court.

IN WITNESS THEREOF, the above bounden parties have executed this instrument under their seals this day of _____, 20_____, the name and corporate seal of each corporate party being hereto affixed, and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

Principal

Witness as to Principal

By:

Address

Surety

ATTEST:

Witness to Surety

Attorney-in-Fact

(Seal)

If **Contractor** is partnership, all partners must execute **BOND**.

For Information Only

END OF SECTION

SECTION 00202

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS: That we, _____

as Principal, and, _____ organized and existing under the laws of the Commonwealth of Massachusetts, and authorized to execute bonds and undertaking as sole surety, as Surety, are held and firmly bound unto any and all persons named whose claim has not been paid by the Contractor, company or corporation in the aggregate total of _____ and ____/100 Dollars (\$_____) (being 100% of the Contract amount) for the payment whereof, well and truly to be made, said Principal and Surety bond themselves, their heirs, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THE FOREGOING OBLIGATION IS SUCH that, whereas the above with Town of Chatham ("Owner") to do the following work, to-wit:

**TRAP DOCK RECONSTRUCTION
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NOW, THEREFORE, if the above-bounden Principal or his subcontractors fail to pay any of the persons named or unnamed, or amounts due under the Unemployment Insurance Code with respect to work or labor performed under the Contract, or for any amounts required to be deducted, withheld, and paid over to the Employment Development Department from the wages of employees of the Contractor and his subcontractor pursuant to the Unemployment Insurance Code of the Commonwealth of Massachusetts, with respect to such work and labor, the surety will pay for the same, in the amount not exceeding the sum specified in this bond, and also, in case suit is brought upon this bond, a reasonable attorney's fee, to be fixed by the Court.

This bond shall inure to the benefit of any person named or who has provided goods or services so as to give a right of action to them or their assignees in suit brought upon this bond.

And the said Surety, for value received, hereby stipulates and agrees to waive the provisions regarding consent to change, extension of time alteration, or addition to the terms of the Contract, or to the work to be performed thereunder, or the Specifications accompanying the same, shall in any way affect its obligations on this bond; and it does hereby waive notice of any such change, extension of time, alteration, or addition to the terms of the Contract, or to the work, or to the Specifications.

IN WITNESS WHEREOF, the above bounden parties have executed this instrument under their seals this _____ day of _____, 20____ the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

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Principal

Witness as to Principal

By: _____

By:

Address

Surety

ATTEST:

Witness to Surety

Attorney in Fact

_____ (Seal)

If **Contractor** is partnership, all partners must execute **BOND**.

For Information Only

END OF SECTION

SECTION 01000

GENERAL AND SPECIAL CONDITIONS

PART 1: GENERAL

1.01 SCOPE OF WORK

- A.** The work to be done under this contract consists of furnishing all labor, tools, materials and equipment required to construct the entire project, along with any and all necessary restoration. All work shall be performed as shown on the drawings, specified herein and/or is evidently required to complete the work and the specifications set forth herein. Performance Bond shall equal 100% of contract price. Payment Bond shall equal 100% of contract price.
- B.** The Owner may select a Contractor based upon bids received. The Owner will require an executed contract, which it will prepare, bonds and insurance certificates as set forth herein prior to any activities being commenced by the selected Contractor.
- C.** Owner reserves the right to reject any and all Bids if it is deemed to be in his/her best interest.
- D.** The bid and schedule of value(s) as proposed by the Contractor in its offer shall be firm and include any and all labor, materials, equipment, supplies, overhead and profit to perform and deliver a complete project as set forth herein and on the project plans.
- E.** The Contractor must include any and all materials, labor, equipment or other items in each bid item. If an item includes ancillary work or apparatuses, then the item must be priced by the Contractor to include such other work.
- F.** Measurements and calculations shall be reviewed for accuracy by the Project Engineer and prepared for submission to the Owner. The Contractor shall coordinate any and all construction activities to allow the Project Engineer to verify quantities such that verification activities are minimal and the processing of payment application is effectuated in a timely and organized manner.
- G.** Any requests for information (RFI's) shall be submitted to the Project Engineer in writing. The Project Engineer shall endeavor to have all responses from Contractor's request for information within seven (7) working days, thereby the Contractor is to plan construction activities accordingly.
- H.** The Contractor is an independent entity and shall act as an independent Contractor and not as an agent or employee of Owner or Engineer. Nothing herein creates a relationship of partnership, joint venture, or principal and agent between the parties. Contractor shall have complete professional, managerial, technical and supervisory responsibility for the work provided hereunder including the direction and control of all personnel providing goods, equipment, materials and/or services pursuant to or in furtherance of the work whether directly or indirectly employed or working for the Owner or the Engineer. The Owner and the Engineer shall retain the right to stop and start the work, adjust the schedule of work, coordinate the Contractor's work with other work and receive reports, however, such rights shall not be construed as controlling the details of the work.

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1.02 PROJECT SITE

- A. The work to be performed is at Chatham Trap Dock, located at 613 Stage Harbor Road, Chatham, MA. The Project exact location is denoted as shown on the plans/drawings associated with this project.

1.03 DRAWINGS AND SPECIFICATIONS

- A. All work shall conform and be in accordance with these specifications and/or the accompanying drawings entitled:

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Project plans are dated October 1, 2019 consisting of 15 Sheets prepared by GEI Consultants Inc., 124 Grove Street, Suite 300, Franklin, MA 02038, and 9 Sheets prepared by RW Sullivan, 529 Main Street, Suite 203, Boston MA 02129 and on file with the Owner and the Project Engineer, GEI Consultants Inc., 124 Grove Street, Suite 300, Franklin, MA 02038 and any changes, drawings and direction(s) that may from time to time be furnished by the Project Engineer.

1.04 WORK SEQUENCE

- A. General: There are certain essential criteria relative to the preparation of a work sequence and time schedule that the Contractor will be required to implement and follow during the performance of all work. The Contractor shall begin work locating the project limits and mobilization of all necessary equipment on to the project site.
- B. The Contractor's work methods shall be planned and carried out such that there is no damage to any existing structures or adjacent properties. Any and all existing structures are to be carefully and adequately protected, such that they are not in any way damaged or compromised. Any damage to adjacent structures or any property which is in any way damaged as a result of (directly or consequently) to any activities undertaken by the Contractor shall remain at all times at the Contractor's expense and peril.
- C. Contractor's schedule for progress and completion of work will be reviewed and approved by Project Engineer. The Contractor's work methods shall be planned and carried out such that there is no damage to any existing structures. Any and all existing structures are to be carefully and adequately protected, such that they are not in any way damaged or compromised. Any damage to adjacent structures or any property which is in any way damaged as a result of (directly or consequently) to any activities undertaken by the Contractor shall remain at all times at the Contractor's expense and peril.
- D. The Contractor shall be required to commence work under this contract within fourteen (14) days after the date of receipt by him/her of Notice to Proceed. Contractor shall have substantial completion of all work, except those determined by the Owner as punch list, by April 17, 2020. All work shall be completed by **May 1, 2020**.
- E. The Order of Work shall be developed by the Contractor and submitted in his/her construction schedule. The Contractor will be responsible for coordinating construction activities with the Owner's facility schedules and potential construction activities at adjacent properties not limited to direct and indirect abutters. As this is an active boating facility, the Contractor will be required to move equipment to allow access to site for boat

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ramp or other boating operations as designated by the Town. No additional payment will be made for these moves.

- F.** Hours of Operation: Allowable hours of operation shall be coordinated with the Town of Chatham and local and Town Regulations.
- G.** The Contractor is advised that completion of this project is essential to the Owner' facility operations. Failure to complete this project in the time frame stated herein will have a follow-on delay for facility operations. Therefore, an assessment in the form of liquidated damages in the amount of \$1,500 (one thousand, five hundred dollars) per calendar day will be assessed.

It is understood that since time is of the essence, the Contractor will be responsible for liquidated damages to the Owner. Moreover, the amount of damage and loss to the Owner which will result from the Contractor's failure to start and complete performance within the time specified in this contract will be difficult or impractical to ascertain, if the work has not been started and completed in accordance with the provisions for the contract by the date specified, the Contractor shall pay to the Owner the sum agreed upon and designated for each and every calendar day that he is in default in starting and/or completing the work. Such moneys shall be paid as damages, not as a penalty, to liquidate losses and expenses of the Owner.

The Owner will recover such liquidated damages by deducting the amount thereof, out of any moneys due or that might become due the Contractor, and if such moneys are insufficient to cover the liquidated damages, the Contractor or its surety shall pay the amount due to the Owner.

The assessment of liquidated damages or a portion thereof may be waived by the Owner if the Contractor submits evidence satisfactory to the Owner or its representative, that the work has not been completed by the time herein appointed because of delays caused solely by conditions beyond the control of the Contractor and that the Owner has not suffered any damages as a result of said delay.

The Contractor shall be fully responsible and shall indemnify to the fullest extent of the law the Owner for any fines, levy penalty charges incurred in prosecuting any portion of the work set forth herein.

- H.** If the Contractor fails to comply with the construction schedule as set forth in the Contractor's bid or the Project specifications, the Owner may give the Contractor a notice specifying the time limits and performance standards that the Contractor is failing to meet whereupon (1) the Contractor shall, if the notice requires, discontinue all or any portion of the Work (which discontinuance shall neither terminate the Contract nor give the Contractor any claim for an increase in the Contract Price, damages, or an extension of any completion deadlines); or (2) at Contractor's sole cost increase the work force, equipment and plant, or any of them, employed on the whole or any part of the Work, to the extent required by such notice, and employ the same from day to day until the completion of the Work or such part thereof, or until the failure regarding the rate of progress, in the opinion of the Owner, shall have been sufficiently corrected.

If, the Contractor fails to comply with the construction schedule, and whether or not the Owner shall have given the Contractor a notice described in D above, the Owner may (but shall not be required to) give the Contractor notice of such failure and five (5) days to cure the same. Unless the Contractor shall within that five days take all necessary steps to do so (including, if the Owner requires, increasing its forces, equipment and plant) and continue

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to do so until in the opinion of the Owner the failure is corrected, the Owner may at the Contractor's expense and without terminating this Contract take exclusive or joint possession of all or a portion of the Site and employ and direct the labors of existing or such additional forces, equipment and plant as may in the Owner's opinion be necessary to insure the completion of the Work or such part thereof within the time specified in the Contract Documents or at the earliest possible date thereafter. The Owner may exercise its rights under this Section at any time and from time to time without waiving any of its rights under this Contract, at law or in equity, including, without limitation, the right to deem this Contract terminated or to order the Contractor to discontinue the Work at any time thereafter. The Contractor shall continue to perform the remaining Work under this Contract even if the Owner elects to have another contractor perform a portion of the Work under this Section.

1.05 CONTRACTOR'S LIABILITY INSURANCE

- A.** The Contractor shall purchase and maintain such insurance as will protect him from the Contractor's operations under the Contract, whether such operations be by himself or herself or by any Sub-Contractor or by anyone directly or indirectly employed by any of them or by anyone for whose acts any of them may be liable.
- B.** Insurance similar to that required of the Contractor shall be provided by or on behalf of all Sub-Contractors to cover their operations performed under the Contract Documents. The Contractor shall be held responsible for compliance with and enforcement of the insurance requirements and for any modifications of these insurance requirements as they apply to Sub-Contractors. The Contractor shall not permit any Sub-Contractor commence work until such Sub-Contractor has furnished evidence that insurance has been procured and certificates of insurance have been obtained by the Contractor providing that, in the event of restrictions in or cancellation of Sub-Contractor policies, thirty (30) days advance written notice be given to Contractor by U.S. first class mail.
- C.** The Contractor shall purchase and maintain during the life of this Contract:
1. Insurance sufficient to discharge its obligations under all applicable workers' or workmen's compensation laws of the territories and States of the United States.
 2. Employer's liability insurance with minimum limit per accident or disease of \$1,000,000.
 3. Statutory disability and other employee benefit insurance.
- D.** The Contractor shall purchase and maintain during the term of this Contract, at a minimum, comprehensive liability insurance including a comprehensive broad form endorsement and covering the full scope of this contract with limits not less than \$3,000,000 per occurrence and \$3,000,000 aggregate or personal or bodily injuries, and \$3,000,000 per occurrence and aggregate for property damage. A combined single limit per occurrence of \$3,000,000 is acceptable. All policies issued shall include permission for partial or total occupancy of the premises by the Owner within the scope of this Contract. Such insurance shall include at least the following:
1. Comprehensive general liability insurance, including all products, premises-operations, and completed operations liability, independent Contractors, additional interests of employees, incidental medical malpractice liability, including notice of occurrence and knowledge of occurrence endorsements satisfactory to the Owner.

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2. Comprehensive business automobile liability insurance covering use of any motor vehicle to be used in conjunction with this contract with a minimum coverage of \$1,000,000. A compulsory Massachusetts automobile policy is acceptable for vehicles registered in Massachusetts only.
3. Coverage for loading and unloading of any motor vehicle must be covered by endorsement to the comprehensive (or compulsory) automobile liability policy.
4. Blanket contractual liability insurance covering all liabilities assumed under the Contract Documents, including, but not limited to, Contractor's obligations under Article 5 of the General Conditions.
5. Personal injury coverage endorsement (coverage's A, B, and C), with no exclusions for liability assumed contractually or injury sustained by employees of Contractor.
6. Excess Liability coverage in an amount which is to be no less \$3,000,000.
7. Broad form coverage for damage to property of the Owner, as well as other third parties, while in the care, custody, or control of Contractor.
8. Insurance sufficient to discharge its obligations under all applicable workers' or workmen's compensation laws of the territories and states of the United States., the United States Longshoremen's & Harbor Workers Act, the Jones Act and Admiralty or Maritime Law. If any operations performed within the scope of this Contract by Contractor or its Sub-Contractors require the use of any aircraft or watercraft (owned or un-owned), Contractor shall maintain liability insurance satisfactory to, and naming as an additional insured, the Owner.
9. Insurance similar to that required of the Contractor shall be provided by or on behalf of all Sub-Contractors to cover their operations performed under the Contract Documents. The Contractor shall be held responsible for compliance with and enforcement of the insurance requirements and for any modifications of these insurance requirements as they apply to Sub-Contractors. The Contractor shall not permit any Sub-Contractor commence work until such time as the Sub-Contractor has furnished evidence that insurance has been procured and certificates of insurance have been obtained by the Contractor, forwarded to the Owner, and provide that, in the event of restrictions in or cancellation of Sub-Contractor policies, thirty (30) days advance written notice be given to Contractor and Owner by registered mail.
10. Insurance certificates acceptable to the Owner evidencing the above coverages are to be furnished to the Owner prior to execution of any Contract. Any and all such certificates and all insurance policies required by these Insurance Requirements shall contain provisions requiring at least 30 (thirty) days prior written notice to the Owner of any cancellations of, or material change in the policies. Certificates shall indicate effective dates of expiration of policies and shall refer to the corresponding subparagraphs listed above. An additional certificate evidencing continuation of all insurance coverages is required to remain in force after final payment, and neither final payment nor any remaining retainage under this contract shall be due until such certificate has been submitted to the Owner.
11. All insurance policies provided pursuant to the foregoing provisions of these Insurance Requirements shall be in the form and written by companies satisfactory to the Owner, and the Owner shall be named as an additional insured. All such

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policies shall contain provisions or endorsements necessary to assure coverage of claims by one insured against another. All required insurance policies are to be endorsed to state that the Contractor's policies shall be primary to all other insurance available to the Owner for liability arising out or resulting from the Contractor's operations under the Contract, whether such operations be by Contractor or by a Sub-Contractor or by anyone directly to indirectly employed by any of them or by anyone for whose acts any of them may be liable.

12. The purchase of insurance to satisfy the above requirements, or the furnishing of certificates evidencing same, shall not be a satisfaction of Contractor's liability under this Contract or in any way modify Contractor's indemnification of the Owner.
13. Without limitation of any other provisions of the Contract Documents, if (a) the Contractor's agreement herein to insure or to name as an insured the Owner with respect to contractual liability assumed by the Contractor under the terms of the Contract Documents or otherwise, or (b) any contract of insurance between the Contractor or any Sub-Contractor and its or their insurance company, shall to the extent be or be determined to be void and unenforceable, it is the intent of the Owner that such circumstances shall not otherwise affect the validity or enforceability or the Contractor's agreements and obligations under the Contract documents nor the validity or enforceability of such contract or insurance, each of which shall be enforced to the fullest extent permitted by law. Insurance sufficient to discharge its obligations under all applicable workers' or workmen's compensation laws of the territories and states of the United States, the United States Longshoremen's & Harbor Workers Act, the Jones Act and Admiralty or Maritime Law.
14. Without limitation of any other provisions of the Contract Documents, if (a) the Contractor's agreement herein to insure or to name as an insured the Owner with respect to contractual liability assumed by the Contractor under the terms of the Contract Documents or otherwise, or (b) any contract of insurance between the Contractor or any Sub-Contractor and its or their insurance company, shall to the extent be or be determined to be void and unenforceable, it is the intention of the parties that such circumstances shall not otherwise affect the validity or enforceability or the Contractor's agreements and obligations under the Contract Documents nor the validity or enforceability of such contract or insurance, each of which shall be enforced to the fullest extent permitted by law.
15. The Contractor shall purchase and maintain during the term of this contract property insurance in the amount of the contract value plus any subsequent revisions of the contract. Such insurance shall name the Owner as an additional insured and shall insure against all perils normally covered in an "all risk" form, including flood and earthquake. This insurance shall include coverage of owned and rented tools, equipment, temporary facilities and other items, whether or not the capital value of which has been included in the contract amount, and shall also include coverage for portions of the work stored off the site or in transit which are included in any application for payment. Deductibles in the Contractor's coverage shall be the responsibility of the Contractor. Certificates or binders of insurance indicating that the Contractor has obtained the aforesaid property insurance coverage shall be filed with the Owner prior to execution of the Contract. If binders are filed, certificates shall then be filed for the coverage prior to the expiration date of the binder. The policy shall be written with an insurance

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company with a Best's insurance rating classification of "A" or better. Such certificates and binders shall be in form and substance reasonably acceptable to the Owner and shall contain a provision that such property insurance coverage shall not be materially changed or canceled until at least 30 (thirty) days prior to written notice has been given to the Owner.

16. In the event that the Contractor or the Contractor's insurance company fails to provide the Owner with documentation sufficient in the Owner's sole discretion to remedy all damage and loss to any property referred to in the above section.

1.06 SURETY BONDS

- A. The Contractor shall obtain a payment and performance bond for one hundred percent of the bid value naming the Owner and project and present the bond to the Owner prior to the commencement of any work on the project. The surety shall be "AAA" rated admitted in the Commonwealth of Massachusetts with duly granted authority to produce bonds and shall be approved by the Project Engineer as an acceptable security for the project. Any modifications, additions or deletions to the Contractor's bid during the contract performance shall be the Contractor's expressed responsibility to notify the surety where the bond(s) are procured. A failure to notify the surety of a material addition, deletion or modification to the project shall be at the Contractor's peril and shall be deemed as accepted by the Contractor's surety as ratified. The Contractor hereby warrants to the Owner that the Contractor's surety has had ample opportunity to review the plans, specifications and agreements and by issuing a payment and performance bond ratifies and agrees to be bound to the conditions and terms set forth herein and the Contractor's surety agrees to the same.
- B. The Contractor and Owner agree that any and all costs for procuring, securing or otherwise obtaining any of the aforementioned insurance and/or bonds is the expressed responsibility of the Contractor and has been included in the Contractor's bid to the Owner.

1.07 PRE-BID MEETING

- A. A non-mandatory, but highly recommended, site walk through will be performed by the Engineer on **October 8 at 2:00 P.M.** at the project site, which will overview and acquaint the Contractor with the work set forth hereunder. The Contractor is to fully apprise himself or herself of the site conditions, access to the project site and price their bid in order to take any and all constraints into account such that the Contractor is prepared to provide whatever means and at whatever costs necessary to ensure that measures are in place to ensure that the project is executed according to the plans and specification set forth herein. Questions regarding the site or to coordinate any access that the Contractor wants to undertake prior to the submission of a bid may be addressed to the Project Engineer. As such the Contractor shall examine the existing conditions and thoroughly acquaint himself or herself with the obstacles and advantages of performing the work. The Contractor shall also study the drawings and compare the same with the information gathered during his examination of the site, as no extra compensation will be authorized for work resulting from the Contractor's unfamiliarity with the site and/or the drawings, or the conditions peculiar to this job. If the Contractor chooses not to attend this meeting, he shall waive the right to raise their non-attendance as a defense or claim for of any cause whatsoever for any information provided at this meeting.

1.08 SUBMITTALS

- A. Shop drawings and brochures shall be submitted in accordance with the requirements of the General Conditions. Submittals are required for the items whether named or not. Additional submittals may be required by the Engineer which the Contractor will comply with at no additional cost(s) to be charged to the Owner(s).

1.09 PROJECT SCHEDULE

- A. A progress schedule will be required for this project and is to be forwarded in writing to the Project Engineer five (5) days after the Notice to Proceed prior to the start of any work. No work may begin under the contract until the progress schedule, has been approved by the Owner and the Project Engineer. Failure to submit a project schedule shall be adequate grounds for the Owner to suspend any and all Contractor operations at no cost or liability to the Owner whatsoever.
- B. Time required for review and approval of these items shall not constitute a basis for time extension. Full compensation for supplying the "Progress Schedule" and all required updates shall be considered as included in the contract prices paid for the various bid items and no separate payment will be made.

1.10 DIFFERING SITE CONDITIONS

- A. The Contractor shall promptly, and before such conditions are disturbed, notify the Project Engineer in writing of: subsurface or latent physical conditions at the site, of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inhering in work of the character provided for in this contract. The Project Engineer shall promptly investigate the conditions, and if he finds that such conditions do materially so differ and cause an increase or decrease in the contractor's cost of, or the time required for, performance of any part of the work under this contract, whether or not changed as a result of such conditions, an equitable adjustment shall be made and the contract modified in writing accordingly. The decision of the Project Engineer is final and binding on the parties, but subject to the claim resolution procedures set forth in Section 01100 (Measurement and Payment) of the Contract Documents provided that the notice of claim as required by said Section 01100 is made within 30 days after receiving the final decision of the Project Engineer.
- B. No claim of the Contractor under this clause shall be allowed unless the Contractor has given the notice required in A. above; provided, however, the time prescribed therefore may be extended by the Owner.
- C. No claim by the Contractor for an equitable adjustment hereunder shall be allowed if asserted after final payment under this contract.

1.11 CLEANING AND EQUIPMENT

- A. During the progress of the work, the site shall be cleaned daily of all rubbish, packing materials or other debris. No debris capable of being windblown or washed away by rainfall, or tidal events shall be left unsecured on the site overnight.
- B. All roadways that have been used as access routes shall be swept on a regular basis, and kept in reasonably clean condition. "Reasonably clean" shall be defined as a condition acceptable to the local Department of Public Safety, and/or Department of Public Works having jurisdiction over the specific roadways. All equipment shall be located as authorized

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by the Project Engineer to provide that at the end of work day or shift the site or roadways are left in a passable condition and all equipment is safe and secure.

1.12 CONTRACT DOCUMENTS IN THE FIELD

- A. The Contractor must keep a copy of the contract documents including but not limited to plans, specifications, schedule, materials list, daily reports, materials safety data sheets, and safety reports at the site of the work at all times while work is being performed and said copy is to be available to those in charge of the work, including Owner and Project Engineer.

1.13 CONSTRUCTION SEQUENCE

- A. For the protection of life and property any and all construction operations shall be phased such that the site is safe and secure. The Contractor shall insure that no-equipment or materials are left unattended.
- B. The Contractor is responsible for the requisition and logistics of onsite local law enforcement detail where required by state or local law. Contractor's responsibilities include all contract and Sub-Contractor sites associated with the project and are inclusive of any and all pricing set forth herein.

1.14 UTILITIES

- A. Prior to commencing work, the Contractor is responsible for obtaining the location, size and depth of all existing underground or underwater utilities and structures. Dig Safe Systems, Inc. (DIG SAFE) may assist in this task, but should not be considered comprehensive.
- B. The Contractor shall assume that there are existing utility lines in the vicinity of the work, whether they appear on the drawings or not and should be independently verified by the Contractor using commercially reasonable methods that are normal and customary in the business of marine construction work.
- C. Existing utilities may not be known by the Owner or Project Engineer. The Contractor assumes any and all risks associated with the damage, disruption or repair of any utilities that are disturbed by any action(s) of the Contractor in the prosecution of the work set forth herein. As such, the Contractor will assure the Owner that any and all repairs to utilities that are damaged by Contractor's operations will be made expeditiously, in a professional, workman-like manner and must be satisfactory to both the Owner and Project Engineer at no additional cost to the Owner.
- D. It is not the intent of the plans to show the exact location of existing or relocated utilities, and the Owner assume no responsibility therefore. Whenever any such utilities are indicated thereon, the Contractor shall be responsible for verifying their actual location and depth in the field. The Contractor shall notify DIG SAFE (1-800-272-4480) prior to excavation.
- E. The Contractor has reviewed the project site and areas surrounding the project and shall take full responsibility for existing utilities or apparatuses which may in any way impede, hamper or delay the Contractors performance of the work set forth herein. The Owner(s) shall bear nor responsibility for the removal of or temporary relocation of any existing utilities or apparatuses.
- F. Where excavations are performed in the vicinity of underground utility mains and/or services the Contractor shall, as necessary, perform initial exploratory excavations to

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determine their exact depth and location. Extreme care shall be exercised to avoid damage, and it will be the Contractor's responsibility to have repairs made to existing facilities at his/her expense in the event of damage.

- G. Construction work for each site shall be coordinated with any work by other Contractors and utility entities to avoid conflicts. It is anticipated that any necessary work by others will be identified and performed prior to operations by the Contractor.
- H. Schedule constraints will be discussed at the pre-construction conference and the Contractor shall consider such adjustments in contract scheduling as necessary.
- I. Full compensation for complying with the above provisions shall be considered as included in the contract price for the various bid items and no separate payment will be made.

1.15 BARRICADES, GUARD LIGHTS AND TRAFFIC

- A. Barricades, signs, fences, and similar safety and warning devices shall be provided as required in order to insure the protection of the public at large as well as employees of the Contractor and all Sub-Contractor employees.
- B. Barricades, signs, fences, and similar safety and warning devices shall be provided as required in order to insure the protection of the public as well as employees.
- C. All signs and other warning devices (including construction and warning signs placed beyond the limits of work), shall be provided by the Contractor, and shall remain his/her property after the completion of the contract. All flaggers shall be provided by the Contractor at his/her expense.
- D. Barricades, Guard Lights and Traffic Control shall include furnishing all labor (including flaggers and detours, when necessary), materials and equipment necessary to provide for the convenience and safety of the public and to facilitate the performance of the contract work as shown on the plans and specified herein. Full compensation for complying with the above provisions shall be considered as included in the contract price for the various bid items and no separate payment will be made.
- E. All floating equipment shall adhere to all applicable maritime regulations including but not limited to lighting, safety equipment, etc.

1.16 PROTECTION OF WORK AND PROPERTY

- A. The Contractor shall be responsible for the preservation of all public and private property or their prosecution of the work and shall carefully protect the property from disturbance or damage.
- B. The Contractor shall be responsible for all damage or injury to public or private property resulting from any act, omission, neglect, or misconduct in, or either the Contractor's or its Subcontractors' manner or method of executing the work, or in consequence of the non-execution thereof. Furthermore, the Contractor shall be responsible for all such damage due to defective materials or acts. The Contractor shall restore, at its own expense such property to a condition similar or equal to that existing before such damage or injury was done, by repairing, rebuilding, or otherwise restoring as directed by the Project Engineer.
- C. All work is to be carefully protected so that no injury will come to it from water, frost, accident or other cause, and any injury, which will come to the work, is to be repaired by the Contractor at his expense. The Contractor shall protect the Owner' property, equipment and fixtures from injury, or loss. The Contractor shall protect the Owner' property from

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injury or loss arising in connection with this contract and he shall make good any damage, injury, or loss. The Contractor shall also adequately protect adjacent property as provided by statute and the contract documents.

- D.** The Contractor shall take all necessary precautions for the safety of employees on the work. The Contractor shall comply with all applicable provisions of federal, state and municipal safety laws and building codes to prevent accidents or injury to persons on, about, or adjacent to the premises where the work is being performed. The Contractor shall erect, properly maintain, at all times, as required by the conditions and progress of the work, all necessary fences, barriers, warning signs and lights that may be necessary to adequately protect the general public.
- E.** The Contractor shall provide temporary containment for all fuel tanks, pumps and appurtenances as a precaution against accidental spills or leaks. The Contractor shall maintain no greater than a two (2) day supply of fuel to any piece of equipment located on the site. The containment structures shall be capable of preventing releases of any fuel or other hazardous liquids to the environment, shall have volumes greater than that of the fuel tanks to be contained and shall be covered if necessary, to eliminate the intrusion of rain water. In accordance with State or local laws and permit requirements, the Contractor shall furnish and maintain all other necessary containment materials to insure zero release of hazardous materials to the environment.

1.17 RESTORATION

- A.** The Contractor shall be solely responsible for performing any necessary acts and providing any materials required to restore areas disturbed during construction to their pre-construction condition. During the Pre Bid time period prior to submitting a Bid, the Contractor shall note the condition of all areas within the project and include costs in their Bid for full and complete restoration.

1.18 PERMITS, FEES AND BONDS

- A.** The Contractor shall obtain and comply with all required permits, pay all fees and provide all bonds necessary to complete the work as specified. The Contractor shall be advised that permit fees required by the City shall be waived for this project. The Contractor shall be solely responsible for performing any necessary acts and providing any materials required in order to comply with any and all terms and conditions set forth in any permits and licenses.

1.19 GENERAL CLAUSES AND CONDITIONS

- A.** Suspension of work: The Owner may order the Contractor, in writing, to suspend, delay, or interrupt all or any part of the work of this contract for the period of time that the Project Engineer determines appropriate for the convenience of the Owner.
- B.** If the performance of all or any part of the work is, for an unreasonable period of time, suspended, delayed, or interrupted by an act of the Owner in the administration of this project, or by the Owner' failure to act within the time specified in this contract (or within a reasonable time if not specified), an adjustment shall be made for any increase in the cost of performance of this project (excluding profit) necessarily caused by the unreasonable suspension, delay, or interruption, and the contract modified in writing accordingly. However, no adjustment shall be made under this clause for any suspension, delay, or interruption to the extent that performance would have been so suspended, delayed, or interrupted by any other cause, including the fault or negligence of the Contractor.

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- C. A submittal shall not be allowed for any costs incurred more than twenty (20) days before the Contractor shall have notified the Owner in writing of the act or failure to act involved (but this requirement shall not apply as to a claim resulting from a suspension or work notice), and unless the claim, in an amount stated, is asserted in writing as soon as practicable after the termination of the suspension, delay, or interruption, but not later than the date of final payment under the contract.

1.20 SUSPENSION OF WORK

- A. The Owners may order the Contractor, in writing, to suspend, delay, or interrupt all or any part of the work of this contract for the period of time that the Project Engineer determines appropriate for the convenience of the Owner.
- B. If the performance of all or any part of the work is, for an unreasonable period of time, suspended, delayed, or interrupted by an act of the Owner in the administration of this project, or by the Owners' failure to act within the time specified in this contract (or within a commercially reasonable time if not specified), an adjustment shall be made for any increase in the cost of performance of this project (excluding profit) necessarily caused by the unreasonable suspension, delay, or interruption, and the contract modified in writing accordingly. However, no adjustment shall be made under this clause for any suspension, delay, or interruption to the extent that performance would have been so suspended, delayed, or interrupted by any other cause, including the partial fault or partial negligence of the Contractor.
- C. The Engineer reserves the right to suspend all or any portion of the work for any reasons during the execution of the work. If the work is suspended for a period of time and the Contractor believes the period is unreasonable and additional compensation and/or contract time is due, the Contractor shall submit to the Engineer in writing a request for adjustment within seven (7) calendar days of receipt of the notice to resume work. The request shall include the justification for adjustment.
- D. Upon receipt, the Engineer will consider the Contractor's request. If the Engineer agrees that the cost and/or time required for the performance of the contract has increased as a result of such suspension and was caused by conditions beyond the control of and not the fault of the Contractor, suppliers, subcontractors, the Engineer will make an equitable adjustment (excluding profit) and modify the contract in writing accordingly. No contract adjustment will be allowed unless the Contractor has submitted a request for adjustment within the time prescribed.
- E. The Owner may terminate for their convenience, performance of work under in whole or, from time to time, in part if the Owner determines that a termination is in the Owners' interest. The Owner shall terminate by delivering to the Contractor a Notice of Termination specifying the extent of termination and the effective date. After receipt of a Notice of Termination, and except as directed by the Owner or Project Engineer, the Contractor shall immediately proceed with the following obligations, regardless of any delay in determining or adjusting any amounts due under this provision. Stop work as specified in the notice. Place no further subcontracts or orders (referred to as subcontracts in this clause) for materials, services, or facilities, except as necessary to complete the continued portion of the contract. Terminate all subcontracts to the extent they relate to the work terminated. With approval or ratification to the extent required by the Project Engineer, settle all outstanding liabilities and termination settlement bids arising from the termination of subcontracts; the approval or ratification will be final for purposes of this clause. The Owner shall be obligated to pay the Contractor for work in place and Contractor agrees

that Owners' responsibility regarding the subject contract shall be limited only to work in place and the Contractor waives any rights or claims against the Owners for consequential damages should this project be terminated by the Owner for its Convenience.

1.21 STAND-BY AND IDLE EQUIPMENT TIME

- A. Equipment that is in operational condition and is standing by with the Engineer's approval will be paid for at 50 percent of the appropriate hourly rate as determined by the provisions set forth by the United States Army Corp of Engineers, Construction Equipment Ownership Schedule (EP 1110-1-8) less operating costs. Payment for such "stand-by" will be limited to not more than 8 hours in a 24-hour day or 40 hours in a normal work week.
- B. No compensation will be allowed for equipment that is inoperable due to breakdown.
- C. No payment will be allowed for equipment that is not operating because the work has been suspended in accordance with the specifications unless the suspension is for the convenience of the Town. No payment will be allowed for equipment that is not operating because the work has been suspended by the Contractor for the Contractor's own reasons.
- D. The hourly rate of compensation for idle equipment will be the monthly rate times a factor of 0.50 divided by 176 hours per month, regardless of the duration of the delay or stand-by.
- E. The time for which such compensation will be paid will be the actual normal working time during which such delay condition exists, but will in no case exceed 8 hours in any one day.
- F. The days for which compensation will be paid will be the number of working days charged during the existence of such delay. No compensation will be made for days that are considered lost due to weather as determined by the Engineer.
- G. Compensation will only be made for equipment physically located at the work site that would be used to prosecute the delayed work during the existence of such delay
 - 1. Significant Changes in Scope of Work:
 - a. The Engineer or Owner reserves the right to make, at any time during the work, such increases or decreases in quantities and such alteration in the work as necessary to satisfactorily complete the project. Such increases or decreases and alterations shall not invalidate the contract nor release the Surety, and the Contractor agrees to perform the work as altered.
 - b. If the increase on any item of work for which a unit price exists in the contract does not exceed the lesser of \$100,000.00 or five percent of the total contract price, then such increase shall be regarded as covered by the unit bid price for such items as contained in the original contract.
 - c. If the decrease on any item of work for which a unit price exists in the contract does not exceed 25 percent of the contract quantity, then such decrease shall be regarded as covered by the unit bid price for such item as contained in the original contract.
 - d. If the alteration or decrease in an item of work significantly changes the scope or the character of the work, then an adjustment may be made to the unit price. The basis for the adjustment shall be agreed upon prior to the performance of the work. If a basis cannot be agreed upon, an adjustment

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will be made either for or against the Contractor in an amount as the Engineer may determine to be fair and equitable.

2. Eliminated Items:

- a. Should any items contained in the bid be found unnecessary for the proper completion of the work, the Engineer may, upon written order to the Contractor, eliminate such items from the contract, and such action shall in no way invalidate the Contract.
- b. If the Contractor is notified of the decrease or elimination of an item, reimbursement will be made for the reasonable cost of material incurred, in connection with such item or portions, prior to the date of such decrease or elimination made by order of the Engineer but in no case shall such compensation exceed the contract bid price for the item.
- c. No claim shall be made by the Contractor for any loss of anticipated profits because of any alteration or variation between the approximate quantities and the quantities of work as done.

1.22 CONTRACTOR ABANDONMENT

- A. The Contractor may not remove any mobilized equipment that is material to this project at the Trap Dock Reconstruction without the expressed written consent of the Project Engineer.

PART 2: PRODUCTS

2.01 GENERAL

- A. A statement indicating the source of each proposed import material shall be submitted by the Contractor. The statement shall indicate that the proposed import does not include any contamination or hazardous material and the results of analytical testing. If the source of import material is questionable or if the preliminary analytical test results indicate the presence of contamination or hazardous material, the Owner may require performance of additional analytical testing at no cost to the Owner prior to approval of proposed import materials.
- B. Any and all products, materials and workmanship shall be warranted by the Contractor for a period of not less than two (2) years from the date of completion of the project. Completion shall be deemed as acceptance by the Owner of the final payment application prepared by the Contractor.

2.02 APPROVAL OF MATERIALS

- A. As soon as practicable but not to exceed five (5) calendar days after award of the contract and before any materials or equipment are purchased, the Contractor shall submit to the Project Engineer a complete list, in triplicate, of material and equipment to be incorporated in the work, together with the names and addresses of the manufacturer and their catalog numbers and trade names. Approval of materials will be based on manufacturer's published ratings. Materials that are incorporated into the project that have not been expressly approved by the Project Engineer will be subject to removal, replacement and or verification by the Project Engineer on behalf of the Owner and shall be solely at the Contractor's expense and peril.

2.03 SUBSTITUTIONS

- A. If a specific means, method, technique, sequence, or procedure of construction is indicated in or required by the Contract Sections, the Contractor may furnish or utilize a substitute means, method, sequence, technique, or procedure of construction acceptable to the Owner, if the Contractor submits sufficient information to allow the Owner to determine that the substitute proposed is equivalent to that indicated or required by the Contract Sections, in quality, warranty, life-cycle costs, design cost, construction time, warranty, and efficiency considerations. Contractor may submit requests for substitution up to 35 days following Notice of Award after which time the Owner will consider substitutions in its sole discretion.
- B. The Owner will respond in writing to the Contractor within ten (10) days indicating the time necessary to evaluate each proposed substitute. The Owner will be the sole judge of acceptability, and no substitute will be ordered, installed, or utilized without the Owner's prior written acceptance, which will be evidenced by either a change order or an approved shop drawing. The Owner may require the Contractor to furnish at the Contractor's expense a special performance guarantee or other surety with respect to any substitute.
- C. The Owner will record time required by the Owner and the Owner's consultants in evaluating substitutions proposed by the Contractor and in making changes in the Contract Sections occasioned thereby. Regardless of whether or not the Owner accepts a proposed substitute, the Contractor shall reimburse the Owner for the charges of the Owner and Owner's consultants for evaluating each proposed substitute.
- D. Cost or time impacts to other items of Contract work, which are caused by any Contractor initiated request for substitution, whether anticipated or unforeseen, shall be the responsibility of the Contractor.

2.04 TRADE NAMES

- A. Whenever the Trade Name of a product, or the name of a Manufacturer appears in these Contract Documents or on the Plans, it shall be understood to specify the product so identified or its approved equal. The words "or equal" or "approved equal" shall mean equal in the opinion of and approved by the Project Engineer in writing. For convenience in designation, certain equipment or parts or materials may be designated under trade name or the name of a manufacturer or product and his catalogue information. The use of alternative equipment or a Part or material which is of equal quality and of the required characteristics for the purpose intended will be permitted, subject to the written approval of the Project Engineer, in accordance with the following requirements:
 - 1. The burden of proof as to the comparative quality and suitability of alternative equipment or Parts or materials shall be upon the Contractor and he shall furnish, at his own expense, all information necessary or related thereto as required by the Project Engineer. The Project Engineer shall be the sole judge as to the comparative quality and suitability of alternative equipment or Parts or materials and the decision of the Project Engineer shall be final.
 - 2. The above provisions shall not be construed as permitting the use of alternative equipment or Parts or materials for equipment or Parts or materials which are not designated under a Trade Name or the name of a manufacturer or producer and his catalogue information, and for which detail specifications are set forth.

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PART 3: EXECUTION

NOT USED

END OF SECTION

For Information Only

SECTION 01100

MEASUREMENT & PAYMENT

PART 1: GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Specification sections, apply to work of this section.

1.02 RESOLUTION OF CONSTRUCTION CLAIMS

- A. For Construction claims the Owner and Contractor expressly agree to utilize informal conferences, non-binding judicially supervised mediation, and if necessary judicial arbitration to resolve disputes on construction claims.
- B. "Claim" means a demand or assertion by one of the parties seeking, as a matter of right, adjustment, or interpretation of contract terms, payment of money, extension of times or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. Claims must be initiated by written notice. The responsibility to substantiate Claims shall rest with the party making the Claim.
- C. For any claim subject to this section, the following requirements apply:
 - 1. Claims, including those alleging an error or omission by the Owner, shall be referred initially to the Owner for decision. An initial decision by the Owner shall be required as a condition precedent to mediation, arbitration, or litigation of all claims between the Contractor and Owner arising prior to the date final payment is due, unless 15 days have passed with the Owner failing to respond within the time prescribed. The Owner will not decide disputes between the Contractor and persons or entities other than the Owner.
 - 2. The claim shall be in writing and include the documents necessary to substantiate the claim. Claims must be filed on or before the date of final payment but in no event shall be filed later than 30 days after the occurrence of the event giving rise to such claim or within 30 days after the claimant first recognizes the condition giving rise to the claim, whichever is later. Nothing in this subsection is intended to extend the time limit or supersede notice requirements otherwise provided by contract for the filing of claims.
 - 3. For claims of less than \$50,000 (fifty thousand dollars)
 - a. The Owner shall respond in writing to any written claim within forty-five (45) days of receipt of the claim, or may request in writing within thirty (30) days of receipt of the claim, any additional documentation supporting the claim or relating to defenses to the claim the Owner may have against the Contractor.
 - b. If additional information is thereafter required, it shall be requested and provided upon mutual agreement of the Owner and the Contractor.
 - c. The Owner's written response to the claim, as further documented, shall be

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submitted to the Contractor within fifteen (15) days after receipt of the further documentation or within a period of time no greater than that taken by the Contractor in producing the additional information or requested documentation, whichever is greater.

4. For claims of over fifty thousand dollars (\$50,000).
 - a. The Owner shall respond in writing to all written claims within sixty (60) days of receipt of the claim, or may request, in writing, within thirty (30) days of receipt of the claim, any additional documentation supporting the claim or relating to defenses to the claim the Owner may have against the Contractor.
 - b. If additional information is thereafter required, it shall be requested and provided upon mutual agreement of the Owner and the Contractor.
 - c. The Owner' written response to the claim, as further documented, shall be submitted to the Contractor within thirty (30) days after receipt of the further documentation or within a period of time no greater than that taken by the Contractor in producing the additional information, whichever is greater.
5. The decision of the Owner is final and binding on the parties, unless the Contractor notifies the Owner, in writing, either within 15 days of receipt of the Owner's response or within 15 days of the Owner's failure to respond within the time prescribed, respectively, and demands an informal conference to meet and confer for settlement the issues in dispute. Upon demand, the Owner shall schedule a meet and confer process, including any period of time utilized by the meet and confer process.
6. If following the meet and confer conference, the claim or any portion remains in dispute, the Contractor may file a claim. For purposes of those provisions, the running of the period of time within which a claim must be filed shall be tolled from the time the Contractor submits his or her written claim pursuant to the aforementioned parameters until the time the claim is denied as a result of the meet and confer process, including any period of time utilized by the meet and confer process.
7. This section does not apply to tort claims and nothing in this section is intended nor shall be construed to change the statutory time period for filing tort claims or actions specified by Massachusetts State Law or any applicable Federal Statute.
8. The following procedures are established for all civil actions filed to resolve claims subject to this section:
 - a. Within sixty (60) days, but no earlier than thirty (30) days, following the filing or responsive pleadings, the court shall submit the matter to non-binding mediation unless waived by mutual stipulation of both parties. The mediation process shall provide for the selection within fifteen (15) days by both parties of a disinterested third person as mediator, shall be commenced within thirty (30) days of the submittal, and shall be concluded within fifteen (15) days from the commencement of the mediation unless a time requirement is extended upon a good cause showing to the court or by stipulation of parties. If the parties fail to select a mediator within the fifteen (15) day period, any party may petition the court to appoint a mediator.
 - b. If the matter remains in dispute, the case shall be submitted to judicial

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arbitration. Notwithstanding any other provision of the law, upon stipulation of the parties, arbitrators appointed for purposes of this article shall be experienced in construction law, and, upon stipulation of the parties, mediators and arbitrators shall be paid, necessary and reasonable hourly rates of pay not to exceed their customary rate, and such fees and expenses shall be paid equally by the parties, except in the case of arbitration where the arbitrator, for good cause, determines a different division. In no event shall these fees or expenses be paid by State or County funds.

- B. The Owner shall not fail to pay money as to any portion of a claim, which is undisputed except as otherwise provided in the Contract.

1.03 WORK COVERED BY CONTRACT PRICE:

- A. Items shall be paid for by the terms and conditions outlined under each Items description for Measurement and Payment within the specific Specification Section.

1.04 PAYMENT

- B. The unit or lump sum prices for all items in the bid schedule shall be full compensation for the work specified and shall include the cost of furnishing all supervision, materials, labor, tools, and equipment and all work, expenses and taxes incidental to and necessary to complete the work in accordance with the drawings and specifications.
- C. Monthly partial payments will be based on quantities determined by the Project Engineer.
- D. The quantities to be measured under the various items in the bid will be those quantities of work completed in accordance with the contract drawings and specifications. The methods of measurement will be as stated hereinafter for the individual items.

1.05 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment shall be consistent with previous applications and payments as certified by Engineer and paid for by Owner.
 1. All applications for payment are to be accompanied by monthly submittals of updated Contractor's Construction Schedule, Schedule of Values and Submittals Schedule as required in Section 01320, "Construction Progress Documentation." Applications for payment that are not accompanied by the required materials will not be processed for payment.
 2. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.
- B. Payment Application Times: Monthly progress payments shall be submitted to Engineer per schedule delivered by the Owner. The period covered by each Application for Payment is one month, ending on the last day of the month.
- C. Payment Application Forms: Included with each application for payment shall be a completed Contract Acknowledgement to Accompany Partial Payment.
- D. Informal Submittal: Unless otherwise directed by the Owner.
 1. Make an informal submittal of request for payment by filling in, with erasable pencil, plus continuation sheet or sheets.

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2. Make this preliminary submittal to the Owner each month at least 10 days prior to making a formal request for payment.
 3. Revise the informal submittal of request for payment as agreed upon.
- E. Application Preparation:** Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Engineer will return incomplete applications without action.
1. Entries shall match data on the Schedule of Values and Contractor's Construction Schedule. Use updated schedules if revisions were made.
 2. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
- F. Partial Payments:** Partial payment shall be made monthly as the work progresses.
1. All partial invoices and payments shall be subject to correction in the final quantity invoice and payment. No monthly payment shall be required to be made when, in the judgment of the Owner, the Work is not proceeding in accordance with the provisions of the Contract Documents, or when in his/her judgment the total value of the Work performed since the last payment amounts to less than \$1,000.00.
 2. Making progress payments, there shall be retained ten percent (10%) of the estimated amount until final completion and acceptance of the contract work. Whenever the work is substantially complete, the Owner, if Contractor considers the amount retained to be in excess amount adequate for the protection of the Owner, at his discretion, may release to the Contractor all or a portion of such excess amount. Furthermore, on completion and acceptance of each separate division of the contract, on which the price is stated separately in the contract, payment may, at the discretion of the Owner, be made therefore without retention of a percentage. The Contractor must obtain and submit to the Owner, Consent of Surety, prior to reduction or partial release of retainage.
 3. Acceptable materials shall be those materials that will become a part of the finished construction work. The basis for partial payments of lumps sum or other unit items will be determined by the Owner.
 4. No such estimate or payment shall be required to be made when, in judgment of the Owner, the Work is not proceeding in accordance with the provisions of the Contract or when in the Owner's judgment, the total value of the Work done since the last estimate amounts to less than \$1,000.
 5. No such payment shall be considered to be an acceptance of any defective Work or improper materials. All progress estimates and payments shall be subject to correction/offset in the final estimate/pay application.
- G. Transmittal:** Submit three (3) signed and notarized original copies of each Application for Payment to Engineer by a method ensuring receipt within 24 hours. One copy shall include waivers of lien and similar attachments if required.
1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.
- H. Waivers of Mechanic's Lien:** With each Application for Payment, submit waivers of mechanic's lien from every entity who is lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment.

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1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
2. When an application shows completion of an item, submit final or full waivers.
3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
4. Waiver Forms: Submit waivers of lien on forms, executed in a manner acceptable to Owner.

I. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:

1. List of subcontractors.
2. Schedule of Values.
3. Contractor's Construction Schedule (preliminary if not final).
4. Schedule of unit prices.
5. Submittals Schedule (preliminary if not final).
6. List of Contractor's staff assignments.
7. List of Contractor's principal consultants.
8. Copies of building permits.
9. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
10. Initial progress report.
11. Report of preconstruction conference.
12. Certificates of insurance and insurance policies.

J. Application for Payment at Substantial Completion: After issuing the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.

1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
2. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.

1.06 FINAL PAYMENT

- A.** As soon as practicable after Final Completion of the Work, Contractor shall submit to Owners three (3) copies of a final request for payment for the cost of the Work, which request will show deductions for prior payments and any other amounts to be retained.
- B.** The amount determined due, less the amount retained, will be paid. This retained amount will not be due or payable until Thirty (30) days after the completion of the Work and the filing of Notice of Completion and Acceptance in the manner provided by law, and until after the Contractor has furnished the Owner a release of all claims by the Contractor or Subcontractors against the Owner arising by virtue of this Contract, except such claims in definite amounts as the Contractor may specifically exempt from the operation of the release and the furnishing of any guaranty.
- C. Final Payment Application:** Submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
 1. Evidence of completion of Project closeout requirements.

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2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
3. Updated final statement, accounting for final changes to the Contract Sum.
4. Contractor's Affidavit of Payment of Debts and Claims.
5. Contractor's Affidavit of Release of Liens.
6. Consent of Surety to Final Payment.
7. Evidence that claims have been settled.
8. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
9. Final, liquidated damages settlement statement.

1.07 WORK NOT PAID FOR SEPARATELY

- A. Bonds: Payment for bonds as required by the contract are to be included in the various items of work in the bid, and no separate payment will be made by the Owner for any bonds.

PART 2: PRODUCTS

NOT USED

PART 3: EXECUTION

NOT USED

***END OF SECTION**

For Information Only

SECTION 01300

SUBMITTALS

1. GENERAL

1.1 SHOP DRAWINGS, MANUFACTURERS' SPECIFICATIONS AND INSTALLATION INSTRUCTIONS, SAMPLES, ETC.

A. The Contractor shall review and approve all submittals prior to submittal to the Owner. Each submittal shall be numbered serially and marked with the approval of the Contractor.

1. The Contractor shall submit to the Owner for approval, **Electronic Copies** plus as many hard copies as required by the owner to be returned, all Shop Drawings as called for under the various headings of these specifications, and those additional as requested by the Owner or Engineer.
2. Each submittal shall be numbered with the project name (abbreviated), specification section and submittal number in consecutive order (Ex NAME-02550-#). Where resubmission is required a letter shall be assigned to designate each resubmission (Ex NAME-02550-#A, NAME-2550-#B, etc.)
3. The Contractor shall submit all Shop Drawings to the Owner in sufficient time for checking and processing. Shop Drawings shall be of sufficient clarity so that copies thereof will be legible.
4. All Shop Drawings submitted by subcontractors for approval shall be sent directly to the Contractor for his approval. The Contractor shall be responsible for their submission to the Owner at the proper time so as to prevent delays in delivery of materials.
5. All submissions shall be referenced properly to indicate clearly the location, service, and function of each particular item and the specification paragraph under which it is being furnished.
6. Submittals that are related to or affect each other shall be forwarded simultaneously as a package to facilitate coordinated review. Uncoordinated submittals will be rejected.
7. The Owner reserves the right to require submittals in addition to those called for in individual sections.
8. The term "Shop Drawings" includes drawings, diagrams, schematics, descriptive literature, illustrations, schedules, performance and test data, calculations and similar materials furnished by Contractor to explain in detail specific portions of the work required by the Contract.
9. The Contractor shall stamp each sheet of each submission with a rubber stamp stating that he has examined and checked the submission as above, and shall date and sign each. Any submission, which, upon examination by the Owner, shows evidence of not having been thoroughly checked will be returned to the Contractor for completion of checking before it will be considered for review.

10. All calculations shall be performed and stamped by a Professionally Licensed Engineer who is authorized to perform engineering design in the location of the proposed work unless directed otherwise. Calculations shall be organized, legible and provide clear indications of the checks being performed, the codes being followed and all assumptions being made.
 11. All details on Shop Drawings submitted for approval shall show clearly the relation of the various parts of the work, and where correct fabrication of the work depends upon field measurements; such measurements shall be made and shall be noted on the Shop Drawings before being submitted for approval.
- B. Approval by the Owner shall not relieve the Contractor from responsibility for any errors or omissions in such drawings, nor from responsibility for complying with requirements of this Contract, except with respect to variations described and approved in accordance with Paragraph C below.
- C. If shop drawings show variations from Contract requirements, Contractor shall describe such variations in writing, separate from the drawings, at time of submission. All such variation must be approved by the Owner.
- D. The Contractor shall distribute approved submittals to job site and record documents files and to suppliers and subcontractors as required.
- E. Samples required by the specification shall be submitted after the award of the Contract to the Owner. No material for which samples are required shall be fabricated or delivered to the site for use until representative samples of same have been approved in writing by the Owner. Such samples shall be furnished and delivered by the Contractor without charge.
1. All color samples shall be reviewed and approved by the Owner prior to inclusion into the work.
 2. Each sample shall be labeled to designate the material or product, the name of its producer, the name of the Contractor, and the name and number of the project; and each submission shall be accompanied by a certificate describing each sample submitted for approval, certifying that the material, equipment or accessory submitted complies with Contract requirements, and including the name and brand of product, the name and address of manufacturer, the name of the Contractor and the name of the project.
 3. Approved samples, unless incorporated in the work or otherwise specified, shall be kept on file (and accessible for inspection by the Owner until final acceptance of the project. If return on the samples is not requested within thirty (30) days after the acceptance of the project, they will be considered unclaimed material and disposed of by the Owner.
 4. Such samples as may be required for check tests shall be furnished by the Contractor without extra charge. Check tests will be made on materials delivered for use only as frequently as the Owner considers necessary to ensure compliance of materials used with Contract requirements. The cost of testing materials, or

equipment, or accessories to check for compliance with specification requirements shall be borne by the Contractor.

1.3 PROJECT RECORD DOCUMENTS

- A. Keep on file at job site one complete set of up-to-date Contract Documents, including drawings and specifications, addenda, all shop drawings and manufacturer's data, testing data, change orders, field orders and other modifications. Documents shall be neatly and securely stored in files or on racks, clearly indexed by trade activity or specification section, and shall not be used for construction purposes.
- B. Legibly mark significant field changes such as the following, using colored pencils or felt-tipped pens:
 - 1. Drawings:
 - a. Locations of concealed utilities whether existing or new.
 - b. All current horizontal and vertical survey control points.
 - c. Field changes including dimension, location and detail.
 - d. Changes resulting from change order or field order.
 - e. Details not on original drawings.
 - 2. Specifications: manufacturer and model number of equipment actually installed.
 - 3. Shop Drawings and manufacturers' literature: changes made after the Owner's review.
- C. At completion of work, deliver completed record documents to the Owner. Final payment for project will not be made until the Owner reviews and approves these documents.

2. PRODUCTS (Not Applicable).

3. EXECUTION (Not Applicable).

4. MEASUREMENT AND PAYMENT

4.1 METHOD OF MEASUREMENT AND PAYMENT

- A. No separate measurement or payment shall be made for the work in this Section. Measurement and Payment for this item shall be included within the work it is associated with.

*** END OF SECTION ***

SECTION 01500

TEMPORARY FACILITIES AND CONTROLS

1. GENERAL

1.1 GENERAL DESCRIPTION

- A. Work under this shall be the providing the temporary facilities and site controls throughout the construction phase and as required to perform the work specified within the contract documents including but not limited to:
- a. Site Security
 - b. Material Storage
 - c. Site Safety
 - d. Erosion Control and conformance to regulatory approvals and conditions
 - e. Signage as required

1.2 FACILITY REQUIREMENTS

A. Provide Site Security

1. Provide secure temporary closures to prevent unauthorized entry to the site including:
 - a. Temporary 6 foot minimum chain link fence
 - b. Locked gate
 - c. Signage indicating 24 hour emergency contact visible from outside the work area.
2. Furnish, install, and maintain a bulletin board, protected from the elements in a prominent location at the work site, accessible to all employees and workers at the site, on which data of concern to the employees will be posted.
3. Provide marked metal containers with tight-fitting covers for edible debris, enforce their use by employees. Provide on-site dump container for collection of waste material. Periodically remove and legally dispose of waste material off-site. Schedule cleaning operations so that dust and other contaminants resulting from cleaning will not fall on wet, newly-finished surfaces. Dispose of volatile wastes such as mineral spirits, oil or paint thinner in accordance with local and state regulations.

B. Provide for Material Storage

1. Temporary structures shall be constructed in a structurally-sound, weatherproof manner.
2. Confine storage of materials to within the Limit of Work and areas as may be designated.
3. Provide temporary sheds or other covered facilities for storage of materials subject to weather damage. Number and size of structures shall be subject to Owner's approval. Locate structures to avoid interference with work and relocate as required by progress of work.
4. Remove structures and surplus stored materials at completion of work.

- C. Maintain site, temporary structures, storage areas, temporary fencing, etc., in a neat and orderly manner.
- D. Provide staging, hoists, temporary stairs, ladders, chutes, etc., as required, complying with applicable safety codes.
- E. The Contractor, including all subcontractors, will not be permitted to display any descriptive signs indicating their company names and names of equipment or materials installed in the work beyond the specific requirements established with the contract documents.

1.3 FIELD LAYOUT

- A. Contractor shall maintain a level, rod, and total station on job, and shall employ competent personnel for use thereof. The Owner shall have reasonable use of these instruments at all times.
- B. Project survey information has been located on drawings for Contractor's use. Contractor shall establish bench marks in at least two widely separated locations and shall establish and maintain grades, lines, levels, and other dimensional reference guides as required. Annotate project record documents (specified in SECTION 01300) to indicate all modifications of grades, utilities, etc.

1.4 EROSION CONTROL AND SITE DRAINAGE

- A. Prior to beginning work, Contractor shall review erosion and sedimentation control requirements as stipulated in the project regulatory approvals and shall coordinate activities to insure proper installation including meetings with regulatory agencies as may be stipulated within the regulatory approvals.
- B. Upon beginning site work, Contractor shall assume complete responsibility for Project Area site erosion and sedimentation control and drainage for duration of Contract, and shall maintain such erosion control measures in a manner which will cause no damage and/or erosion or sedimentation directly or indirectly into waterways or to adjacent areas.
- C. Maintain all erosion control barriers in good functional condition throughout the project. Erosion and sedimentation control measures shall be inspected weekly and after any major storm event.
- D. Take all necessary measures to prevent vehicles leaving site from depositing mud on public ways. Clean up after and repair damage caused by trucks. Comply with applicable ordinances regarding noise control.
- E. Keep excavations, pits, trenches, and other construction areas free of water at all times, including backing up of drains and sewers. Provide hydraulic equipment to control surface and ground water. Pumping equipment shall be adequate to remove all hydrostatic pressure from structures until sufficient strength has been developed by the structure to protect work from displacement or other damage.
- F. Maintain ground water level (non-tidal) sufficiently below excavation level at all times to maintain stable working platform. Ground water shall be controlled so as to avoid adverse effects on established ground water elevation of adjacent sites.

1.5 SAFETY AND PROTECTION

- A. Comply with applicable safety regulations, including ANSI Series A10, Safety requirements for Construction and Demolition, and OSHA Part 1926, Construction Safety and Health Regulations. Provide barricades, fences and other protection measures as required.
- B. Minimize storage of flammable materials and ensure that such material is properly handled and stored. Provide fire extinguishers per code requirements and near locations of flammable products. Install prominent signs giving locations of fire alarms. Do not permit use of open fires or salamanders.
- C. Take all necessary precautions to ensure that finished or partially-completed work is properly braced and secured against wind, rain, snow and other adverse weather conditions.
- D. Remove snow and ice from roads, walks, work area, etc., which impedes access or drainage, or presents danger to workmen, public, or property.

1.6 WORK WITHIN NAVIGABLE WATERWAY

- A. Contractor shall keep proper lights each night between sunset and sunrise upon all floating plant and equipment and any other obstructions connected with the work in accordance with CG-169, Rules of the Road, and Code of Federal Regulations, Title 33, Chapter 1, Subchapter C and Chapter 11, Part 207. Contractor shall be required to install and maintain for the duration of the Contract, standard obstruction lights upon all stakes, piles, dolphins, or upon any other obstruction connected with the work which are located in navigable waters. The obstruction light shall consist of a quick flashing white light which shows not less than sixty flashes per minute when viewed from any direction. The light shall have a luminous intensity of not less than a two-mile range.
- B. Contractor will be required to conduct the work in such a manner as to obstruct navigation as little as possible and in case Contractor's plant so obstructs vessels, it shall be promptly moved on the approach of any vessel, to such an extent as may be necessary to afford a safe practicable passage. Upon completion of the work, Contractor shall promptly remove his plant, buoys and other markers placed by him during execution of this Contract.
- C. Should the Contractor, during the progress of the work lose, dump, throw overboard, sink or misplace any materials, plant, machinery, or appliance which in the opinion of the Owner may be dangerous to berthing vessels or obstruct navigation, the Contractor shall recover and remove the same with the utmost dispatch. Should the Contractor refuse, neglect or delay compliance with the above, such obstructions may be removed by the Owner, and the cost of such removal shall be deducted from money due the Contractor.

1.7 TEMPORARY UTILITIES

- A. Maintain strict supervision to enforce conformance with applicable standards and safe practices and prevent abuse of services. Obtain necessary permits, temporary easements, etc.
- B. Light and Power:
 - 1. Provide temporary light and power for construction needs, safety and security throughout construction period. Suitably protect temporary system by fused or circuit breakers.

Panelboards, safety switches and electrical outlets shall be enclosed and grounded. Provide meters as required. Entire system shall comply with NEC requirements for temporary wiring.

2. Make necessary arrangements with power company to install temporary service, including temporary poles and transformer.

C. Heating and Ventilation:

1. Provide temporary heat and ventilation as required to protect against dampness, cold and condensation; provide heat and humidity suitable for curing and installation of materials; provide ventilation adequate for work safety and fire protection. Temporary heaters shall be smokeless portable unit heaters acceptable to Underwriter' Laboratories, local fire department and the Owner.

D. Water and Sanitary Facilities:

1. Provide temporary water for construction purposes, sanitation, drinking, first aid, fire protection and cleaning. Furnish and install all connections, pipes, fittings, meters, etc., necessary for temporary service, and maintain same in good condition. Take necessary precautions to prevent waste of water.

2. PRODUCTS (Not Applicable).

3. EXECUTION (Not Applicable).

4. MEASUREMENT AND PAYMENT

4.1 METHOD OF MEASUREMENT AND PAYMENT

- A. No separate measurement or payment shall be made for the work in this Section. Measurement and Payment for this item shall be included within the work it is associated with.

*** END OF SECTION ***

SECTION 01600

PRODUCTS

1. GENERAL

1.1 GENERAL DESCRIPTION

- A. Standards (ANSI, ASTM, Federal Specifications, etc.) referenced in specifications are latest edition as of date Contract Documents are issued for bidding. To the extent that more than one standard is referenced, the more stringent (in judgment of the Owner) shall govern. Where compliance with a standard is required, Contractor shall provide affidavit from subcontractor or manufacturer certifying compliance, if requested by the Owner.

1.2 ABBREVIATIONS

- A. Organizations and standards referenced in abbreviated form include the following:

AA	Aluminum Association
AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
AGC	Associated General Contractors of America
AISC	American Institute of Steel Construction
ANSI	American National Standards Institute
ASTM	American Society for Testing and Materials
AWPA	American Wood Protection Association
AWS	American Welding Society
MHD	Massachusetts Highway Department
NEC	National Electric Code
NEMA	National Electrical Manufacturers Association
NFPA	National Fire Protection Association
OSHA	Occupational Safety and Health Administration
SS	Standard Specifications For Highways and Bridges
UL	Underwriters' Laboratories
WWPA	Western Wood Products Association

1.3 SUBSTITUTIONS

- A. Products of a particular manufacturer are generally specified either on an "or equal" basis or with a list of acceptable alternative manufacturers. Contractor shall submit proposals to substitute products other than those specified in ample time before product is to be incorporated in Work, in order to allow for full investigation of proposal. Proposal shall be thoroughly documented with manufacturers' literature, shop drawings, and samples, as appropriate.
- B. Contractor warrants as part of his request that proposed substitution is comparable in size, operation, material, and finish, to product specified. He shall be responsible for coordination

of accepted substitution into Work and waives all claims for additional costs related to substitution which subsequently become apparent.

- C. The Owner retains absolute right of approval of any proposed substitution, and may reject same on any ground including function, operation, and appearance.

1.4 DELIVERY, STORAGE, AND INSTALLATION

- A. Products shall be properly enclosed in containers, boxes, packages, etc., to prevent damage during transportation and handling. Deliver in original unopened containers with labels indicating brand names, model numbers, quality designations, fire-resistance rates, etc.
- B. Store materials delivered to site under cover, in locations secure from vandalism and theft, in full conformance with manufacturer's recommendations. Carefully protect stored materials from mechanical damage, dampness, and extremes of temperature.
- C. Products shall be installed, finished, and cleaned in strict accordance with manufacturers' instructions, unless otherwise specified, by skilled workmen under adequate supervision. Foremen of installation crews shall have minimum of five years' experience installing that product.
- D. Protect installed products until substantial completion by appropriate means including plastic or canvas sheeting, kraft paper, masking tape, or wood barricades. Remove name plates and other identifying markings from exposed surfaces of manufactured items installed in finished spaces, if requested by the Owner.
- E. Materials shall be stored within the areas designated by the Owner.

2. PRODUCTS (Not Applicable).

3. EXECUTION (Not Applicable).

4. MEASUREMENT AND PAYMENT

4.1 METHOD OF MEASUREMENT AND PAYMENT

- A. No separate measurement or payment shall be made for work in this Section. Measurement and Payment for this item shall be included within the work item with which it is associated.

*** END OF SECTION ***

SECTION 02000

SITE PREPARATION

1 GENERAL

1.1 DESCRIPTION

- A. These site preparation requirements shall apply to all project work operations within this Contract.
- B. The latest addition of following Specifications, Standards and Codes shall be made a part of these specifications:
 - 1. Massachusetts Department of Public Works, Standard Specifications for Highways and Bridges, 1988 with all updates as utilized by the MassDOT.
- C. The work of this Section consists of providing all labor, equipment, materials, incidental work, and construction methods necessary to prepare the site, complete, as indicated on the Contract Documents, as specified, and as follows:
 - 1. Mobilization and demobilization of all equipment, labor, materials, supervision, survey and any incidentals required to satisfactorily complete this project in accordance with these Specification, the Contract Drawings and as directed by the Owner.
 - 2. Comply fully with all requirements and conditions of all Project Permits including performance of any miscellaneous work required to ensure full compliance and not otherwise covered by individual items in the contract including, but not limited to, furnish and install temporary bottom anchored silt curtains as required by Massachusetts Division of Marine fisheries.
 - 3. Perform all other miscellaneous work obviously required to complete the project, but not covered by individual items in the contract.
 - 4. Perform site work operations and the removal of debris and waste materials to assure minimum interference with navigation, streets, walks, parking facilities, buildings and all other adjacent facilities.
 - 5. Obtain governing authorities written permission, when required, to close or obstruct street, walks and adjacent facilities. Provide alternate routes around closed or obstructed traffic ways, when required by governing authorities.
 - 6. Obtain written permission from property owners to trespass and/or transgress their properties where an easement has not been granted.
 - 7. Control dust caused by the work. Dampen surfaces as required. Comply with pollution control regulations of governing authorities.
 - 8. Provide silt fences, siltation controls, debris booms and siltation curtains, as required, to meet regulatory agency conditions.

9. If the Contractor, in the course of excavation, uncovers or otherwise encounters any artifacts, whether historic or prehistoric, he shall bring them to the immediate attention of the Owner, and stop all work in that vicinity of said artifacts until directed by the Owner.
10. If the Contractor, in the course of excavation, uncovers or otherwise encounters any suspected hazardous or unidentified substances, he shall bring them to the immediate attention of the Owner, and stop all work in that vicinity of said substances until directed by the Owner.

1.2 RELATED WORK UNDER OTHER SECTIONS

- A. The following items of related work are specified and included in other Sections of the Specifications:
 1. Site Security & Erosion Control under TEMPORARY FACILITIES AND CONTROLS, SECTION 01500
 2. Demolition under DEMOLITION, SECTION 02110
 3. Excavation under EARTHWORK, SECTION 02200

1.3 REFERENCES

- A. The following standards shall apply to the work of this Section.
 1. Commonwealth of Massachusetts Highway Department (MHD) Specifications - Standard Specifications for Highway and Bridges

1.4 OSHA REQUIREMENTS

- A. Pursuant to M.G.L. c.30A §20S, any person signing a contract to work on a public building or public works project estimated to cost more than \$10,000, must certify under the pains and penalties of perjury that all employees employed on the worksite, or in work subject to the bid, have successfully completed at least ten hours of OSHA approved training. Proof of OSHA certification of all workers onsite will be required by the Town prior to the start of work.

1.5 SUBMITTALS

- A. Location and phasing plan for proposed work areas and staging areas shall be submitted for Owner's approval prior to mobilization and related work preparation operations.
- B. Construction Schedule
- C. Construction Security Fence details
- D. Details of silt curtains, silt barriers and floating booms.
- E. Details of platforms and temporary staging areas as required to prevent debris and dust from falling into the water.

1.6 PROTECTION

- A. The Contractor shall erect a security fence around the limit of work areas as defined in the staging and phasing plan.
- B. Protect existing structures and facilities that are adjacent to the work area from damage caused by the project operations. Repair all damage caused to the satisfaction of the Owner, at the sole expense of the Contractor.
- C. Cease operations and notify Owner immediately if safety of adjacent structures, workers, or the general public appears to be endangered. Take precautions to properly support structures and protect workers and general public. Do not resume operations until safety is restored.

1.7 EXAMINATION OF EXISTING CONDITIONS

- A. The Contractor shall become thoroughly familiar with the existing conditions of the site, consult records and drawings of adjacent structures and of existing utilities and their connections, and note all conditions which may influence the work of this Section. The commencement of work signifies the Contractor's acceptance of existing conditions.
- B. Site information: Data on subsurface conditions is not intended as representations or warrants of continuity of such conditions between the locations of data. It is expressly understood that the Owner will not be responsible for interpretations or conclusions drawn from them by the Contractor. Data is made available for the convenience of the Contractor.
 - 1. Additional test borings and other exploratory operations may be made by the Contractor at no additional cost to the Owner, and as in compliance with permits and contaminated soils requirements.

1.8 EXISTING SERVICES

- A. Arrange and pay for disconnecting, removing, capping, and plugging utility services as indicated on the Contract Documents. Disconnect and stub off. Notify the affected utility company in advance and obtain approval before starting this work.
- B. Place markers to indicate location of disconnected services.

1.9 MAINTAINING TRAFFIC

- A. Do not close or obstruct roadways or other public access areas without authorization or permits.
- B. Conduct operations with minimum interference to public or private roadways. Coordinate with local and state officials, police, and emergency agencies regarding all operations on public roadways including requirements for Police Details.
- C. Maintain access to buildings and facilities as indicated on the Contract Drawings.

1.10 ENVIRONMENTAL PROTECTION

- A. Comply with all requirements of environmental regulations and Project Permits.
- B. Provide all signs as required by Project Permits.
- C. Provide measures to prevent any construction debris from falling into the water. Any material falling into the water shall be retrieved immediately.
- D. Provide suitable enclosed washdown area for concrete trucks at location approved by the Engineer. Washdown area shall confine and filter runoff containing cement and other suspended solids as detailed on the Contract Drawings.

2 PRODUCTS

2.1 MATERIALS

- A. Materials shall be as selected by the Contractor and approved by the Owner, except as indicated on the Contract Drawings and/or in the Specifications.
- B. Construction Fence
 - 1. Unless otherwise specified on the Construction documents, Contractor shall provide chain link fencing around perimeter of work area and staging area to prevent public access and provide public safety. The Fence shall be a minimum of 6' high and constructed of galvanized steel chain link with posts at 8' on center. Fence shall be supported by concrete blocks or approved equal support to receive posts.
 - 2. Fence shall be installed around all areas dedicated for construction activities to prevent public access and provide for public safety.
- C. Floating Boom with Siltation Curtain
 - 1. The Contractor shall place a floating boom with siltation curtain, approved by the Owner, to the degree required by regulatory approvals, around the work area.
 - a. Fabric shall be a minimum at 22 oz. - 500 lb./inch tensile strength vinyl coated fabric.
 - b. Floatation material shall be marine quality expanded polystyrene which provides 50 lb./ft. of buoyancy.
 - c. Ballast shall be provided by an enclosed galvanized chain weighing approximately 1.5 lb./ft. and having a break strength of 10,600 lbs.
 - d. Depth of curtain shall be based on anticipated water elevation with anticipated changes in elevation and actual bottom elevations at the barrier location
 - 2. The curtain shall be large enough to provide protection of the entire work area the Contractor is working in and shall be moved to new work areas as necessary.

3. Contractor shall install curtain as to not impact abutter operations.

3 EXECUTION

3.1 PROTECTION OF EXISTING STRUCTURES AND UTILITIES

- A. Notify "Dig Safe" and local utilities and services as applicable prior to conducting any work in order to have all known utilities and services marked out before work begins.
- B. Existing structures and utilities shall be suitably protected from damage, including but not limited to existing pavements and curbs, lighting, fencing, concrete vault, manholes, and utility lines.

3.2 PROTECTION OF CONSTRUCTION SITE

- A. It is the Contractor's responsibility to secure the construction site, both for the protection of the ongoing work and the protection of the public. The location of construction fencing used for this purpose shall be approved by the Owner.

3.3 INSPECTION

- A. The Owner will assign inspectors and/or resident engineer to this project on either a full time or part time basis, as required to cover the work under this Contract, as justified by the Owner. The inspector or resident engineer shall be the Owner's representative for this project.
- B. The Owner must be notified at least 48 hours in advance of all material shipments in order make arrangements for shipments to be inspected as they arrive to the site.
- C. The Owner shall be permitted at all times to check the lines, grades, elevations, reference marks, batter boards, etc. set by the Contractor. Any errors or discrepancies in these items discovered by checks shall be corrected by the Contractor. Such checks shall not be construed as to be an approval of the Contractor's work and shall not relieve or diminish in any way the responsibilities of the Contractor for the accurate and satisfactory completion of the entire work. The Contractor shall be available to assist the Owner with these checks as needed.
- D. All materials that are not suitable for placement on this project and/or have been rejected by the Engineer shall be removed from the site immediately; the cost of the removal of these materials shall be the responsibility of the Contractor.
- E. Unless otherwise agreed upon with the Engineer, no work shall be done with materials that are partially or completely buried or hidden from view without the presence of the Engineer. The Engineer reserves the right to have all materials uncovered for inspection if placed without direct supervision, at the sole expense of the Contractor. No materials shall be paid for under this Contract that have not been examined and passed by the Engineer, or for any reason are placed outside the prescribed limits of the work.

3.4 DUST CONTROL

- A. During the construction period, the Contractor shall take special measures including, but not limited to, wetting down to control dust on site, in order to prevent annoyance/and or damage to adjacent property, whether public or private. Calcium chloride or any other chemical material may not be used on subgrades of areas to be seeded or planted.

- B. During the construction period, the Contractor shall conduct his operations and maintain the area of his activities, including sweeping and sprinkling of roads as necessary, so as to minimize the creation and dispersion of dust and to prevent annoyance/and or damage to adjacent property, whether public or private. If the Owner's Representative decides that it is necessary to use calcium chloride for more effective dust control, the Contractor shall furnish and spread the material, as directed, and without additional compensation. Calcium chloride or any other chemical material may not be used on subgrades of areas to be seeded or planted.
- C. The Contractor shall take all necessary measures to keep streets, over which equipment and service for project travel, clean and free from dirt, dust, mud and debris resulting from construction operations. The actions taken shall meet the requirements of all authorities having jurisdiction.

4 MEASUREMENT AND PAYMENT

4.1 METHOD OF MEASUREMENT

- A. Measurement for MOBILIZATION shall be made by Unit Price Lump Sum.
- B. Measurement for SITE PREPARATION shall be made by Unit Price Lump Sum.

4.2 METHOD OF PAYMENT

- A. Payment for MOBILIZATION shall be by the Unit Price Lump Sum and shall include mobilization, demobilization and all items not otherwise called out for individual price breakdown. Payment under this item shall be made in two installments, 50% at time of project startup and 50% after substantial completion and removal of all Contractors equipment and personnel.
- B. Payment for SITE PREPARATION shall be by the Unit Price Lump Sum. This price and payment shall constitute full compensation for all labor, equipment, materials, testing, transportation and supervision for the satisfactory supply and installation of all items under this section and shall include all work materials; preparation of the site all erosion control activities including materials for barriers and siltation curtains; as specified in the Order of Conditions and/or other approvals; and all safety barriers, signage, security requirements for the project site, police details and any other incidentals necessary to complete the work specified herein and as shown on the Contract Documents.

4.3 PAYMENT ITEMS

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
02000-1	MOBILIZATION	Lump Sum
02000-2	SITE PREPARATION	Lump Sum

*** END OF SECTION ***

SECTION 02110

DEMOLITION

PART 1 GENERAL

1.1 DESCRIPTION

- A. Provide all labor, materials, equipment, and supervision necessary to complete the work specified in this Section.
- B. Scope of work includes, but is not limited to the following:
 - 1. Complete removal and disposal of the following:
 - a. Existing pier complete including, but not limited to, piles, caps, decking, ladders, utilities, and miscellaneous fixtures except as noted.
 - b. Fender piles
 - c. Removal of concrete walls
 - d. Removal of concrete ramps
 - e. Removal of concrete seawall
 - f. Removal of warehouse building and foundation
 - g. Removal of loading docks
 - h. All excavations for retaining walls
 - i. Unsuitable material found during excavations
 - j. Excess granular and stone material not incorporated into the work
 - k. Miscellaneous hardware, steel angles, pieces of timber, concrete, rubble and other materials which are encountered during the course of work which interferes with work specified to be done.
 - 2. Temporary support as required for all structures or part structures to remain
 - 3. Phasing and sequencing demolition and construction. Sequence work and maintain stability of all existing structures and slopes during demolition
 - 4. Disconnect existing utilities
 - 5. Removal and disposal of debris from mudline below pier
 - 6. Provide a floating debris boom around all demolition areas
 - 7. Provide a silt curtain around debris removal area
 - 8. Control of noise and dust

1.2 SUBMITTALS

- A. Contractor to provide certification that all materials disposal has been in accordance with all municipal, state and federal regulations
- B. Before beginning work, submit a Demolition Plan including the following:
 - 1. Temporary support details for adjacent structures and abutting property
 - 2. Detailed schedule of demolition and removal work, with early and later starting and finishing dates for each activity. Allow for 10 day- asbestos notification prior to start of any asbestos abatement.
 - 3. Interruption of utility services: indicate how long utility services will be interrupted
 - 4. Proposed disposal facility for each category of demolition materials.

- C. Debris Removal Plan including segregation and dewatering plan.
- D. Debris Boom details
- E. Silt Curtain details
- F. Copies of all weight slips, both tare and gross, for debris weighed and disposed of at the disposal or recycling facilities.

PART 2 PRODUCTS

2.1 MATERIALS

- A. No materials are to be supplied under this specification.

PART 3 EXECUTION

3.1 GENERAL

- A. Bidders shall examine the site and make their own estimates of the types and quantities of demolition, which will be required to fulfill the Contract requirements.
- B. All work shall be done in accordance with applicable Federal, State and local laws, rules, regulations, codes and ordinances and all necessary permits required for the demolition work shall be procured by the Contractor.
- C. All materials removed during demolition designated for disposal shall become the property of the Contractor unless otherwise noted.
- D. All materials removed during demolition, except that which is to be reused, shall be disposed of off the site in conformance with all municipal, State and Federal regulations.
- E. During demolition activities which are over or in water, the area of the demolition work will be enclosed with a floating boom approved by the Owner.
- F. Contractor shall use extreme caution when demolishing structures. Damage caused to adjacent structures or a structure to remain which is caused by the Contractor shall be repaired by the Contractor as directed by the Owner at no additional cost to the Owner.
- G. Temporary Shoring: Provide and maintain shoring, bracing, and structural supports as required to preserve stability to prevent unexpected or uncontrolled movement or collapse of construction being demolished.
 - 1. Strengthen or add new supports when required during progress of demolition.
 - 2. Remove temporary shoring, bracing and structural supports when no longer required.
 - 3. Post warning signs and place barricades as applicable during placement and removal of temporary shoring.
- H. Debris Boom: Provide and maintain the Debris Boom during demolition of shoreline or waterside structures as shown on the Contract Drawings.
 - 1. Debris Boom may also be able to act as a turbidity curtain.

2. Position and maintain the Debris Boom so that demolition and construction are not impeded.
 3. If constructed in panels, connect the panels in a manner to prevent debris passing through its joints. Connect load lines to develop the full strength of the lines across the joint. Arrange flotation material to be flexible and provide continuous support.
 4. The Debris Boom must include a minimum of 4 inches of freeboard along the entire length so debris cannot escape over the top of the system.
- I. Conduct demolition operations to prevent injury to people and damage to adjacent buildings and facilities to remain. Ensure safe passage of people around demolition area(s).
 1. Erect temporary protection, such as walks, and fences, where required by authorities having jurisdiction or as shown on the plans. Provide temporary barricades as required to limit access to demolition areas.
 - J. All piles shall be pulled in their entirety.
 - K. Hazardous materials may be present in the structures to be demolished. The Contractor and its Subcontractor must meet the requirements to perform the necessary testing, removal, and disposal of hazardous materials encountered during the work. Contractor or Subcontractor must be licensed as Massachusetts asbestos/lead abatement contractor. Contractor to review Hazardous Materials Inspection Reports in Attachments.

3.2 DEBRIS REMOVAL

- A. A significant amount of debris is present below the existing pier deck. Debris includes, but is not limited to, timber piles, timber, rock, concrete, metals, trash, moorings and fishing gear.
- B. Debris shall be removed from the upper sediments from below the existing pier footprint to depths shown on the Contract Drawings. Material may be removed by use of a bucket excavator or similar. In the event, significant obstructions are encountered which may impact the progress of the work, the Contractor shall notify the Town prior to removal.
- C. No debris removal shall commence until approved by the Town. Debris from the mudline shall be segregated and kept separate from debris generated from demolition of existing structures.
- D. Debris shall be separated and placed in a separate unsuitable material dumpster. Debris placed in the dumpster shall be free of excessive sand and water. Any sand excavated with the debris shall be separated by screening through a maximum 2 inch screen and dewatered. Sand shall be disposed as directed by the Town. Dewatering area shall be contained by silt fence, hay bales or similar.
- E. Furnish any special or additional equipment that may be required for removing debris and submerged obstructions as needed to complete the Work. Care must be taken when removing any debris encountered adjacent to existing structures to minimize any possible impacts.
- F. Lawfully dispose of debris in accordance with all applicable laws and regulations.

PART 4 MEASUREMENT AND PAYMENT

4.1 METHOD OF MEASUREMENT

- A. Measurement for DEMOLITION shall be LUMP SUM.
- B. Measurement for DEBRIS shall be per unit price TON. Measurement will be based on receipts for disposal and Contractor shall be required to provide actual receipts for disposal costs per ton showing tipping fees.

4.2 METHOD OF PAYMENT

- A. Payment for DEMOLITION shall be by the Contract Price Lump Sum for the removal and disposal or temporary storage of materials indicated as such within the Contract Documents or otherwise as directed by the Owner. This price and payment shall constitute full compensation for all labor, equipment, materials, preparation, testing, transportation, survey, disposal fees, storage, handling, protection and supervision for the satisfactory completion of all demolition under this section, including, but not limited to removal of existing pier, existing piles, building and foundation, loading docks, seawall, ramps, concrete retaining walls, bulkheads, separation and sorting of materials not suitable for beneficial reuse within the project limits and any other incidentals necessary to complete the work specified herein and as shown on the Contract Documents.
- B. Payment for DEBRIS shall be by the Contract Price TON for the removal, and disposal of materials indicated on the Contract Drawings or otherwise directed by the Owner. This price and payment shall constitute full compensation for all labor, equipment, fees, permits, materials, preparation, testing, transportation, survey, disposal fees, storage, handling, protection, screening and sorting, dewatering, siltation controls, disposal of sand, and supervision for the satisfactory completion of all debris removal as specified under this section and any other incidentals necessary to complete the work specified herein and as shown on the Contract Documents.

4.3 PAYMENT ITEMS

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
02110-1	DEMOLITION	LUMP SUM
02110-2	DEBRIS	TON

*** END OF SECTION ***

SECTION 02200

EARTHWORK

PART 1 GENERAL

1.1 DESCRIPTION

- A. Provide all labor, materials, equipment and supervision necessary to complete the work specified in this Section.
- B. Scope of work includes, but is not necessarily limited to the following:
 - 1. All excavation, filling and compaction of granular materials.
 - 2. Sheet piling, bracing, shoring of excavations and other temporary support as required
 - 3. Grading, compaction and sub-grade preparation for surface areas.
 - 4. Dust control
 - 5. Preparation of granular base for all walls and footings.
 - 6. All fill including installation and compaction of stone and granular material within the tidal area.
 - 7. Installation of geotextile filter fabric.
- C. Related work specified in other Sections:
 - 1. Site Preparation under SITE PREPARATION, SECTION 02000
 - 2. Demolition under DEMOLITION, SECTION 02110
 - 3. Sheet Pile Bulkhead under Section 02220 COMPOSITE SHEET PILING
 - 4. Concrete under Section 03000 REINFORCED CONCRETE

1.2 QUALITY ASSURANCE

- A. Excepted as noted, work shall conform to the latest editions of the following codes, specifications, and standards:
 - 1. American Society for Testing and Materials (ASTM)
 - 2. The Commonwealth of Massachusetts, Department of Public Works "Standard Specifications for Highways and Bridges" (latest edition). (MHD)
- B. Soil testing and inspection service:
 - 1. Provide independent soil testing and inspection service for quality control testing during earthwork operations. All testing shall be performed by a firm specializing in soil testing and who is acceptable to the Owner.

1.3 SUBMITTALS

- A. Name and address of testing service for approval by Owner.
- B. Soil and granular fill samples – min 10lb sample as requested by Owner
- C. Design of temporary support of excavations or structures to remain as required
- D. Test reports:
 - 1. Submit copies of the following reports directly to the Owner from the testing services:

- a. Test reports on borrow materials and crushed stone.
- b. Verification of road subgrade.
- c. Field density test reports.
- d. One optimum moisture-maximum density curve for each type of soil encountered.

1.4 TESTING

- A. Testing during construction: Testing service must inspect and approve subgrades and fill layers before further construction work is performed thereon.
 1. Maximum soil density shall be the density at optimum moisture as determined by ASTM Standard Methods of Test for Moisture-Density Relations of Soil Using 10-lb. hammer and 18-in. Drop, Designation D 1557-78, using Method A, B, C, or D whichever is applicable.
 2. The in-place soil density shall be determined in accordance with ASTM Standard Method of Test for Density of Soil in Place by the Sand-Cone Method, Designation D 1556-64 or ASTM Standard Method of Test for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (shallow depth), Designation D-2922-81.
 3. Gradation Analyses shall be performed in accordance with the applicable sections of ASTM D422-63 Particle-Size Analysis of Soils.
- B. The testing laboratory's presence does not include supervision or direction of the actual work by the Contractor, his employees or agents. Neither the presence of the testing laboratory, nor any observations and testing performed by the testing laboratory shall excuse the Contractor from defects discovered in his work.
- C. If, in the opinion of the Owner, based on reports of testing service and inspection, subgrade or fills which have been placed are below specified density, the Contractor shall provide additional compaction and testing at no additional expense to the Owner.

1.5 JOB CONDITIONS

- A. The Contractor shall become thoroughly familiar with the existing conditions of the site, consult records and drawings of adjacent structures and of existing utilities and their connections, and note all conditions which may influence the work of this Section, EARTHWORK. The commencement of work signifies the Contractor's acceptance of existing conditions.
- B. Site information: Data on indicated subsurface conditions are not intended as representations or warrants of continuity of such conditions between soil borings. It is expressly understood that the Owner will not be responsible for interpretations or conclusions drawn therefrom by the Contractor. Data is made available for the convenience of the Contractor.
 1. Boring logs are included in the Contract Drawings.
 2. Additional test borings and other exploratory operations may be made by the Contractor at no cost to the Owner.
- C. Existing utilities: Locate existing underground utilities in the areas of work. If utilities are to remain in place, provide adequate means of protection during earthwork operations.
 1. Should uncharted or incorrectly charted piping or other utilities be encountered during excavation, consult the Owner immediately for directions as to procedure. Cooperate

- with utility companies in keeping respective services and facilities in operation. Repair damaged utilities to satisfaction of utility owner.
2. Do not interrupt existing serving facilities occupied and used by others.
- D. Use of explosives:
1. Use of explosives is prohibited.
- E. Protection of persons and property:
1. Barricade open excavations occurring as part of this work and post with warning lights.
 2. Operate warning lights during hours from dusk to dawn each day and as otherwise required.
 3. Protect structures, utilities, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout and other hazards created by earthwork operations.
 4. Contractor shall restore any damage at no additional cost to the Owner.

1.6 PERMITS, CODES, AND SAFETY REQUIREMENTS

- A. It is the responsibility of the Contractor to obtain all permits, licenses, and inspections and any other requirements not issued within this Specification necessary to complete the work under this Contract for compliance with local, State or Federal regulations. The cost of all fees associated with these permits, licenses and inspections and other requirements shall be borne by the Contractor.
- B. It is the responsibility of the Contractor to have all permits and licenses on site at all times.
- C. Comply with all rules, regulations, laws, and ordinances of the City or Town and State, and all other authorities having jurisdiction over the project site. All labor, materials, equipment, and services necessary to make the work comply with such requirements shall be provided by the Contractor without additional cost to the Owner.
- D. The Contractor shall not close or obstruct any street, sidewalk, or passageway without written permission from authorities having jurisdiction. The Contractor shall so conduct his operations as to interfere as little as possible with the use ordinarily made of roads, driveways, or other facilities near enough to the work to be affected thereby.
- E. The Contractor shall secure a DIG-SAFE permit number for the project to certify notification of gas, electrical and telephone utilities. All other affected utilities shall be contacted by the Contractor who shall secure notification receipts in accordance with requirements of Mass. General Laws, Chapter 370 of the Acts of 1963.
- F. Contractor shall contact all utility companies whose utilities might be affected by the Work of this Division 2 Section, EARTHWORK, and notify these utility companies of contemplated excavation, demotion or explosive work in public or private ways, and utility right-of-way easements. This notification shall be made at least 72 hours prior to the work, but not more than sixty days before the contemplated work.

PART 2 PRODUCTS

2.1 EARTHWORK MATERIALS

- A. Gravel Borrow: Gravel Borrow shall consist of inert material that is hard, durable stone and coarse sand, free of organic material, loam, trash, snow, ice, frozen soil and other objectionable material and shall be well-graded within the following limits:

<u>Sieve</u>	<u>Percent Passing</u>
1/2 inch	50-85
No. 4	40-75
No. 50	8-28
No. 2000-8	

Maximum size of stone in gravel shall be as follows:

M1.03.0 Type A	6 inches largest dimension
M1.03.0 Type B	3 inches largest dimension
M1.03.0 Type C	2 inches largest dimension

- B. Ordinary Fill: Ordinary fill, or ordinary borrow shall consist of well-graded mineral soil substantially free of organic materials, loam, wood, trash, and other objectionable material which may be compressible or which cannot be compacted properly. Ordinary fill shall be unfrozen and shall not contain snow, ice, or frozen materials. Ordinary fill shall not contain stones larger than eight (8) inches in largest diameter. It shall have physical properties such that it can be readily spread and compacted during filling.
- C. Sand Fill: A washed, clean, hard durable, medium sand. Well-graded with a maximum diameter of 1/2".
- D. Crushed stone shall conform to M2.01.0 in the "Standard Specifications for Highways and Bridges" shall consist of one or the other of the following material:
1. Durable crushed rock consisting of the angular fragments obtained by breaking and crushing solid or shattered natural rock, and free from a detrimental quantity of thin, flat, elongated, or other objectionable pieces.*
 2. Durable crushed gravel stone obtained by artificial crushing or gravel boulders or fieldstone with a minimum diameter before crushing of 8 inches.
 3. The crushed stone shall be reasonably free from clay, loam or deleterious material and not more than 1.0% of satisfactory material passing a No. 200 sieve will be allowed to adhere to the crushed stone.
 4. Crushed stone shall be uniformly blended according to the following grading:

<u>Sieve Size</u>	<u>Percent Finer by Weight</u>
3"	100
2"	90-100
1-1/4"	25-50
3/4"	0-15
1/2"	0-5

* Thin or elongated pieces are defined as follows: Thin stones shall be considered to be such stones whose average width exceeds four (4) times their average thickness. Elongated stones shall be considered to be such stones whose average length exceeds four (4) times their average width.

- E. Dense Graded Crushed Stone shall consist of inert angular material derived from a stone quarry that is hard, durable stone and stone screenings, free from loam and clay, surface coatings, and plastic materials. Gradation shall conform to M2.01.7 and the following:

<u>Sieve No.</u>	<u>% Passing by Weight</u>
2" (50 mm)	100
1-1/2" (37.5 mm)	70-100
3/4" (19.0 mm)	50-85
#4 (4.75 mm)	30-55
#50 (300 um)	8-24
#200 (75 um)	3-10

- F. Processed Gravel shall consist of inert material that is hard, durable stone and coarse sand, free from loam and clay, surface coatings, and deleterious materials. Gradation shall conform to MHD Specification Designation, M1.03.1, and the following:

<u>Sieve No.</u>	<u>% Passing by Weight</u>
3" (75 mm)	100
1 1/2" (37.5mm)	70-100
3/4" (19 mm)	50-85
#4 (4.75um)	30- 60
#200 (75 um)	0-10

- G. Three-quarter inch Crushed Stone shall consist of inert angular material derived from a stone quarry that is hard, durable, washed stone, free of deleterious materials. Gradation shall conform to M2.01.4, and the following:

<u>Sieve Size</u>	<u>% Passing by Weight</u>
1" (25 mm)	100
3/4" (19 mm)	90-100
1/2" (12.5 mm)	10- 50
3/8" (9.5 mm)	0- 20
#4 (4.75 mm)	0- 5

2.2 ACCESSORIES

- A. Warning Tape: Acid- and alkali-resistant polyethylene film warning tape manufactured for marking and identifying underground utilities, 6 inches wide and 4 mils thick, continuously inscribed with a description of the utility.
- B. Detectable Warning Tape: Acid- and alkali-resistant polyethylene film warning tape manufactured for marking and identifying underground utilities, 6 inches wide and 4 mils thick minimum, continuously inscribed with a description of the utility, with metallic core encased in a protective jacket for corrosion protection, detectable by metal detector when tape is buried up to 30 in. deep.
1. Tape Colors: Provide tape colors to utilities as follows:
 - a. Red: Electric.
 - b. Yellow: Gas, oil, steam, and dangerous materials.
 - c. Orange: Telephone and other communications.
 - d. Blue: Water systems.
 - e. Green: Sewer systems.

PART 3 EXECUTION

3.1 PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations.
- B. Protect subgrade and foundation soils against freezing temperatures or frost. Provide protective insulating materials as necessary.
- C. Purchase, provide and install erosion control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.

3.2 EXCAVATION

- A. Excavation consists of removal and disposal of materials encountered when establishing required grade elevations.
- B. Perform all excavation of every description and of whatever substances encountered to the depths of extent indicated for the proper installation of the work.
- C. Excavate to the exact depth required for all foundations, structures, and utility systems.
- D. Earth excavation consists of removal and disposal of pavements and other obstructions visible on ground surface, underground structures and utilities indicated to be demolished and removed, material of any classification indicated in data on subsurface conditions.
- E. Unauthorized excavation consists of removal of materials beyond indicated subgrade elevations or dimensions without specific direction of Owner.
 - 1. Backfill and compact unauthorized excavations as specified for authorized excavations of same classification, unless otherwise directed by Owner.
- F. Stability of excavations: Slope sides of excavations to comply with local codes and ordinances having jurisdiction. Shore and brace where sloping is not possible either because of space restrictions or stability of material excavated.
 - 1. Maintain sides and slopes of excavations in a safe condition until completion of backfilling.
- G. Shoring and bracing: Provide adequate shoring and bracing, such as sheet piling, uprights, stringers and cross-braces, in good serviceable condition.
 - 1. Trench shoring and bracing shall comply with local codes and authorities having jurisdiction.
 - 2. Maintain shoring and bracing in excavations, regardless of time period excavations will be open. Carry down shoring and bracing as excavation progresses.
- H. Dewatering: Prevent surface water and subsurface or ground water from flowing into excavations and from flooding project site and surrounding area.

1. Do not allow water to accumulate in excavations. Remove water to prevent softening of foundation bottoms, undercutting footings, and soil changes detrimental to stability of subgrades and foundations. Provide and maintain pumps, sumps, suction and discharge lines, and other dewatering system components necessary to convey water away from excavations.
- I. Excavation for structures: Conform to elevations and dimensions shown within a tolerance of plus or minus 0.10', and extending a sufficient distance from foundations to permit placing and removal of concrete formwork, other construction required, and for inspection.
 1. In excavating for foundations, take care not to disturb bottom of excavation. Excavate by hand to final grade just before concrete is placed. Trim bottoms to required lines and grades to leave solid base to receive concrete.
- J. Demolition: Remove any existing concrete foundations, abandoned utility piping, pilings, timber and other debris encountered in areas of construction.
- K. Excavated materials which meet specification requirements for ordinary fill may be used as ordinary fill. Separate and stockpile suitable excavated materials away from unsuitable materials.
- L. Cold weather protection: Protect excavation bottoms against freezing when atmospheric temperature is less than 35 degrees F.

3.3 BACKFILL AND FILL

- A. General: Place acceptable soil material in layers to required subgrade elevations.
- B. Backfill excavations as promptly as work permits, but not until completion of the following:
 1. Acceptance by the Owner of construction below finish grade.
 2. Inspection, testing, approval, and recording locations of underground utilities.
 3. Removal of concrete formwork.
 4. Removal of shoring and bracing, and backfilling of voids with satisfactory materials. Where temporary sheet piling is used cut off sheet piling driven below bottom of structures and remove in manner to prevent settlement of the structure or utilities, or leave in place if required.
 5. Removal of trash and debris.
- C. Ground surface preparation: Remove vegetation, debris, unsatisfactory soil materials, obstructions, and deleterious materials from ground surface (above Elevation 0.0 Mean Low Water) prior to placement of fills.

3.4 PLACEMENT AND COMPACTION

- A. General: All compacted fill shall be placed in layers unless otherwise specified. Each layer shall be systematically compacted by a minimum of four coverages with the equipment described below, to the density specified herein before. Incidental compaction due to traffic by construction equipment will not be credited toward the required minimum four coverages.
 1. Compaction equipment in open areas shall consist of fully-loaded ten-wheel dump trucks, tractor dozers weighing at least 30,000 pounds and operated at top speed, or by vibratory rollers or by other compaction equipment approved by the Owner.

2. Compaction equipment in confined areas (in trenches and adjacent to walls) shall be accomplished by hand-operated vibratory equipment or mechanical tampers as approved by the Owner.
3. In freezing weather, a layer of fill shall not be left in an uncompacted state at the close of a day's operations. Prior to terminating operations for the day, the final layer of fill, after compaction, shall be rolled with a smooth-wheeled roller to eliminate ridges of soil left by tractors, trucks and compaction equipment.
4. The Contractor shall not place a layer of compacted fill on snow, ice or soil that was permitted to freeze prior to compaction. Removal of these unsatisfactory materials will be required as directed by the Owner.

B. Backfill around foundation: Gravel fill shall be placed in layers having a maximum loose layer thickness of 8 inches. Gravel fill shall be placed to the extent shown on the drawings.

3.5 GRADING

- A. General: Uniformly grade areas within limits of grading under this Section, including adjacent transition areas. Smooth finished surface within specified tolerances, compact with uniform levels or slopes between points where elevations are shown, or between such points and existing grades.
- B. Compaction:
 1. After grading, compact subgrade surfaces to the depth and percentage of maximum density for each area classification.

3.6 COMPACTION

- A. General: Control soil compaction during construction providing minimum percentage of density specified for each area classification. Tests of subgrades and fill layers will be taken as follows:
 1. Paved areas and slab subgrade: Make at least one field density test of subgrade for every 2,000 sq. ft. of paved area or slab, but in no case less than 3 tests.
 2. Open areas: Make at least one field density test of subgrade for every 4,000 sq. ft. of area, but in no case less than 3 tests. In each compacted fill layer, make one field density test for every 4,000 sq. ft. of area, but in no case less than 3 tests.
 3. Backfill around foundations: Make one field density test at each increment of 200 feet for each 3 foot change of elevation.
 4. Manholes for Drainage and Sewers: Average one test between each manhole for sewers.
 5. Water Line: Average one test for each 300 linear feet of water line.
- B. Percentage of maximum density requirements: Provide not less than following percentages of maximum density of soil material compacted at optimum moisture content, for the actual density of each layer of soil material-in-place.
 1. Stairs: Compact top 12" of subgrade and each layer of backfill or fill material at 95% maximum density.
 2. Pavements: Compact top 12" below the pavement base to 95%. Compact the remainder to 90%.
 3. Open areas: Compact to 90%.
 4. Subgrades: Compact to 90%.

- C. Moisture control: Where subgrade or layer of soil material must be moisture-conditioned before compaction, uniformly apply water to surface of subgrade, or layer of soil material, as needed to obtain optimum moisture content.
 - 1. Granular material placed within the tidal zone shall be done during low tides and all material shall be leveled and compacted to the required specifications prior to the submergence of the next tide.
 - 2. Remove and replace or scarify and air dry, soil material that is too wet to permit compaction to specified density.

3.7 DUST CONTROL

- A. During the progress of the work, the Contractor shall conduct his operations and maintain the area of his activities, including sweeping a sprinkling of roads as necessary, so as to minimize the creation and dispersion of dust. If the Owner decides that it is necessary to use calcium chloride for more effective dust control, the Contractor shall furnish and spread the material, as directed, and without additional compensation

3.8 MAINTENANCE

- A. Protection of graded areas: Protect newly-graded areas from erosion, and keep free of trash and debris.
 - 1. Repair and re-establish grades in settled, eroded and rutted areas to specified tolerances.
- B. Reconditioning compacted areas: Where completed compacted areas are disturbed by subsequent construction operations or adverse weather, scarify surface, reshape, and compact to required density prior to further construction.

3.9 DISPOSAL OF EXCESS AND WASTE MATERIALS

- A. Remove all waste materials, including unacceptable and/or excess excavated material, trash and debris, from the Owner's property and legally dispose of it.

PART 4 MEASUREMENT AND PAYMENT

4.1 METHOD OF MEASUREMENT AND PAYMENT

- A. No separate measurement or payment shall be made for work in this Section. Measurement and Payment for this item shall be included within the work it is associated with.

*** END OF SECTION ***

SECTION 02250

ARTICULATED CONCRETE MATS

PART 1 GENERAL

1.1 DESCRIPTION

- A. Provide all labor, materials, equipment and supervision necessary to complete the work specified in this Section.
- B. Scope of work includes, but is not necessarily limited to furnishing and installing the following:
 - 1. Driveway/ Loading Dock consisting of articulated concrete mats, crushed stone base and filter fabric as shown on the Contract drawings and specified herein.
- C. Related work specified elsewhere includes:
 - 1. Stone base and filter fabric under Section 02200, EARTHWORK
 - 2. Concrete walls and curbs under Section 03000, REINFORCED CONCRETE

1.2 QUALITY ASSURANCE

- A. Except as noted, work shall conform to the latest edition of the following codes, specifications and descriptions.
 - 1. American Society for Testing and Materials (ASTM)
 - 2. Massachusetts Highway Department - Standard Specifications for Highways & Bridges - 1995 with revisions.
 - 3. Installation of all work specified in this Section and associated work specified elsewhere will be performed by individuals who have had prior experience in installing this work. Contractor and/or subcontractors must show evidence of successful completion of similar and comparable work. Crew foremen must have experience as foremen for this type of construction.

1.3 SUBMITTALS

- A. Contractor shall submit to the Owner copies of results for all required testing and name and location of the material supplier.
- B. The Contractor shall submit to the Owner all manufacturer's performance research results and calculations in support of the articulated concrete mat system.
- C. The Contractor shall furnish manufacturer's certificates of compliance for the articulated concrete blocks/mats, concrete mixes, revetment cable, and any revetment cable fittings and connectors to the Owner prior to the start of mat fabrication.
- D. The Contractor shall furnish to the Owner all manufacturers' specifications, literature, and shop drawings for the fabrication of the mats. Shop drawings shall clearly show mat construction details, connection details and mat sizes.
- E. Contractor shall submit to the Owner copy of installation plan and method of protection of adjacent structures for approval.

PART 2 PRODUCTS

2.1 MATERIALS

A. Articulated Concrete Mats

1. All articulated concrete mats shall be pre-manufactured of individual concrete blocks with specific hydraulic capacities, bound into mats by the use of revetment cables. The mats shall arrive at the jobsite assembled according to lengths and widths as specified on the shop drawings.
2. Individual blocks in the articulated concrete mats shall be beveled, and interlocked for enhanced stability. The mats shall be constructed of open cell blocks as shown on the Contract drawings. Parallel strands of cable shall extend through two (2) ducts in each block in a manner which provides for longitudinal binding of the blocks within the mats. Each row of blocks shall be laterally offset by one-half block width from the adjacent row so that any given block is cabled to four other blocks (two in the row above and two the row below). Each block shall also be surrounded by six adjacent blocks.
3. Each block shall incorporate interlocking surfaces that prevent lateral displacement of the blocks within the mats when they are lifted by the longitudinal revetment cables. The interlocking surfaces must not protrude beyond the perimeter of the blocks to such an extent that they reduce the flexibility or articulated capability of the articulated concrete mats or become damaged or broken when the mats are lifted during shipment or placement. Once the mats are in place, the interlocking surfaces shall prevent the lateral displacement of the blocks even if the cables should become damaged or removed. The mats must be able to flex a minimum of 18 degrees between any given row or column of blocks in the uplift direction and a minimum of 45 degrees in the downward direction.
4. Revetment cable shall be constructed of high tenacity, low elongating, and continuous filament polyester fibers. Cable shall consist of a core construction comprised of parallel fibers contained within an outer jacket or cover. The weight of the parallel core shall be between 65% to 70% of the total weight of the cable.

The revetment cable shall exhibit resistance to most concentrated acids, alkalis and solvents. Cable shall be impervious to rot, mildew and degradation associated with marine organisms. The materials used in the construction of the cable shall not be affected by continuous immersion in fresh or salt water.

Selection of cable and fittings shall be made in a manner that insures a safe design factor for mats being lifted from both ends, thereby forming a catenary. Consideration shall be taken for the bending of the cables around hooks or pins during lifting. Revetment cable splicing fittings shall be selected so that the resultant splice shall provide a minimum of 60% of the minimum rated cable strength.
5. The cables shall be inserted into the mats in such a manner to form lifting loops at one end of the mat with the corresponding cable ends spliced together to form a lifting loop at the other end of the mat with sleeves approved by the engineer.
6. Materials for concrete blocks shall conform to Section 03000 of these specifications. Concrete shall be normal weight concrete and concrete mix proportions shall comply with Section 03000.

7. Articulated Concrete Mats shall be constructed of minimum 6 inch thick concrete blocks such as:

ARMORFLEX[®] Class 50 open blocks, as manufactured by

ARMORTEC, A Contech Company.
9025 Centre Pointe Dr., Suite 400
West Chester, OH 45269
800-645-7000

SHOREBLOCK[®] BD-600 OC as supplied by

ACF ENVIRONMENTAL
2831 Cardwell Road
Richmond, VA 23234
800-448-3636

or approved equal.

8. All blocks shall be constructed such the top of the block is flat and smooth.
9. All blocks shall provide a minimum 20% of open area.

PART 3 EXECUTION

3.1 SUBGRADE PREPARATION

- A. Before placing the bottom geotextile, the subgrade must be graded and compacted according to the approved placement plan and accepted by the Owner.
- B. The geotextile shall be placed in the manner, location and configuration indicated. The grade which receives the filter fabric shall be carefully checked to insure a relatively smooth condition free of obstructions, depressions and debris. The filter fabric shall not be laid in a stretched condition but shall be laid loosely.
- C. The seam of the geotextile shall not be in the same location as the seam for the concrete mats, a three-foot separation minimum is required. The geotextile shall be secured under the stone to prevent movement during placement.

3.2 PLACEMENT OF STONE

- A. Placement of Crushed Stone: Crushed stone shall be placed to the required thickness on the prepared subgrade as indicated on the Drawings. The layer shall be placed to form a dense, stable layer. Compaction of the material can be accomplished with the use of pressure from the excavation equipment. A tolerance of 0.1 feet above or below the required finished lines and grades will be allowed.
- B. Placement of Articulated Concrete Mats: The top surface of the prefabricated mats shall be placed with a tolerance within 0.1 feet from the finished grade indicated on the Drawings. The Contractor shall utilize spreader bars, as supplied by the manufacturer for placement. All lifting and setting of the mats shall be in conformance with manufacturer recommendations to avoid damage to the mat or disruption of the prepared base.

- C. The surface of the Articulated concrete block mats shall not deviate more than 0.1' from the finished grade indicated on the Contract Drawings. Where Articulated concrete block mats abut a hard structure, (sidewalk, curb, roadway) the transition between the mat and structure shall be filled with materials as shown on the Contract Drawings to provide a smooth surface.
- D. All prefabricated mats shall be filled with materials designated on the contract drawings.
- E. In areas where prefabricated concrete mats cannot fit, the Contractor shall install individual blocks to match the predetermined pattern. Individual block locations shall be clearly shown on the shop drawings.

PART 4 MEASUREMENT AND PAYMENT

4.1 METHOD OF MEASUREMENT

- A. Measurement of the ARTICULATED CONCRETE MAT shall be by the Contract Unit Price Lump Sum.

4.2 METHOD OF PAYMENT

- A. Payment for the work of ARTICULATED CONCRETE MAT shall be at the Contract Unit Price of Lump Sum. Compensation shall include payment for all labor, equipment, trucking, materials, survey, supervision and any incidentals necessary for the supply and installation of the articulated concrete mat, including excavation, backfill and compaction associated with installation of the articulated concrete mats, supply and installation of articulated concrete mats, concrete, crushed stone, geotextiles, concrete transitions, hardware and any incidentals per the Contract Documents in order to complete the work of this Section to the satisfaction of the Owner.

4.3 PAYMENT ITEMS

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
02250-01	Articulated Concrete Mat	LS

END OF SECTION

SECTION 02317

ROUND TIMBER PILES

PART 1 GENERAL

1.1 DESCRIPTION

- A. Provide all labor, materials, equipment and supervision necessary to complete work specified in this Section.
- B. Scope of work includes, but is not necessarily limited to, furnishing and installing the following:
 - 1. Timber Bearing Piles
 - 2. Connectors, fasteners and other accessories as required.
- C. Related work specified elsewhere includes:
 - 1. Concrete pier deck structure in Section 03000 REINFORCED CONCRETE
 - 2. Marine hardware in Section 05600 MISCELLANEOUS METALS
 - 3. Timber bracing in Section 06130 HEAVY TIMBER CONSTRUCTION

1.2 QUALITY ASSURANCE

- A. Except as noted, work shall conform to the latest editions of the following codes, specifications and standards.
 - 1. American Society for Testing and Materials (ASTM), Specifications: D25 Round Timber Piles.
 - 2. American Institute of Timber Construction (AITC).

1.3 SUBMITTALS

- A. Submit for approval by Owner proposals for following items:
 - 1. Driving plan and schedule for installation of piles.
 - 2. Method of installation of piles including size and type of pile hammer.
 - 3. Templates and falsework to be used for support and layout of piles during driving.
 - 4. Pile point and method of attachment.
- B. AWWA quality stamp on each new treated pile.
- C. Certification of timber pile species.

1.4 PRODUCT HANDLING

- A. Piles shall be handled with care to prevent damage. Damaged piles will be rejected and replaced at no additional cost to the Owner. Piles shall be stored with a space beneath them and situated to prevent being exposed to standing water. Cant hooks or pike poles shall not be used.

PART 2 PRODUCTS

2.1 MATERIALS

A. All timber piles:

1. Piles shall be free from any defects, which will impair their strength, or usefulness for the purpose intended or that will prevent proper driving.
2. All bearing piles in the pier shall be of uniform size to permit proper fitting of pile caps, etc.
3. All piling shall be cut from sound and live trees, preferably during the winter season.
4. Estimated length of piles is as shown on the Contract Drawings.
5. Minimum circumference three (3) feet from the butt shall be 38" and minimum tip circumference shall be 22" for piles over 30' in length.
6. Greenheart piles shall be supplied by a company that operations in the Guiana Shield countries are in conformity with the International Conventions and National Forestry Regulations relating to the management of forestry concessions. Company shall enforce the protection of the endangered species listed by CITES (Convention on Trade in Endangered Species) and the bio-diversity of the ecosystems. It respects the Intellectual Property Rights of the Indigenous Peoples, whose communities are the beneficiaries of the Company's field operation.
7. Greenheart piles shall be supplied by a company that stresses the need for low impact forestry operations, ensuring that its forestry extraction is state of the art while constantly monitoring the effect of its logistics systems on watershed management and its use of biodegradable wood preservatives.
8. Greenheart piles shall be banded at 12" below final cutoff elevation. Bands shall be 1¼" wide stainless steel 19 gauge. Each pile shall be double wrapped with the band.
9. Banding of greenheart piles shall occur prior to any cutting.

PART 3 EXECUTION

3.1 DRIVING EQUIPMENT

A. Pile hammers: Vibratory, air, steam or diesel-powered, of a type approved by the Owner.

1. Impact Hammers: The hammer furnished shall have a capacity at least equal to the hammer manufacturer's recommendation for the total weight of pile and character of subsurface material to be encountered. The minimum driving energy of the hammer shall be 8,000 foot-pounds. For piles of any length, the maximum driving energy of the hammer shall be 12,000 foot-pounds. Diesel-powered hammers shall be operated at the rate recommended by the manufacturer throughout the entire driving period. Sufficient pressure shall be maintained at the hammer so that: (1) for double-acting hammer, the number of blows per minute during and at the completion of driving of a pile is equal approximately to that at which the hammer is rated; (2) for single-acting hammer, there is a full upward stroke of the ram; and (3) for differential-type hammer, there is a slight rise of the hammer base during each upward stroke.

B. Vibratory Hammers: Vibratory hammers will be allowed when bearing capacity determination by blow count or driving energy is not required.

C. Driving helmets and cushion blocks:

1. Use a driving helmet or cap including a cushion block or cap block of a design approved by the Owner between the top of the pile and the ram to prevent impact damage to the pile.
2. The driving helmet or cap and cushion block combination shall be capable of protecting the head of the pile, minimizing energy absorption, and transmitting hammer energy uniformly and consistently during the entire driving period.
3. The driving helmet or cap shall fit snugly on the top of the pile so that the energy transmitted to the pile is uniformly distributed over the entire surface of the pile head.
4. Demonstrate to the Owner that the equipment to be used on the project performs the above functions.
5. The cushion block may be a solid or laminated softwood block with the grain parallel to the pile axis and enclosed in a close-fitting steel housing. The thickness of block shall be suitable for the length of pile to be driven and the character of subsurface material to be encountered. Generally, thicker blocks are required for longer piles and softer subsurface material.
6. Replace cushion block if it has been damaged, split, highly compressed, charred or burned or has become spongy or deteriorated in any manner.
7. Under no circumstances will the use of small wood blocks, wood chips, rope or other material permitting excessive loss of hammer energy be permitted.

3.2 HANDLING

- A. Inspect piles in the leads, and where the protective shell or treated wood is impaired, between cutoff and a point which will be not less than 10 feet below the ground, the piles shall be repaired as specified under Timber Treatment unless the pile is damaged to such an extent that it is rejected. Rejected piles will be replaced at no additional cost to the Owner.
- B. Support pile laterally during driving, but not unduly restrained from rotation in the leads. Where pile orientation is essential, take special care to maintain the orientation during driving. Take special care in supporting battered piles to prevent excess bending stresses in the pile.
- C. When necessary, place collars around the pile head to prevent brooming. Cant hooks shall not be used in handling treated piles. Cut piles by sawing or other means approved by the Owner. Holes for repair shall be of a size that will ensure a driving fit.

3.3 DRIVING PILES:

- A. All piles shall be driven in the presence of the Owner or his representative unless approved otherwise.
- B. Timber Bearing Piles (All pier support piles):
 1. All Bearing Piles shall be driven using an impact hammer
 2. Drive without interruption using an impact hammer to the specified capacity.
 3. Minimum installed pile tip elevation shall be 10 feet below finished mudline or as otherwise shown on the Contract Documents. If this tip elevation is not reached prior to reaching the required bearing capacity, continue driving until this tip elevation is reached unless approved otherwise by the Engineer.

4. **All bearing piles shall be driven to a minimum working load capacity of 28 tons**

5. **ALL** bearing piles shall be subjected to a pile load test **OR** for bearing piles with specified minimum working loads of 30 tons or less, bearing piles shall be driven for at least the last 12 inches using an impact hammer and the allowable working pile load shall be computed by means of the following pile driving formula using actual recorded blow counts for each pile:

$$R = 2E / (S + C)$$

where:

- R = Allowable pile load in pounds
E = Energy per blow in foot-pounds
S = Penetration of last blow or average penetration of last few blows experienced in inches
C = Constant equal to 1.0 for drop hammer and 0.1 for steam or air hammer

- a. The value of "S" must be determined with the hammer operated at one hundred (100) percent of the rated number of blows per minute for which the hammer is designed.
- b. Any driving resistance developed in strata overlying the bearing material shall be discounted.
- c. If the driving of the pile has been interrupted for more than one (1) hour, the value of "S" shall not be determined until the pile is driven at least an additional twelve (12) inches, except when it encounters refusal.

- C. Tolerances in Driving: Butts shall be within 3 inches horizontally of the plan location indicated. Manipulation of piles to force them into position will not be permitted. Check all piles for heave. Re-drive heaved piles to the required elevation. Piles damaged, mislocated, or driven out of alignment shall be replaced or additional piles driven as directed at no additional cost to the Owner.

3.4 INSTALLATION

- A. All piles shall be marked at a given distance from the pile tip and every foot interval to the pile butt end. Markings should indicate length from the pile tip and should be visible above the waterline or ground level after driving.
- B. If obstructions are encountered, contractor shall make reasonable effort to remove obstruction. Reasonable efforts shall include excavation if obstruction is shallow or probing with steel pile to remove or bypass the obstruction. This work shall be considered as part of the work associated with pile installation
- C. Pile Cut-Offs: After completion of driving, tops of piles shall be cut off to remove damage caused by driving hammer. All cut offs shall be the property of the contractor for removal and disposal from the project site.
- D. Piles that split under driving or prove otherwise unsatisfactory shall be removed and replaced from the site at the sole expense of the Contractor and to the satisfaction of the Engineer.
- E. The driving of piles with followers shall not be permitted.

- F. Spudding, jetting, auguring or pre-drilling of piles to achieve the required penetration will not be permitted unless approved in writing by the design engineer.
- G. Any pile, which may be driven in the wrong position, shall be removed and driven in the correct position. Contractor will not be paid for the pile driven in a wrong position.
- H. Any pile which may prove too short after driving, or which has been split, broomed, upset, or otherwise damaged during driving, shall be rejected and another satisfactory pile shall be substituted and properly driven. The Contractor shall not be paid for pile work associated with the replacement of piles in the above category.

3.5 INSPECTIONS

- A. All piles will be subject to inspection before or after shipment to the site, or both, at the option of the Engineer. Any pile that does not conform to all the requirements will be rejected.
- B. A line drawn from the center of the butt to the center of the tip must be wholly within the body of the pile. Any pile that does not meet this requirement shall be rejected.
- C. Inspection of pile driving operations will be provided by the Engineer. No piles shall be driven except in the presence of an authorized inspector.
- D. Approval given by the Engineer or by his agent shall not relieve the Contractor of his responsibility for performing the work in accordance with the plans and specifications.
- E. Contractor shall not cut off top pile until verification by the Owner.

3.6 RECORDS

- A. A complete and accurate record of each pile shall be made and furnished by the Contractor. The presence of the Owner or the Owner's representative will not exempt the Contractor from the requirement to keep and furnish his own records. The record shall indicate the pile location, diameter, length, hammer (make and model), number of blows per 6" for the final 36 inches of penetration, all other pertinent information. Where a vibratory hammer is used for friction piles, the time of driving shall be recorded per 6 inches for the final 36 inches of penetration.

PART 4 MEASUREMENT AND PAYMENT

4.1 METHOD OF MEASUREMENT

- A. Measurement of PIER PILES shall be measured per EACH as the actual number of piles of each type installed complete in place.

4.2 METHOD OF PAYMENT

- A. Payment shall be made for PIER PILES at the Contract Unit Price Per EACH for each type of pile. This price and payment shall constitute full compensation for all labor, equipment, materials, preparation, testing, transportation, survey, and supervision for the satisfactory

supply and installation of timber piles including cutting to final elevation, disposal of excess material, trimming, shaping, capping, banding, connection to other work as required, fasteners, timber treatment and any other incidentals necessary to complete the work specified herein and as shown on the Contract Documents.

B. No payment will be made for timber pile cut-offs.

4.3 PAYMENT ITEMS

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
02317- 1	Pier Piles	EA

END OF SECTION

For Information Only

SECTION 02321

COMPOSITE (FRP) SHEET PILE BULKHEAD

PART 1 GENERAL

1.1 DESCRIPTION

- A. Provide all labor, materials, equipment and supervision necessary to complete the work specified in this Section.
- B. The latest addition of following Specifications, Standards and Codes shall be made a part of these specifications:
 - 1. Massachusetts Department of Public Works, Standard Specifications for Highways and Bridges, 1988 with all updates as utilized by the MassDOT.
- C. Scope of work includes but is not limited to furnishing and installing the following:
 - 1. Fiber reinforced polymer (FRP) composite sheet pile bulkhead system.
 - 2. Fabricated steel wale system with attachment to composite bulkheads
 - 3. Tie Rods
 - 4. Reinforced concrete cap
 - 5. Weepholes
 - 6. Excavation/ backfill operations

1.2 RELATED WORK IN OTHER SECTIONS

- A. Related work specified elsewhere includes, but is not necessarily limited to, the following:
 - 1. Demolition under Section 02110, DEMOLITION
 - 2. Concrete structures and cap under Section 03000, REINFORCED CONCRETE
 - 3. Excavation and Backfill under Section 02200, EARTHWORK
 - 4. Steel wale under Section 05500, METAL FABRICATIONS
 - 5. Fasteners under Section 05600, MISCELLANEOUS METALS
 - 6. Hot Dip Galvanized coatings under Section 09800, Coatings

1.3 QUALITY ASSURANCE

- A. Except as noted, work shall conform to the following codes and Standards, latest edition:
 - 1. ASTM – Specifications for the American Society for Testing and Materials
 - 2. ASTM D3039 – Tensile Properties of Plastics
 - 3. ASTM D790 – Flexural Properties of Unreinforced and Reinforced Plastics
 - 4. ASTM D3917 – Dimensional Tolerances of Thermosetting Glass-Reinforced Plastic Pultruded Shapes
 - 5. ASTM D4385 – Classifying Visual Defects in Thermosetting Reinforced Plastic Pultruded Products
 - 6. Commonwealth of Massachusetts State Building Code (CMSBC)
- B. Comply with all rules, regulations, laws and ordinances of the State of Massachusetts, and all other federal, state, and local authorities having jurisdiction. All labor, materials, equipment

and services necessary to make work comply with such requirements shall be provided without additional cost to Owner.

C. Field Monitoring

1. All (FRP) composite sheet piles shall be observed and/or tested prior to installation. Observations and/or testing shall include:
 - a. Checking sheet piles for condition and general straightness: Piles with cracks, kinks in local areas along the interlock or that have excessive bowing or camber shall be rejected.
 - b. Gauging all pile interlocks: Thumbs of interlocks shall be of the proper size to fit into the corresponding interlock openings. Piles whose interlocks are not within acceptable tolerance shall be rejected.
 - c. Checking piles for lamination flaws or other defects: Piles showing evidence of lamination flaws or other defects shall be rejected.

1.4 SUBMITTALS

A. Submit to the Engineer for review and approval the following items:

1. Manufacturer shall submit most recent product brochure for the FRP sheet pile product to be provided and recommendations for method of installation based on the actual site conditions.
2. Method of installation of (FRP) composite sheet piling including size and type of pile hammer, and temporary systems. Include erection details of driving equipment, collars, shoes, driving template, helmet and cushion.
3. Driving template layout for sheet piling.
4. Driving plan and schedule for installation of the (FRP) composite sheet pile bulkhead.

B. (FRP) composite sheet pile layout plan showing complete layout of sheet piling, including special fabricated corners.

C. Sheet pile layout, wale layout and assembly and tie rod layout and assembly including special fabricated corners, cutouts and bulkhead penetrations.

D. Certificates

1. Certify that materials are new and meet or exceed specification requirements by submitting a notarized copy of chemical and physical tests results.

1.5 JOB CONDITIONS

A. Site and Subsurface Conditions

1. Subsurface investigation data is contained on the drawings. Prior to submitting the bid, the Contractor shall review the data provided. The subsurface investigation data is made available to the Contractor for information on factual data only and shall not be interpreted from written text, boring logs or other data.
2. The Contractor shall protect existing adjacent property, public utilities and structures, and completed work from damage associated with the sheet pile installation. Damage done during sheet pile installation shall be repaired by the Contractor at his own expense.

1.6 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. The Contractor shall deliver (FRP) composite sheet piles in a timely manner to assure continuity of pile driving.
- B. Sheet piles shall be handled, transported, stacked and protected to prevent damage.
- C. Materials shall be stored in areas on site as designated by the Owner.

1.7 LINES AND GRADES

- A. The Contractor shall establish sheet pile locations and all elevations required. A baseline and benchmark located on or close to the site will be provided by the Owner. The Contractor shall be responsible for maintenance and protection of the baseline and benchmark, and all pile location markers.

PART 2 PRODUCTS

2.1 MATERIALS

- A. FRP sheeting shall be manufactured by Crane Materials International (CMI) of Marietta, GA, Ultra Composite and shall meet all requirements of this specification.
 - 1. Sheeting shall be sizes as shown on the Contract Drawings.
- B. Material and components used shall be new and shall be free from defects which would adversely affect the performance or maintainability of individual components or of the overall assembly or structure. Materials not specified herein shall be of the same or higher quality used for the intended purpose in commercial practice.
- C. Polymer (resin) – Resin shall contain U.V. stabilizers to provide sufficient resistance to ultra violet light degradation.
- D. Reinforcement – The glass reinforcement shall be in the form of continuous roving, woven roving or stitched fabrics, and surface matting. The finished FRP sheet pile product shall meet the minimum section properties shown below.
- E. Color of FRP sheet piling shall be approved by Owner.
- F. FRP sheet pile shall be manufactured using the pultrusion process. Pultrusion is defined as the continuous processing of raw materials by pulling resin-rich reinforcements through a heated steel die to form profiles of constant cross section of continuous length.
- G. FRP Minimum Section Properties:

<u>UC 95</u>	
<u>Property</u>	<u>Minimum Value</u>
Min. Allowable Moment*	48,750 ft-lb
Modulus of Elasticity - Flexure	4,000 ksi
Min. Section Modulus	58.5 in ³ /ft
Min. Moment of Inertia	497 in ⁴ /ft of wall
Min. Thickness	0.540 in

UC 75

<u>Property</u>	<u>Minimum Value</u>
Min. Allowable Moment*	31,667 ft-lb
Modulus of Elasticity - Flexure	4,000 ksi
Min. Section Modulus	38 in ³ /ft
Min. Moment of Inertia	266 in ⁴ /ft of wall
Min. Thickness	0.400/0.430 in

* Allowable Moment shall be based on a minimum Factor of Safety of 2.5

- H. Tie Rods shall be min 1” diameter hot dip galvanized threadbar with a yield strength not less than 55,000 pounds.
- I. Rods, couplers, nuts and washers shall be manufactured by DYWIDAG Systems International, USA Inc. Lincoln Park NJ; Williams Form Engineering Corporation, Grand Rapids, MI; or approved equal.
- J. Tie rod system shall include bearing plates, anchor plates, couplers, nuts, and wedge washers assembly as provided by the tie rod components manufacturer. Tie rods and associated hardware shall be hot dip galvanized as specified in Section 09800.

PART 3 EXECUTION

3.1 INSTALLATION OF (FRP) COMPOSITE SHEET PILE BULKHEAD

- A. Coordinate work with that of all other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under the Contract.
- B. (FRP) composite sheet piling for the proposed sheet pile bulkhead shall be installed at the locations as shown on the Drawings.
- C. Driving equipment and method shall be reviewed by the Engineer prior to commencement of installation. Contractor should contact manufacturer for specific hammer recommendations. No jetting will be permitted, except as may be necessary to remove obstructions. Jetting must be approved by the Engineer prior to its application.
- D. Sheet piles shall be driven within an approved falsework or approved template to be reviewed by the Engineer during the Submittal phase. In planning driving arrangements, the Contractor shall take into account site conditions.
- E. Cutting and Drilling – FRP sheet pile can be cut using carbide edged masonry blades and drilled with carbide or cobalt tipped bits or as approved by the manufacturer for clean edges cuts.
- F. Sheet pilings shall be connected to the existing composite sheeting using the designed interlock. No mechanical connection or other means of connecting the sheet pile systems together shall be used, other than those shown on the Contract Drawings.

- G. Sheet piles shall be driven plumb and true to line. Maximum deviation from the intended wall line shall not exceed 3 in. over the entire length.
- H. Sheet piles shall be driven to elevations specified on the Drawings. Contractor shall anticipate cutting top of sheet piles to correct line and elevation.
- I. Reparability – If damaged, any proposed repair must be approved by the Engineer. All repairs shall be per the manufacturer’s recommendations and directions.

PART 4 MEASUREMENT AND PAYMENT

4.1 METHOD OF MEASUREMENT

- A. Measurement of Composite Sheet Pile Bulkhead shall be by the Contract Price Lump Sum.

4.2 METHOD OF PAYMENT

- A. Payment for BULKHEAD NO. 1 shall be by the Unit Price Lump Sum and shall include all work and materials for the installation of the bulkhead, reinforced concrete cap and all other associated work. This price and payment shall constitute full compensation for all labor, equipment, materials, preparation, testing, transportation, survey, and supervision for the satisfactory supply and installation of all items under this section, complete in place, including, but not limited to, excavation and backfill, sheeting, wale, tie rods, fasteners, splices, connections, reinforcing steel, reinforced concrete cap, formwork, anchor plates, weep pipes, geotextiles, epoxy anchors, pile cutoff, disposal of surplus materials and any other incidentals necessary to complete the work specified herein and as shown on the Contract Documents.
- B. Payment for BULKHEAD NO. 2 shall be by the Unit Price Lump Sum and shall include all work and materials for the installation of the bulkhead, and all other associated work. This price and payment shall constitute full compensation for all labor, equipment, materials, preparation, testing, transportation, survey, and supervision for the satisfactory supply and installation of all items under this section, complete in place, including, but not limited to, sheeting, wale, fasteners, splices, connections, falsework, pile cutoff, disposal of surplus materials and any other incidentals necessary to complete the work specified herein and as shown on the Contract Documents.

4.3 PAYMENT ITEMS

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
02321-1	BULKHEAD NO. 1	LS
02321-2	BULKHEAD NO. 2	LS

*** END OF SECTION ***

SECTION 02455

COMPOSITE FENDER PILES

PART 1 GENERAL

1.1 1.1 DESCRIPTION

- A. Provide all labor, materials, equipment, and supervision necessary to complete work specified in this Section.
- B. Scope of work includes, but is not necessarily limited to furnishing and installing the following:
 - 1. Fender Piles suitable for use by commercial fishing vessels
 - 2. Installation of composite fender piles including but not limited to, trimming, cutting, drilling and shimming.
- C. The following items of related work are specified and included in other Sections of the Specifications:
 - 1. Concrete deck structure under Section 03000, Reinforced Concrete
 - 2. Section 05500 METAL FABRICATIONS
 - 3. Section 05600 MISCELLANEOUS METALS
 - 4. Timber Curb, wale and chock under Section 06130 Heavy Timber Construction
- D. All notices required by the Contractor to the Owner for inspection shall be at least 7 days in advance. Any deviation of this shall result in the element to be inspected being rejected.

1.2 QUALITY ASSURANCE

- A. Except as noted, work shall conform to the latest editions of the following codes specifications and standards
 - 1. American Society for Testing and Materials (ASTM)
 - 2. American Welding Society (AWS)
 - 3. American Institute of Steel Construction (AISC)

1.3 SUBMITTALS

- A. Submit for approval by the Engineer proposals for the following items:
 - 1. Manufacturer shall submit most recent product brochure for the pile product to be provided and recommendations for method of installation based on the actual site conditions.
 - 2. Driving plan and schedule for installation of the pipe piles.
 - 3. Method of installation of piles including size and type of pile hammer.
 - 4. Templates and falsework to be used for support and layout of piles during driving.

1.4 PRODUCT HANDLING

- A. Piles shall be handled with care to prevent damage to pile. Damaged piles will be rejected and replaced at no additional cost to the Owner. Piles shall be stored with a space beneath the piles and situated to prevent being exposed to standing water.

PART 2 PRODUCTS

2.1 MATERIALS

A. Composite Fender Piles:

1. Fender piles shall be composite solid cylindrical piles with an O.D. of 13", and a nominal length of 35' each. Hollow piles will not be accepted.
2. Piles shall be reinforced as determined by the manufacturer.
3. Piles shall have a monolithic outer UHMW shell
4. Piles shall have the following minimum properties:
 - Min Moment Capacity 150 Kip-Ft
 - Min yield Strength 8,180 lb/in²
 - Min Modulus of Elasticity 481,000 lb/in²
 - Min Diameter 12"

PART 3 EXECUTION

3.1 DRIVING EQUIPMENT

A. Pile Hammers: Vibratory hammer or air hammer of a type approved by the Engineer.

1. Air Hammers: The hammer furnished shall have a capacity at least equal to the hammer manufacturer's recommendation for the total weight of pile and character of subsurface material to be encountered. The driving energy of the hammer shall be between 6,500 foot-pounds and 15,000 foot-pounds. Sufficient pressure shall be maintained at the hammer so that: (1) for double-acting hammer, the number of blows per minute during and at the completion of driving of a pile is equal to at least 90% of that at which the hammer is rated; (2) for single-acting hammer, there is a full upward stroke of the ram; and (3) for differential-type hammer, there is a slight rise of the hammer base during each upward stroke.
2. Vibratory Hammers: Vibratory hammers shall comply with the composite pile manufacturers recommendations and the following:
 - Maximum drive force 55 tons
 - Maximum eccentric moment 1,300 inch-pounds
 - Maximum frequency 1,700 cycles per minute
3. Contractor shall provide details of attachment of hammer grip to the pile prior to commencing work. Grip shall not extend more than 12 inches measured from top of pile along the longitudinal pile axis.

B. Driving Helmets: The driving helmet or cap shall be capable of protecting the head of the pile, minimizing energy absorption, and transmitting hammer energy uniformly and consistently during the entire driving period. The driving helmet or cap shall fit snugly on the top of the pile so that the energy transmitted to the pile is uniformly distributed over the entire surface of the pile head. Demonstrate to the Engineer that the equipment to be used on the project performs the above functions.

3.2 HANDLING

- A. Support pile laterally during driving, but not unduly restrained from rotation in the leads. Where pile orientation is essential, take special care to maintain the orientation during driving.

3.3 DRIVING PILES

- A. Composite Piles:
 - 1. Drive without interruption to the required depth
 - 2. Fender Piles:
 - a. Tip Elevation: - 20.0 ft (MLW)
 - b. Cut-off Elevations: As indicated on drawings
- B. Pile Cut-Off: It is anticipated that that the top $\pm 2'$ of the pile may be cosmetically damaged during driving by the pile clamp. The contractor shall leave enough of the pile above the cutoff elevations so that any damaged pile can be removed above the required cutoff elevation.
- C. Pile Batter: Composite fender piles shall be installed plumb as shown on the Contract Drawings.
- D. Pile Support: All piles shall be supported by using either a two-level driving template with the top level close to the pile cut-off elevation and the lower level approximately 15 feet below or by the use of fixed lead or by a method approved by the Engineer.
- E. Tolerances in Driving:

Heads of piles shall be within 2 inches of the location indicated. Manipulation of piles to force them into position will not be permitted. Check all piles for heave. Re-drive heaved piles to the required elevation.

3.4 INSTALLATION

- A. All piles shall be driven without interruption. Cut off shall be as indicated on drawings.
- B. All piles shall be marked at a given distance from the bottom, which will show above the waterline after driving, so that the bottom elevation of each pile and its relationship with adjacent piles can be recorded.
- C. Contractor shall notify Engineer 48 hours prior to pile driving and no piles shall be driven to final position without the presence of the Owner or his Representative.
- D. Pile exterior shall be protected from falsework or driving templates to prevent damage to piles.
- E. No piles shall be cut or drilled without prior approval by the Owner. The Contractor shall replace any piles which have been cut or drilled incorrectly at no additional cost to the Owner.
- F. Piles shall be drilled with carbide tipped drill bits and cut using diamond blade concrete saws or similar approved by the manufacturer for clean cuts. Holes shall be carefully drilled and diameter of hole shall be no larger than 1/8" greater than the nominal size of the bolt.
- G. All bolts, nuts and washers shall be countersunk a minimum of 1/2" below the pile surface

3.5 RECORDS

- A. A complete and accurate record of each pile shall be furnished by the Contractor. The record shall indicate the pile location, diameter, length, hammer (make and model), initial pile elevation, final pile tip elevation, and all other pertinent information.

3.6 DEFECTIVE WORK

- A. Piles damaged, mis-located or driven out of alignment shall be replaced as directed at no additional cost to the Owner.

PART 4 MEASUREMENT AND PAYMENT

4.1 METHOD OF MEASUREMENT

- A. Measurement for Composite Fender Piles shall be made on a unit price basis, EACH, complete in place.

4.2 METHOD OF PAYMENT

- A. Payment for FENDER PILES shall be Contract Unit Price Per EACH. This price and payment shall constitute full compensation for all labor, equipment, materials, preparation, testing, transportation, survey, and supervision for the satisfactory supply of materials and installation of Composite Fender Piles, complete in place cutting, pile handling, pile sorting, hardware, I/H/W wear strip, finishing, coating, disposal of excess materials and any other incidentals necessary to complete the work specified herein and as shown on the Contract Documents.

4.3 PAYMENT ITEMS

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
02455-1	FENDER PILES	EACH

END OF SECTION

For Information Only

SECTION 03000

REINFORCED CONCRETE

PART 1 GENERAL

1.1 DESCRIPTION

- A. Provide all labor, materials, equipment and supervision necessary to complete work specified in this Section.

- B. Scope of work includes, but is not necessarily limited to, furnishing and installing the following:
 - 1. Reinforced concrete
 - a. Retaining Walls
 - b. Bulkhead Concrete Cap
 - c. Pile Caps
 - d. Concrete pier deck (Precast panels and Cast in Place Topping)
 - e. Concrete Building Slab
 - f. Concrete Ramp
 - g. Concrete Sidewalk
 - h. As otherwise shown on Contract Documents or needed to complete the work
 - 2. Forms and false work for forms
 - 3. Reinforcing steel including epoxy coated and associated accessories (Ties, Chairs, etc.) as required
 - 4. Grout for bedding
 - 5. Epoxy adhesive for setting of anchor bolts or dowels
 - 6. Cutting and patching
 - 7. Expansion and/or Control Joints

1.2 RELATED WORK UNDER OTHER SECTIONS

- A. The following items of related work are specified and included in other Sections of the Specifications:
 - 1. Section 02200, EARTHWORK
 - 2. Section 02310, ROUND TIMBER PILES
 - 3. Section 02321, COMPOSITE SHEET PILING (RFP)
 - 4. Section 02455, COMPOSITE FENDER PILES
 - 5. Section 05500, METAL FABRICATIONS
 - 6. Section 06130, HEAVY TIMBER CONSTRUCTION

1.3 QUALITY ASSURANCE

- A. Except as noted, work shall conform to the latest edition of the following code specifications and standards:
 - 1. American Society for Testing and Materials (ASTM)
 - 2. American Concrete Institute (ACI):
 - a. "Building Code Requirements for Reinforced Concrete", ACI 318.
 - b. "Specifications for Structural Concrete for Buildings", ACI 301.
 - c. "Recommended Practice for Measuring, Mixing, and Placing Concrete", ACI 304.

- d. "Recommended Practice for Cold (Hot) Weather Concreting", ACI 305 and ACI 306.
- e. "Guide to Formwork for Concrete ", ACI 347.
- 3. Concrete Reinforcing Steel Institute (CRSI):
 - a. Design of Reinforced Concrete Structures - "A Manual of Standard Practice".
 - b. "Placing Reinforcing Bars".
 - c. "Field Handling Techniques for Epoxy-Coated Reinforcing Bar"

1.4 SUBMITTALS

A. Shop Drawings

- 1. Reinforcing steel shop drawings
 - a. Shall be of such detail and completeness that all fabrication and placement at the site can be accomplished without the use of Contract Drawings for reference.
 - b. Shall include number of pieces, sizes, and grade of reinforcing steel, accessories, and any other information required for fabrication and placement.
 - c. Shall show joint layout and design
- 2. Contractor shall check structural, site, and utility drawings for anchor bolts, anchors, inserts, conduits, sleeves, and any other items which are required to be embedded in concrete, and shall make necessary provisions as required so that reinforcing steel will not interfere with the placement of such embedded items.

B. Concrete mix designs including all additives

C. Grout / manufacturer/design mix

D. Name and address of Independent Testing Laboratory for approval by Owner.

1.5 TESTING OF CONCRETE

A. Quality Control

- 1. Test Specimens: The Contractor will be required to make, cure and have tested, a minimum of one set of four test specimens from the concrete of each day's pour and for each fifty cubic yards of concrete cast in accordance with ASTM Designations C172, C31 and C39. One cylinder shall be broken after seven days and three cylinders after twenty-eight day.
- 2. Slump: A slump test shall be made for each truckload of concrete in accordance with ASTM Designation C143. Slumps greater than design mix limit will be grounds for rejection of the concrete.
- 3. Air Content: The Contractor shall make an air content test from each day's pour of concrete by the pressure method in accordance with ASTM Designation C231. Air contents above or below the limits specified will be grounds for rejection of the concrete.
- 4. Testing: All personnel and laboratories testing concrete shall be licensed by the Commonwealth of Massachusetts.
- 5. Test Failures: In the event the compressive strength of the cylinders, when tested, is below the specified minimum, the Owner may require test cores of the hardened structure to be taken by the Testing Laboratory in accordance with ASTM C-42. If such test indicates that the core specimen is below the required strength, the concrete in question shall be removed and replaced without cost to the Owner. Any other work damaged as a result of this concrete removal shall be replaced with new materials to the satisfaction of the Owner at no additional cost to the Owner. The cost of coring will be deducted from

the Contract amount. Where core cylinders have been taken by the Testing Laboratory and the concrete proves to be satisfactory, core holes shall be filled in a manner satisfactory to the Owner at no additional cost to the Owner.

- B. The Contractor shall coordinate the date and location of tests with the Owner before any concrete work is started.

1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Reinforcing steel shall be transported to the site, stored, and covered in a manner which will ensure that no damage shall occur to it from moisture, dirt, grease, or any other cause that might impair bond to concrete or chip protective epoxy coating. A sufficient supply of approved reinforcing steel shall be stored on the site at all times to ensure that there will be no delay of the work. Identification of steel shall be maintained after bundles are broken.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Portland Cement: ASTM C 150, Type II of U.S. manufacture. Only one brand of cement shall be used on the project.
- B. Aggregates:
 - 1. Fine aggregate. ASTM C 33, clean and graded from 1/4 inch to fines.
 - 2. Coarse aggregate. ASTM C 33, clean and graded from 1/4 inch to maximum sizes hereinafter specified.
- C. Air Entraining Agent: Conforming to ASTM C 260 for Air-Entraining Admixtures for Concrete.
- D. Water Reducing Agent: Conforming to ASTM C 494 Type A for Chemical Admixtures for Concrete.
- E. Shrinkage-Reducing Agent: Conforming to ASTM C 494 requirements for Type S, Specific Performance Admixtures. Admixture shall be able to reduce shrinking by a minimum of 75% by 28 days. Shrinkage reducing agent shall be used in all concrete mixes which will be susceptible to one dimensional drying or placed over impermeable surfaces.
- F. Microsilica Admixture: Packaged in easily dispersing form.
- G. Water: Clean and potable free of impurities detrimental to concrete.
- H. Reinforcing Bars: New, deformed billet steel bars, conforming to ASTM A 615, Grade 60, hot dip galvanized after fabrication in accordance with ASTM A767 Class 1. Bend diameters shall comply with ASTM A767.
- I. Concrete Sealant: Must be on the MassDOT Qualified Construction Material
- J. Accessories: Reinforcement accessories, consisting of spacers, chairs, ties, and similar items shall be provided as required for spacing, assembling, and supporting reinforcement in place.

All accessories shall be dielectric coated steel or approved plastic accessories, conforming to the applicable requirements of the CRSI Standards herein before specified.

- K. Tie wire for reinforcement shall be 16 gauge or heavier dielectric coated steel or approved plastic accessories, conforming to the applicable requirements of ASTM A-82.
- L. Form Ties and Spreaders: Standard metal form clamp assemble and plastic cone, of type acting as spreaders and leaving no metal with 1 inch of concrete face. Inner tie rod shall be left in concrete when forms are removed. No wire ties or wood spreaders will be permitted. Use 1/2" x 1" C.T. plastic cones for sinkages.
- M. Form Coatings: Non-grain raising and non-staining type that will not leave residual matter on surface of concrete or adversely affect proper bonding of subsequent application of other material applied to concrete surface, "Nox-Crete Form Coating" as manufactured by Nox-Crete Company, or approved equal. Coating containing mineral oils or the nondrying ingredients will not be permitted.
- N. Grout: A high-strength, non-shrink grout with saltwater resistance, such as Five Star Special Grout 120 or equivalent.
- O. Lifting eyes for lifting, handling means and methods shall be submitted to Engineer for approval. Lifting eyes shall be stainless steel or dielectric coated.

2.2 CONCRETE STRENGTHS AND PROPORTIONS

- A. All reinforced concrete shall have the following minimum compressive strength at 28 days and shall be proportioned within the following limits:

	Minimum Strength at 28 days	Maximum Size of Aggregate	Water Cement Ratio	Minimum Cement Content	Maximum Cement Replacement
A	5000 psi	3/4"	0.40	660 lbs/CY	Max fly ash 15% Max slag 25%

- B. Air-Entrainment: The air content in all concrete shall be maintained at 6 to 8 percent.
- C. The exact proportions for the mix, including amounts admixture (if any), and water, shall be determined by the concrete supplier.
- D. The proportions of aggregate to cement for any concrete shall be such as to produce a mixture which will work readily into the corners and angles of the forms and around reinforcement with

the method of placing employed on the work, but without permitting the materials to segregate or excess free water to collect on the surface.

PART 3 EXECUTION

3.1 CAST-IN-PLACE CONCRETE

A. Falsework for Forms

1. The Contractor shall build and maintain necessary falsework for the forms.

B. Construction of Forms

1. Wood forms shall be constructed of sound material, shall be of the correct shape and dimensions, mortar tight, of sufficient strength, and so braced and tied together that the movement of men, equipment, materials, or placing and vibrating the concrete will not throw them out of line or position.
2. Embedded Items
 - a. Provisions shall be made for pipes, sleeves, anchors, inserts, reglets, anchor slots, nailers, waterstops, and other features. No wood other than necessary nailing blocks shall be embedded in concrete. Complete cooperation shall be extended to suppliers of embedded items in their installation. Secure information for embedded items from other trades as required. All embedded items shall be securely anchored in correct location and alignment prior to placing concrete.
3. Openings for Items Passing Through Concrete
 - a. Contractor shall establish exact locations, sizes, and other conditions required for openings and attachment of work specified under other sections. Contractor shall be held responsible for proper coordination of all work of this nature in order that there will be no unnecessary cutting and patching of concrete. Any cutting and repairing to concrete required as a result of failure to provide for such openings shall be paid for by the Contractor at no additional expense to the Owner.

C. Removing Forms and Falsework

1. Wood forms shall not be removed for at least 48 hours after concrete has been placed.
2. Forms shall not be removed until the concrete has attained sufficient strength to insure stability.

D. Reinforcing Steel

1. Reinforcing steel shall be placed in accordance with the drawings and approved shop drawings and the applicable requirements of the "Codes and Standards" herein before specified. Install reinforcement accurately and secured against movement, particularly under the weight of workmen and the placement of concrete.
2. Reinforcing Steel Supports: Bars shall be supported on approved plastic, epoxy coated or dielectric-coated metal chairs or spacers, accurately placed, and securely fastened to forms or steel reinforcement in place. Additional bars shall be supplied, whether specifically shown on the drawings or not, where necessary to securely fasten reinforcement in place. Support legs of accessories in forms without embedding in form surface. Spacing of chairs and accessories shall conform with CRSI's "Recommended Practice for Placing Bar Support". Hooping and stirrups shall be accurately spaced and wired to the reinforcement. No wood will be permitted inside forms. Lifting of welded

wire fabric into proper position while concrete is being poured rather than supporting fabric on chairs will not be permitted.

3. Placing and Tying: All reinforcement shall be set in place, spaced, and rigidly and securely tied or wired with tie wire at all splices and at all crossing points and intersections in the positions shown, or as directed. Rebending of bars on the job to accommodate existing conditions will not be permitted without the written approval of the Owner. Point ends of wire ties away from forms.
4. Spacing: Minimum center to center distance between parallel bars shall be in accordance with the details on the drawings, or, where not shown, the clear spacing shall be 2 times the bar diameter but in no case less than 1-1/2 inches or less than 1-1/2 times the maximum size aggregate.
5. Splices shall be in accordance with the following:
 - a. Maximum 50% of steel spliced occurring within lap length.
 - b. Top bars shall be 1.4 times values given in 3.D.5.c.
 - c. Splice lengths

#6 bars and smaller	30 bar diameter
#7	36 bar diameter
#8	40 bar diameter
6. Protective Concrete covering
 - a. Except where shown otherwise on drawings, the minimum concrete coverage for steel reinforcement shall conform with the applicable revisions of the "Codes and Standards" herein before specified.

E. Mixing of Concrete

1. All concrete shall be ready-mixed concrete, and shall be mixed and delivered in accordance with the "Specification for Ready-Mixed Concrete", ASTM C-94. The batch plant of the concrete producer shall be certified for compliance with the standards established by the National Ready-Mixed Concrete Association.
2. In the event concrete is mixed at a central batching plant, the delivery shall be arranged so that intervals between batches are kept to a minimum, and in any event not more than thirty (30) minutes. Trucks shall be in first class condition and kept in constant rotation during delivery.
3. Concrete shall be placed within 90 minutes after cement has been mixed with aggregate or 45 minutes after addition of water and admixtures.
4. No admixture, except those mentioned in paragraph 2.1 shall be used. Calcium chloride will not be permitted.
5. Truck delivery slips of all concrete delivered to the job shall indicate the quantity and quality of concrete, additives, date and time of batching and delivery, and the location of placement. Delivery slips shall be forwarded to the Owner at the end of each week.

F. Cold Weather Requirements:

1. Concrete shall not be mixed or placed when the temperature is below 40 degrees F., or when conditions indicate that the temperature will fall below 40 degrees F. within 72 hours unless precautions are taken to protect the concrete.
2. Concrete temperature shall be maintained, when deposited, at not less than 60 degrees F. Reinforcement, forms, and ground which concrete will contact must be completely free of frost.
3. Concrete and formwork must be kept at a temperature of not less than 50 degrees F. for not less than 96 hours after placing.
4. Calcium chloride shall not be used.

5. Placement of concrete on Frozen ground will not be permitted
6. Heating of concrete shall be performed in such a way to not dry out the poured concrete in any way.

G. Hot Weather Requirements:

1. The maximum temperature of the concrete, when deposited, shall be 85 degrees F. If the weather causes the placing temperature to exceed 85 degrees F., the mix shall be cooled by appropriate methods if approved by the Engineer.
2. No concrete shall be deposited when the air temperature is greater than 90 degrees F.
3. Contractor shall take all appropriate precautions to protect the concrete from drying. Contractor shall use fog spray and or plastic covers until burlap can be placed.
4. Burlap shall be submerged in water for at least 8 hours prior to placement of concrete. Burlap shall be drained of excess water prior to placement. Burlap shall be kept wet and protected from displacement for the entire curing period.
5. Contractor shall include slow curing additives to the concrete mix to reduce shrinkage cracking and concrete setting quickly due to temperatures.

H. Conveying and Placing Concrete

1. Notification: Contractor shall notify Owner's Representative at least 48 hours in advance of any placement of concrete.
2. Form Preparation: Before placing concrete, forms shall be thoroughly inspected. All chips, dirt, etc., shall be removed, all temporary bracing and cleats taken out, all openings for pipes, etc., properly boxed, all forms properly secured in their correct position and made tight, all reinforcement, anchors and embedded items secured in their proper places. Concrete which may be on the forms or reinforcement, and which is set and dry, shall be cleaned off, and the forms and steel washed off before proceeding. Remove all foreign matter from forms and excavations.
3. Excess Water: Water shall be removed from place of deposit before concrete is placed unless otherwise permitted by the Owner. Any flow of water into an excavation shall be diverted through proper side drains into a sump, or shall be removed by other approved methods which will avoid washing away the freshly deposited concrete.
4. Soil on which concrete will be poured shall be thoroughly wetted (except in freezing weather).
5. Anchors and Embedded Items: Anchors, bolts, sleeves, inserts, wood blocking, and any other items to be embedded in concrete shall be accurately secured in position before the concrete is placed. Aluminum shall not be embedded in concrete.
6. Handling and Depositing of Concrete
 - a. Before any concrete is placed, the Contractor shall notify all whose work is in any way connected with or influenced by the concrete work, and give them reasonable time to complete all portions of their work that must be completed before concrete is deposited.
 - b. Immediately before concrete is placed, the Contractor shall inspect all forms to be sure that they are in proper position, sufficiently rigid, thoroughly clean, properly oiled and free from foreign materials, and that all reinforcement is in proper position.
 - c. Concreting, once started, shall be carried on as a continuous operation until the section of approved size and shape is completed.
 - d. Concrete shall be conveyed as rapidly as practicable from the mixer to the place of final deposit by methods, which prevent the separation or loss of ingredients. It

shall be deposited, as nearly as practicable, in its final position to avoid rehandling or flowing.

- e. Concrete shall not be dropped freely where reinforcement will cause segregation, nor shall it be dropped freely more than six (6) feet. Concrete shall be deposited to maintain a plastic surface approximately horizontal.
 - f. Concrete that has partially hardened shall not be deposited in the work.
7. Pumping
- a. Concrete may be placed by pumping if first approved in writing by the Owner for the location proposed.
 - b. Equipment for pumping shall be of such size and design as to ensure a practically continuous flow of concrete at the delivery end without separation of materials.
 - c. The concrete mix shall be designed to the same requirements as herein before specified, and may be richer in lubricating components in order to allow proper pumping.
 - d. Concrete shall not be pumped through aluminum pipes.
 - e. All pumping operations must have full-time inspection by a recognized testing laboratory approved by the Owner and paid for by the Contractor. The cost of this full-time inspection shall be included in the Contractor's bid proposal if the option of pumping is elected.
8. Vibrating and Compacting
- a. All concrete shall be thoroughly consolidated and compacted by suitable means during the operation of placing, and shall be thoroughly worked around reinforcement, embedded items, and into the corners of the forms. All concrete against forms shall be thoroughly spaded. Internal vibrators shall be used under experienced supervision, and shall be kept out of contact with reinforcement and wood forms. Vibrators shall not be used in a manner that forces mortar between individual form members.
 - b. Vibrators shall be flexible electric type or approved compressed air type, adequately powered and capable of transmitting to the concrete not less than seven thousand (7,000) vibrations per minute. Vibration shall be sufficiently intense to cause the concrete to flow or settle readily into place without separation of the ingredients. A sufficient number of vibrators shall be employed so that complete compaction is secured throughout the entire volume of each layer of concrete. At least one (1) vibrator shall be kept in readiness as a spare for emergency use. Vibrators shall be such that the concrete becomes uniformly plastic with their use.
 - c. Vibration shall be close to the forms but shall not be continued at one spot to the extent that large areas of grout are formed or the heavier aggregates are caused to settle. Care shall be taken not disturb concrete which has its initial set.
 - d. Where conditions make compacting difficult, or where the reinforcement is congested, batches of mortar containing the same proportions of cement to sand as used in the concrete shall first be deposited in the forms, to a depth of at least on inch.
 - e. The responsibility for providing fully filled out, smooth, clean, and properly aligned surfaces free from objectionable pockets shall rest entirely with the Contractor.

- I. Construction Joints: Construction joints shall be located a maximum of 40 feet apart. If, for any reason, the Contractor feels a change is necessary, he shall prepare a placing plan and submit it to the Owner for approval. Where a joint is to be made, the surface of the concrete shall be sandblasted or thoroughly picked, thoroughly cleaned, and all laitance removed. In addition to

the foregoing, joints shall be thoroughly wetted, but not saturated, and slushed with a coat of grout immediately before the placing of new concrete. Approved keys shall be used at all joints, unless detailed otherwise. Forms shall be retightened before placing of concrete is continued. There shall be an interval of at least 48 hours between adjacent pours.

- J. Expansion Joints: Expansion joints shall be located at a maximum spacing of 40' or as otherwise shown on Contract Drawings. The joint shall include a joint filler, a bond breaker and joint sealant and installed as indicated on Contract Drawings.
- K. Patching: Immediately after stripping forms, patch minor defects, form-tie holes, honeycombed areas, etc., before concrete is thoroughly dry. Repair gravel pockets by cutting out to solid surface, form key, and thoroughly wet before placing patching mortar consisting of 1 part cement to 2 parts fine sand; compact into place and neatly finish. Honeycombed areas or gravel pockets which, in the Owner's opinion are too large and unsatisfactory for mortar patching as described above, shall be cut out to solid surface, keyed, and packed solids with matching concrete to produce firm bond and surface.
1. The Contractor shall do the entire cutting as required by himself or other trades. All such work shall be of the minimum size required. No excessive cutting will be permitted, nor shall any structural members or reinforcement be cut.
 2. The Contractor shall do all patching after work by other trades has been installed, where required, using Portland Cement Mortar 1:2 mix.
- L. Protection and Curing
1. Protect concrete from injurious action of the elements and defacement of any nature during construction operations.
 2. Keep concrete in a thoroughly moist condition from the time it is placed until it has cured, for at least (7) days.
 3. Carefully protect exposed concrete corners from damage.
 4. Allow no concrete to become dry at any time until curing operations are complete. In general, slabs shall be cured with non-staining curing paper, hosing or fog spray; vertical surfaces shall be cured with Burlene or fog spray or an approved curing compound. Protect fresh concrete from drying winds, rain, damage, or spoiling. Curing paper shall be lapped 4 inches minimum at joints and sealed with waterproof tape.
- M. Concrete Finishes
1. Unexposed Surfaces
 - a. All unexposed surfaces shall have any form finish, at the Contractor's option.
 2. Wearing Surface Finish
 - a. The wear surface shall receive a monolithic steel trowel finish. Surfaces shall be finished with a screed, float, or steel trowel. Trowel shall be vigorously used at an angle under pressure by the finisher until troweling gives evidence of shine or gloss as required to make a smooth, hard, dense, impervious surface, free of defects. Finishers shall work from kneeboards laid flat upon the surface. Mechanical troweling machines may be used if the desired finish and level tolerances can be obtained by their use, but finishing shall be by hand troweling.
 - b. For sidewalks, pier decks and where directed, finish surfaces by scoring in parallel lines with a fine hair stable broom, perpendicular to the direction of traffic or as indicated on the drawings.
 - c. All curbs shall have a sweeping trowel finish similar to adjacent concrete, or as directed by the owner.

- d. All wearing surfaces shall be coated with a MassDOT approved Concrete Sealant sufficient to seal any and all cracking within all concrete wear surfaces. Sealant shall be able to withstand a marine environment.
3. Exposed Surfaces
- a. Surfaces exposed to view shall be finished. Within 48 hours after the forms have been removed and form ties cut back from the face of the concrete, all voids and cavities shall be filled with a stiff mortar of the same composition and air-entrainment as the mortar in the original concrete mix. The same brand and color of cement, and the same kind and color of aggregate as was used in the original concrete mix shall be used in this mortar. The mortar for filling shall have been mixed and let set for 30 minutes and then remixed before placing in the work. The surface film of all such pointed surfaces shall be carefully removed before setting of the mortar occurs.
- b. If the Owner determines these surfaces as prepared do not present a uniformly smooth, clean surface of even texture and appearance, the surface shall be treated and rubbed to obtain a satisfactory finish. The Owner shall be the sole judge of the amount of rubbing which will be required.
- c. If rubbing is required, the rubbing will start within 48 hours of notification that the rubbing is required, the surface should be wetted with clean water and rubbed with a No. 16 carborundum brick or other abrasive of equal quality until even and smooth and of uniform appearance, without applying any cement or other coating. If additional finishing is necessary it shall be obtained by a thorough rubbing with a No. 10 carborundum brick or other abrasive of equal quality. Subject to approval by the Owner, rubbing may be performed by use of satisfactory power equipment and tools, providing that the operational procedures shall be the same as those outlined above for hand rubbing.
- d. Rubbing will be kept to a minimum found necessary to produce smooth, even surfaces of uniform appearance. Rubbing will not be required to fill very small surface air bubble holes.
- e. Patches required for form ties, if carefully and properly done, may not necessitate rubbing. If, however, the work is done in such a way that the patches are conspicuous, the entire exposed face on which they occur shall be rubbed.
- f. After the final rubbing is completed, and the mortar has set up, the surface shall be thoroughly drenched and kept wet with clean water for a period of five days, unless otherwise directed.
- g. No rubbing will be permitted when the air temperature is below 40 °F.
- h. File Caps and any formed surfaces not exposed to view, including the underside of concrete decking, shall be finished. Immediately after forms have been removed and form ties cut back from the face of the concrete, all voids and cavities shall be fixed with a stiff mortar of the same composition and air-entrainment as the mortar in the original concrete mix. The mortar for filling shall have been mixed and let set for 30 minutes and then remixed before placing in the work. In case the operation of filling is delayed, the surface of the concrete shall be thoroughly cleaned and washed with water, if necessary, before the mortar is applied.
4. Concrete Sealant shall be applied as required per the manufacturers recommendations. Concrete sealant shall be applied to all deck surfaces, and exposed concrete.
5. Addition of Material
- a. The addition of cement, sand, water, or mortar to any surface while finishing concrete is strictly prohibited.

- N. Defective Work
1. The following concrete work shall be considered defective and may be ordered by the Owner to be removed and replaced at Contractor's expense:
 - a. Incorrectly formed.
 - b. Not plumb or level.
 - c. Not specified strength.
 - d. Containing rock pockets, voids, honeycomb, or cold joints.
 - e. Containing wood or foreign matter.
 - f. Otherwise not in accordance with the intent of the Drawings and Specifications.

3.2 PRECAST CONCRETE

- A. Precast Concrete shall comply with the requirements of 3.1 CAST IN PLACE CONCRETE and the following:
- B. Use of Precast Concrete slabs as shown on the Contract Drawings is at the Contractors option. Cast In Place Concrete may be used as an alternative. All dimensions and reinforcing details shall remain the same as the Precast Concrete Option. If the Contractor chooses to use Cast in Place concrete instead of the Precast Concrete shown on the Contract Drawings, it shall be at no additional cost to the Owner.
- C. Contractor shall submit proposed lifting and handling means and methods to Engineer for approval prior to commencing work.
- D. If precast concrete is to be lifted or moved prior to 7 day cylinder strength test, additional cylinders shall be taken to prove required strength of concrete. Minimum strength shall be twice calculated stress on concrete or 1500 psi, whichever is the greater.
- E. Contractor shall provide suitable temporary supports for the precast concrete adequately designed to take all dead and live construction loads.
- F. Contractor shall submit details of falsework supports for precast concrete to Engineer for approval prior to placing any panels on site.
- G. All precast panels shall be placed to correct line and level as shown on the drawings. Joints between panels shall be sealed by approved method to prevent loss of grout from subsequent cast in place concrete.

PART 4 . MEASUREMENT AND PAYMENT

4.1 METHOD OF MEASUREMENT

- A. Measurement for CONCRETE PIER shall be by the Contract Unit Price Lump Sum.
- B. Measurement for CONCRETE SITE IMPROVEMENTS shall be by the Contract Unit Price Lump Sum.

4.2 METHOD OF PAYMENT

- A. Payment for CONCRETE PIER shall be made by the unit price lump sum, complete in place. This price and payment shall constitute full compensation for all supervision, survey,

transportation, testing, labor, materials and equipment for the satisfactory installation of the complete concrete pier deck including precast panels and concrete pile caps, cast in place concrete deck, connection to the piles and bulkhead, compaction, falsework, temporary supports, lifting, forming, finishing, dowels, reinforcing steel, mortars, grouts, epoxy adhesives, inserts, anchors, steel plates, surface preparation, curing, attachments, disposal, hot and cold weather requirements and any incidentals necessary to complete the work specified herein and as shown on the Contract Drawings.

- B. Payment for CONCRETE SITE IMPROVEMENTS shall be made by the unit price lump sum, complete in place. This price and payment shall constitute full compensation for all supervision, survey, transportation, testing, labor, materials and equipment for the satisfactory installation of the complete concrete bulkhead cap, retaining walls, slabs, ramps, sidewalks, dock fender system and concrete encasements, complete in place, including, excavation, backfill, compaction, falsework, temporary supports, lifting, forming, finishing, dowels, reinforcing steel, mortars, grouts, epoxy adhesives, inserts, anchors, rubber fender, timber bumper, steel plates, surface preparation, disposal, curing, attachments, hot and cold weather requirements and any incidentals necessary to complete the work specified herein and as shown on the Contract Drawings.

4.3 PAYMENT ITEM

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
03000-01	Concrete Pier	LS
03000-02	Concrete Site Improvements	LS

END OF SECTION

For Information Only

SECTION 05500

METAL FABRICATIONS

PART 1 GENERAL

1.1 DESCRIPTION

- A. Provide all labor, materials, equipment and supervision necessary to complete work specified in this Section.
- B. Scope of work includes, but is not necessarily limited to, manufacturing or shop-fabricating metal elements, including:
 - 1. Wale
 - 2. Wale splices
 - 3. Bearing plates
 - 4. Anchor rods
 - 5. Ladders
 - 6. Davits
 - 7. Miscellaneous angles and brackets.
- C. Related work specified elsewhere includes, but is not necessarily limited to, the following:
 - 1. Section 02110, DEMOLITION
 - 2. Section 02321, SHEET PILE BULKHEAD
 - 3. Section 03000, REINFORCED CONCRETE
 - 4. Section, 05600, MISCELLANEOUS METALS
 - 5. Section 09800, COATINGS

1.2 QUALITY ASSURANCE

- A. Except as noted, work shall conform to the following codes and standards:
 - 1. American Society for Testing and Materials (ASTM), latest edition.
 - 2. American Institute of Steel Construction (AISC) Specification for the Design, Fabrication and Erection of Structural Steel for Buildings, latest editions.
 - 3. American Welding Society (AWS).

1.3 SUBMITTALS

- A. Shop drawings
 - 1. Submit for approval prior to fabrication all information necessary for the fabrication of the component parts. Indicate size and weight of members, type and location of shop and field connections, the type, size and extent of all welds, and welding sequences. Use American Welding Society welding symbols. Approval of shop drawings will be for size and arrangement of principal and auxiliary members and strength of connections. Any errors in dimensions shown on shop drawing shall be the responsibility of the Contractor.

- B. The Contractor shall use only certified welders and the shielded arc process for all welding performed in connection with the work of this Section. Each welder shall be certified for the particular work, prior to commencing the work, which must be accomplished.
- C. Upon completion of this portion of the work, and as a condition of its acceptance, the Contractor shall deliver to the Engineer a letter signed by an official of the miscellaneous metal fabricating firm or firms certifying that all fabricated metal has been fabricated in complete accordance with this Section of these specifications.

1.4 PRODUCT HANDLING

- A. All materials shall be delivered, stored and handled with care to prevent damage to any material or material coating. Material damaged or with damaged coating will be rejected and replaced at no additional cost to the Owner.

PART 2 MATERIALS

2.1 STRUCTURAL STEEL AND MISCELLANEOUS ITEMS

- A. All structural steel, including rolled shapes, angles and plates, shall conform to ASTM A36 unless otherwise noted.
- B. Bulkhead wales and all components shall conform to ASTM A36 unless otherwise noted and shall be hot dip galvanized.
- C. Jib Crane will be supplied by the Owner. The Contractor shall store and install the crane as shown on the plans.
- D. All steel shall be coated in accordance with Section 09800, unless otherwise noted.

2.2 WELD ELECTRODES

- A. Weld rod shall conform to AWS E70XX grade.

PART 3 EXECUTION

3.1 FABRICATION

- A. Fabricate products in a fully-equipped facility capable of producing high grade of metal fabrication work. All work shall be straight and true, free from warp and other defects. Joints, covers, copes and miters shall be accurately and neatly cut, machined, filed and fitted.
- B. Carry out bolting and welding in accordance with latest approved methods, with due consideration for strength and appearance of finished product. All welding shall be done by certified welders.
- C. All steel will be free from imperfections, dirt, loose scale, paint, oil or other foreign substances.

- D. All welds shall be made watertight.
- E. All material shall be fabricated to within 1/8 inch ± of their theoretical dimensions as shown on the drawings.
- F. Holes for bolts shall be located as shown on the drawings.
- G. If galvanized bolts are required, holes in steel components shall be drilled 1/8" in diameter larger than the galvanized bolt. All other bolt holes shall be drilled for standard clearances.

3.2 INSTALLATION

- A. Store materials on skids, not on ground, in such a fashion as to prevent bending, twisting or similar damage. Do not dump steel off truck.
- B. Clean installed work from weld spatter, dirt and other foreign materials. Protect installed work as required from damage by subsequent building operations.

3.3 DEFECTIVE WORK

- A. Any parts damaged or improperly fabricated shall be removed and replaced or corrected as directed by the Engineer and at no additional cost to the Owner.

PART 4 MEASUREMENT AND PAYMENT

4.1 METHOD OF MEASUREMENT

- A. Measurement for PIER JIB CRANE shall be the number of jib cranes installed, complete in place.
- B. Measurement for PIER LADDER shall be the number of ladders installed, complete in place.
- C. No separate measurement and payment shall be made for bulkhead wale and tieback systems. All payment for bulkhead tieback systems including, but not limited to, wale, tie rods, connectors, fasteners, spacers, washers, washer plates, and splice plates shall be made under bulkhead lump sum pay items described in Section 02321.

4.2 METHOD OF PAYMENT

- A. Payment for PIER JIB CRANE shall be made by the unit price Each, complete in place. This price and payment shall constitute full compensation for all supervision, survey, transportation, testing, labor, materials and equipment for the satisfactory procurement and installation of a stainless-steel Crane including anchors, hoist, grout, Crane components, and any incidentals necessary to complete the work specified herein and as shown on the Contract Drawings.
- B. Payment for PIER LADDER shall be made by the unit price Each, complete in place. This price and payment shall constitute full compensation for all supervision, survey, transportation, testing, labor, materials and equipment for the satisfactory procurement and installation of steel

ladders complete in place, including, anchoring, temporary supports, lifting, epoxy adhesives, inserts, anchors, steel plates, disposal, attachments, timber bracing and lower supports, and any incidentals necessary to complete the work specified herein and as shown on the Contract Drawings.

4.3 PAYMENT ITEMS

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
05520-1	PIER JOB CRANE	EA
05520-2	PIER LADDER	EA

*** END OF SECTION ***

For Information Only

SECTION 05600

MISCELLANEOUS METALS

PART 1 GENERAL

1.1 DESCRIPTION

- A. Provide all labor, materials, equipment, and supervision necessary to complete the work specified in this Section.

- B. Scope of work includes:
 - 1. Machine bolts and washers
 - 2. Anchor and expansion bolts
 - 3. S.S. pins
 - 4. Eye bolts
 - 5. Fabricated steel elements
 - 6. Pipe hangers and pipe clamps
 - 7. Bearing plates
 - 8. All other hardware not specified elsewhere

- C. Related work specified elsewhere:
 - 1. Section 03000, REINFORCED CONCRETE,
 - 2. Section 02321, COMPOSITE SHEET PILE BULKHEAD
 - 3. Section 05500, METAL FABRICATIONS
 - 4. Section 06130, HEAVY TIMBER CONSTRUCTION
 - 5. Section 09800, COATINGS

1.2 QUALITY ASSURANCE

- A. Except as noted elsewhere, work shall conform to the following codes and standards:
 - 1. American Society for Testing and Materials (ASTM).
 - 2. American Welding Society (AWS).
 - 3. American Institute of Steel Construction (AISC).

1.3 SUBMITTALS

- A. Shop drawings for all shop fabricated items shall be submitted to the Engineer for approval before beginning fabrication.

- B. Certificate of compliance with applicable ASTM specifications for all galvanized items shall be submitted to the Engineer with all materials delivered to the fabricator or site.

- C. Manufacturer's literature and specifications for all fasteners, wire rope, chains, shackles, expansion bolts, and other connection items identified within the contract drawings.

- D. List of all other hardware with quantities and material specifications.

1.4 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. All materials shall be delivered, stored and handled with care to prevent damage to any material or material coating. Material damaged or with damaged coating will be rejected and replaced at no additional cost to the Owner.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Machine and eye bolts shall be grade A316 stainless steel, unless otherwise approved by the Engineer.
- B. All fasteners for bolted connections shall be type 316 stainless steel Grade B8M, Class 2 conforming to ASTM A320 and A194 unless otherwise specified.
- C. All anchor bolts embedded in concrete shall be type 316 stainless steel. Anchor bolts up to and including 5/8" diameter shall conform to ASTM F593 Alloy group 2, Condition CW1. Anchor bolts larger than 5/8" diameter shall conform to ASTM F593 Alloy group 2, Condition CW2.
- D. All chains, cable, shackles, and connecting links shall be the size and capacity shown on the drawings.
- E. All plates, washers and other steel components shall be stainless steel Series 300, type 316, except pipe hangers and pipe clamps where stainless steel Series 300, type 304 is permitted, unless otherwise approved by the engineer.
- F. All non stainless steel items under this section shall be galvanized. Galvanizing shall be by the hot dip method according to ASTM Specifications A-123 and A-153.
- G. Welding rods shall conform to AWS E70XX grade. Sizes shall be as indicated on the drawings.
- H. All hardware, not encased in concrete shall be stainless steel unless otherwise noted.

PART 3 EXECUTION

3.1 FABRICATION

- A. Fabrication shall conform to AISC Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings.
- B. Workmanship shall be equal to standard commercial practice.
- C. All materials shall be clean and straight. Each assembly shall be accurately fabricated to the lines and dimensions called for and shall be free from undue twists, bends, warping, distortion, and other irregularities.
- D. Assemblies shall be fabricated to within 1/8" ± of their theoretical dimensions.

3.2 INSTALLATION

- A. Installation shall conform to AISC Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings.
- B. Parts covered by this specification shall be installed in the work as shown on the drawings.
- C. No cutting or burning of steel shall be done to install fasteners without approval of the Engineer.

3.3 DEFECTIVE WORK

- A. The following shall be grounds for rejection and replaced at no additional cost to the Owner:
 - 1. Any damaged parts.
 - 2. Any parts improperly installed in the work.
 - 3. Any items found not to have the proper coating.
 - 4. Otherwise not according to Contract Documents.

PART 4 MEASUREMENT AND PAYMENT

4.1 METHOD OF MEASUREMENT AND PAYMENT

- A. No separate measurement or payment shall be made for the work in this Section. Measurement and Payment for this item shall be included within the work it is associated with.

*** END OF SECTION ***

SECTION 06130

HEAVY TIMBER CONSTRUCTION

PART 1 **GENERAL**

1.1 DESCRIPTION

- A. Provide all labor, materials, equipment and supervision necessary to complete the work specified in this Section.
- B. Scope of work includes, but is not limited to supply and installation of the following:
 - 1. Timber Bracing and other timber members.
 - 2. Timber Curb and Fender Chock
- C. Related work specified elsewhere:
 - 1. Section 02317, ROUND TIMBER PILES
 - 2. Section 02455, COMPOSITE FENDER PILES
 - 3. Section 05600, MISCELLANEOUS METALS

1.2 QUALITY ASSURANCE

- A. Except as noted all work shall conform to the latest editions of the following codes, specifications and standards:
 - 1. West Coast Lumber Inspection Bureau (WCLIB)
 - 2. Western Wood Products Association (WWPA)
 - 3. National Forest Products Association (NFPA)
 - 4. American Society for Testing and Materials (ASTM)
 - 5. Commonwealth of Massachusetts State Building Code (CMSBC)
 - 6. American Institute of Timber Construction (AITC)

1.3 SUBMITTALS

- A. AWWPA quality certification on all treated timber.
- B. Certification of timber species.
- C. Material list with treatment, sizes and quantities

1.4 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. All timber shall be stored in stacks such that there is an air space beneath the material and situated to prevent the timber from being exposed to standing water.
- B. The material shall be stored on site in an area which will be designated by the Owner.
- C. Timber shall be handled in an approved manner such that the material will not be damaged.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Unless otherwise specified on the Contract Drawings, all timber to be used shall be Tropical Hardwood as graded by SPIB and with design values per NFPA National Design Specification.
- B. All Timber specified on the Contract Drawings as Southern Yellow Pine, shall be No. 2 dense Southern Pine as graded by SPIB and with design values per NFPA National Design Specification or the equivalent for Douglas Fir as graded by WCLIB and WWPA.
- C. All timber shall be new and supplied S4S unless otherwise noted.
- D. All fasteners shall be Stainless Steel conforming to ASTM A316 and as specified in MISCELLANEOUS METALS, SECTION 05600.

PART 3 EXECUTION

3.1 PREPARATION

- A. Prior to installation, all demolition affecting the new work shall be completed.

3.2 INSTALLATION

- A. Joints are to be square, tight and well-fastened with all members assembled in accordance with the Contract Drawings.
- B. Holes for bolts shall be drilled the same size as the bolt before galvanizing. Holes shall be swabbed with 2 coats of sealing compound as specified herein before installing the bolts.
- C. Bolts shall be tightened to provide a solid connection. No more than 1 washer shall be installed under the bolt head or nut. Bolt threads shall project no more than one bolt diameter beyond the nut.
- D. All timber shall be cut and fit in such a manner as to have full bearing over the entire contact surface.

PART 4 MEASUREMENT AND PAYMENT

4.1 METHOD OF MEASUREMENT

- A. Measurement for MARINE TIMBER shall be made by Unit Price Lump Sum.

4.2 METHOD OF MEASUREMENT

- A. Payment for MARINE TIMBER shall be by the Unit Price Lump Sum. This price and payment shall constitute full compensation for all labor, equipment, materials, preparation, testing, transportation, survey, and supervision for the satisfactory supply and installation of the timber curbing and fender chocks, timber bracing, cutting, shimming, spacer blocks, fasteners,

hardware, epoxy anchors, treatment, disposal of surplus material and any other incidentals necessary to complete the work specified herein and as shown on the Contract Documents.

4.3 PAYMENT ITEM

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
06130-1	MARINE TIMBER	LS

**** END OF SECTION ****

For Information Only

SECTION 06310

TIMBER TREATMENT

1. GENERAL

1.1 DESCRIPTION

- A. Provide all labor, materials, equipment, and supervision necessary to complete the work specified in this Section.
- B. Scope of work includes:
 - 1. The treatment of timber members with a wood preservative.
 - 2. The field application of all timber subject to field cutting.
- C. Related work specified elsewhere:
 - 1. Section 06130 HEAVY TIMBER CONSTRUCTION.

1.2 QUALITY ASSURANCE

- A. Except as noted all work shall conform to the latest editions of the following codes, specifications, and standards.
 - 1. American Society for Testing and Materials (ASTM) D-25.
 - 2. American Wood Preservatives Association (AWPA).

2. PRODUCTS

2.1 MATERIALS

- A. All new Southern Yellow Pine and Douglas Fir timber members to which the public may be exposed (decking, handrails, benches, similar) shall be treated with alkaline copper quaternary (ACQ) in accordance with AWPA Standards for material subject to salt water use and shall obtain a green tint due to the treatment.
- B. All new Southern Yellow Pine and Douglas Fir timber members to which the public shall not be exposed and shall be treated with chromated copper arsenate (CCA) in accordance with AWPA Standard P5 and C2 for material subject to salt water use and shall obtain a green tint due to the treatment.

3. EXECUTION

- 3.1 Prior to treatment all dimension lumber shall be kiln-dried. Conditioning by heating is not permitted.
- 3.2 All timber to be treated with alkaline copper quaternary (ACQ) shall be treated to a retention of 0.6 pounds per cubic foot.
- 3.3 All timber to be treated with chromated copper arsenate (CCA) shall be treated to a retention of 2.5 pounds per cubic foot.

- 3.4 Sealing compound for treatment of field cuts and drilled holes shall be two (2) coats of copper naphthenate meeting AWPA standard P8.

MEASUREMENT AND PAYMENT

4.1 METHOD OF MEASUREMENT AND PAYMENT

- A. No separate measurement or payment shall be made for the work in this Section. Measurement and Payment for this item shall be included within the work it is associated with.

*** END OF SECTION ***

For Information Only

SECTION 09800

COATINGS

PART 1 GENERAL

1.1 DESCRIPTION

- A. The work of this Section includes, but is not limited to providing all labor, equipment, materials, incidental work, supervision and construction methods necessary, as indicated on the Contract Documents, as specified for preparation and application of the following coating types:
 - 1. Hot dip galvanizing for ladders
 - 2. Hot dip galvanizing for wales, splice plates, washer plates, spacers, fasteners and other bulkhead system related items
 - 3. Hot dip galvanizing for tie rods and all associated hardware
- B. Related work specified elsewhere includes:
 - 1. Section 02321 STEEL SHEET PILE BULKHEAD
 - 2. Section 05500, METAL FABRICATIONS
 - 3. Section 05600, MISCELLANEOUS METALS

1.2 QUALITY ASSURANCE

- A. Except as noted, work shall conform to the latest editions of the following codes specifications and standards:
 - 1. Steel Structures Painting Council (SSPC): Surface Preparations Specifications, specifications and standards herein referred to.
 - 2. American Society for Testing and Materials (ASTM): specifications and standards herein referred to.

1.3 SUBMITTALS

- A. Manufacturer's literature and recommended application instructions. Certification that materials meet specification requirements.

1.4 FIELD TESTING

- A. Coatings may be inspected by the Owner using holiday detectors, field adhesion test, or a combination of both.

1.5 PRODUCT HANDLING

- A. All coated materials shall be delivered, stored, and handled with care to prevent damage to the coating.
- B. All coated materials, especially steel sheeting and piles, shall be installed in such a manner that minimizes damage to the coating.

- C. Materials with damaged coatings will be rejected at the sole discretion of the Owner and the materials replaced, unless otherwise agreed to by the Owner, at no additional cost to the Owner.

PART 2 PRODUCTS

2.1 MATERIALS

- A. All wales, tie rods, plates, fasteners, bolts, nuts, washers, splice plates, spacer plates, and shim plates shall be hot dip galvanized unless noted otherwise on the Contract Documents.
- B. All cleats and ladders shall be hot dip galvanized.
- C. No coating of stainless steel is required.

PART 3 EXECUTION

3.1 SHOP SURFACE PREPARATION

- A. General
 1. All surfaces shall be thoroughly prepared for coating application in strict accordance with the coating manufacturer's recommendation and these specifications. All cleaning and coating work must be performed in a heated building. Preceding grit blasting, steel must be heated to at least 100 degrees F. to eliminate possibility of moisture on the surfaces to be cleaned and coated.
 2. Grit blasting shall be to clean grey metal, at least equivalent to a Near White as defined by SSPC Specification SP-10. All work blasted in one day must be coated on that day.
 3. Any areas of the surface which show traces of oil, grease, or other organic matter shall be removed prior to coating. The contamination shall be removed by using either a solvent or spot blasting.
 4. All surfaces to be coated must be completely dry, free of moisture, soil, dust, and grit and the time the coating is applied.
 5. The Owner shall have access to each part of the process and shall have the right and opportunity to witness any of the quality control test and/or perform such test himself on a random sampling basis.

3.2 APPLICATION OF COATING

- A. Fusion Bonded Epoxy (FBE) Coating (Shop Coat)
 1. The fusion bonded epoxy coating shall be applied in an environmentally controlled plant that is fully enclosed. The coating system shall be fully automatic with the capabilities of preheating and post baking. The grit blast cleaning machine shall be fully automatic and fully enclosed in an environmentally controlled plant.
 2. The finished coating thickness shall be 10 mils nominal as tested in accordance with ASTM-G12.
 3. The coating material shall be applied strictly in accordance with the coating manufacturer's recommendation as to coating application procedure and curing schedule.

In no case shall the oven temperatures or temperature of the piling during any part of the curing process, exceed 260 C. (500 F.).

4. The cured coating shall be of uniform color, gloss and thickness, and shall be free of blisters, pinholes, fish eyes, sags, runs, and any other irregularities.
5. The coater shall be responsible for all quality control checking including visual inspection, thickness measurements, and holiday testing, and shall keep records on the results of all such inspections in a form suitable to the Owner's Representative.
6. The Owner's Representative shall have access to each part of the process and shall have the right and opportunity to witness any of the quality control test and/or perform such test himself on a random sampling basis.

B. High Solids Epoxy (Shop Coat)

1. All coating shall be applied by brush or spray using commercially available spray equipment. The coatings shall exhibit reasonable leveling without excessive sagging when applied at the required film thickness. Proper adhesion between coats shall be ensured, depending on method of coating application, without undue restrictions concerning timing, temperature or other conditions associated with application. Coating manufacturer's recommendations and these specifications shall be adhered to. The temperature of the coating shall be within 15 degrees F. of the temperature of the steel at the time of application of the coating.
2. Where coating on any type of surface has commenced, the complete coating operation, including priming and finishing coats when multiple coats are used on that portion of the work, shall be completed as soon as practicable, without prolonged delays. Where necessary, sufficient time shall elapse between successive coats to permit them to dry properly for recoating and this period shall be modified as necessary to suit curing conditions.
3. Coating Thickness
 - a. A minimum thickness (not average) of **12 mils** dry film is required on all surfaces to be coated.
 - b. Where more than one coat is required to achieve the recommended film build, the interval between coats should be as short as possible. To ensure maximum intercoat adhesion, it is recommended that:
 - 1) The next coat shall be applied in accordance with the coating manufacturer's recommendations.
 - 2) If the previous coat has cured for more than the recoat time specified by the manufacturer, wash with fresh water, and then brush blast to provide an adequate mechanical bond before recoating.
4. Final Curing Time. Coated surfaces shall be permitted as long a drying time as practicable, but in any event the minimum requirements shall be in accordance with the coating manufacturer's recommendations.
5. Thinning: Whenever possible the material shall be applied without thinning. Where thinning must be done, it shall be as recommended by the coating manufacturer. If the material is thinned, it may be necessary to apply more than the standard 1 or 2 coats to attain the **required minimum (not average) dry film thickness**.
6. Appearance of Finished Coating
 - a. The finished coating shall be generally smooth and free of sharp protuberances which could be removed by abrasion. A minor amount of sags, dimpling, or curtaining which does not exceed 2 to 3 percent of the surface will not be

considered cause for rejection unless they present sharp edges which might be removed by abrasion.

- b. Sharp protuberances shall be cut off using a sharp wood chisel laid flat against the surface. The area from which material has been removed shall be recoated to smooth the surface.

3.3 FIELD SURFACE PREPARATION

- A. Field surface preparation and coating shall only take place on items requiring field assembly or touch up including:
 1. Weldments, scraps, chips and areas where coating has been damaged.
- B. Grind, wire brush, or, otherwise clean to grey metal. Work to be at least equivalent to Power Tool Cleaning as defined by SSPC specification SP-3. All work cleaned must be coated on that day.
- C. Traces of oil, grease, or other organic matter on areas of the surface shall be removed prior to coating. The contamination shall be removed by using either a solvent or spot blasting.
- D. All surfaces to be coated must be completely dry, free of moisture, soil, dust and grit at the time the coating is applied.

3.4 FIELD COATING

- A. General
 1. Prior to installation, all connections and items which will become inaccessible after installation shall be coated.
 2. After coated items have been installed, field coat all accessible areas which have been scraped or chipped.
 3. After field coating and touch up of coatings, the coating shall have a uniform, consistent finish, including the color and appearance of the coating. Owner reserves the right to reject any materials considered to not have a uniform, consistent coating and have them either replaced or re-coated by the Contractor at no additional cost to the Owner.
- B. Epoxy Coating Touch Up
 1. The touch up of Epoxy coating shall be with the same Epoxy coating system utilized during shop coating and with the same coating manufacturer.
 2. Application of field coating shall be as recommended by the manufacturer and cleaning and curing criteria prior to installation shall be strictly adhered to.

3.5 HOT DIP GALVANIZING

- A. Galvanizing shall be by the hot dip method according to ASTM Specifications A-123 and A-153.
- B. Repair of hot dip galvanizing shall be using zinc rich paint. Zinc rich paint shall be an organic zinc-rich coating containing 95% metallic zinc, by weight in the dried film.

3.6 CARE OF EXISTING WORK

- A. Existing work shall be protected from spillage and spattering during application of coatings.
- B. All spillages and spattering shall be cleaned up immediately. Contractor is responsible to leave existing areas free of all such foreign materials.

3.7 DEFECTIVE MATERIALS

- A. Coating which, in the opinion of the Owner, does not meet acceptance due to improper coating, storage, handling, installation or other damage shall be rejected. The rejected materials shall be, at the sole discretion of the Owner, either replaced with coated new material or completely cleaned to base material and re-coated in accordance with these specifications for shop coating of materials. This work shall be done at no additional cost the Owner.

PART 4 MEASUREMENT AND PAYMENT

4.1 METHOD OF MEASUREMENT AND PAYMENT

- A. No separate measurement or payment shall be made for the work in this Section. Measurement and Payment for this item shall be included within the work it is associated with.

*** END OF SECTION ***

For Information Only

**TRAP DOCK RECONSTRUCTION
CHATHAM, MA**

ATTACHMENTS

For Information Only

**TRAP DOCK RECONSTRUCTION
CHATHAM, MA**

**ATTACHMENT A
MASSACHUSETTS PREVAILING WAGE RATES**

For Information Only



**THE COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF LABOR AND WORKFORCE DEVELOPMENT
DEPARTMENT OF LABOR STANDARDS**

Prevailing Wage Rates

**As determined by the Director under the provisions of the
Massachusetts General Laws, Chapter 149, Sections 26 to 27H**

CHARLES D. BAKER
Governor

ROSALIN ACOSTA
Secretary

KARYN E. POLITO
Lt. Governor

WILLIAM D MCKINNEY
Director

Awarding Authority: Town of Chatham
Contract Number: _____ **City/Town:** CHATHAM
Description of Work: Trap Dock Reconstruction - Reconstruction of timber pier, installation of a sheet pile bulkhead, concrete pier, timber piles, site improvements, electrical and plumbing. Hazardous material removal.
Job Location: 3 Champlain Rd, Chatham, MA

Information about Prevailing Wage Schedules for Awarding Authorities and Contractors

- This wage schedule applies only to the specific project referenced at the top of this page and uniquely identified by the “Wage Request Number” on all pages of this schedule.
- An Awarding Authority must request an updated wage schedule from the Department of Labor Standards (“DLS”) if it has not opened bids or selected a contractor within 90 days of the date of issuance of the wage schedule. For CM AT RISK projects (bid pursuant to G.L. c.149A), the earlier of: (a) the execution date of the GMP Amendment, or (b) the bid for the first construction scope of work must be within 90-days of the wage schedule issuance date.
- The wage schedule shall be incorporated in any advertisement or call for bids for the project as required by M.G.L. c. 149, § 27. The wage schedule shall be made a part of the contract awarded for the project. The wage schedule must be posted in a conspicuous place at the work site for the life of the project in accordance with M.G.L. c. 149 § 27. The wages listed on the wage schedule must be paid to employees performing construction work on the project whether they are employed by the prime contractor, a filed sub-bidder, or any sub-contractor.
- All apprentices working on the project are required to be registered with the Massachusetts Department of Labor Standards, Division of Apprentices Standards (DLS/DAS). Apprentices must keep his/her apprentice identification card on his/her person during all work hours on the project. An apprentice registered with DAS may be paid the lower apprentice wage rate at the applicable step as provided on the prevailing wage schedule. **Any apprentice not registered with DLS/DAS regardless of whether or not they are registered with any other federal, state, local, or private agency must be paid the journeyworker's rate for the trade.**
- The wage rates will remain in effect for the duration of the project, except in the case of multi-year public construction projects. For construction projects lasting longer than one year, awarding authorities must request an updated wage schedule. Awarding authorities are required to request these updates no later than two weeks before the anniversary of the date the contract was executed by the awarding authority and the general contractor. For multi-year CM AT RISK projects, awarding authority must request an annual update no later than two weeks before the anniversary date, determined as the earlier of: (a) the execution date of the GMP Amendment, or (b) the execution date of the first amendment to permit procurement of construction services. Contractors are required to obtain the wage schedules from awarding authorities, and to pay no less than these rates to covered workers. The annual update requirement is not applicable to 27F “rental of equipment” contracts.
- Every contractor or subcontractor which performs construction work on the project is required to submit weekly payroll reports and a Statement of Compliance directly to the awarding authority by mail or email and keep them on file for three years. Each weekly payroll report must contain: the employee’s name, address, occupational classification, hours worked, and wages paid. Do not submit weekly payroll reports to DLS. A sample of a payroll reporting form may be obtained at <http://www.mass.gov/dols/pw>.
- Contractors with questions about the wage rates or classifications included on the wage schedule have an affirmative obligation to inquire with DLS at (617) 626-6953.
- Employees not receiving the prevailing wage rate set forth on the wage schedule may report the violation to the Fair Labor Division of the office of the Attorney General at (617) 727-3465.
- Failure of a contractor or subcontractor to pay the prevailing wage rates listed on the wage schedule to all employees who perform construction work on the project is a violation of the law and subjects the contractor or subcontractor to civil and

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
Construction						
(2 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	08/01/2019	\$34.25	\$12.41	\$12.70	\$0.00	\$59.36
	12/01/2019	\$34.25	\$12.41	\$13.72	\$0.00	\$60.38
	06/01/2020	\$35.15	\$12.41	\$13.72	\$0.00	\$61.28
	08/01/2020	\$35.15	\$12.91	\$13.72	\$0.00	\$61.78
	12/01/2020	\$35.15	\$12.91	\$14.82	\$0.00	\$62.88
	06/01/2021	\$35.95	\$12.91	\$14.82	\$0.00	\$63.68
	08/01/2021	\$35.95	\$13.41	\$14.82	\$0.00	\$64.18
	12/01/2021	\$35.95	\$13.41	\$16.01	\$0.00	\$65.37
(3 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	08/01/2019	\$34.32	\$12.41	\$12.70	\$0.00	\$59.43
	12/01/2019	\$34.32	\$12.41	\$13.72	\$0.00	\$60.45
	06/01/2020	\$35.22	\$12.41	\$13.72	\$0.00	\$61.35
	08/01/2020	\$35.22	\$12.91	\$13.72	\$0.00	\$61.85
	12/01/2020	\$35.22	\$12.91	\$14.82	\$0.00	\$62.95
	06/01/2021	\$36.02	\$12.91	\$14.82	\$0.00	\$63.75
	08/01/2021	\$36.02	\$13.41	\$14.82	\$0.00	\$64.25
	12/01/2021	\$36.02	\$13.41	\$16.01	\$0.00	\$65.44
(4 & 5 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	08/01/2019	\$34.44	\$12.41	\$12.70	\$0.00	\$59.55
	12/01/2019	\$35.44	\$12.41	\$13.72	\$0.00	\$60.57
	06/01/2020	\$35.34	\$12.41	\$13.72	\$0.00	\$61.47
	08/01/2020	\$35.34	\$12.91	\$13.72	\$0.00	\$61.97
	12/01/2020	\$35.34	\$12.91	\$14.82	\$0.00	\$63.07
	06/01/2021	\$36.14	\$12.91	\$14.82	\$0.00	\$63.87
	08/01/2021	\$36.14	\$13.41	\$14.82	\$0.00	\$64.37
	12/01/2021	\$36.14	\$13.41	\$16.01	\$0.00	\$65.56
ADS/SUBMERSIBLE PILOT <i>PILE DRIVER LOCAL 56 (ZONE 2)</i>	08/01/2019	\$102.78	\$9.90	\$21.15	\$0.00	\$133.83
For apprentice rates see "Apprentice- PILE DRIVER"						
AIR TRACK OPERATOR <i>LABORERS - ZONE 2</i>	06/01/2019	\$34.70	\$7.85	\$14.88	\$0.00	\$57.43
	12/01/2019	\$35.56	\$7.85	\$14.88	\$0.00	\$58.29
	06/01/2020	\$36.45	\$7.85	\$14.88	\$0.00	\$59.18
	12/01/2020	\$37.34	\$7.85	\$14.88	\$0.00	\$60.07
	06/01/2021	\$38.26	\$7.85	\$14.88	\$0.00	\$60.99
	12/01/2021	\$39.17	\$7.85	\$14.88	\$0.00	\$61.90
For apprentice rates see "Apprentice- LABORER"						
ASBESTOS REMOVER - PIPE / MECH. EQUIPT. <i>HEAT & FROST INSULATORS LOCAL 6 (BOSTON)</i>	06/01/2019	\$36.00	\$12.50	\$8.85	\$0.00	\$57.35
	12/01/2019	\$37.00	\$12.50	\$8.85	\$0.00	\$58.35
	06/01/2020	\$38.00	\$12.50	\$8.85	\$0.00	\$59.35
	12/01/2020	\$39.00	\$12.50	\$8.85	\$0.00	\$60.35
ASPHALT RAKER <i>LABORERS - ZONE 2</i>	06/01/2019	\$34.20	\$7.85	\$14.88	\$0.00	\$56.93
	12/01/2019	\$35.06	\$7.85	\$14.88	\$0.00	\$57.79
	06/01/2020	\$35.95	\$7.85	\$14.88	\$0.00	\$58.68
	12/01/2020	\$36.84	\$7.85	\$14.88	\$0.00	\$59.57
	06/01/2021	\$37.76	\$7.85	\$14.88	\$0.00	\$60.49
	12/01/2021	\$38.67	\$7.85	\$14.88	\$0.00	\$61.40
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
ASPHALT/CONCRETE/CRUSHER PLANT-ON SITE <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2019	\$48.18	\$12.00	\$15.60	\$0.00	\$75.78
	12/01/2019	\$49.33	\$12.00	\$15.60	\$0.00	\$76.93
	06/01/2020	\$50.43	\$12.00	\$15.60	\$0.00	\$78.03
	12/01/2020	\$51.58	\$12.00	\$15.60	\$0.00	\$79.18
	06/01/2021	\$52.68	\$12.00	\$15.60	\$0.00	\$80.28
	12/01/2021	\$53.83	\$12.00	\$15.60	\$0.00	\$81.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BACKHOE/FRONT-END LOADER <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2019	\$48.18	\$12.00	\$15.60	\$0.00	\$75.78
	12/01/2019	\$49.33	\$12.00	\$15.60	\$0.00	\$76.93
	06/01/2020	\$50.43	\$12.00	\$15.60	\$0.00	\$78.03
	12/01/2020	\$51.58	\$12.00	\$15.60	\$0.00	\$79.18
	06/01/2021	\$52.68	\$12.00	\$15.60	\$0.00	\$80.28
	12/01/2021	\$53.83	\$12.00	\$15.60	\$0.00	\$81.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BARCO-TYPE JUMPING TAMPER <i>LABORERS - ZONE 2</i>	06/01/2019	\$34.20	\$7.85	\$14.88	\$0.00	\$56.93
	12/01/2019	\$35.06	\$7.85	\$14.88	\$0.00	\$57.79
	06/01/2020	\$35.95	\$7.85	\$14.88	\$0.00	\$58.68
	12/01/2020	\$36.81	\$7.85	\$14.88	\$0.00	\$59.57
	06/01/2021	\$37.76	\$7.85	\$14.88	\$0.00	\$60.49
	12/01/2021	\$38.67	\$7.85	\$14.88	\$0.00	\$61.40
For apprentice rates see "Apprentice- LABORER"						
BLOCK PAVER, RAMMER / CURB SETTER <i>LABORERS - ZONE 2</i>	06/01/2019	\$34.70	\$7.85	\$14.88	\$0.00	\$57.43
	12/01/2019	\$35.56	\$7.85	\$14.88	\$0.00	\$58.29
	06/01/2020	\$36.45	\$7.85	\$14.88	\$0.00	\$59.18
	12/01/2020	\$37.34	\$7.85	\$14.88	\$0.00	\$60.07
	06/01/2021	\$38.26	\$7.85	\$14.88	\$0.00	\$60.99
	12/01/2021	\$39.17	\$7.85	\$14.88	\$0.00	\$61.90
For apprentice rates see "Apprentice- LABORER"						
BOILER MAKER <i>BOILERMAKERS LOCAL 29</i>	01/01/2019	\$44.71	\$7.07	\$17.72	\$0.00	\$69.50
	01/01/2020	\$46.10	\$7.07	\$17.98	\$0.00	\$71.15

For Information Only

Apprentice - BOILERMAKER - Local 29

Effective Date - 01/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	65	\$29.06	\$7.07	\$11.52	\$0.00	\$47.65
2	65	\$29.06	\$7.07	\$11.52	\$0.00	\$47.65
3	70	\$31.30	\$7.07	\$12.40	\$0.00	\$50.77
4	75	\$33.53	\$7.07	\$13.30	\$0.00	\$53.90
5	80	\$35.77	\$7.07	\$14.18	\$0.00	\$57.02
6	85	\$38.00	\$7.07	\$15.07	\$0.00	\$60.14
7	90	\$40.24	\$7.07	\$15.95	\$0.00	\$63.26
8	95	\$42.47	\$7.07	\$16.84	\$0.00	\$66.38

Effective Date - 01/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	65	\$29.97	\$7.07	\$11.69	\$0.00	\$48.73
2	65	\$29.97	\$7.07	\$11.69	\$0.00	\$48.73
3	70	\$32.27	\$7.07	\$12.59	\$0.00	\$51.93
4	75	\$34.58	\$7.07	\$13.49	\$0.00	\$55.14
5	80	\$36.88	\$7.07	\$14.38	\$0.00	\$58.33
6	85	\$39.19	\$7.07	\$15.29	\$0.00	\$61.55
7	90	\$41.49	\$7.07	\$16.18	\$0.00	\$64.74
8	95	\$43.80	\$7.07	\$17.09	\$0.00	\$67.96

Notes:

Apprentice to Journeyworker Ratio: 1:4

BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING)	08/01/2019	\$54.40	\$10.75	\$21.30	\$0.00	\$86.45
BRICKLAYERS LOCAL 3 (NEW BEDFORD)	02/01/2020	\$55.04	\$10.75	\$21.30	\$0.00	\$87.09
	08/01/2020	\$56.39	\$10.75	\$21.45	\$0.00	\$88.59
	02/01/2021	\$57.03	\$10.75	\$21.45	\$0.00	\$89.23
	08/01/2021	\$58.43	\$10.75	\$21.61	\$0.00	\$90.79
	02/01/2022	\$59.02	\$10.75	\$21.61	\$0.00	\$91.38

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - BRICK/PLASTER/CEMENT MASON - Local 3 New Bedford

Effective Date - 08/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$27.20	\$10.75	\$21.30	\$0.00	\$59.25
2	60	\$32.64	\$10.75	\$21.30	\$0.00	\$64.69
3	70	\$38.08	\$10.75	\$21.30	\$0.00	\$70.13
4	80	\$43.52	\$10.75	\$21.30	\$0.00	\$75.57
5	90	\$48.96	\$10.75	\$21.30	\$0.00	\$81.01

Effective Date - 02/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$27.52	\$10.75	\$21.30	\$0.00	\$59.57
2	60	\$33.02	\$10.75	\$21.30	\$0.00	\$65.07
3	70	\$38.53	\$10.75	\$21.30	\$0.00	\$70.58
4	80	\$44.03	\$10.75	\$21.30	\$0.00	\$76.08
5	90	\$49.54	\$10.75	\$21.30	\$0.00	\$81.59

Notes:

Apprentice to Journeyworker Ratio:1:5

BULLDOZER/GRADER/SCRAPER OPERATING ENGINEERS LOCAL 4	06/01/2019	\$47.69	\$12.00	\$15.60	\$0.00	\$75.29
	12/01/2019	\$48.83	\$12.00	\$15.60	\$0.00	\$76.43
	06/01/2020	\$49.91	\$12.00	\$15.60	\$0.00	\$77.51
	12/01/2020	\$51.05	\$12.00	\$15.60	\$0.00	\$78.65
	06/01/2021	\$52.14	\$12.00	\$15.60	\$0.00	\$79.74
	12/01/2021	\$53.28	\$12.00	\$15.60	\$0.00	\$80.88
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
CAISSON & UNDERPINNING BOTTOM MAN LABORERS - FOUNDATION AND MARINE	06/01/2019	\$40.25	\$7.85	\$16.05	\$0.00	\$64.15
	12/01/2019	\$41.25	\$7.85	\$16.05	\$0.00	\$65.15
	06/01/2020	\$42.24	\$7.85	\$16.05	\$0.00	\$66.14
	12/01/2020	\$43.22	\$7.85	\$16.05	\$0.00	\$67.12
	06/01/2021	\$44.24	\$7.85	\$16.05	\$0.00	\$68.14
	12/01/2021	\$45.25	\$7.85	\$16.05	\$0.00	\$69.15
For apprentice rates see "Apprentice- LABORER"						
CAISSON & UNDERPINNING LABORER LABORERS - FOUNDATION AND MARINE	06/01/2019	\$39.10	\$7.85	\$16.05	\$0.00	\$63.00
	12/01/2019	\$40.10	\$7.85	\$16.05	\$0.00	\$64.00
	06/01/2020	\$41.09	\$7.85	\$16.05	\$0.00	\$64.99
	12/01/2020	\$42.07	\$7.85	\$16.05	\$0.00	\$65.97
	06/01/2021	\$43.09	\$7.85	\$16.05	\$0.00	\$66.99
	12/01/2021	\$44.10	\$7.85	\$16.05	\$0.00	\$68.00
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
CAISSON & UNDERPINNING TOP MAN <i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2019	\$39.10	\$7.85	\$16.05	\$0.00	\$63.00
	12/01/2019	\$40.10	\$7.85	\$16.05	\$0.00	\$64.00
	06/01/2020	\$41.09	\$7.85	\$16.05	\$0.00	\$64.99
	12/01/2020	\$42.07	\$7.85	\$16.05	\$0.00	\$65.97
	06/01/2021	\$43.09	\$7.85	\$16.05	\$0.00	\$66.99
	12/01/2021	\$44.10	\$7.85	\$16.05	\$0.00	\$68.00
	For apprentice rates see "Apprentice- LABORER"					
CARBIDE CORE DRILL OPERATOR <i>LABORERS - ZONE 2</i>	06/01/2019	\$34.20	\$7.85	\$14.88	\$0.00	\$56.93
	12/01/2019	\$35.06	\$7.85	\$14.88	\$0.00	\$57.79
	06/01/2020	\$35.95	\$7.85	\$14.88	\$0.00	\$58.68
	12/01/2020	\$36.84	\$7.85	\$14.88	\$0.00	\$59.57
	06/01/2021	\$37.76	\$7.85	\$14.88	\$0.00	\$60.49
	12/01/2021	\$38.67	\$7.85	\$14.88	\$0.00	\$61.40
	For apprentice rates see "Apprentice- LABORER"					
CARPENTER <i>CARPENTERS -ZONE 2 (Eastern Massachusetts)</i>	09/01/2019	\$41.90	\$9.40	\$18.95	\$0.00	\$70.25
	03/01/2020	\$42.50	\$9.40	\$18.95	\$0.00	\$70.85
	09/01/2020	\$43.15	\$9.40	\$18.95	\$0.00	\$71.50
	03/01/2021	\$43.75	\$9.40	\$18.95	\$0.00	\$72.10
	09/01/2021	\$44.40	\$9.40	\$18.95	\$0.00	\$72.75
	03/01/2022	\$45.00	\$9.40	\$18.95	\$0.00	\$73.35
	09/01/2022	\$45.65	\$9.40	\$18.95	\$0.00	\$74.00
	03/01/2023	\$46.25	\$9.40	\$18.95	\$0.00	\$74.60

For Information Only

Apprentice - CARPENTER - Zone 2 Eastern MA

Effective Date - 09/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.95	\$9.40	\$1.73	\$0.00	\$32.08
2	60	\$25.14	\$9.40	\$1.73	\$0.00	\$36.27
3	70	\$29.33	\$9.40	\$13.76	\$0.00	\$52.49
4	75	\$31.43	\$9.40	\$13.76	\$0.00	\$54.59
5	80	\$33.52	\$9.40	\$15.49	\$0.00	\$58.41
6	80	\$33.52	\$9.40	\$15.49	\$0.00	\$58.41
7	90	\$37.71	\$9.40	\$17.22	\$0.00	\$64.33
8	90	\$37.71	\$9.40	\$17.22	\$0.00	\$64.33

Effective Date - 03/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.25	\$9.40	\$1.73	\$0.00	\$32.38
2	60	\$25.50	\$9.40	\$1.73	\$0.00	\$36.63
3	70	\$29.75	\$9.40	\$13.76	\$0.00	\$52.91
4	75	\$31.88	\$9.40	\$13.76	\$0.00	\$55.04
5	80	\$34.00	\$9.40	\$15.49	\$0.00	\$58.89
6	80	\$34.00	\$9.40	\$15.49	\$0.00	\$58.89
7	90	\$38.21	\$9.40	\$17.22	\$0.00	\$64.87
8	90	\$38.21	\$9.40	\$17.22	\$0.00	\$64.87

Notes:

% Indentured After 10/1/17; 45/45/55/55/70/70/80/80
 Step 1&2 \$29.99/ 3&4 \$35.85/ 5&6 \$54.22/ 7&8 \$60.14

Apprentice to Journeyworker Ratio: 1:5

CARPENTER WOOD FRAME	04/01/2019	\$27.52	\$7.07	\$7.86	\$0.00	\$42.45
CARPENTERS -ZONE 2 (Wood Frame)	10/01/2019	\$27.95	\$7.07	\$7.86	\$0.00	\$42.88

All Aspects of New Wood Frame Work

Apprentice - CARPENTER (Wood Frame) - Zone 2

Effective Date - 04/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$16.51	\$7.07	\$0.00	\$0.00	\$23.58
2	60	\$16.51	\$7.07	\$0.00	\$0.00	\$23.58
3	65	\$17.89	\$7.07	\$7.86	\$0.00	\$32.82
4	70	\$19.26	\$7.07	\$7.86	\$0.00	\$34.19
5	75	\$20.64	\$7.07	\$7.86	\$0.00	\$35.57
6	80	\$22.02	\$7.07	\$7.86	\$0.00	\$36.95
7	85	\$23.39	\$7.07	\$7.86	\$0.00	\$38.32
8	90	\$24.77	\$7.07	\$7.86	\$0.00	\$39.70

Effective Date - 10/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$16.77	\$7.07	\$0.00	\$0.00	\$23.84
2	60	\$16.77	\$7.07	\$0.00	\$0.00	\$23.84
3	65	\$18.17	\$7.07	\$7.86	\$0.00	\$33.10
4	70	\$19.57	\$7.07	\$7.86	\$0.00	\$34.50
5	75	\$20.96	\$7.07	\$7.86	\$0.00	\$35.89
6	80	\$22.36	\$7.07	\$7.86	\$0.00	\$37.29
7	85	\$23.75	\$7.07	\$7.86	\$0.00	\$38.69
8	90	\$25.16	\$7.07	\$7.86	\$0.00	\$40.09

Notes:
 % Indentured After 10/1/17; 45/45/55/70/70/80/80
 Step 1&2 \$19.45/ 3&4 \$26.96/ 5&6 \$34.19/ 7&8 \$36.95

Apprentice to Journeyworker Ratio: 1:5

CEMENT MASONRY/PLASTERING	07/01/2019	\$47.67	\$12.75	\$22.41	\$0.62	\$83.45
BRICKLAYERS LOCAL 3 (NEW BEDFORD)	01/01/2020	\$49.07	\$12.75	\$22.41	\$0.62	\$84.85

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - CEMENT MASONRY/PLASTERING - Eastern Mass (New Bedford)

Effective Date - 07/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.84	\$12.75	\$15.41	\$0.00	\$52.00
2	60	\$28.60	\$12.75	\$17.41	\$0.62	\$59.38
3	65	\$30.99	\$12.75	\$18.41	\$0.62	\$62.77
4	70	\$33.37	\$12.75	\$19.41	\$0.62	\$66.15
5	75	\$35.75	\$12.75	\$20.41	\$0.62	\$69.53
6	80	\$38.14	\$12.75	\$21.41	\$0.62	\$72.92
7	90	\$42.90	\$12.75	\$22.41	\$0.62	\$78.68

Effective Date - 01/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.54	\$12.75	\$15.41	\$0.00	\$52.70
2	60	\$29.44	\$12.75	\$17.41	\$0.62	\$60.22
3	65	\$31.90	\$12.75	\$18.41	\$0.62	\$63.68
4	70	\$34.35	\$12.75	\$19.41	\$0.62	\$67.13
5	75	\$36.80	\$12.75	\$20.41	\$0.62	\$70.58
6	80	\$39.26	\$12.75	\$21.41	\$0.62	\$74.04
7	90	\$44.16	\$12.75	\$22.41	\$0.62	\$79.94

Notes:

Steps 3,4 are 500 hrs. All other steps are 1,000 hrs.

Apprentice to Journeyworker Ratio:1:3

CHAIN SAW OPERATOR LABORERS - ZONE 2	06/01/2019	\$34.20	\$7.85	\$14.88	\$0.00	\$56.93
	12/01/2019	\$35.06	\$7.85	\$14.88	\$0.00	\$57.79
	06/01/2020	\$35.95	\$7.85	\$14.88	\$0.00	\$58.68
	12/01/2020	\$36.84	\$7.85	\$14.88	\$0.00	\$59.57
	06/01/2021	\$37.76	\$7.85	\$14.88	\$0.00	\$60.49
	12/01/2021	\$38.67	\$7.85	\$14.88	\$0.00	\$61.40

For apprentice rates see "Apprentice- LABORER"

CLAM SHELLS/SLURRY BUCKETS/HEADING MACHINES OPERATING ENGINEERS LOCAL 4	06/01/2019	\$49.18	\$12.00	\$15.60	\$0.00	\$76.78
	12/01/2019	\$50.33	\$12.00	\$15.60	\$0.00	\$77.93
	06/01/2020	\$51.43	\$12.00	\$15.60	\$0.00	\$79.03
	12/01/2020	\$52.58	\$12.00	\$15.60	\$0.00	\$80.18
	06/01/2021	\$53.68	\$12.00	\$15.60	\$0.00	\$81.28
	12/01/2021	\$54.83	\$12.00	\$15.60	\$0.00	\$82.43

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

COMPRESSOR OPERATOR OPERATING ENGINEERS LOCAL 4	06/01/2019	\$32.28	\$12.00	\$15.60	\$0.00	\$59.88
	12/01/2019	\$33.07	\$12.00	\$15.60	\$0.00	\$60.67
	06/01/2020	\$33.82	\$12.00	\$15.60	\$0.00	\$61.42
	12/01/2020	\$34.60	\$12.00	\$15.60	\$0.00	\$62.20
	06/01/2021	\$35.35	\$12.00	\$15.60	\$0.00	\$62.95
	12/01/2021	\$36.14	\$12.00	\$15.60	\$0.00	\$63.74

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
DELEADER (BRIDGE) PAINTERS LOCAL 35 - ZONE 2	07/01/2019	\$50.66	\$8.20	\$21.45	\$0.00	\$80.31
	01/01/2020	\$50.96	\$8.20	\$22.10	\$0.00	\$81.26
	07/01/2020	\$52.06	\$8.20	\$22.10	\$0.00	\$82.36
	01/01/2021	\$53.16	\$8.20	\$22.10	\$0.00	\$83.46

Apprentice - PAINTER Local 35 - BRIDGES/TANKS

Effective Date - 07/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.33	\$8.20	\$0.00	\$0.00	\$33.53
2	55	\$27.86	\$8.20	\$5.78	\$0.00	\$41.84
3	60	\$30.40	\$8.20	\$6.30	\$0.00	\$44.90
4	65	\$32.93	\$8.20	\$6.83	\$0.00	\$47.96
5	70	\$35.46	\$8.20	\$18.30	\$0.00	\$61.96
6	75	\$38.00	\$8.20	\$18.83	\$0.00	\$65.03
7	80	\$40.53	\$8.20	\$19.35	\$0.00	\$68.08
8	90	\$45.59	\$8.20	\$20.40	\$0.00	\$74.19

Effective Date - 01/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.48	\$8.20	\$0.00	\$0.00	\$33.68
2	55	\$28.01	\$8.20	\$5.94	\$0.00	\$42.17
3	60	\$30.53	\$8.20	\$6.48	\$0.00	\$45.26
4	65	\$33.06	\$8.20	\$7.02	\$0.00	\$48.34
5	70	\$35.67	\$8.20	\$18.51	\$0.00	\$62.38
6	75	\$38.22	\$8.20	\$19.05	\$0.00	\$65.47
7	80	\$40.77	\$8.20	\$19.59	\$0.00	\$68.56
8	90	\$45.86	\$8.20	\$20.67	\$0.00	\$74.73

Notes:
Steps are 750 lbs.

Apprentice to Journeyworker Ratio:1:1

DEMO: ADZEMAN LABORERS - ZONE 2	06/01/2019	\$39.30	\$7.85	\$15.85	\$0.00	\$63.00
	12/01/2019	\$40.30	\$7.85	\$15.85	\$0.00	\$64.00
For apprentice rates see "Apprentice- LABORER"						
DEMO: BACKHOE/LOADER/HAMMER OPERATOR LABORERS - ZONE 2	06/01/2019	\$40.30	\$7.85	\$15.85	\$0.00	\$64.00
	12/01/2019	\$41.30	\$7.85	\$15.85	\$0.00	\$65.00
For apprentice rates see "Apprentice- LABORER"						
DEMO: BURNERS LABORERS - ZONE 2	06/01/2019	\$40.05	\$7.85	\$15.85	\$0.00	\$63.75
	12/01/2019	\$41.05	\$7.85	\$15.85	\$0.00	\$64.75
For apprentice rates see "Apprentice- LABORER"						
DEMO: CONCRETE CUTTER/SAWYER LABORERS - ZONE 2	06/01/2019	\$40.30	\$7.85	\$15.85	\$0.00	\$64.00
	12/01/2019	\$41.30	\$7.85	\$15.85	\$0.00	\$65.00
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
DEMO: JACKHAMMER OPERATOR <i>LABORERS - ZONE 2</i>	06/01/2019	\$40.05	\$7.85	\$15.85	\$0.00	\$63.75
	12/01/2019	\$41.05	\$7.85	\$15.85	\$0.00	\$64.75
For apprentice rates see "Apprentice- LABORER"						
DEMO: WRECKING LABORER <i>LABORERS - ZONE 2</i>	06/01/2019	\$39.30	\$7.85	\$15.85	\$0.00	\$63.00
	12/01/2019	\$40.30	\$7.85	\$15.85	\$0.00	\$64.00
For apprentice rates see "Apprentice- LABORER"						
DIRECTIONAL DRILL MACHINE OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2019	\$47.69	\$12.00	\$15.60	\$0.00	\$75.29
	12/01/2019	\$48.83	\$12.00	\$15.60	\$0.00	\$76.43
	06/01/2020	\$49.91	\$12.00	\$15.60	\$0.00	\$77.51
	12/01/2020	\$51.05	\$12.00	\$15.60	\$0.00	\$78.65
	06/01/2021	\$52.14	\$12.00	\$15.60	\$0.00	\$79.74
	12/01/2021	\$53.28	\$12.00	\$15.60	\$0.00	\$80.88
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
DIVER <i>PILE DRIVER LOCAL 56 (ZONE 2)</i>	08/01/2019	\$68.52	\$9.90	\$21.15	\$0.00	\$99.57
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER TENDER <i>PILE DRIVER LOCAL 56 (ZONE 2)</i>	08/01/2019	\$48.94	\$9.90	\$21.15	\$0.00	\$79.99
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER TENDER (EFFLUENT) <i>PILE DRIVER LOCAL 56 (ZONE 2)</i>	08/01/2019	\$73.41	\$9.90	\$21.15	\$0.00	\$104.46
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER/SLURRY (EFFLUENT) <i>PILE DRIVER LOCAL 56 (ZONE 2)</i>	08/01/2019	\$102.78	\$9.90	\$21.15	\$0.00	\$133.83
For apprentice rates see "Apprentice- PILE DRIVER"						
ELECTRICIAN <i>ELECTRICIANS LOCAL 223</i>	09/01/2019	\$42.26	\$10.15	\$13.54	\$0.00	\$65.95
	03/01/2020	\$42.87	\$10.40	\$13.94	\$0.00	\$67.21

For Information Only

Apprentice - ELECTRICIAN - Local 223

Effective Date - 09/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$16.90	\$10.15	\$0.51	\$0.00	\$27.56
2	42	\$17.75	\$10.15	\$0.53	\$0.00	\$28.43
3	45	\$19.02	\$10.15	\$0.57	\$0.00	\$29.74
4	48	\$20.28	\$10.15	\$4.93	\$0.00	\$35.36
5	50	\$21.13	\$10.15	\$4.97	\$0.00	\$36.25
6	55	\$23.24	\$10.15	\$5.33	\$0.00	\$38.72
7	60	\$25.36	\$10.15	\$5.64	\$0.00	\$41.15
8	65	\$27.47	\$10.15	\$5.94	\$0.00	\$43.56
9	70	\$29.58	\$10.15	\$6.25	\$0.00	\$45.98
10	75	\$31.70	\$10.15	\$6.59	\$0.00	\$48.35

Effective Date - 03/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$17.15	\$10.40	\$0.51	\$0.00	\$28.06
2	42	\$18.01	\$10.40	\$0.54	\$0.00	\$28.95
3	45	\$19.29	\$10.40	\$0.58	\$0.00	\$30.27
4	48	\$20.58	\$10.40	\$5.22	\$0.00	\$36.20
5	50	\$21.44	\$10.40	\$5.26	\$0.00	\$37.10
6	55	\$23.58	\$10.40	\$5.63	\$0.00	\$39.61
7	60	\$25.72	\$10.40	\$5.93	\$0.00	\$42.05
8	65	\$27.87	\$10.40	\$6.25	\$0.00	\$44.52
9	70	\$30.01	\$10.40	\$6.54	\$0.00	\$46.95
10	75	\$32.15	\$10.40	\$6.79	\$0.00	\$49.34

Notes:
Steps are 750 hours

Apprentice to Journeyworker Ratio:2:3***

ELEVATOR CONSTRUCTOR	01/01/2019	\$59.47	\$15.58	\$17.51	\$0.00	\$92.56
ELEVATOR CONSTRUCTORS LOCAL 4	01/01/2020	\$61.42	\$15.73	\$18.41	\$0.00	\$95.56
	01/01/2021	\$63.47	\$15.88	\$19.31	\$0.00	\$98.66
	01/01/2022	\$65.62	\$16.03	\$20.21	\$0.00	\$101.86

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - ELEVATOR CONSTRUCTOR - Local 4

Effective Date - 01/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$29.74	\$15.58	\$0.00	\$0.00	\$45.32
2	55	\$32.71	\$15.58	\$17.51	\$0.00	\$65.80
3	65	\$38.66	\$15.58	\$17.51	\$0.00	\$71.75
4	70	\$41.63	\$15.58	\$17.51	\$0.00	\$74.72
5	80	\$47.58	\$15.58	\$17.51	\$0.00	\$80.67

Effective Date - 01/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$30.71	\$15.73	\$0.00	\$0.00	\$46.44
2	55	\$33.78	\$15.73	\$18.41	\$0.00	\$67.92
3	65	\$39.92	\$15.73	\$18.41	\$0.00	\$74.06
4	70	\$42.99	\$15.73	\$18.41	\$0.00	\$77.13
5	80	\$49.14	\$15.73	\$18.41	\$0.00	\$83.28

Notes:

Steps 1-2 are 6 mos.; Steps 3-5 are 1 year

Apprentice to Journeyworker Ratio:1:1

ELEVATOR CONSTRUCTOR HELPER <i>ELEVATOR CONSTRUCTORS LOCAL 4</i>	01/01/2019	\$41.63	\$15.58	\$17.51	\$0.00	\$74.72
	01/01/2020	\$42.99	\$15.73	\$18.41	\$0.00	\$77.13
	01/01/2021	\$44.43	\$15.88	\$19.31	\$0.00	\$79.62
	01/01/2022	\$45.93	\$16.03	\$20.21	\$0.00	\$82.17

For apprentice rates see "Apprentice - ELEVATOR CONSTRUCTOR"

FENCE & GUARD RAIL ERECTOR <i>LABORERS - ZONE 2</i>	06/01/2019	\$34.20	\$7.85	\$14.88	\$0.00	\$56.93
	12/01/2019	\$35.06	\$7.85	\$14.88	\$0.00	\$57.79
	06/01/2020	\$35.95	\$7.85	\$14.88	\$0.00	\$58.68
	12/01/2020	\$36.84	\$7.85	\$14.88	\$0.00	\$59.57
	06/01/2021	\$37.76	\$7.85	\$14.88	\$0.00	\$60.49
	12/01/2021	\$38.67	\$7.85	\$14.88	\$0.00	\$61.40

For apprentice rates see "Apprentice- LABORER"

FIELD ENG.INST.PERSON-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	05/01/2019	\$43.68	\$11.50	\$15.60	\$0.00	\$70.78
	11/01/2019	\$44.68	\$11.50	\$15.60	\$0.00	\$71.78
	05/01/2020	\$45.83	\$11.50	\$15.60	\$0.00	\$72.93
	11/01/2020	\$46.83	\$11.50	\$15.60	\$0.00	\$73.93
	05/01/2021	\$47.98	\$11.50	\$15.60	\$0.00	\$75.08
	11/01/2021	\$48.98	\$11.50	\$15.60	\$0.00	\$76.08
	05/01/2022	\$50.13	\$11.50	\$15.60	\$0.00	\$77.23

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
FIELD ENG.PARTY CHIEF-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	05/01/2019	\$45.17	\$11.50	\$15.60	\$0.00	\$72.27
	11/01/2019	\$46.18	\$11.50	\$15.60	\$0.00	\$73.28
	05/01/2020	\$47.33	\$11.50	\$15.60	\$0.00	\$74.43
	11/01/2020	\$48.34	\$11.50	\$15.60	\$0.00	\$75.44
	05/01/2021	\$49.50	\$11.50	\$15.60	\$0.00	\$76.60
	11/01/2021	\$50.51	\$11.50	\$15.60	\$0.00	\$77.61
	05/01/2022	\$51.67	\$11.50	\$15.60	\$0.00	\$78.77
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIELD ENG.ROD PERSON-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	05/01/2019	\$22.48	\$11.50	\$15.60	\$0.00	\$49.58
	11/01/2019	\$23.07	\$11.50	\$15.60	\$0.00	\$50.17
	05/01/2020	\$23.74	\$11.50	\$15.60	\$0.00	\$50.84
	11/01/2020	\$24.33	\$11.50	\$15.60	\$0.00	\$51.43
	05/01/2021	\$25.01	\$11.50	\$15.60	\$0.00	\$52.11
	11/01/2021	\$25.61	\$11.50	\$15.60	\$0.00	\$52.71
	05/01/2022	\$26.28	\$11.50	\$15.60	\$0.00	\$53.38
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIRE ALARM INSTALLER <i>ELECTRICIANS LOCAL 223</i>	09/01/2019	\$42.26	\$10.15	\$13.54	\$0.00	\$65.95
	03/01/2020	\$42.87	\$10.40	\$13.94	\$0.00	\$67.21
For apprentice rates see "Apprentice- ELECTRICIAN"						
FIRE ALARM REPAIR / MAINTENANCE / COMMISSIONING <i>ELECTRICIANS LOCAL 223</i>	09/01/2019	\$35.78	\$10.15	\$11.45	\$0.00	\$57.38
	03/01/2020	\$36.27	\$10.40	\$11.78	\$0.00	\$58.45
For apprentice rates see "Apprentice- TELECOMMUNICATIONS TECHNICIAN"						
FIREMAN (ASST. ENGINEER) <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2019	\$39.54	\$12.00	\$15.60	\$0.00	\$67.14
	12/01/2019	\$40.49	\$12.00	\$15.60	\$0.00	\$68.09
	06/01/2020	\$41.40	\$12.00	\$15.60	\$0.00	\$69.00
	12/01/2020	\$42.35	\$12.00	\$15.60	\$0.00	\$69.95
	06/01/2021	\$43.26	\$12.00	\$15.60	\$0.00	\$70.86
	12/01/2021	\$44.21	\$12.00	\$15.60	\$0.00	\$71.81
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FLAGGER & SIGNALER <i>LABORERS - ZONE 2</i>	06/01/2019	\$22.50	\$7.85	\$14.88	\$0.00	\$45.23
	12/01/2019	\$23.50	\$7.85	\$14.88	\$0.00	\$46.23
	06/01/2020	\$23.50	\$7.85	\$14.88	\$0.00	\$46.23
	12/01/2020	\$24.50	\$7.85	\$14.88	\$0.00	\$47.23
	06/01/2021	\$24.50	\$7.85	\$14.88	\$0.00	\$47.23
	12/01/2021	\$24.50	\$7.85	\$14.88	\$0.00	\$47.23
For apprentice rates see "Apprentice- LABORER"						
FLOORCOVERER <i>FLOORCOVERERS LOCAL 2168 ZONE II</i>	09/01/2019	\$43.94	\$9.40	\$19.25	\$0.00	\$72.59
	03/01/2020	\$44.74	\$9.40	\$19.25	\$0.00	\$73.39
	09/01/2020	\$45.54	\$9.40	\$19.25	\$0.00	\$74.19
	03/01/2021	\$46.34	\$9.40	\$19.25	\$0.00	\$74.99
	09/01/2021	\$47.14	\$9.40	\$19.25	\$0.00	\$75.79
	03/01/2022	\$47.94	\$9.40	\$19.25	\$0.00	\$76.59

For Information Only

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - FLOORCOVERER - Local 2168 Zone II

Effective Date - 09/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.97	\$9.40	\$1.79	\$0.00	\$33.16
2	55	\$24.17	\$9.40	\$1.79	\$0.00	\$35.36
3	60	\$26.36	\$9.40	\$13.88	\$0.00	\$49.64
4	65	\$28.56	\$9.40	\$13.88	\$0.00	\$51.84
5	70	\$30.76	\$9.40	\$15.67	\$0.00	\$55.83
6	75	\$32.96	\$9.40	\$15.67	\$0.00	\$58.03
7	80	\$35.15	\$9.40	\$17.46	\$0.00	\$62.01
8	85	\$37.35	\$9.40	\$17.46	\$0.00	\$64.21

Effective Date - 03/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.37	\$9.40	\$1.79	\$0.00	\$33.56
2	55	\$24.61	\$9.40	\$1.79	\$0.00	\$35.80
3	60	\$26.84	\$9.40	\$13.88	\$0.00	\$50.12
4	65	\$29.08	\$9.40	\$13.88	\$0.00	\$52.36
5	70	\$31.32	\$9.40	\$15.67	\$0.00	\$56.39
6	75	\$33.56	\$9.40	\$15.67	\$0.00	\$58.63
7	80	\$35.79	\$9.40	\$17.46	\$0.00	\$62.65
8	85	\$38.03	\$9.40	\$17.46	\$0.00	\$64.89

Notes: Steps are 750 hrs.
 % After 09/1/17; 45/45/55/55/70/70/80/80 (1500hr Steps)
 Step 1&2 \$30.96/ 3&4 \$37.09/ 5&6 \$55.83/ 7&8 \$62.01

Apprentice to Journeyworker Ratio: 1:1

FORK LIFT/CHERRY PICKER <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2019	\$48.18	\$12.00	\$15.60	\$0.00	\$75.78
	12/01/2019	\$49.33	\$12.00	\$15.60	\$0.00	\$76.93
	06/01/2020	\$50.43	\$12.00	\$15.60	\$0.00	\$78.03
	12/01/2020	\$51.58	\$12.00	\$15.60	\$0.00	\$79.18
	06/01/2021	\$52.68	\$12.00	\$15.60	\$0.00	\$80.28
	12/01/2021	\$53.83	\$12.00	\$15.60	\$0.00	\$81.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
GENERATOR/LIGHTING PLANT/HEATERS <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2019	\$32.28	\$12.00	\$15.60	\$0.00	\$59.88
	12/01/2019	\$33.07	\$12.00	\$15.60	\$0.00	\$60.67
	06/01/2020	\$33.82	\$12.00	\$15.60	\$0.00	\$61.42
	12/01/2020	\$34.60	\$12.00	\$15.60	\$0.00	\$62.20
	06/01/2021	\$35.35	\$12.00	\$15.60	\$0.00	\$62.95
	12/01/2021	\$36.14	\$12.00	\$15.60	\$0.00	\$63.74
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS) <i>GLAZIERS LOCAL 1333</i>	06/01/2019	\$38.18	\$10.60	\$9.90	\$0.00	\$58.68
	06/01/2020	\$39.18	\$10.80	\$10.45	\$0.00	\$60.43

Apprentice - GLAZIER - Local 1333

Effective Date - 06/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.09	\$10.60	\$1.80	\$0.00	\$31.49
2	56	\$21.48	\$10.60	\$1.80	\$0.00	\$33.88
3	63	\$23.86	\$10.60	\$2.40	\$0.00	\$36.86
4	69	\$26.25	\$10.60	\$2.40	\$0.00	\$39.25
5	75	\$28.64	\$10.60	\$2.90	\$0.00	\$42.14
6	81	\$31.02	\$10.60	\$2.90	\$0.00	\$44.52
7	88	\$33.41	\$10.60	\$9.90	\$0.00	\$53.91
8	94	\$35.79	\$10.60	\$9.90	\$0.00	\$56.29

Effective Date - 06/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.59	\$10.80	\$1.80	\$0.00	\$32.19
2	56	\$22.04	\$10.80	\$1.80	\$0.00	\$34.64
3	63	\$24.49	\$10.80	\$2.45	\$0.00	\$37.74
4	69	\$26.94	\$10.80	\$2.45	\$0.00	\$40.19
5	75	\$29.39	\$10.80	\$3.15	\$0.00	\$43.34
6	81	\$31.83	\$10.80	\$3.15	\$0.00	\$45.78
7	88	\$34.28	\$10.80	\$10.45	\$0.00	\$55.53
8	94	\$36.73	\$10.80	\$10.45	\$0.00	\$57.98

Notes:

Apprentice to Journeyworker Ratio 1:3

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
HOISTING ENGINEER/CRANES/GRADALLS	06/01/2019	\$48.18	\$12.00	\$15.60	\$0.00	\$75.78
OPERATING ENGINEERS LOCAL 4	12/01/2019	\$49.33	\$12.00	\$15.60	\$0.00	\$76.93
	06/01/2020	\$50.43	\$12.00	\$15.60	\$0.00	\$78.03
	12/01/2020	\$51.58	\$12.00	\$15.60	\$0.00	\$79.18
	06/01/2021	\$52.68	\$12.00	\$15.60	\$0.00	\$80.28
	12/01/2021	\$53.83	\$12.00	\$15.60	\$0.00	\$81.43

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - OPERATING ENGINEERS - Local 4

Effective Date - 06/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$26.50	\$12.00	\$0.00	\$0.00	\$38.50
2	60	\$28.91	\$12.00	\$15.60	\$0.00	\$56.51
3	65	\$31.32	\$12.00	\$15.60	\$0.00	\$58.92
4	70	\$33.73	\$12.00	\$15.60	\$0.00	\$61.33
5	75	\$36.14	\$12.00	\$15.60	\$0.00	\$63.74
6	80	\$38.54	\$12.00	\$15.60	\$0.00	\$66.14
7	85	\$40.95	\$12.00	\$15.60	\$0.00	\$68.55
8	90	\$43.36	\$12.00	\$15.60	\$0.00	\$70.96

Effective Date - 12/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$27.13	\$12.00	\$0.00	\$0.00	\$39.13
2	60	\$29.60	\$12.00	\$15.60	\$0.00	\$57.20
3	65	\$32.06	\$12.00	\$15.60	\$0.00	\$59.66
4	70	\$34.53	\$12.00	\$15.60	\$0.00	\$62.13
5	75	\$37.00	\$12.00	\$15.60	\$0.00	\$64.60
6	80	\$39.46	\$12.00	\$15.60	\$0.00	\$67.06
7	85	\$41.92	\$12.00	\$15.60	\$0.00	\$69.53
8	90	\$44.38	\$12.00	\$15.60	\$0.00	\$72.00

Notes:

Apprentice to Journeyworker Ratio: 1:6

For Information Only

HVAC (DUCTWORK) SHEETMETAL WORKERS LOCAL 17 - B	04/01/2019	\$34.71	\$13.20	\$16.55	\$1.93	\$66.39
For apprentice rates see "Apprentice- SHEET METAL WORKER"						
HVAC (ELECTRICAL CONTROLS) ELECTRICIANS LOCAL 223	09/01/2019	\$42.26	\$10.15	\$13.54	\$0.00	\$65.95
	03/01/2020	\$42.87	\$10.40	\$13.94	\$0.00	\$67.21
For apprentice rates see "Apprentice- ELECTRICIAN"						
HVAC (TESTING AND BALANCING - AIR) SHEETMETAL WORKERS LOCAL 17 - B	04/01/2019	\$34.71	\$13.20	\$16.55	\$1.93	\$66.39
For apprentice rates see "Apprentice- SHEET METAL WORKER"						
HVAC (TESTING AND BALANCING - WATER) PLUMBERS & PIPEFITTERS LOCAL 51	09/01/2018	\$42.04	\$10.00	\$18.20	\$0.00	\$70.24
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
HVAC MECHANIC PLUMBERS & PIPEFITTERS LOCAL 51	09/01/2018	\$42.04	\$10.00	\$18.20	\$0.00	\$70.24
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
HYDRAULIC DRILLS LABORERS - ZONE 2	06/01/2019	\$34.70	\$7.85	\$14.88	\$0.00	\$57.43
	12/01/2019	\$35.56	\$7.85	\$14.88	\$0.00	\$58.29
	06/01/2020	\$36.45	\$7.85	\$14.88	\$0.00	\$59.18
	12/01/2020	\$37.34	\$7.85	\$14.88	\$0.00	\$60.07
	06/01/2021	\$38.26	\$7.85	\$14.88	\$0.00	\$60.99
	12/01/2021	\$39.17	\$7.85	\$14.88	\$0.00	\$61.90
For apprentice rates see "Apprentice- LABORER"						
INSULATOR (PIPES & TANKS) HEAT & FROST INSULATORS LOCAL 6 (BOSTON)	09/01/2019	\$48.44	\$12.80	\$16.40	\$0.00	\$77.64

Apprentice - ASBESTOS INSULATOR (Pipes & Tanks) - Local 6 Boston

Effective Date - 09/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.22	\$12.80	\$11.90	\$0.00	\$48.92
2	60	\$29.06	\$12.80	\$12.80	\$0.00	\$54.66
3	70	\$33.91	\$12.80	\$13.70	\$0.00	\$60.41
4	80	\$38.75	\$12.80	\$14.60	\$0.00	\$66.15

Notes:

Steps are 1 year

Apprentice to Journeyworker Ratio:1:4

IRONWORKER/WELDER IRONWORKERS LOCAL 37	09/16/2019	\$39.71	\$7.70	\$17.10	\$0.00	\$64.51
	03/15/2020	\$40.61	\$7.70	\$17.10	\$0.00	\$65.41
	09/16/2020	\$41.51	\$7.70	\$17.10	\$0.00	\$66.31
	03/16/2021	\$42.46	\$7.70	\$17.10	\$0.00	\$67.26

For Information Only

Apprentice - IRONWORKER - Local 37

Effective Date - 09/16/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	70	\$27.80	\$7.70	\$17.10	\$0.00	\$52.60
2	75	\$29.78	\$7.70	\$17.10	\$0.00	\$54.58
3	80	\$31.77	\$7.70	\$17.10	\$0.00	\$56.57
4	85	\$33.75	\$7.70	\$17.10	\$0.00	\$58.55
5	90	\$35.74	\$7.70	\$17.10	\$0.00	\$60.54
6	95	\$37.72	\$7.70	\$17.10	\$0.00	\$62.52

Effective Date - 03/16/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	70	\$28.43	\$7.70	\$17.10	\$0.00	\$53.23
2	75	\$30.46	\$7.70	\$17.10	\$0.00	\$55.26
3	80	\$32.49	\$7.70	\$17.10	\$0.00	\$57.29
4	85	\$34.52	\$7.70	\$17.10	\$0.00	\$59.32
5	90	\$36.55	\$7.70	\$17.10	\$0.00	\$61.35
6	95	\$38.58	\$7.70	\$17.10	\$0.00	\$63.38

Notes:

Apprentice to Journeyworker Ratio:1:4

JACKHAMMER & PAVING BREAKER OPERATOR LABORERS - ZONE 2	06/01/2019	\$34.20	\$7.85	\$14.88	\$0.00	\$56.93
	12/01/2019	\$35.06	\$7.85	\$14.88	\$0.00	\$57.79
	06/01/2020	\$35.95	\$7.85	\$14.88	\$0.00	\$58.68
	12/01/2020	\$36.84	\$7.85	\$14.88	\$0.00	\$59.57
	06/01/2021	\$37.76	\$7.85	\$14.88	\$0.00	\$60.49
	12/01/2021	\$38.67	\$7.85	\$14.88	\$0.00	\$61.40
For apprentice rates see "Apprentice- LABORERS"						
LABORER LABORERS - ZONE 2	06/01/2019	\$33.95	\$7.85	\$14.88	\$0.00	\$56.68
	12/01/2019	\$34.81	\$7.85	\$14.88	\$0.00	\$57.54
	06/01/2020	\$35.70	\$7.85	\$14.88	\$0.00	\$58.43
	12/01/2020	\$36.59	\$7.85	\$14.88	\$0.00	\$59.32
	06/01/2021	\$37.51	\$7.85	\$14.88	\$0.00	\$60.24
	12/01/2021	\$38.42	\$7.85	\$14.88	\$0.00	\$61.15

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - LABORER - Zone 2

Effective Date - 06/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$20.37	\$7.85	\$14.88	\$0.00	\$43.10
2	70	\$23.77	\$7.85	\$14.88	\$0.00	\$46.50
3	80	\$27.16	\$7.85	\$14.88	\$0.00	\$49.89
4	90	\$30.56	\$7.85	\$14.88	\$0.00	\$53.29

Effective Date - 12/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$20.89	\$7.85	\$14.88	\$0.00	\$43.62
2	70	\$24.37	\$7.85	\$14.88	\$0.00	\$47.10
3	80	\$27.85	\$7.85	\$14.88	\$0.00	\$50.58
4	90	\$31.33	\$7.85	\$14.88	\$0.00	\$54.06

Notes:

Apprentice to Journeyworker Ratio:1:5

LABORER: CARPENTER TENDER LABORERS - ZONE 2	06/01/2019	\$33.95	\$7.85	\$14.88	\$0.00	\$56.68
	12/01/2019	\$34.81	\$7.85	\$14.88	\$0.00	\$57.54
	06/01/2020	\$35.70	\$7.85	\$14.88	\$0.00	\$58.43
	12/01/2020	\$36.59	\$7.85	\$14.88	\$0.00	\$59.32
	06/01/2021	\$37.51	\$7.85	\$14.88	\$0.00	\$60.24
	12/01/2021	\$38.42	\$7.85	\$14.88	\$0.00	\$61.15

For apprentice rates see "Apprentice- LABORER"

LABORER: CEMENT FINISHER TENDER LABORERS - ZONE 2	06/01/2019	\$33.95	\$7.85	\$14.88	\$0.00	\$56.68
	12/01/2019	\$34.81	\$7.85	\$14.88	\$0.00	\$57.54
	06/01/2020	\$35.70	\$7.85	\$14.88	\$0.00	\$58.43
	12/01/2020	\$36.59	\$7.85	\$14.88	\$0.00	\$59.32
	06/01/2021	\$37.51	\$7.85	\$14.88	\$0.00	\$60.24
	12/01/2021	\$38.42	\$7.85	\$14.88	\$0.00	\$61.15

For apprentice rates see "Apprentice- LABORER"

LABORER: HAZARDOUS WASTE/ASBESTOS REMOVER LABORERS - ZONE 2	06/01/2019	\$34.15	\$7.85	\$14.83	\$0.00	\$56.83
	12/01/2019	\$35.01	\$7.85	\$14.83	\$0.00	\$57.69

For apprentice rates see "Apprentice- LABORER"

LABORER: MASON TENDER LABORERS - ZONE 2	06/01/2019	\$34.20	\$7.85	\$14.88	\$0.00	\$56.93
	12/01/2019	\$35.06	\$7.85	\$14.88	\$0.00	\$57.79
	06/01/2020	\$35.95	\$7.85	\$14.88	\$0.00	\$58.68
	12/01/2020	\$36.84	\$7.85	\$14.88	\$0.00	\$59.57
	06/01/2021	\$37.76	\$7.85	\$14.88	\$0.00	\$60.49
	12/01/2021	\$38.67	\$7.85	\$14.88	\$0.00	\$61.40

For apprentice rates see "Apprentice- LABORER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
LABORER: MULTI-TRADE TENDER <i>LABORERS - ZONE 2</i>	06/01/2019	\$33.95	\$7.85	\$14.88	\$0.00	\$56.68
	12/01/2019	\$34.81	\$7.85	\$14.88	\$0.00	\$57.54
	06/01/2020	\$35.70	\$7.85	\$14.88	\$0.00	\$58.43
	12/01/2020	\$36.59	\$7.85	\$14.88	\$0.00	\$59.32
	06/01/2021	\$37.51	\$7.85	\$14.88	\$0.00	\$60.24
	12/01/2021	\$38.42	\$7.85	\$14.88	\$0.00	\$61.15
	For apprentice rates see "Apprentice- LABORER"					
LABORER: TREE REMOVER <i>LABORERS - ZONE 2</i>	06/01/2019	\$33.95	\$7.85	\$14.88	\$0.00	\$56.68
	12/01/2019	\$34.81	\$7.85	\$14.88	\$0.00	\$57.54
	06/01/2020	\$35.70	\$7.85	\$14.88	\$0.00	\$58.43
	12/01/2020	\$36.59	\$7.85	\$14.88	\$0.00	\$59.32
	06/01/2021	\$37.51	\$7.85	\$14.88	\$0.00	\$60.24
	12/01/2021	\$38.42	\$7.85	\$14.88	\$0.00	\$61.15
	This classification applies to all tree work associated with the removal of standing trees, and trimming and removal of branches and limbs when the work is not done for a utility company for the purpose of operation, maintenance or repair of utility company equipment. For apprentice rates see "Apprentice- LABORER"					
LASER BEAM OPERATOR <i>LABORERS - ZONE 2</i>	06/01/2019	\$34.20	\$7.85	\$14.88	\$0.00	\$56.93
	12/01/2019	\$35.06	\$7.85	\$14.88	\$0.00	\$57.79
	06/01/2020	\$35.91	\$7.85	\$14.88	\$0.00	\$58.68
	12/01/2020	\$36.84	\$7.85	\$14.88	\$0.00	\$59.57
	06/01/2021	\$37.76	\$7.85	\$14.88	\$0.00	\$60.49
	12/01/2021	\$38.67	\$7.85	\$14.88	\$0.00	\$61.40
	For apprentice rates see "Apprentice- LABORER"					
MARBLE & TILE FINISHERS <i>BRICKLAYERS LOCAL 3 - MARBLE & TILE</i>	08/01/2019	\$41.49	\$10.75	\$19.61	\$0.00	\$71.85
	02/01/2020	\$42.00	\$10.75	\$19.61	\$0.00	\$72.36
	08/01/2020	\$43.08	\$10.75	\$19.76	\$0.00	\$73.59
	02/01/2021	\$43.59	\$10.75	\$19.76	\$0.00	\$74.10
	08/01/2021	\$44.71	\$10.75	\$19.92	\$0.00	\$75.38
	02/01/2022	\$45.18	\$10.75	\$19.92	\$0.00	\$75.85

For Information Only

Apprentice - MARBLE & TILE FINISHER - Local 3 Marble & Tile

Effective Date - 08/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.75	\$10.75	\$19.61	\$0.00	\$51.11
2	60	\$24.89	\$10.75	\$19.61	\$0.00	\$55.25
3	70	\$29.04	\$10.75	\$19.61	\$0.00	\$59.40
4	80	\$33.19	\$10.75	\$19.61	\$0.00	\$63.55
5	90	\$37.34	\$10.75	\$19.61	\$0.00	\$67.70

Effective Date - 02/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.00	\$10.75	\$19.61	\$0.00	\$51.36
2	60	\$25.20	\$10.75	\$19.61	\$0.00	\$55.56
3	70	\$29.40	\$10.75	\$19.61	\$0.00	\$59.76
4	80	\$33.60	\$10.75	\$19.61	\$0.00	\$63.96
5	90	\$37.80	\$10.75	\$19.61	\$0.00	\$68.16

Notes:

Apprentice to Journeyworker Ratio:1:3

MARBLE MASONS, TILELAYERS & TERRAZZO MECH	08/01/2019	\$54.42	\$10.75	\$21.30	\$0.00	\$86.47
BRICKLAYERS LOCAL 3 - MARBLE & TILE	02/01/2020	\$55.05	\$10.75	\$21.30	\$0.00	\$87.10
	08/01/2020	\$56.40	\$10.75	\$21.45	\$0.00	\$88.60
	02/01/2021	\$57.04	\$10.75	\$21.45	\$0.00	\$89.24
	08/01/2021	\$58.44	\$10.75	\$21.61	\$0.00	\$90.80
	02/01/2022	\$59.01	\$10.75	\$21.61	\$0.00	\$91.37

For Information Only

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - MARBLE-TILE-TERRAZZO MECHANIC - Local 3 Marble & Tile

Effective Date - 08/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$27.21	\$10.75	\$21.30	\$0.00	\$59.26
2	60	\$32.65	\$10.75	\$21.30	\$0.00	\$64.70
3	70	\$38.09	\$10.75	\$21.30	\$0.00	\$70.14
4	80	\$43.54	\$10.75	\$21.30	\$0.00	\$75.59
5	90	\$48.98	\$10.75	\$21.30	\$0.00	\$81.03

Effective Date - 02/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$27.53	\$10.75	\$21.30	\$0.00	\$59.58
2	60	\$33.03	\$10.75	\$21.30	\$0.00	\$65.08
3	70	\$38.54	\$10.75	\$21.30	\$0.00	\$70.59
4	80	\$44.04	\$10.75	\$21.30	\$0.00	\$76.09
5	90	\$49.55	\$10.75	\$21.30	\$0.00	\$81.60

Notes:

Apprentice to Journeyworker Ratio:1:5

MECH. SWEEPER OPERATOR (ON CONST. SITES) <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2019	\$47.69	\$12.00	\$15.60	\$0.00	\$75.29
	12/01/2019	\$48.83	\$12.00	\$15.60	\$0.00	\$76.43
	06/01/2020	\$49.91	\$12.00	\$15.60	\$0.00	\$77.51
	12/01/2020	\$51.05	\$12.00	\$15.60	\$0.00	\$78.65
	06/01/2021	\$52.14	\$12.00	\$15.60	\$0.00	\$79.74
	12/01/2021	\$53.28	\$12.00	\$15.60	\$0.00	\$80.88
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
MECHANICS MAINTENANCE <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2019	\$47.69	\$12.00	\$15.60	\$0.00	\$75.29
	12/01/2019	\$48.83	\$12.00	\$15.60	\$0.00	\$76.43
	06/01/2020	\$49.91	\$12.00	\$15.60	\$0.00	\$77.51
	12/01/2020	\$51.05	\$12.00	\$15.60	\$0.00	\$78.65
	06/01/2021	\$52.14	\$12.00	\$15.60	\$0.00	\$79.74
	12/01/2021	\$53.28	\$12.00	\$15.60	\$0.00	\$80.88
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
MILLWRIGHT (Zone 2) <i>MILLWRIGHTS LOCAL 1121 - Zone 2</i>	04/01/2019	\$38.87	\$9.90	\$18.50	\$0.00	\$67.27

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - MILLWRIGHT - Local 1121 Zone 2

Effective Date - 04/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$21.38	\$9.90	\$5.31	\$0.00	\$36.59
2	65	\$25.27	\$9.90	\$15.13	\$0.00	\$50.30
3	75	\$29.15	\$9.90	\$16.10	\$0.00	\$55.15
4	85	\$33.04	\$9.90	\$17.06	\$0.00	\$60.00

Notes:

Steps are 2,000 hours

Apprentice to Journeyworker Ratio:1:5

MORTAR MIXER <i>LABORERS - ZONE 2</i>	06/01/2019	\$34.20	\$7.85	\$14.88	\$0.00	\$56.93
	12/01/2019	\$35.06	\$7.85	\$14.88	\$0.00	\$57.79
	06/01/2020	\$35.95	\$7.85	\$14.88	\$0.00	\$58.68
	12/01/2020	\$36.81	\$7.85	\$14.88	\$0.00	\$59.57
	06/01/2021	\$37.70	\$7.85	\$14.88	\$0.00	\$60.49
	12/01/2021	\$38.67	\$7.85	\$14.88	\$0.00	\$61.40

For apprentice rates see "Apprentice- LABORER"

OILER (OTHER THAN TRUCK CRANES, GRADALLS) <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2019	\$23.11	\$12.00	\$15.60	\$0.00	\$50.71
	12/01/2019	\$23.68	\$12.00	\$15.60	\$0.00	\$51.28
	06/01/2020	\$24.23	\$12.00	\$15.60	\$0.00	\$51.83
	12/01/2020	\$24.80	\$12.00	\$15.60	\$0.00	\$52.40
	06/01/2021	\$25.35	\$12.00	\$15.60	\$0.00	\$52.95
	12/01/2021	\$25.93	\$12.00	\$15.60	\$0.00	\$53.53

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

OILER (TRUCK CRANES, GRADALLS) <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2019	\$27.57	\$12.00	\$15.60	\$0.00	\$55.17
	12/01/2019	\$28.24	\$12.00	\$15.60	\$0.00	\$55.84
	06/01/2020	\$28.89	\$12.00	\$15.60	\$0.00	\$56.49
	12/01/2020	\$29.57	\$12.00	\$15.60	\$0.00	\$57.17
	06/01/2021	\$30.21	\$12.00	\$15.60	\$0.00	\$57.81
	12/01/2021	\$30.89	\$12.00	\$15.60	\$0.00	\$58.49

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

OTHER POWER DRIVEN EQUIPMENT - CLASS II <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2019	\$47.69	\$12.00	\$15.60	\$0.00	\$75.29
	12/01/2019	\$48.83	\$12.00	\$15.60	\$0.00	\$76.43
	06/01/2020	\$49.91	\$12.00	\$15.60	\$0.00	\$77.51
	12/01/2020	\$51.05	\$12.00	\$15.60	\$0.00	\$78.65
	06/01/2021	\$52.14	\$12.00	\$15.60	\$0.00	\$79.74
	12/01/2021	\$53.28	\$12.00	\$15.60	\$0.00	\$80.88

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

PAINTER (BRIDGES/TANKS) <i>PAINTERS LOCAL 35 - ZONE 2</i>	07/01/2019	\$50.66	\$8.20	\$21.45	\$0.00	\$80.31
	01/01/2020	\$50.96	\$8.20	\$22.10	\$0.00	\$81.26
	07/01/2020	\$52.06	\$8.20	\$22.10	\$0.00	\$82.36
	01/01/2021	\$53.16	\$8.20	\$22.10	\$0.00	\$83.46

Apprentice - PAINTER Local 35 - BRIDGES/TANKS

Effective Date - 07/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.33	\$8.20	\$0.00	\$0.00	\$33.53
2	55	\$27.86	\$8.20	\$5.78	\$0.00	\$41.84
3	60	\$30.40	\$8.20	\$6.30	\$0.00	\$44.90
4	65	\$32.93	\$8.20	\$6.83	\$0.00	\$47.96
5	70	\$35.46	\$8.20	\$18.30	\$0.00	\$61.96
6	75	\$38.00	\$8.20	\$18.83	\$0.00	\$65.03
7	80	\$40.53	\$8.20	\$19.35	\$0.00	\$68.08
8	90	\$45.59	\$8.20	\$20.40	\$0.00	\$74.19

Effective Date - 01/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.48	\$8.20	\$0.00	\$0.00	\$33.68
2	55	\$28.03	\$8.20	\$3.94	\$0.00	\$42.17
3	60	\$30.58	\$8.20	\$6.48	\$0.00	\$45.26
4	65	\$33.12	\$8.20	\$7.02	\$0.00	\$48.34
5	70	\$35.67	\$8.20	\$18.51	\$0.00	\$62.38
6	75	\$38.22	\$8.20	\$19.05	\$0.00	\$65.47
7	80	\$40.77	\$8.20	\$19.59	\$0.00	\$68.56
8	90	\$45.86	\$8.20	\$20.67	\$0.00	\$74.73

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio: 1:1

PAINTER (SIGN, PICTORIAL & DISPLAY) PAINTERS LOCAL 35 - ZONE 2	06/01/2013	\$25.81	\$7.07	\$7.05	\$0.00	\$39.93
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Apprentice - PAINTER SIGN - Local 35 Zone 2

Effective Date - 06/01/2013

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$12.91	\$7.07	\$0.00	\$0.00	\$19.98
2	55	\$14.20	\$7.07	\$2.45	\$0.00	\$23.72
3	60	\$15.49	\$7.07	\$2.45	\$0.00	\$25.01
4	65	\$16.78	\$7.07	\$2.45	\$0.00	\$26.30
5	70	\$18.07	\$7.07	\$7.05	\$0.00	\$32.19
6	75	\$19.36	\$7.07	\$7.05	\$0.00	\$33.48
7	80	\$20.65	\$7.07	\$7.05	\$0.00	\$34.77
8	85	\$21.94	\$7.07	\$7.05	\$0.00	\$36.06
9	90	\$23.23	\$7.07	\$7.05	\$0.00	\$37.35

Notes:
Steps are 4 mos.

Apprentice to Journeyworker Ratio:1:1

PAINTER (SPRAY OR SANDBLAST, NEW) *	07/01/2019	\$41.56	\$8.20	\$21.45	\$0.00	\$71.21
* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used. PAINTERS LOCAL 35 - ZONE 2	01/01/2020	\$41.86	\$8.20	\$22.10	\$0.00	\$72.16
	07/01/2021	\$42.96	\$8.20	\$22.10	\$0.00	\$73.26
	01/01/2022	\$44.06	\$8.20	\$22.10	\$0.00	\$74.36

For Information Only

Apprentice - PAINTER Local 35 Zone 2 - Spray/Sandblast - New

Effective Date - 07/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.78	\$8.20	\$0.00	\$0.00	\$28.98
2	55	\$22.86	\$8.20	\$5.78	\$0.00	\$36.84
3	60	\$24.94	\$8.20	\$6.30	\$0.00	\$39.44
4	65	\$27.01	\$8.20	\$6.83	\$0.00	\$42.04
5	70	\$29.09	\$8.20	\$18.30	\$0.00	\$55.59
6	75	\$31.17	\$8.20	\$18.83	\$0.00	\$58.20
7	80	\$33.25	\$8.20	\$19.35	\$0.00	\$60.80
8	90	\$37.40	\$8.20	\$20.40	\$0.00	\$66.00

Effective Date - 01/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.93	\$8.20	\$0.00	\$0.00	\$29.13
2	55	\$23.02	\$8.20	\$3.94	\$0.00	\$37.16
3	60	\$25.12	\$8.20	\$6.48	\$0.00	\$39.80
4	65	\$27.21	\$8.20	\$7.02	\$0.00	\$42.43
5	70	\$29.30	\$8.20	\$18.51	\$0.00	\$56.01
6	75	\$31.40	\$8.20	\$19.05	\$0.00	\$58.65
7	80	\$33.49	\$8.20	\$19.59	\$0.00	\$61.28
8	90	\$37.64	\$8.20	\$20.67	\$0.00	\$66.54

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio: 1:1

PAINTER (SPRAY OR SANDBLAST, REPAINT)	07/01/2019	\$39.62	\$8.20	\$21.45	\$0.00	\$69.27
PAINTERS LOCAL 35 - ZONE 2	01/01/2020	\$39.92	\$8.20	\$22.10	\$0.00	\$70.22
	07/01/2020	\$41.02	\$8.20	\$22.10	\$0.00	\$71.32
	01/01/2021	\$42.12	\$8.20	\$22.10	\$0.00	\$72.42

Apprentice - PAINTER Local 35 Zone 2 - Spray/Sandblast - Repaint

Effective Date - 07/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.81	\$8.20	\$0.00	\$0.00	\$28.01
2	55	\$21.79	\$8.20	\$5.78	\$0.00	\$35.77
3	60	\$23.77	\$8.20	\$6.30	\$0.00	\$38.27
4	65	\$25.75	\$8.20	\$6.83	\$0.00	\$40.78
5	70	\$27.73	\$8.20	\$18.30	\$0.00	\$54.23
6	75	\$29.72	\$8.20	\$18.83	\$0.00	\$56.75
7	80	\$31.70	\$8.20	\$19.35	\$0.00	\$59.25
8	90	\$35.66	\$8.20	\$20.40	\$0.00	\$64.26

Effective Date - 01/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.96	\$8.20	\$6.00	\$0.00	\$28.16
2	55	\$21.96	\$8.20	\$5.94	\$0.00	\$36.10
3	60	\$23.95	\$8.20	\$6.48	\$0.00	\$38.63
4	65	\$25.95	\$8.20	\$7.02	\$0.00	\$41.17
5	70	\$27.94	\$8.20	\$18.51	\$0.00	\$54.65
6	75	\$29.94	\$8.20	\$19.05	\$0.00	\$57.19
7	80	\$31.93	\$8.20	\$19.59	\$0.00	\$59.73
8	90	\$35.93	\$8.20	\$20.67	\$0.00	\$64.80

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio: 1:1

PAINTER (TRAFFIC MARKINGS) LABORERS - ZONE 2	06/01/2019	\$33.95	\$7.85	\$14.88	\$0.00	\$56.68
	12/01/2019	\$34.81	\$7.85	\$14.88	\$0.00	\$57.54
	06/01/2020	\$35.70	\$7.85	\$14.88	\$0.00	\$58.43
	12/01/2020	\$36.59	\$7.85	\$14.88	\$0.00	\$59.32
	06/01/2021	\$37.51	\$7.85	\$14.88	\$0.00	\$60.24
	12/01/2021	\$38.42	\$7.85	\$14.88	\$0.00	\$61.15
For Apprentices rates see "Apprentice- LABORER"						
PAINTER / TAPER (BRUSH, NEW) * * If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used. PAINTERS LOCAL 35 - ZONE 2	07/01/2019	\$40.16	\$8.20	\$21.45	\$0.00	\$69.81
	01/01/2020	\$40.46	\$8.20	\$22.10	\$0.00	\$70.76
	07/01/2020	\$41.56	\$8.20	\$22.10	\$0.00	\$71.86
	01/01/2021	\$42.66	\$8.20	\$22.10	\$0.00	\$72.96

Apprentice - PAINTER - Local 35 Zone 2 - BRUSH NEW

Effective Date - 07/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.08	\$8.20	\$0.00	\$0.00	\$28.28
2	55	\$22.09	\$8.20	\$5.78	\$0.00	\$36.07
3	60	\$24.10	\$8.20	\$6.30	\$0.00	\$38.60
4	65	\$26.10	\$8.20	\$6.83	\$0.00	\$41.13
5	70	\$28.11	\$8.20	\$18.30	\$0.00	\$54.61
6	75	\$30.12	\$8.20	\$18.83	\$0.00	\$57.15
7	80	\$32.13	\$8.20	\$19.35	\$0.00	\$59.68
8	90	\$36.14	\$8.20	\$20.40	\$0.00	\$64.74

Effective Date - 01/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.23	\$8.20	\$0.00	\$0.00	\$28.43
2	55	\$22.25	\$8.20	\$5.94	\$0.00	\$36.39
3	60	\$24.28	\$8.20	\$6.48	\$0.00	\$38.96
4	65	\$26.30	\$8.20	\$7.02	\$0.00	\$41.52
5	70	\$28.32	\$8.20	\$18.51	\$0.00	\$55.03
6	75	\$30.35	\$8.20	\$19.05	\$0.00	\$57.60
7	80	\$32.37	\$8.20	\$19.59	\$0.00	\$60.16
8	90	\$36.41	\$8.20	\$20.67	\$0.00	\$65.28

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio: 1:1

PAINTER / TAPER (BRUSH, REPAINT)	07/01/2019	\$38.22	\$8.20	\$21.45	\$0.00	\$67.87
PAINTERS LOCAL 35 - ZONE 2	01/01/2020	\$38.52	\$8.20	\$22.10	\$0.00	\$68.82
	07/01/2020	\$39.62	\$8.20	\$22.10	\$0.00	\$69.92
	01/01/2021	\$40.72	\$8.20	\$22.10	\$0.00	\$71.02

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PAINTER Local 35 Zone 2 - BRUSH REPAINT

Effective Date - 07/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.11	\$8.20	\$0.00	\$0.00	\$27.31
2	55	\$21.02	\$8.20	\$5.78	\$0.00	\$35.00
3	60	\$22.93	\$8.20	\$6.30	\$0.00	\$37.43
4	65	\$24.84	\$8.20	\$6.83	\$0.00	\$39.87
5	70	\$26.75	\$8.20	\$18.30	\$0.00	\$53.25
6	75	\$28.67	\$8.20	\$18.83	\$0.00	\$55.70
7	80	\$30.58	\$8.20	\$19.35	\$0.00	\$58.13
8	90	\$34.40	\$8.20	\$20.40	\$0.00	\$63.00

Effective Date - 01/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.26	\$8.20	\$0.00	\$0.00	\$27.46
2	55	\$21.19	\$8.20	\$3.94	\$0.00	\$35.33
3	60	\$23.11	\$8.20	\$6.48	\$0.00	\$37.79
4	65	\$25.04	\$8.20	\$7.02	\$0.00	\$40.26
5	70	\$26.96	\$8.20	\$18.51	\$0.00	\$53.67
6	75	\$28.89	\$8.20	\$19.05	\$0.00	\$56.14
7	80	\$30.81	\$8.20	\$19.59	\$0.00	\$58.61
8	90	\$34.67	\$8.20	\$20.67	\$0.00	\$63.54

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio: 1:1

PANEL & PICKUP TRUCKS DRIVER TEAMSTERS JOINT COUNCIL NO. 10 ZONE B	08/01/2019	\$34.08	\$12.41	\$12.70	\$0.00	\$59.19
	12/01/2019	\$34.08	\$12.41	\$13.72	\$0.00	\$60.21
	06/01/2020	\$34.98	\$12.41	\$13.72	\$0.00	\$61.11
	08/01/2020	\$34.98	\$12.91	\$13.72	\$0.00	\$61.61
	12/01/2020	\$34.98	\$12.91	\$14.82	\$0.00	\$62.71
	06/01/2021	\$35.78	\$12.91	\$14.82	\$0.00	\$63.51
	08/01/2021	\$35.78	\$13.41	\$14.82	\$0.00	\$64.01
	12/01/2021	\$35.78	\$13.41	\$16.01	\$0.00	\$65.20
PIER AND DOCK CONSTRUCTOR (UNDERPINNING AND DECK) PILE DRIVER LOCAL 56 (ZONE 2) For apprentice rates see "Apprentice- PILE DRIVER"	08/01/2019	\$44.61	\$9.90	\$21.15	\$0.00	\$75.66
PILE DRIVER PILE DRIVER LOCAL 56 (ZONE 2)	08/01/2019	\$44.61	\$9.90	\$21.15	\$0.00	\$75.66

Apprentice - PILE DRIVER - Local 56 Zone 2

Effective Date - 08/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

Notes: Apprentice wages shall be no less than the following Steps;
(Same as set in Zone 1)
1\$54.34/2\$58.99/3\$63.65/4\$65.98/5\$68.31/6\$68.31/7\$72.96/8\$72.96

Apprentice to Journeyworker Ratio:1:5

PIPELAYER LABORERS - ZONE 2	06/01/2019	\$34.20	\$7.85	\$14.88	\$0.00	\$56.93
	12/01/2019	\$35.06	\$7.85	\$14.88	\$0.00	\$57.79
	06/01/2020	\$35.95	\$7.85	\$14.88	\$0.00	\$58.68
	12/01/2020	\$36.84	\$7.85	\$14.88	\$0.00	\$59.57
	06/01/2021	\$37.76	\$7.85	\$14.88	\$0.00	\$60.49
	12/01/2021	\$38.67	\$7.85	\$14.88	\$0.00	\$61.40

For apprentice rates see "Apprentice- LABORER"

PLUMBER & PIPEFITTER PLUMBERS & PIPEFITTERS LOCAL 51	09/01/2018	\$42.04	\$10.00	\$18.20	\$0.00	\$70.24
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Apprentice - PLUMBER/PIPEFITTER - Local 51

Effective Date - 09/01/2018

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$16.32	\$10.00	\$2.50	\$0.00	\$29.32
2	50	\$21.02	\$10.00	\$2.50	\$0.00	\$33.52
3	60	\$25.22	\$10.00	\$7.85	\$0.00	\$43.07
4	70	\$29.43	\$10.00	\$12.56	\$0.00	\$51.99
5	80	\$33.63	\$10.00	\$15.70	\$0.00	\$59.33

Notes: Steps 2000hrs prior 9/1/08; 40/40/45/50/55/60/65/75/80/85

Apprentice to Journeyworker Ratio:1:3

PNEUMATIC CONTROLS (TEMP.) PLUMBERS & PIPEFITTERS LOCAL 51	09/01/2018	\$42.04	\$10.00	\$18.20	\$0.00	\$70.24
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For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"

PNEUMATIC DRILL/TOOL OPERATOR LABORERS - ZONE 2	06/01/2019	\$34.20	\$7.85	\$14.88	\$0.00	\$56.93
	12/01/2019	\$35.06	\$7.85	\$14.88	\$0.00	\$57.79
	06/01/2020	\$35.95	\$7.85	\$14.88	\$0.00	\$58.68
	12/01/2020	\$36.84	\$7.85	\$14.88	\$0.00	\$59.57
	06/01/2021	\$37.76	\$7.85	\$14.88	\$0.00	\$60.49
	12/01/2021	\$38.67	\$7.85	\$14.88	\$0.00	\$61.40

For apprentice rates see "Apprentice- LABORER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
POWDERMAN & BLASTER <i>LABORERS - ZONE 2</i>	06/01/2019	\$34.95	\$7.85	\$14.88	\$0.00	\$57.68
	12/01/2019	\$35.81	\$7.85	\$14.88	\$0.00	\$58.54
	06/01/2020	\$36.70	\$7.85	\$14.88	\$0.00	\$59.43
	12/01/2020	\$37.59	\$7.85	\$14.88	\$0.00	\$60.32
	06/01/2021	\$38.51	\$7.85	\$14.88	\$0.00	\$61.24
	12/01/2021	\$39.42	\$7.85	\$14.88	\$0.00	\$62.15
For apprentice rates see "Apprentice- LABORER"						
POWER SHOVEL/DERRICK/TRENCHING MACHINE <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2019	\$48.18	\$12.00	\$15.60	\$0.00	\$75.78
	12/01/2019	\$49.33	\$12.00	\$15.60	\$0.00	\$76.93
	06/01/2020	\$50.43	\$12.00	\$15.60	\$0.00	\$78.03
	12/01/2020	\$51.58	\$12.00	\$15.60	\$0.00	\$79.18
	06/01/2021	\$52.68	\$12.00	\$15.60	\$0.00	\$80.28
	12/01/2021	\$53.83	\$12.00	\$15.60	\$0.00	\$81.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (CONCRETE) <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2019	\$48.18	\$12.00	\$15.60	\$0.00	\$75.78
	12/01/2019	\$49.33	\$12.00	\$15.60	\$0.00	\$76.93
	06/01/2020	\$50.43	\$12.00	\$15.60	\$0.00	\$78.03
	12/01/2020	\$51.58	\$12.00	\$15.60	\$0.00	\$79.18
	06/01/2021	\$52.68	\$12.00	\$15.60	\$0.00	\$80.28
	12/01/2021	\$53.83	\$12.00	\$15.60	\$0.00	\$81.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (DEWATERING, OTHER) <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2019	\$32.28	\$12.00	\$15.60	\$0.00	\$59.88
	12/01/2019	\$33.07	\$12.00	\$15.60	\$0.00	\$60.67
	06/01/2020	\$33.82	\$12.00	\$15.60	\$0.00	\$61.42
	12/01/2020	\$34.60	\$12.00	\$15.60	\$0.00	\$62.20
	06/01/2021	\$35.35	\$12.00	\$15.60	\$0.00	\$62.95
	12/01/2021	\$36.14	\$12.00	\$15.60	\$0.00	\$63.74
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
READY-MIX CONCRETE DRIVER <i>TEAMSTERS 59 - Morse S&G (Lakeville)</i>	06/01/2018	\$21.55	\$8.15	\$9.06	\$0.00	\$38.76
RECLAIMERS <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2019	\$47.69	\$12.00	\$15.60	\$0.00	\$75.29
	12/01/2019	\$48.83	\$12.00	\$15.60	\$0.00	\$76.43
	06/01/2020	\$49.91	\$12.00	\$15.60	\$0.00	\$77.51
	12/01/2020	\$51.05	\$12.00	\$15.60	\$0.00	\$78.65
	06/01/2021	\$52.14	\$12.00	\$15.60	\$0.00	\$79.74
	12/01/2021	\$53.28	\$12.00	\$15.60	\$0.00	\$80.88
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
RIDE-ON MOTORIZED BUGGY OPERATOR <i>LABORERS - ZONE 2</i>	06/01/2019	\$34.20	\$7.85	\$14.88	\$0.00	\$56.93
	12/01/2019	\$35.06	\$7.85	\$14.88	\$0.00	\$57.79
	06/01/2020	\$35.95	\$7.85	\$14.88	\$0.00	\$58.68
	12/01/2020	\$36.84	\$7.85	\$14.88	\$0.00	\$59.57
	06/01/2021	\$37.76	\$7.85	\$14.88	\$0.00	\$60.49
	12/01/2021	\$38.67	\$7.85	\$14.88	\$0.00	\$61.40
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
ROLLER/SPREADER/MULCHING MACHINE <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2019	\$47.69	\$12.00	\$15.60	\$0.00	\$75.29
	12/01/2019	\$48.83	\$12.00	\$15.60	\$0.00	\$76.43
	06/01/2020	\$49.91	\$12.00	\$15.60	\$0.00	\$77.51
	12/01/2020	\$51.05	\$12.00	\$15.60	\$0.00	\$78.65
	06/01/2021	\$52.14	\$12.00	\$15.60	\$0.00	\$79.74
	12/01/2021	\$53.28	\$12.00	\$15.60	\$0.00	\$80.88

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

ROOFER (Inc.Roofing Waterproofing &Roofing Damproofing) <i>ROOFERS LOCAL 33</i>	08/01/2019	\$44.64	\$11.50	\$15.90	\$0.00	\$72.04
	02/01/2020	\$45.92	\$11.50	\$15.90	\$0.00	\$73.32
	08/01/2020	\$47.35	\$11.50	\$15.90	\$0.00	\$74.75
	02/01/2021	\$48.78	\$11.50	\$15.90	\$0.00	\$76.18
	08/01/2021	\$50.21	\$11.50	\$15.90	\$0.00	\$77.61
	02/01/2022	\$51.64	\$11.50	\$15.90	\$0.00	\$79.04

Apprentice - ROOFER - Local 33

Effective Date - 08/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.32	\$11.50	\$3.69	\$0.00	\$37.51
2	60	\$26.78	\$11.50	\$15.90	\$0.00	\$54.18
3	65	\$29.02	\$11.50	\$15.90	\$0.00	\$56.42
4	75	\$33.48	\$11.50	\$15.90	\$0.00	\$60.88
5	85	\$37.94	\$11.50	\$15.90	\$0.00	\$65.34

Effective Date - 02/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.96	\$11.50	\$3.69	\$0.00	\$38.15
2	60	\$27.55	\$11.50	\$15.90	\$0.00	\$54.95
3	65	\$29.85	\$11.50	\$15.90	\$0.00	\$57.25
4	75	\$34.44	\$11.50	\$15.90	\$0.00	\$61.84
5	85	\$39.03	\$11.50	\$15.90	\$0.00	\$66.43

Notes: ** 1:5, 2:6-10, the 1:10; Reroofing: 1:4, then 1:1
 Step 1 is 2000 hrs.; Steps 2-5 are 1000 hrs.
 (Hot Pitch Mechanics' receive \$1.00 hr. above ROOFER)

Apprentice to Journeyworker Ratio:**

ROOFER SLATE / TILE / PRECAST CONCRETE <i>ROOFERS LOCAL 33</i>	08/01/2019	\$44.89	\$11.50	\$15.90	\$0.00	\$72.29
	02/01/2020	\$46.17	\$11.50	\$15.90	\$0.00	\$73.57
	08/01/2020	\$47.60	\$11.50	\$15.90	\$0.00	\$75.00
	02/01/2021	\$49.03	\$11.50	\$15.90	\$0.00	\$76.43
	08/01/2021	\$50.46	\$11.50	\$15.90	\$0.00	\$77.86
	02/01/2022	\$51.89	\$11.50	\$15.90	\$0.00	\$79.29

For apprentice rates see "Apprentice- ROOFER"

SHEETMETAL WORKER <i>SHEETMETAL WORKERS LOCAL 17 - B</i>	04/01/2019	\$34.71	\$13.20	\$16.55	\$1.93	\$66.39
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Apprentice - SHEET METAL WORKER - Local 17-B

Effective Date - 04/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$13.88	\$13.20	\$4.02	\$0.95	\$32.05
2	45	\$15.62	\$13.20	\$4.52	\$1.02	\$34.36
3	50	\$17.36	\$13.20	\$10.48	\$1.26	\$42.30
4	55	\$19.09	\$13.20	\$10.48	\$1.31	\$44.08
5	60	\$20.83	\$13.20	\$13.52	\$1.43	\$48.98
6	65	\$22.56	\$13.20	\$13.78	\$1.49	\$51.03
7	70	\$24.30	\$13.20	\$14.03	\$1.55	\$53.08
8	75	\$26.03	\$13.20	\$14.28	\$1.61	\$55.12
9	80	\$27.77	\$13.20	\$14.54	\$1.67	\$57.18
10	85	\$29.50	\$13.20	\$14.79	\$1.72	\$59.21

Notes:

Apprentice to Journeyworker Ratio:1:3

SPECIALIZED EARTH MOVING EQUIP < 35 TONS TEAMSTERS JOINT COUNCIL NO. 10 ZONE B	08/01/2019	\$34.54	\$12.41	\$12.70	\$0.00	\$59.65
	12/01/2019	\$34.54	\$12.41	\$13.72	\$0.00	\$60.67
	06/01/2020	\$35.44	\$12.41	\$13.72	\$0.00	\$61.57
	08/01/2020	\$35.44	\$12.91	\$13.72	\$0.00	\$62.07
	12/01/2020	\$35.44	\$12.91	\$14.82	\$0.00	\$63.17
	06/01/2021	\$36.24	\$12.91	\$14.82	\$0.00	\$63.97
	08/01/2021	\$36.24	\$13.41	\$14.82	\$0.00	\$64.47
	12/01/2021	\$36.24	\$13.41	\$16.01	\$0.00	\$65.66
SPECIALIZED EARTH MOVING EQUIP > 35 TONS TEAMSTERS JOINT COUNCIL NO. 10 ZONE B	08/01/2019	\$34.83	\$12.41	\$12.70	\$0.00	\$59.94
	12/01/2019	\$34.83	\$12.41	\$13.72	\$0.00	\$60.96
	06/01/2020	\$35.73	\$12.41	\$13.72	\$0.00	\$61.86
	08/01/2020	\$35.73	\$12.91	\$13.72	\$0.00	\$62.36
	12/01/2020	\$35.73	\$12.91	\$14.82	\$0.00	\$63.46
	06/01/2021	\$36.53	\$12.91	\$14.82	\$0.00	\$64.26
	08/01/2021	\$36.53	\$13.41	\$14.82	\$0.00	\$64.76
	12/01/2021	\$36.53	\$13.41	\$16.01	\$0.00	\$65.95
SPRINKLER FITTER SPRINKLER FITTERS LOCAL 550 - (Section B) Zone 2	03/01/2019	\$53.08	\$9.47	\$19.60	\$0.00	\$82.15
	10/01/2019	\$54.43	\$9.47	\$19.60	\$0.00	\$83.50
	03/01/2020	\$55.78	\$9.47	\$19.60	\$0.00	\$84.85
	10/01/2020	\$57.13	\$9.47	\$19.60	\$0.00	\$86.20
	03/01/2021	\$58.48	\$9.47	\$19.60	\$0.00	\$87.55

Apprentice - SPRINKLER FITTER - Local 550 (Section B) Zone 2

Effective Date - 03/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$18.58	\$9.47	\$9.10	\$0.00	\$37.15
2	40	\$21.23	\$9.47	\$9.10	\$0.00	\$39.80
3	45	\$23.89	\$9.47	\$9.10	\$0.00	\$42.46
4	50	\$26.54	\$9.47	\$9.10	\$0.00	\$45.11
5	55	\$29.19	\$9.47	\$9.10	\$0.00	\$47.76
6	60	\$31.85	\$9.47	\$10.60	\$0.00	\$51.92
7	65	\$34.50	\$9.47	\$10.60	\$0.00	\$54.57
8	70	\$37.16	\$9.47	\$10.60	\$0.00	\$57.23
9	75	\$39.81	\$9.47	\$10.60	\$0.00	\$59.88
10	80	\$42.46	\$9.47	\$10.60	\$0.00	\$62.53

Effective Date - 10/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$19.05	\$9.47	\$11.15	\$0.00	\$39.67
2	40	\$21.77	\$9.47	\$11.80	\$0.00	\$43.04
3	45	\$24.49	\$9.47	\$12.45	\$0.00	\$46.41
4	50	\$27.22	\$9.47	\$13.10	\$0.00	\$49.79
5	55	\$29.94	\$9.47	\$13.75	\$0.00	\$53.16
6	60	\$32.66	\$9.47	\$14.40	\$0.00	\$56.53
7	65	\$35.38	\$9.47	\$15.05	\$0.00	\$59.90
8	70	\$38.10	\$9.47	\$15.70	\$0.00	\$63.27
9	75	\$40.82	\$9.47	\$16.35	\$0.00	\$66.64
10	80	\$43.54	\$9.47	\$17.00	\$0.00	\$70.01

Notes: Apprentice entered prior 9/30/10:
40/45/50/55/60/65/70/75/80/85
Steps are 850 hours

Apprentice to Journeyworker Ratio:1:3

STEAM BOILER OPERATOR OPERATING ENGINEERS LOCAL 4	06/01/2019	\$47.69	\$12.00	\$15.60	\$0.00	\$75.29
	12/01/2019	\$48.83	\$12.00	\$15.60	\$0.00	\$76.43
	06/01/2020	\$49.91	\$12.00	\$15.60	\$0.00	\$77.51
	12/01/2020	\$51.05	\$12.00	\$15.60	\$0.00	\$78.65
	06/01/2021	\$52.14	\$12.00	\$15.60	\$0.00	\$79.74
	12/01/2021	\$53.28	\$12.00	\$15.60	\$0.00	\$80.88

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

TAMPERS, SELF-PROPELLED OR TRACTOR DRAWN OPERATING ENGINEERS LOCAL 4	06/01/2019	\$47.69	\$12.00	\$15.60	\$0.00	\$75.29
	12/01/2019	\$48.83	\$12.00	\$15.60	\$0.00	\$76.43
	06/01/2020	\$49.91	\$12.00	\$15.60	\$0.00	\$77.51
	12/01/2020	\$51.05	\$12.00	\$15.60	\$0.00	\$78.65
	06/01/2021	\$52.14	\$12.00	\$15.60	\$0.00	\$79.74
	12/01/2021	\$53.28	\$12.00	\$15.60	\$0.00	\$80.88

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TELECOMMUNICATION TECHNICIAN	09/01/2019	\$35.78	\$10.15	\$11.45	\$0.00	\$57.38
<i>ELECTRICIANS LOCAL 223</i>	03/01/2020	\$36.27	\$10.40	\$11.78	\$0.00	\$58.45

Apprentice - TELECOMMUNICATION TECHNICIAN - Local 223

Effective Date - 09/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

Notes: See Electrician Apprentice Wages
Steps are 750hrs
Telecom Apprentice Wages shall be the same as the Electrician Apprentice Wages

Apprentice to Journeyworker Ratio:2:3***

TERRAZZO FINISHERS	08/01/2019	\$53.34	\$10.75	\$21.30	\$0.00	\$85.39
<i>BRICKLAYERS LOCAL 3 - MARBLE & TILE</i>	02/01/2020	\$53.98	\$10.75	\$21.30	\$0.00	\$86.03
	08/01/2020	\$55.33	\$10.75	\$21.45	\$0.00	\$87.53
	02/01/2021	\$55.97	\$10.75	\$21.45	\$0.00	\$88.17
	08/01/2021	\$57.33	\$10.75	\$21.61	\$0.00	\$89.73
	02/01/2022	\$57.96	\$10.75	\$21.61	\$0.00	\$90.32

Apprentice - TERRAZZO FINISHER - Local 3 Marble & Tile

Effective Date - 08/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$26.67	\$10.75	\$21.30	\$0.00	\$58.72
2	60	\$32.00	\$10.75	\$21.30	\$0.00	\$64.05
3	70	\$37.34	\$10.75	\$21.30	\$0.00	\$69.39
4	80	\$42.67	\$10.75	\$21.30	\$0.00	\$74.72
5	90	\$48.01	\$10.75	\$21.30	\$0.00	\$80.06

Effective Date - 02/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$26.99	\$10.75	\$21.30	\$0.00	\$59.04
2	60	\$32.39	\$10.75	\$21.30	\$0.00	\$64.44
3	70	\$37.79	\$10.75	\$21.30	\$0.00	\$69.84
4	80	\$43.18	\$10.75	\$21.30	\$0.00	\$75.23
5	90	\$48.58	\$10.75	\$21.30	\$0.00	\$80.63

Notes:

Apprentice to Journeyworker Ratio:1:3

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TEST BORING DRILLER <i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2019	\$40.50	\$7.85	\$16.05	\$0.00	\$64.40
	12/01/2019	\$41.50	\$7.85	\$16.05	\$0.00	\$65.40
	06/01/2020	\$42.49	\$7.85	\$16.05	\$0.00	\$66.39
	12/01/2020	\$43.47	\$7.85	\$16.05	\$0.00	\$67.37
	06/01/2021	\$44.49	\$7.85	\$16.05	\$0.00	\$68.39
	12/01/2021	\$45.50	\$7.85	\$16.05	\$0.00	\$69.40
For apprentice rates see "Apprentice- LABORER"						
TEST BORING DRILLER HELPER <i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2019	\$39.22	\$7.85	\$16.05	\$0.00	\$63.12
	12/01/2019	\$40.22	\$7.85	\$16.05	\$0.00	\$64.12
	06/01/2020	\$41.21	\$7.85	\$16.05	\$0.00	\$65.11
	12/01/2020	\$42.19	\$7.85	\$16.05	\$0.00	\$66.09
	06/01/2021	\$43.21	\$7.85	\$16.05	\$0.00	\$67.11
	12/01/2021	\$44.22	\$7.85	\$16.05	\$0.00	\$68.12
For apprentice rates see "Apprentice- LABORER"						
TEST BORING LABORER <i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2019	\$39.10	\$7.85	\$16.05	\$0.00	\$63.00
	12/01/2019	\$40.10	\$7.85	\$16.05	\$0.00	\$64.00
	06/01/2020	\$41.09	\$7.85	\$16.05	\$0.00	\$64.99
	12/01/2020	\$42.07	\$7.85	\$16.05	\$0.00	\$65.97
	06/01/2021	\$43.09	\$7.85	\$16.05	\$0.00	\$66.99
	12/01/2021	\$44.10	\$7.85	\$16.05	\$0.00	\$68.00
For apprentice rates see "Apprentice- LABORER"						
TRACTORS/PORTABLE STEAM GENERATORS <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2019	\$47.69	\$12.00	\$15.60	\$0.00	\$75.29
	12/01/2019	\$48.83	\$12.00	\$15.60	\$0.00	\$76.43
	06/01/2020	\$49.91	\$12.00	\$15.60	\$0.00	\$77.51
	12/01/2020	\$51.05	\$12.00	\$15.60	\$0.00	\$78.65
	06/01/2021	\$52.14	\$12.00	\$15.60	\$0.00	\$79.74
	12/01/2021	\$53.28	\$12.00	\$15.60	\$0.00	\$80.88
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
TRAILERS FOR EARTH MOVING EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	08/01/2019	\$35.12	\$12.41	\$12.70	\$0.00	\$60.23
	12/01/2019	\$35.12	\$12.41	\$13.72	\$0.00	\$61.25
	06/01/2020	\$36.02	\$12.41	\$13.72	\$0.00	\$62.15
	08/01/2020	\$36.02	\$12.91	\$13.72	\$0.00	\$62.65
	12/01/2020	\$36.02	\$12.91	\$14.82	\$0.00	\$63.75
	06/01/2021	\$36.82	\$12.91	\$14.82	\$0.00	\$64.55
	08/01/2021	\$36.82	\$13.41	\$14.82	\$0.00	\$65.05
	12/01/2021	\$36.82	\$13.41	\$16.01	\$0.00	\$66.24
TUNNEL WORK - COMPRESSED AIR <i>LABORERS (COMPRESSED AIR)</i>	06/01/2019	\$51.38	\$7.85	\$16.45	\$0.00	\$75.68
	12/01/2019	\$52.38	\$7.85	\$16.45	\$0.00	\$76.68
	06/01/2020	\$53.37	\$7.85	\$16.45	\$0.00	\$77.67
	12/01/2020	\$54.35	\$7.85	\$16.45	\$0.00	\$78.65
	06/01/2021	\$55.37	\$7.85	\$16.45	\$0.00	\$79.67
	12/01/2021	\$56.38	\$7.85	\$16.45	\$0.00	\$80.68
For apprentice rates see "Apprentice- LABORER"						

For Information Only

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TUNNEL WORK - COMPRESSED AIR (HAZ. WASTE) <i>LABORERS (COMPRESSED AIR)</i>	06/01/2019	\$53.38	\$7.85	\$16.45	\$0.00	\$77.68
	12/01/2019	\$54.38	\$7.85	\$16.45	\$0.00	\$78.68
	06/01/2020	\$55.37	\$7.85	\$16.45	\$0.00	\$79.67
	12/01/2020	\$56.35	\$7.85	\$16.45	\$0.00	\$80.65
	06/01/2021	\$57.37	\$7.85	\$16.45	\$0.00	\$81.67
	12/01/2021	\$58.38	\$7.85	\$16.45	\$0.00	\$82.68
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR <i>LABORERS (FREE AIR TUNNEL)</i>	06/01/2019	\$43.45	\$7.85	\$16.45	\$0.00	\$67.75
	12/01/2019	\$44.45	\$7.85	\$16.45	\$0.00	\$68.75
	06/01/2020	\$45.44	\$7.85	\$16.45	\$0.00	\$69.74
	12/01/2020	\$46.42	\$7.85	\$16.45	\$0.00	\$70.72
	06/01/2021	\$47.44	\$7.85	\$16.45	\$0.00	\$71.74
	12/01/2021	\$48.45	\$7.85	\$16.45	\$0.00	\$72.75
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR (HAZ. WASTE) <i>LABORERS (FREE AIR TUNNEL)</i>	06/01/2019	\$45.45	\$7.85	\$16.45	\$0.00	\$69.75
	12/01/2019	\$46.45	\$7.85	\$16.45	\$0.00	\$70.75
	06/01/2020	\$47.44	\$7.85	\$16.45	\$0.00	\$71.74
	12/01/2020	\$48.42	\$7.85	\$16.45	\$0.00	\$72.72
	06/01/2021	\$49.44	\$7.85	\$16.45	\$0.00	\$73.74
	12/01/2021	\$50.45	\$7.85	\$16.45	\$0.00	\$74.75
For apprentice rates see "Apprentice- LABORER"						
VAC-HAUL <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	08/01/2019	\$34.54	\$12.41	\$12.70	\$0.00	\$59.65
	12/01/2019	\$34.54	\$12.41	\$13.72	\$0.00	\$60.67
	06/01/2020	\$35.44	\$12.41	\$13.72	\$0.00	\$61.57
	08/01/2020	\$35.44	\$12.91	\$13.72	\$0.00	\$62.07
	12/01/2020	\$35.44	\$12.91	\$14.82	\$0.00	\$63.17
	06/01/2021	\$36.24	\$12.91	\$14.82	\$0.00	\$63.97
	08/01/2021	\$36.24	\$13.41	\$14.82	\$0.00	\$64.47
	12/01/2021	\$36.24	\$13.41	\$16.01	\$0.00	\$65.66
WAGON DRILL OPERATOR <i>LABORERS - ZONE 2</i>	06/01/2019	\$34.20	\$7.85	\$14.88	\$0.00	\$56.93
	12/01/2019	\$35.06	\$7.85	\$14.88	\$0.00	\$57.79
	06/01/2020	\$35.95	\$7.85	\$14.88	\$0.00	\$58.68
	12/01/2020	\$36.84	\$7.85	\$14.88	\$0.00	\$59.57
	06/01/2021	\$37.76	\$7.85	\$14.88	\$0.00	\$60.49
	12/01/2021	\$38.67	\$7.85	\$14.88	\$0.00	\$61.40
For apprentice rates see "Apprentice- LABORER"						
WASTE WATER PUMP OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2019	\$48.18	\$12.00	\$15.60	\$0.00	\$75.78
	12/01/2019	\$49.33	\$12.00	\$15.60	\$0.00	\$76.93
	06/01/2020	\$50.43	\$12.00	\$15.60	\$0.00	\$78.03
	12/01/2020	\$51.58	\$12.00	\$15.60	\$0.00	\$79.18
	06/01/2021	\$52.68	\$12.00	\$15.60	\$0.00	\$80.28
	12/01/2021	\$53.83	\$12.00	\$15.60	\$0.00	\$81.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
WATER METER INSTALLER <i>PLUMBERS & PIPEFITTERS LOCAL 51</i>	09/01/2018	\$42.04	\$10.00	\$18.20	\$0.00	\$70.24
For apprentice rates see "Apprentice- PLUMBER/PIPEFITTER" or "PLUMBER/GASFITTER"						

For Information Only

Outside Electrical - East

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
CABLE TECHNICIAN (Power Zone) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	09/01/2019	\$28.83	\$8.75	\$1.86	\$0.00	\$39.44
	08/30/2020	\$29.67	\$9.25	\$1.89	\$0.00	\$40.81
For apprentice rates see "Apprentice- LINEMAN"						
CABLEMAN (Underground Ducts & Cables) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	09/01/2019	\$40.84	\$8.75	\$10.02	\$0.00	\$59.61
	08/30/2020	\$42.03	\$9.25	\$10.27	\$0.00	\$61.55
For apprentice rates see "Apprentice- LINEMAN"						
DRIVER / GROUNDMAN CDL <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	09/01/2019	\$33.64	\$8.75	\$9.86	\$0.00	\$52.25
	08/30/2020	\$34.62	\$9.25	\$10.07	\$0.00	\$53.94
For apprentice rates see "Apprentice- LINEMAN"						
DRIVER / GROUNDMAN -Inexperienced (<2000 Hrs) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	09/01/2019	\$26.43	\$8.75	\$1.79	\$0.00	\$36.97
	08/30/2020	\$27.20	\$9.25	\$1.82	\$0.00	\$38.27
For apprentice rates see "Apprentice- LINEMAN"						
EQUIPMENT OPERATOR (Class A CDL) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	09/01/2019	\$40.84	\$8.75	\$14.10	\$0.00	\$63.69
	08/30/2020	\$42.03	\$9.25	\$14.35	\$0.00	\$65.63
For apprentice rates see "Apprentice- LINEMAN"						
EQUIPMENT OPERATOR (Class B CDL) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	09/01/2019	\$36.04	\$8.75	\$10.65	\$0.00	\$55.44
	08/30/2020	\$37.09	\$9.25	\$10.87	\$0.00	\$57.21
For apprentice rates see "Apprentice- LINEMAN"						
GROUNDMAN <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	09/01/2019	\$21.61	\$8.75	\$1.65	\$0.00	\$32.02
	08/30/2020	\$22.25	\$9.25	\$1.67	\$0.00	\$33.17
For apprentice rates see "Apprentice- LINEMAN"						
GROUNDMAN -Inexperienced (<2000 Hrs.) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	09/01/2019	\$26.43	\$8.75	\$1.79	\$0.00	\$36.97
	08/30/2020	\$27.20	\$9.25	\$1.82	\$0.00	\$38.27
For apprentice rates see "Apprentice- LINEMAN"						
JOURNEYMAN LINEMAN <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	09/01/2019	\$48.05	\$8.75	\$17.19	\$0.00	\$73.99
	08/30/2020	\$49.45	\$9.25	\$17.48	\$0.00	\$76.18

For Information Only

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - LINEMAN (Outside Electrical) - East Local 104

Effective Date - 09/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$28.83	\$8.75	\$3.36	\$0.00	\$40.94
2	65	\$31.23	\$8.75	\$3.44	\$0.00	\$43.42
3	70	\$33.64	\$8.75	\$3.51	\$0.00	\$45.90
4	75	\$36.04	\$8.75	\$5.08	\$0.00	\$49.87
5	80	\$38.44	\$8.75	\$5.15	\$0.00	\$52.34
6	85	\$40.84	\$8.75	\$5.23	\$0.00	\$54.82
7	90	\$43.25	\$8.75	\$7.30	\$0.00	\$59.30

Effective Date - 08/30/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$29.67	\$9.25	\$3.39	\$0.00	\$42.31
2	65	\$32.14	\$9.25	\$3.46	\$0.00	\$44.85
3	70	\$34.62	\$9.25	\$3.54	\$0.00	\$47.41
4	75	\$37.09	\$9.25	\$5.11	\$0.00	\$51.45
5	80	\$39.56	\$9.25	\$5.19	\$0.00	\$54.00
6	85	\$42.03	\$9.25	\$5.26	\$0.00	\$56.54
7	90	\$44.51	\$9.25	\$7.34	\$0.00	\$61.10

Notes:

Apprentice to Journeyworker Ratio:1:2

TELEDATA CABLE SPLICER
OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104 02/04/2019 \$30.73 \$4.70 \$3.17 \$0.00 \$38.60

TELEDATA LINEMAN/EQUIPMENT OPERATOR
OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104 02/04/2019 \$28.93 \$4.70 \$3.14 \$0.00 \$36.77

TELEDATA WIREMAN/INSTALLER/TECHNICIAN
OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104 02/04/2019 \$28.93 \$4.70 \$3.14 \$0.00 \$36.77

TREE TRIMMER
OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104 01/31/2016 \$18.51 \$3.55 \$0.00 \$0.00 \$22.06

This classification applies only to tree work done: (a) for a utility company, R.E.A. cooperative, or railroad or coal mining company, and (b) for the purpose of operating, maintaining, or repairing the utility company's equipment, and (c) by a person who is using hand or mechanical cutting methods and is not on the ground. This classification does not apply to wholesale tree removal.

TREE TRIMMER GROUNDMAN
OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104 01/31/2016 \$16.32 \$3.55 \$0.00 \$0.00 \$19.87

This classification applies only to tree work done: (a) for a utility company, R.E.A. cooperative, or railroad or coal mining company, and (b) for the purpose of operating, maintaining, or repairing the utility company's equipment, and (c) by a person who is using hand or mechanical cutting methods and is on the ground. This classification does not apply to wholesale tree removal.

Additional Apprentices Information:

Minimum wage rates for apprentices employed on public works projects are listed above as a percentage of the pre-determined hourly wage rate established by the Commissioner under the provisions of the M.G.L. c. 149, ss. 26-27D. Apprentice ratios are established by the Division of Apprenticeship Training pursuant to M.G.L. c. 23, ss. 11E-11L.

All apprentices must be registered with the Division of Apprenticeship Training in accordance with M.G.L. c. 23, ss. 11E-11L.

All steps are six months (1000 hours.)

Ratios are expressed in allowable number of apprentices to journeymen or fraction thereof, unless otherwise specified.

** Multiple ratios are listed in the comment field.

*** APP to JM; 1:1, 2:2, 2:3, 3:4, 4:4, 4:5, 4:6, 5:7, 6:7, 6:8, 6:9, 7:10, 8:10, 8:11, 8:12, 9:13, 10:13, 10:14, etc.

**** APP to JM; 1:1, 1:2, 2:3, 2:4, 3:5, 4:6, 4:7, 5:8, 6:9, 6:10, 7:11, 8:12, 8:13, 9:14, 10:15, 10:16, etc.

For Information Only

**TRAP DOCK RECONSTRUCTION
CHATHAM, MA**

**ATTACHMENT B
REGULATORY APPROVALS**

For Information Only



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

25 July 2019

Regulatory Division
File Number: NAE-2019-01415

Town of Chatham, Massachusetts
ATTN: Theodore Keon
261 George Ryder Road
Chatham, Massachusetts 02633

Dear Mr. Keon:

We have reviewed your application to replace the Trap Dock, a commercial fishermen's pier. Both old and new docks will have the same area, 2,227 square feet.

The applicants propose to:
Demolish and remove the existing timber pier and supporting piles, pile caps and bracing;
Install a new 41' sheet metal bulkhead next to the existing failing bulkhead, with approximately 41 sq. ft. of fill to be placed in the space between the new and old bulkheads;
Install twenty-seven 12" diameter bearing piles;
Install a new 26' by 29' concrete loading dock slab, and
Install twenty-one timber fender piers. Silt curtains will be installed around the work area.

This project is located in Stage Harbor at 3 Champlain Street, Chatham, Massachusetts. The work is shown on the enclosed plans entitled "Trap Dock Reconstruction", on 6 sheets, and dated "05/17/2019".

Based on the information that you have provided, we verify that the activity is authorized under General Permit #1 of the enclosed April 16, 2018 Federal permit known as the Massachusetts General Permits (GPs).

Please review the enclosed GPs carefully, including the general conditions beginning on page 19, to be sure that you and whoever does the work understand its requirements. A copy of the GPs and this verification letter shall be available at the project site throughout the time the work is underway. Performing work within our jurisdiction that is not specifically authorized by this determination or failing to comply with any special condition provided above or all of the terms and conditions of the GPs may subject you to the enforcement provisions of our regulations. You must perform this work in compliance with the terms and conditions of the GPs and also in compliance with the following special conditions:

1. No in-water work shall be performed from January 15 to June 30 of any year to avoid adverse impacts to winter flounder sensitive life stages.

2. Piles installed will follow the following procedure: Use a soft start each day of pile driving, building up power slowly from a low energy start-up over a period of 20-40 minutes to provide adequate time for NOAA ESA listed species to leave the vicinity. The buildup of power should occur in uniform stages to provide a constant increase in output. Bubble curtains may be used to reduce sound pressure levels during vibratory or impact hammer pile driving. This is to avoid effects to Federal threatened and endangered species.

This authorization presumes that the work as described above and as shown on your plans noted above is in waters of the U.S.

This authorization expires on April 5, 2023. You must commence or be under contract to commence the work authorized herein by April 5, 2023, and complete the work by April 5, 2024. If not, you must contact this office to determine the need for further authorization before beginning or continuing the activity. We recommend that you contact us *before* this authorization expires to discuss reissuance. Please contact us immediately if you change the plans or construction methods for work within our jurisdiction. We must approve any changes before you undertake them.

This authorization does not obviate the need to obtain other Federal, State, or local authorizations required by law.

Your project is located within, or may affect resources within the coastal zone. In order for the above determination to become valid, you must obtain Federal consistency concurrence from the Massachusetts Office of Coastal Zone Management (CZM). The CZM address is provided on page 47 of the enclosed MA GPs.

We continually strive to improve our customer service. 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=regulatory_survey.

Please contact Phillip Nimeskern of my staff at (978) 318-8660 if you have any questions.

Sincerely,



for Barbara Newman
Chief, Permits & Enforcement Branch
Regulatory Division

Enclosures

cc:

Bradford Saunders, GEI Consultants, Inc. 124 Grove Street, Suite 300, Franklin, Massachusetts,

02038, bsaunders@geiconsultants.com

Ed Reiner, U.S. EPA, Region 1, Boston, Massachusetts, reiner.ed@epa.gov

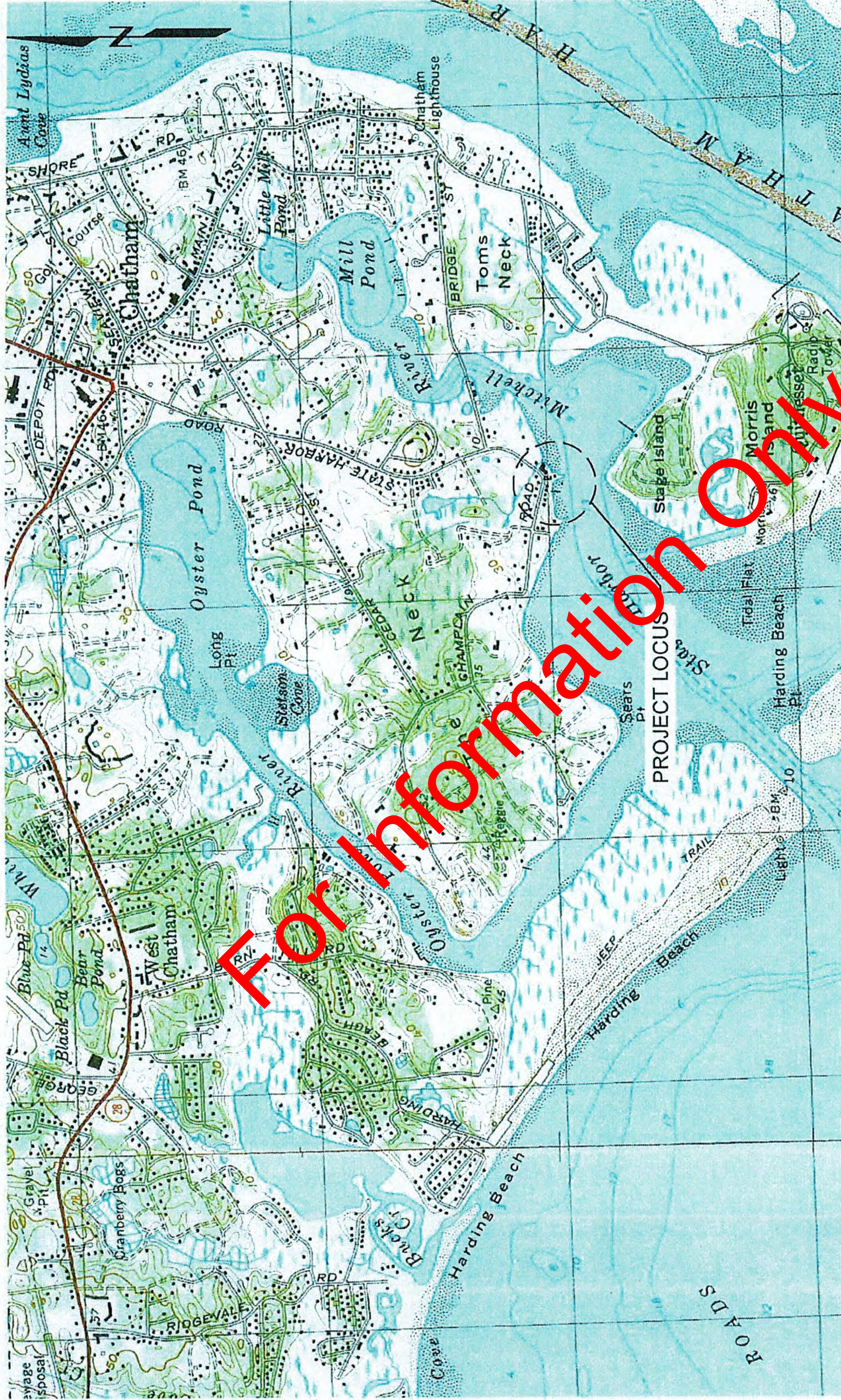
Robert Boeri, Coastal Zone Management, Boston, Massachusetts, robert.boeri@mass.gov

Jim Mahala, Acting Chief, DEP SERO, Wetlands and Waterways, Lakeville, Massachusetts;
jim.mahala@state.ma.us (DEP File No. 13961)


MassDEP-WRP, Boston, Massachusetts; dep.waterways@mass.gov, (DEP File No. 13961)

Mary Fougere, Chatham Conservation Commission, 261 George Ryder Road, Chatham,
Massachusetts. Fax: (509) 945-5164.

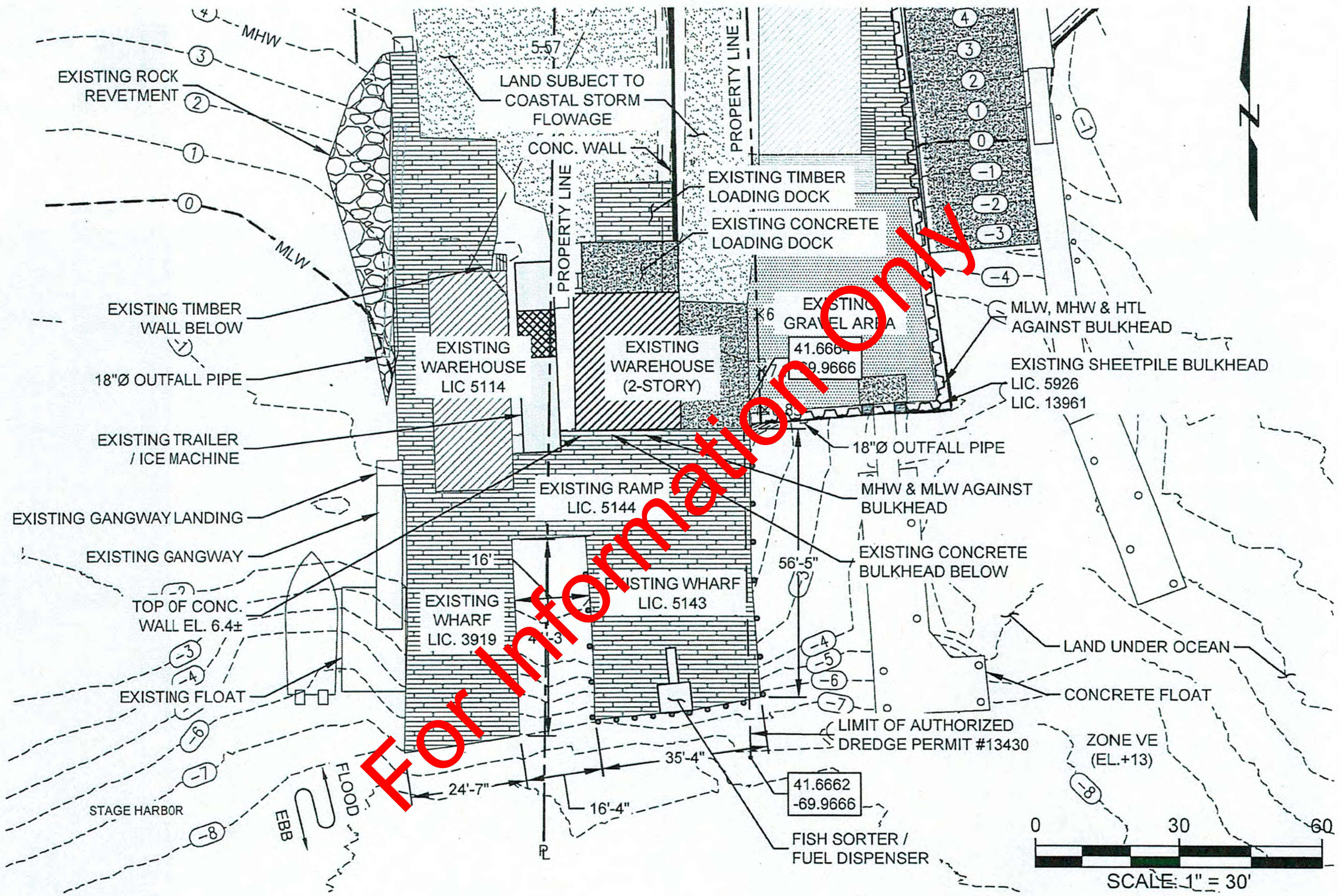
For Information Only



0 2000 4000
SCALE: 1" = 2000'

<p>IN: STAGE HARBOR AT: CHATHAM COUNTY: BARNSTABLE STATE: MA</p>	<p>TITLE: PROJECT LOCUS</p>	<p>NOTE: USGS LOCUS MAP VERTICAL DATUM: NGVD29</p>	
<p>FIGURE 1 OF 6 DATE: 05/17/2019</p>	<p>PURPOSE: TRAP DOCK RECONSTRUCTION</p>	<p>APPLICATION BY: TOWN OF CHATHAM</p>	

File: B:\Working\TOWN OF CHATHAM, MA\1900325 Trap Dock Reconstruction\00 CAD\Design\Working\REGULATORY\USACOE_LOCUS & EXIST COND.dwg



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HTL	+5.14
MHW	+3.95
NAVD88	+2.43
MLW	0.0

TITLE: EXISTING CONDITIONS PLAN

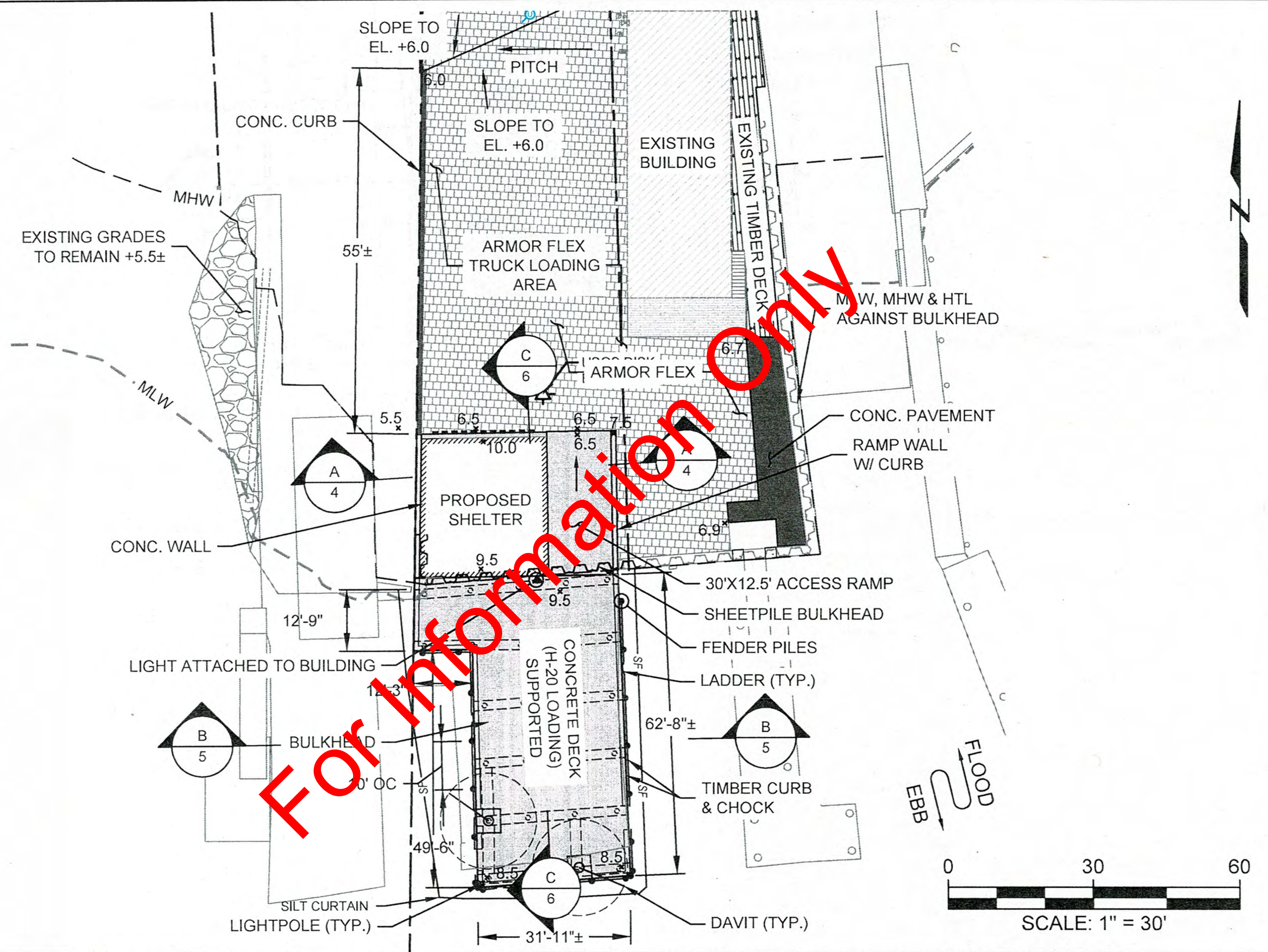
IN: STAGE HARBOR
 AT: CHATHAM
 COUNTY: BARNSTABLE STATE: MA

PURPOSE:
 TRAP DOCK RECONSTRUCTION

APPLICATION BY:
 TOWN OF CHATHAM

FIGURE 2 OF 6
 DATE: 05/17/2019

File: B:\Working\TOWN OF CHATHAM, MA\1900325 Trap Dock Reconstruction\00 CAD\Design\Working\REGULATORY\USACOF_PROP_COND_071619.dwg



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MLW	0.0

TITLE: PROPOSED CONDITIONS PLAN

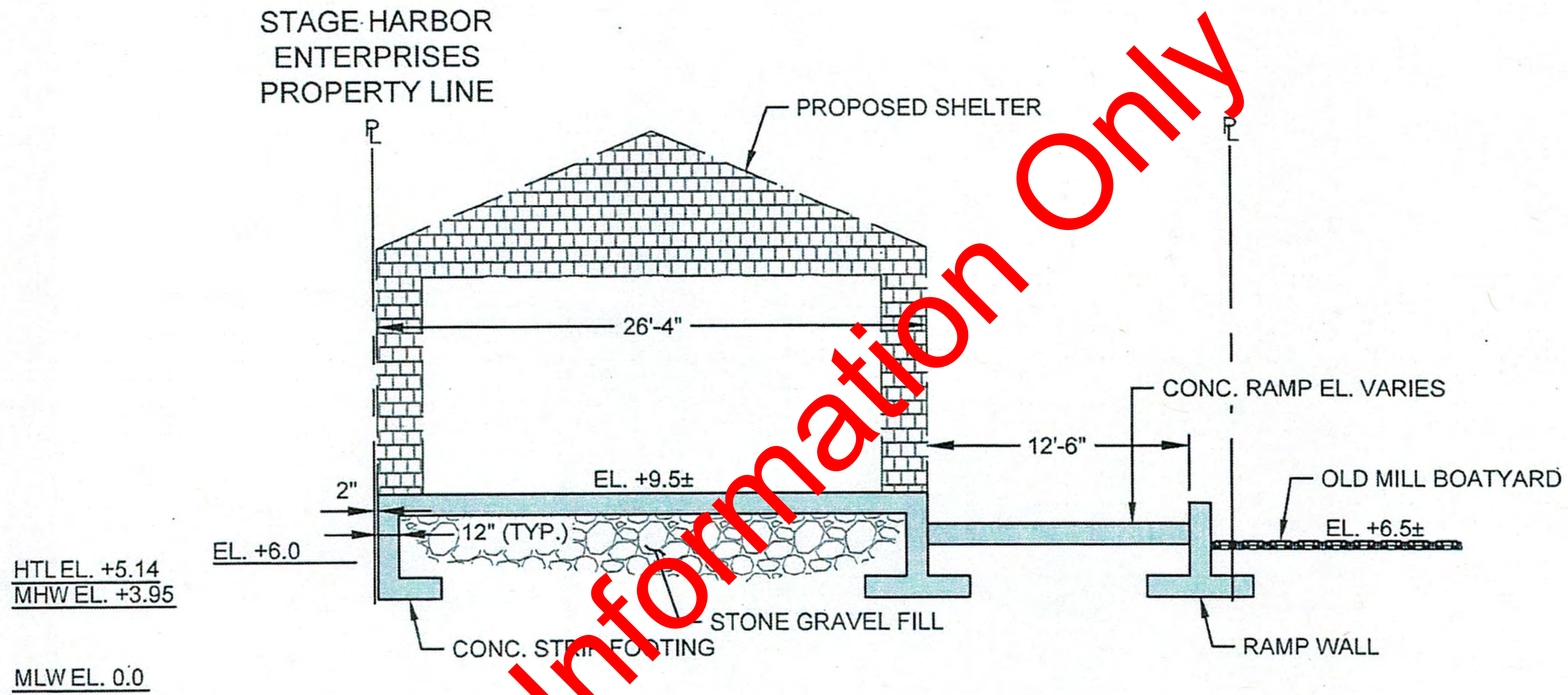
IN: STAGE HARBOR
 AT: CHATHAM
 COUNTY: BARNSTABLE STATE: MA

PURPOSE:
 TRAP DOCK RECONSTRUCTION

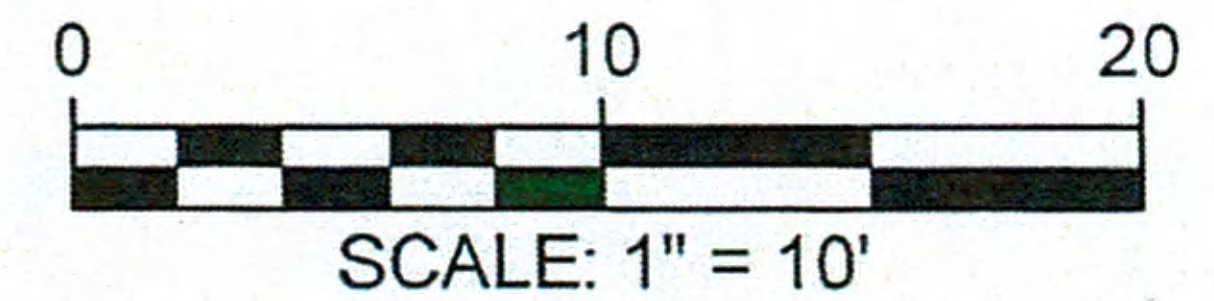
APPLICATION BY:
 TOWN OF CHATHAM


FIGURE 3 OF 6
 DATE: 05/16/2019 (REV. 7/16/19)

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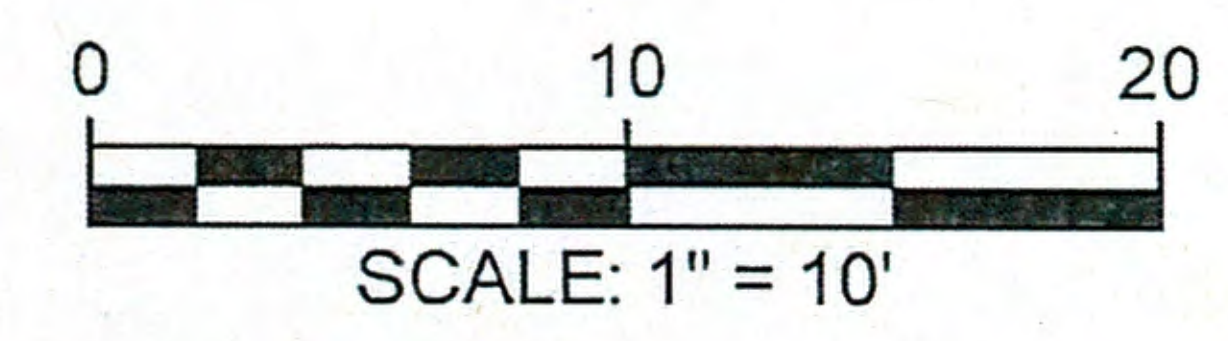
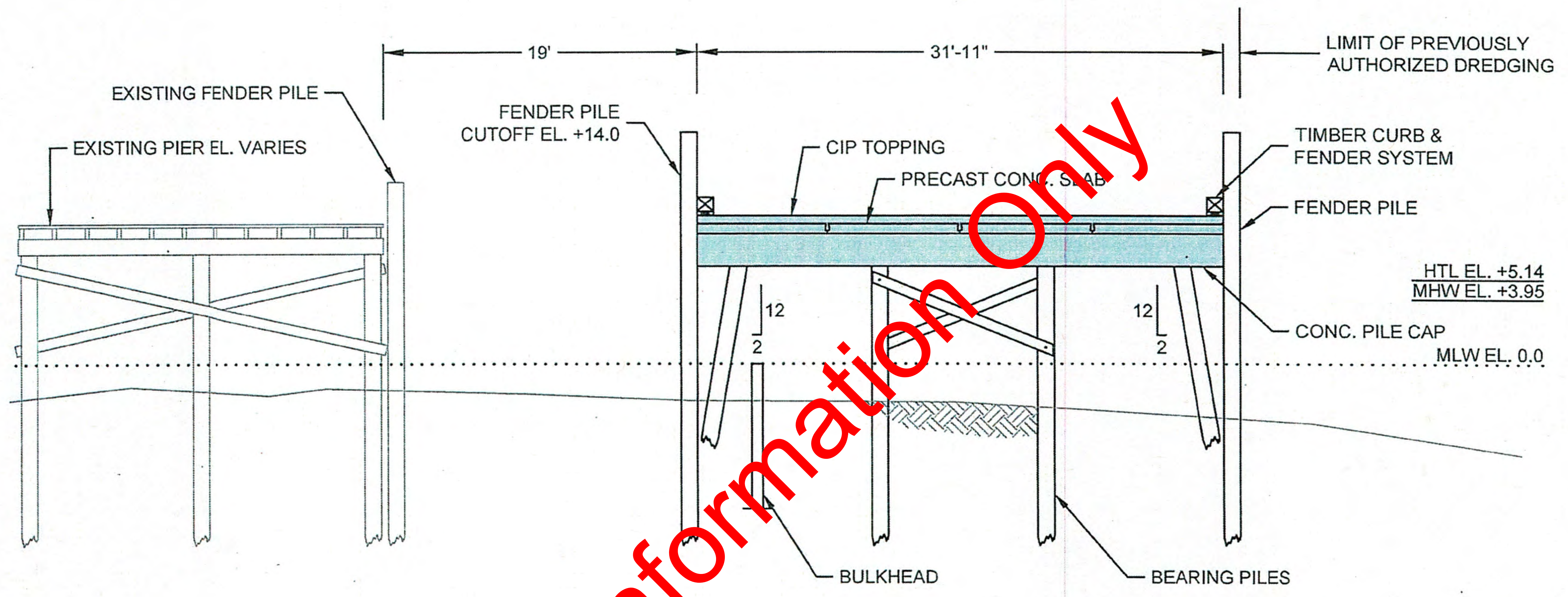


For Information Only



	100 YR FLOOD	+15.43	TITLE: PROPOSED CONDITIONS SECTION A-A		IN: STAGE HARBOR AT: CHATHAM COUNTY: BARNSTABLE STATE: MA
	HTL	+5.14			
MHW	+3.95	PURPOSE: TRAP DOCK RECONSTRUCTION		APPLICATION BY: TOWN OF CHATHAM	
NAVD88	+2.43			FIGURE 4 OF 6	
MLW	0.0			DATE: 05/16/2019	

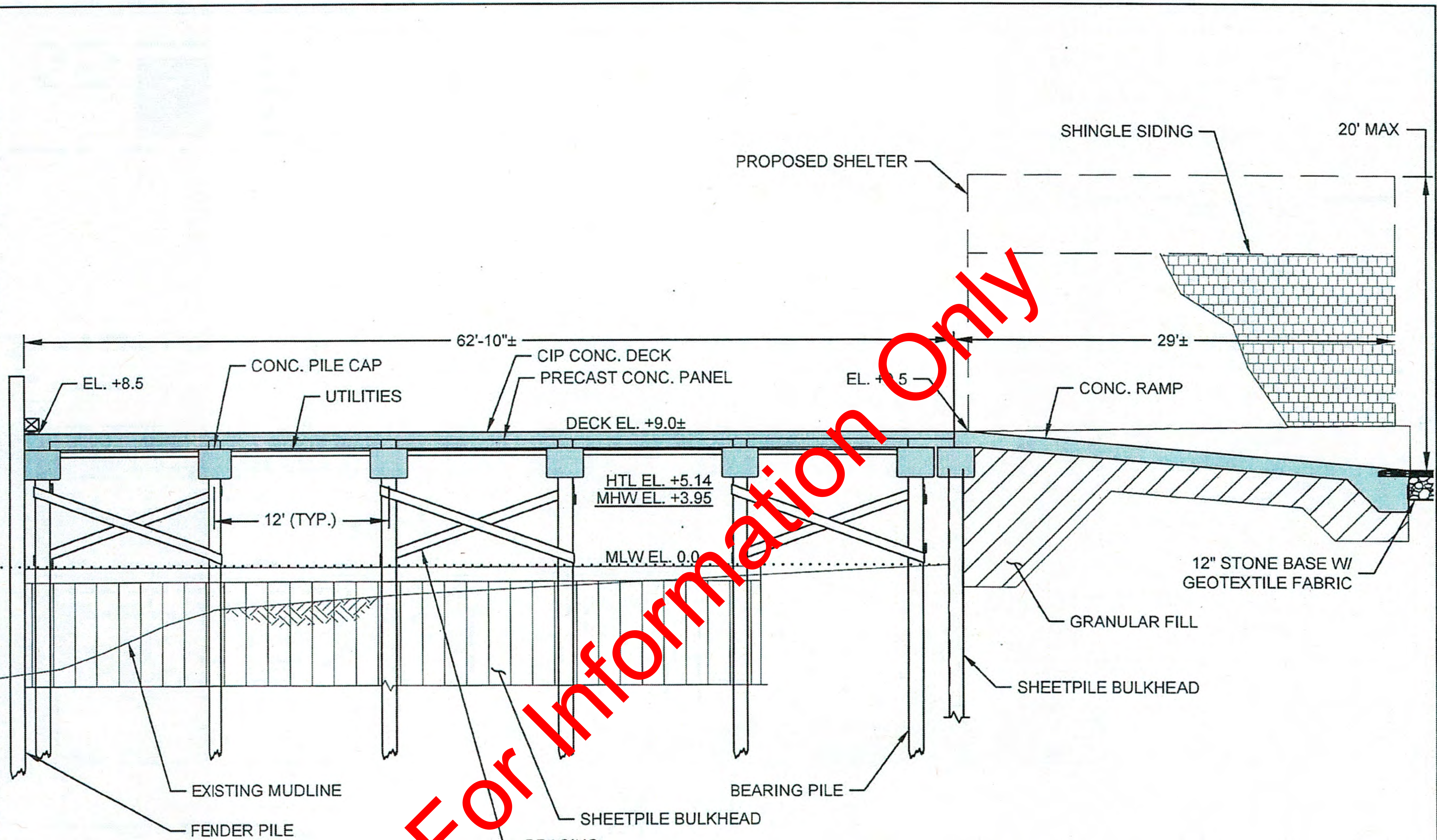
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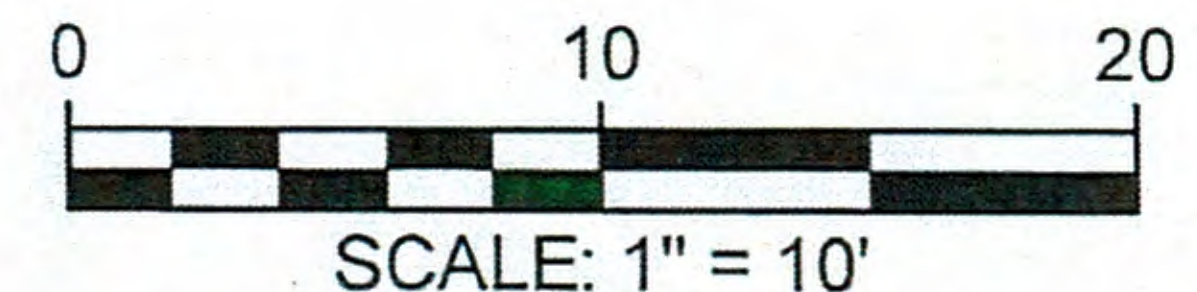
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 HTL +5.14
 MHW +3.95
 NAVD88 +2.43
 MLW 0.0


TITLE: PROPOSED CONDITIONS SECTION B-B		IN: STAGE HARBOR AT: CHATHAM COUNTY: BARNSTABLE STATE: MA
PURPOSE: TRAP DOCK RECONSTRUCTION	APPLICATION BY: TOWN OF CHATHAM	FIGURE 5 OF 6 DATE: 05/16/2019

File: E:\Working\TOWN OF CHATHAM, MA\1900325 Trap Dock Reconstruction\00 CAD\Design\Working\REGULATORY\USACOE_PROP_COND.dwg



For Information Only



	100 YR FLOOD +15.43 HTL +5.14 MHW +3.95 NAVD88 +2.43 MLW 0.0	TITLE: PROPOSED CONDITIONS SECTION C-C	IN: STAGE HARBOR AT: CHATHAM COUNTY: BARNSTABLE STATE: MA
	PURPOSE: TRAP DOCK RECONSTRUCTION	APPLICATION BY: TOWN OF CHATHAM	FIGURE 6 OF 6 DATE: 05/16/2019



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

August 9, 2019

Regulatory Division
File Number: NAE-2019-01415

Town of Chatham, Massachusetts
ATTN: Theodore Keon
261 George Ryder Road
Chatham, Massachusetts 02633

Dear Mr. Keon:

This is in response to your request dated August 6, 2019 to modify a project that is authorized under the Massachusetts General Permits. Specifically, you have requested that we modify special condition #1 of our Department of the Army verification letter number NAE-2019-01415, dated 25 July 2019, which authorized:

Demolition and removal of the existing timber pier and supporting piles, pile caps and bracing;
Installation of a new 41' sheet metal bulkhead next to the existing, failing bulkhead, with approximately 41 sq. ft. of fill to be placed in the space between the new and old bulkheads;
Installation twenty-seven 12" diameter bearing piles;
Installation a new 26' by 29' concrete loading dock slab; and
Installation twenty-one timber fender piers. Silt curtains will be installed around the work area.

Special condition #1 is hereby revised as follows:

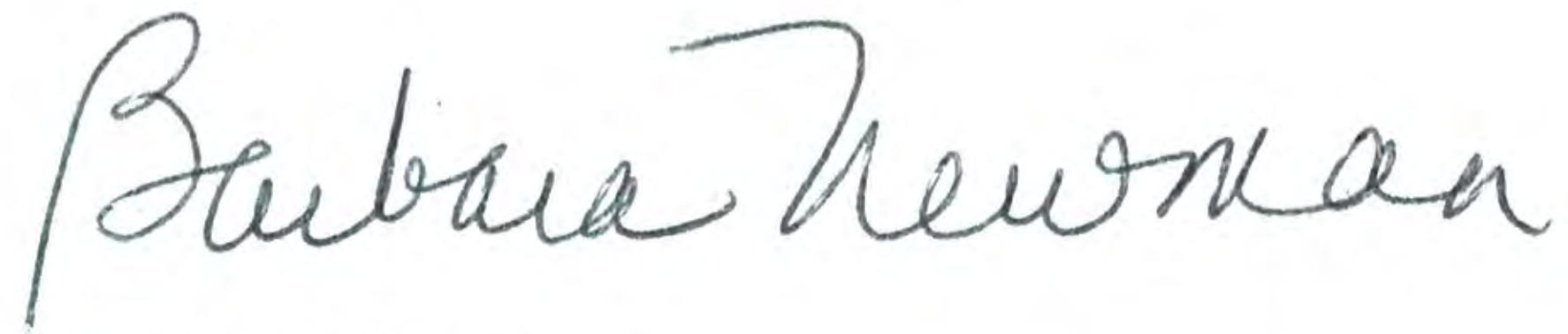
1. No in-water work shall be performed from January 15 to June 30 of any year to avoid adverse impacts to winter flounder sensitive life stages unless the work area is surrounded by silt curtains.

All other terms and conditions of the original verification letter remain in full force and effect.

We continually strive to improve our customer service. In order for us to better serve you, please complete our Customer Service Survey located at http://corpsmapu.usace.army.mil/cm_apex/f?p=regulatory_survey.

If you have any questions, please contact Phillip Nimeskern of my staff at (978) 318-8660.

Sincerely,



Barbara Newman
Chief, Permits and Enforcement Branch
Regulatory Division

Enclosure

cc:

Bradford Saunders, GEI Consultants, Inc. 124 Grove Street, Suite 300, Franklin, Massachusetts, 02038, bsaunders@geiconsultants.com

For Information Only



Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

Southeast Regional Office • 20 Riverside Drive, Lakeville MA 02347 • 508-946-2700

Charles D. Baker
Governor

Karyn E. Polito
Lieutenant Governor

Kathleen A. Theoharides
Secretary

Martin Suuberg
Commissioner

May 21, 2019

Town of Chatham
c/o Bradford Saunders
GEI Consultants, Inc.
124 Grove Street, Suite 300
Franklin, Massachusetts 02038-3156

RE: Minor Project Modification to DEP License No. 5143 (1996) & License No. 13961 (2015)
Stage Harbor - Chatham

Dear Mr. Saunders:

The Massachusetts Department of Environmental Protection has reviewed your request on behalf of Town of Chatham to modify the above-referenced Chapter 91 License. The modifications to License No. 5143 includes the reconstruction of the timber wharf with minor changes to the existing footprint and elevations, install approximately 41' of steel sheet piling immediately seaward of the existing concrete bulkhead, remove and replace the existing warehouse building and to perform other site improvements. The modification to License No. 13961 include the installation of an ArmorFlex mat surface over an existing gravel parking area and to construct a concrete walkway.

The proposed modifications are shown on a plan titled, "Trap Dock Reconstruction Stage Harbor, Chatham, MA - 2 Sheets, Dated May 6, 2019.

The Department has determined that pursuant to 310 CMR 9.22, the activity constitutes a minor project modification, which represents an insignificant deviation from the original specifications of the license, and as such this activity does not require a new or amended license. Please note that other local, state and federal requirements may apply.

If you have any questions pertaining to this matter, please do not hesitate to contact me at (508) 946-2730 or david.hill@mass.gov.

Sincerely,

David E. Hill
Environmental Engineer
Waterways Regulation Program

cc: DEP, Waterways Regulation Program, Boston
Chatham Conservation Commission
Chatham Harbormaster, 613 Stage Harbor Road, Chatham, MA 02633

For Information Only



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §10

Provided by MassDEP:
SE 10-3350
MassDEP File #

MassDEP Transaction #
Chatham
City/Town

A. General Information

Please note:
this form has been modified with added space to accommodate the Registry of Deeds Requirements

Important:
When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



1. From: Chatham
Conservation Commission

2. This issuance is for (check one):
a. Order of Conditions b. Amended Order of Conditions

3. To: Applicant:

a. First Name _____ b. Last Name _____

Town of Chatham

c. Organization _____

261 George Ryder Road

d. Mailing Address _____

Chatham MA 02633

e. City/Town _____ f. State _____ g. Zip Code _____

4. Property Owner (if different from applicant):

a. First Name _____ b. Last Name _____

ATTN: Ted Keon, Coastal Resources Director

c. Organization _____

d. Mailing Address _____

e. City/Town _____ f. State _____ g. Zip Code _____

5. Project Location:

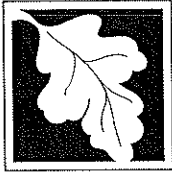
3 Champlain Road Chatham

a. Street Address _____ b. City/Town _____

13A 23

c. Assessors Map/Plat Number _____ d. Parcel/Lot Number _____

Latitude and Longitude, if known: _____ d m s _____ d m s
d. Latitude e. Longitude



Massachusetts Department of Environmental Protection
 Bureau of Resource Protection - Wetlands
WPA Form 5 – Order of Conditions
 Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
 SE 10-3350
 MassDEP File #

eDEP Transaction #
 Chatham
 City/Town

A. General Information (cont.)

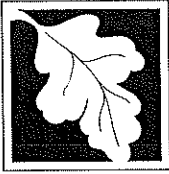
6. Property recorded at the Registry of Deeds for (attach additional information if more than one parcel):
 Barnstable
 a. County _____ b. Certificate Number (if registered land) _____
 29852 _____ 258 _____
 c. Book _____ d. Page _____
7. Dates: May 20, 2019 July 1, 2019 July 12, 2019
 a. Date Notice of Intent Filed b. Date Public Hearing Closed c. Date of issuance
8. Final Approved Plans and Other Documents (attach additional plan or document references as needed):
 "Existing Site Plan" Sheet 1 of 2 & "Trap Dock Reconstruction" Sheet 2 of 2
 a. Plan Title _____
 GEI Consultants _____ Russell J Titmuss, PE
 b. Prepared By _____ c. Signed and Stamped by _____
 rec'd May 20, 2019 _____
 d. Final Revision Date _____ e. Scale _____
 Set of Architectural Plans, "Wharf Project" AQC-A3.1 _____ June 11, 2019
 f. Additional Plan or Document Title _____ g. Date _____

B. Findings

1. Findings pursuant to the Massachusetts Wetlands Protection Act:
 Following the review of the above-referenced Notice of Intent and based on the information provided in this application and presented at the public hearing, this Commission finds that the areas in which work is proposed is significant to the following interests of the Wetlands Protection Act (the Act). Check all that apply:
- a. Public Water Supply b. Land Containing Shellfish c. Prevention of Pollution
 d. Private Water Supply e. Fisheries f. Protection of Wildlife Habitat
 g. Groundwater Supply h. Storm Damage Prevention i. Flood Control
2. This Commission hereby finds the project, as proposed, is: (check one of the following boxes)

Approved subject to:

- a. the following conditions which are necessary in accordance with the performance standards set forth in the wetlands regulations. This Commission orders that all work shall be performed in accordance with the Notice of Intent referenced above, the following General Conditions, and any other special conditions attached to this Order. To the extent that the following conditions modify or differ from the plans, specifications, or other proposals submitted with the Notice of Intent, these conditions shall control.



WPA Form 5 – Order of Conditions

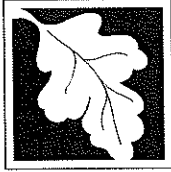
B. Findings (cont.)

Denied because:

- b. the proposed work cannot be conditioned to meet the performance standards set forth in the wetland regulations. Therefore, work on this project may not go forward unless and until a new Notice of Intent is submitted which provides measures which are adequate to protect the interests of the Act, and a final Order of Conditions is issued. **A description of the performance standards which the proposed work cannot meet is attached to this Order.**
- c. the information submitted by the applicant is not sufficient to describe the site, the work, or the effect of the work on the interests identified in the Wetlands Protection Act. Therefore, work on this project may not go forward unless and until a revised Notice of Intent is submitted which provides sufficient information and includes measures which are adequate to protect the Act's interests, and a final Order of Conditions is issued. **A description of the specific information which is lacking and why it is necessary is attached to this Order as per 310 CMR 10.05(6)(c).**
- 3. Buffer Zone Impacts: Shortest distance between limit of project disturbance and the wetland resource area specified in 310 CMR 10.02(1)(a) _____ a. linear feet

Inland Resource Area Impacts: Check all that apply below. (For Approvals Only)

Resource Area	Proposed Alteration	Permitted Alteration	Proposed Replacement	Permitted Replacement
4. <input type="checkbox"/> Bank	_____ a. linear feet	_____ b. linear feet	_____ c. linear feet	_____ d. linear feet
5. <input type="checkbox"/> Bordering Vegetated Wetland	_____ a. square feet	_____ b. square feet	_____ c. square feet	_____ d. square feet
6. <input type="checkbox"/> Land Under Waterbodies and Waterways	_____ a. square feet	_____ b. square feet	_____ c. square feet	_____ d. square feet
	_____ e. c/y dredged	_____ f. c/y dredged		
7. <input type="checkbox"/> Bordering Land Subject to Flooding	_____ a. square feet	_____ b. square feet	_____ c. square feet	_____ d. square feet
Cubic Feet Flood Storage	_____ e. cubic feet	_____ f. cubic feet	_____ g. cubic feet	_____ h. cubic feet
8. <input type="checkbox"/> Isolated Land Subject to Flooding	_____ a. square feet	_____ b. square feet		
Cubic Feet Flood Storage	_____ c. cubic feet	_____ d. cubic feet	_____ e. cubic feet	_____ f. cubic feet
9. <input type="checkbox"/> Riverfront Area	_____ a. total sq. feet	_____ b. total sq. feet		
Sq ft within 100 ft	_____ c. square feet	_____ d. square feet	_____ e. square feet	_____ f. square feet
Sq ft between 100-200 ft	_____ g. square feet	_____ h. square feet	_____ i. square feet	_____ j. square feet



Massachusetts Department of Environmental Protection
 Bureau of Resource Protection - Wetlands
WPA Form 5 – Order of Conditions
 Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
 SE 10-3350
 MassDEP File #

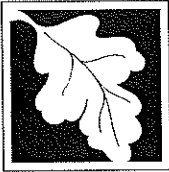
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B. Findings (cont.)

Coastal Resource Area Impacts: Check all that apply below. (For Approvals Only)

	Proposed Alteration	Permitted Alteration	Proposed Replacement	Permitted Replacement
10. <input type="checkbox"/> Designated Port Areas	Indicate size under Land Under the Ocean, below			
11. <input checked="" type="checkbox"/> Land Under the Ocean	<u>79</u> a. square feet	<u>79</u> b. square feet		
	<u></u> c. c/y dredged	<u></u> d. c/y dredged		
12. <input type="checkbox"/> Barrier Beaches	Indicate size under Coastal Beaches and/or Coastal Dunes below			
13. <input type="checkbox"/> Coastal Beaches	<u></u> a. square feet	<u></u> b. square feet	<u></u> c. nourishment cu yd	<u></u> d. nourishment cu yd
14. <input type="checkbox"/> Coastal Dunes	<u></u> a. square feet	<u></u> b. square feet	<u></u> c. nourishment cu yd	<u></u> d. nourishment cu yd
15. <input type="checkbox"/> Coastal Banks	<u></u> a. linear feet	<u></u> b. linear feet		
16. <input type="checkbox"/> Rocky Intertidal Shores	<u></u> a. square feet	<u></u> b. square feet		
17. <input type="checkbox"/> Salt Marshes	<u></u> a. square feet	<u></u> b. square feet	<u></u> c. square feet	<u></u> d. square feet
18. <input type="checkbox"/> Land Under Salt Ponds	<u></u> a. square feet	<u></u> b. square feet		
	<u></u> c. c/y dredged	<u></u> d. c/y dredged		
19. <input checked="" type="checkbox"/> Land Containing Shellfish	<u>79</u> a. square feet	<u>79</u> b. square feet	<u></u> c. square feet	<u></u> d. square feet
20. <input type="checkbox"/> Fish Runs	Indicate size under Coastal Banks, Inland Bank, Land Under the Ocean, and/or inland Land Under Waterbodies and Waterways, above			
	<u></u> a. c/y dredged	<u></u> b. c/y dredged		
21. <input checked="" type="checkbox"/> Land Subject to Coastal Storm Flowage	<u>8712</u> a. square feet	<u>8712</u> b. square feet		
22. <input type="checkbox"/> Riverfront Area	<u></u> a. total sq. feet	<u></u> b. total sq. feet		
Sq ft within 100 ft	<u></u> c. square feet	<u></u> d. square feet	<u></u> e. square feet	<u></u> f. square feet
Sq ft between 100-200 ft	<u></u> g. square feet	<u></u> h. square feet	<u></u> i. square feet	<u></u> j. square feet

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B. Findings (cont.)

* #23. If the project is for the purpose of restoring or enhancing a wetland resource area in addition to the square footage that has been entered in Section B.5.c (BVW) or B.17.c (Salt Marsh) above, please enter the additional amount here.

23. Restoration/Enhancement *:

a. square feet of BVW

b. square feet of salt marsh

24. Stream Crossing(s):

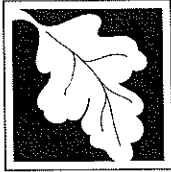
a. number of new stream crossings

b. number of replacement stream crossings

C. General Conditions Under Massachusetts Wetlands Protection Act

The following conditions are only applicable to Approved projects.

1. Failure to comply with all conditions stated herein, and with all related statutes and other regulatory measures, shall be deemed cause to revoke or modify this Order.
2. The Order does not grant any property rights or any exclusive privileges; it does not authorize any injury to private property or invasion of private rights.
3. This Order does not relieve the permittee or any other person of the necessity of complying with all other applicable federal, state, or local statutes, ordinances, bylaws, or regulations.
4. The work authorized hereunder shall be completed within three years from the date of this Order unless either of the following apply:
 - a. The work is a maintenance or dredging project as provided for in the Act; or
 - b. The time for completion has been extended to a specified date more than three years, but less than five years, from the date of issuance. If this Order is intended to be valid for more than three years, the extension date and the special circumstances warranting the extended time period are set forth as a special condition in this Order.
 - c. If the work is for a Test Project, this Order of Conditions shall be valid for no more than one year.
5. This Order may be extended by the issuing authority for one or more periods of up to three years each upon application to the issuing authority at least 30 days prior to the expiration date of the Order. An Order of Conditions for a Test Project may be extended for one additional year only upon written application by the applicant, subject to the provisions of 310 CMR 10.05(11)(f).
6. If this Order constitutes an Amended Order of Conditions, this Amended Order of Conditions does not extend the issuance date of the original Final Order of Conditions and the Order will expire on July 12, 2022 unless extended in writing by the Department.
7. Any fill used in connection with this project shall be clean fill. Any fill shall contain no trash, refuse, rubbish, or debris, including but not limited to lumber, bricks, plaster, wire, lath, paper, cardboard, pipe, tires, ashes, refrigerators, motor vehicles, or parts of any of the foregoing.



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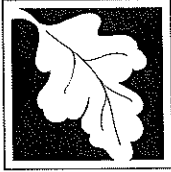
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C. General Conditions Under Massachusetts Wetlands Protection Act

8. This Order is not final until all administrative appeal periods from this Order have elapsed, or if such an appeal has been taken, until all proceedings before the Department have been completed.
9. No work shall be undertaken until the Order has become final and then has been recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land upon which the proposed work is to be done. In the case of the registered land, the Final Order shall also be noted on the Land Court Certificate of Title of the owner of the land upon which the proposed work is done. The recording information shall be submitted to the Conservation Commission on the form at the end of this Order, which form must be stamped by the Registry of Deeds, prior to the commencement of work.
10. A sign shall be displayed at the site not less than two square feet or more than three square feet in size bearing the words,

"Massachusetts Department of Environmental Protection" [or, "MassDEP"]
"File Number SE 10-3350 "
11. Where the Department of Environmental Protection is requested to issue a Superseding Order, the Conservation Commission shall be a party to all agency proceedings and hearings before MassDEP.
12. Upon completion of the work described herein, the applicant shall submit a Request for Certificate of Compliance (WPA Form 8A) to the Conservation Commission.
13. The work shall conform to the plans and special conditions referenced in this order.
14. Any change to the plans identified in Condition #13 above shall require the applicant to inquire of the Conservation Commission in writing whether the change is significant enough to require the filing of a new Notice of Intent.
15. The Agent or members of the Conservation Commission and the Department of Environmental Protection shall have the right to enter and inspect the area subject to this Order at reasonable hours to evaluate compliance with the conditions stated in this Order, and may require the submittal of any data deemed necessary by the Conservation Commission or Department for that evaluation.
16. This Order of Conditions shall apply to any successor in interest or successor in control of the property subject to this Order and to any contractor or other person performing work conditioned by this Order.



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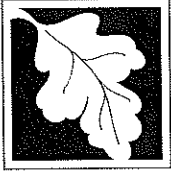
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C. General Conditions Under Massachusetts Wetlands Protection Act (cont.)

17. Prior to the start of work, and if the project involves work adjacent to a Bordering Vegetated Wetland, the boundary of the wetland in the vicinity of the proposed work area shall be marked by wooden stakes or flagging. Once in place, the wetland boundary markers shall be maintained until a Certificate of Compliance has been issued by the Conservation Commission.
18. All sedimentation barriers shall be maintained in good repair until all disturbed areas have been fully stabilized with vegetation or other means. At no time shall sediments be deposited in a wetland or water body. During construction, the applicant or his/her designee shall inspect the erosion controls on a daily basis and shall remove accumulated sediments as needed. The applicant shall immediately control any erosion problems that occur at the site and shall also immediately notify the Conservation Commission, which reserves the right to require additional erosion and/or damage prevention controls it may deem necessary. Sedimentation barriers shall serve as the limit of work unless another limit of work line has been approved by this Order.
19. The work associated with this Order (the "Project")
- (1) is subject to the Massachusetts Stormwater Standards
 - (2) is NOT subject to the Massachusetts Stormwater Standards

If the work is subject to the Stormwater Standards, then the project is subject to the following conditions:

- a) All work, including site preparation, land disturbance, construction and redevelopment, shall be implemented in accordance with the construction period pollution prevention and erosion and sedimentation control plan and, if applicable, the Stormwater Pollution Prevention Plan required by the National Pollution Discharge Elimination System Construction General Permit as required by Stormwater Condition 8. Construction period erosion, sedimentation and pollution control measures and best management practices (BMPs) shall remain in place until the site is fully stabilized.
- b) No stormwater runoff may be discharged to the post-construction stormwater BMPs unless and until a Registered Professional Engineer provides a Certification that:
- i.* all construction period BMPs have been removed or will be removed by a date certain specified in the Certification. For any construction period BMPs intended to be converted to post construction operation for stormwater attenuation, recharge, and/or treatment, the conversion is allowed by the MassDEP Stormwater Handbook BMP specifications and that the BMP has been properly cleaned or prepared for post construction operation, including removal of all construction period sediment trapped in inlet and outlet control structures;
 - ii.* as-built final construction BMP plans are included, signed and stamped by a Registered Professional Engineer, certifying the site is fully stabilized;
 - iii.* any illicit discharges to the stormwater management system have been removed, as per the requirements of Stormwater Standard 10;



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C. General Conditions Under Massachusetts Wetlands Protection Act (cont.)

iv. all post-construction stormwater BMPs are installed in accordance with the plans (including all planting plans) approved by the issuing authority, and have been inspected to ensure that they are not damaged and that they are in proper working condition;

v. any vegetation associated with post-construction BMPs is suitably established to withstand erosion.

c) The landowner is responsible for BMP maintenance until the issuing authority is notified that another party has legally assumed responsibility for BMP maintenance. Prior to requesting a Certificate of Compliance, or Partial Certificate of Compliance, the responsible party (defined in General Condition 18(e)) shall execute and submit to the issuing authority an Operation and Maintenance Compliance Statement (O&M Statement) for the Stormwater BMPs identifying the party responsible for implementing the stormwater BMP Operation and Maintenance Plan ("O&M Plan") and certifying the following:

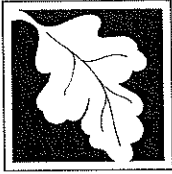
i.) the O&M Plan is complete and will be implemented upon receipt of the Certificate of Compliance, and

ii.) the future responsible parties shall be notified in writing of their ongoing legal responsibility to operate and maintain the stormwater management BMPs and implement the Stormwater Pollution Prevention Plan.

d) Post-construction pollution prevention and source control shall be implemented in accordance with the long term pollution prevention plan section of the approved Stormwater Report and, if applicable, the Stormwater Pollution Prevention Plan required by the National Pollution Discharge Elimination System Multi-Sector General Permit.

e) Unless and until another party accepts responsibility, the landowner, or owner of any drainage easement, assumes responsibility for maintaining each BMP. To overcome this presumption, the landowner of the property must submit to the issuing authority a legally binding agreement of record, acceptable to the issuing authority, evidencing that another entity has accepted responsibility for maintaining the BMP, and that the proposed responsible party shall be treated as a permittee for purposes of implementing the requirements of Conditions 18(f) through 18(k) with respect to that BMP. Any failure of the proposed responsible party to implement the requirements of Conditions 18(f) through 18(k) with respect to that BMP shall be a violation of the Order of Conditions or Certificate of Compliance. In the case of stormwater BMPs that are serving more than one lot, the legally binding agreement shall also identify the lots that will be serviced by the stormwater BMPs. A plan and easement deed that grants the responsible party access to perform the required operation and maintenance must be submitted along with the legally binding agreement.

f) The responsible party shall operate and maintain all stormwater BMPs in accordance with the design plans, the O&M Plan, and the requirements of the Massachusetts Stormwater Handbook.



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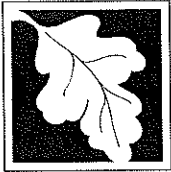
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C. General Conditions Under Massachusetts Wetlands Protection Act (cont.)

- g) The responsible party shall:
 1. Maintain an operation and maintenance log for the last three (3) consecutive calendar years of inspections, repairs, maintenance and/or replacement of the stormwater management system or any part thereof, and disposal (for disposal the log shall indicate the type of material and the disposal location);
 2. Make the maintenance log available to MassDEP and the Conservation Commission ("Commission") upon request; and
 3. Allow members and agents of the MassDEP and the Commission to enter and inspect the site to evaluate and ensure that the responsible party is in compliance with the requirements for each BMP established in the O&M Plan approved by the issuing authority.
- h) All sediment or other contaminants removed from stormwater BMPs shall be disposed of in accordance with all applicable federal, state, and local laws and regulations.
- i) Illicit discharges to the stormwater management system as defined in 310 CMR 10.04 are prohibited.
- j) The stormwater management system approved in the Order of Conditions shall not be changed without the prior written approval of the issuing authority.
- k) Areas designated as qualifying pervious areas for the purpose of the Low Impact Site Design Credit (as defined in the MassDEP Stormwater Handbook, Volume 3, Chapter 1, Low Impact Development Site Design Credits) shall not be altered without the prior written approval of the issuing authority.
- l) Access for maintenance, repair, and/or replacement of BMPs shall not be withheld. Any fencing constructed around stormwater BMPs shall include access gates and shall be at least six inches above grade to allow for wildlife passage.

Special Conditions (if you need more space for additional conditions, please attach a text document):

- 20. For Test Projects subject to 310 CMR 10.05(11), the applicant shall also implement the monitoring plan and the restoration plan submitted with the Notice of Intent. If the conservation commission or Department determines that the Test Project threatens the public health, safety or the environment, the applicant shall implement the removal plan submitted with the Notice of Intent or modify the project as directed by the conservation commission or the Department.



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D. Findings Under Municipal Wetlands Bylaw or Ordinance

1. Is a municipal wetlands bylaw or ordinance applicable? Yes No
2. The Chatham Conservation Commission hereby finds (check one that applies):
- a. that the proposed work cannot be conditioned to meet the standards set forth in a municipal ordinance or bylaw, specifically:

1. Municipal Ordinance or Bylaw _____ 2. Citation _____

Therefore, work on this project may not go forward unless, and until, a revised Notice of Intent is submitted which provides measures which are adequate to meet these standards, and a final Order of Conditions is issued.

- b. that the following additional conditions are necessary to comply with a municipal ordinance or bylaw:

Chatham Wetlands Protection Bylaw _____ Ch 272
 1. Municipal Ordinance or Bylaw _____ 2. Citation _____

3. The Commission orders that all work shall be performed in accordance with the following conditions and with the Notice of Intent referenced above. To the extent that the following conditions modify or differ from the plans, specifications, or other proposals submitted with the Notice of Intent, the conditions shall control.

The special conditions relating to municipal ordinance or bylaw are as follows (if you need more space for additional conditions, attach a text document):

See Attached Special Conditions pgs 11a-11 *f*

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E. Signatures

This Order is valid for three years, unless otherwise specified as a special condition pursuant to General Conditions #4, from the date of issuance.

Please indicate the number of members who will sign this form.
This Order must be signed by a majority of the Conservation Commission.

The Order must be mailed by certified mail (return receipt requested) or hand delivered to the applicant. A copy also must be mailed or hand delivered at the same time to the appropriate Department of Environmental Protection Regional Office, if not filing electronically, and the property owner, if different from applicant.

July 12, 2019

1. Date of Issuance

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2. Number of Signers

Signatures:

[Handwritten signatures in blue ink on three lines]

by hand delivery on

by certified mail, return receipt requested, on

July 12, 2019

Date

Date

F. Appeals

The applicant, the owner, any person aggrieved by this Order, any owner of land abutting the land subject to this Order, or any ten residents of the city or town in which such land is located, are hereby notified of their right to request the appropriate MassDEP Regional Office to issue a Superseding Order of Conditions. The request must be made by certified mail or hand delivery to the Department, with the appropriate filing fee and a completed Request for Departmental Action Fee Transmittal Form, as provided in 310 CMR 10.03(7) within ten business days from the date of issuance of this Order. A copy of the request shall at the same time be sent by certified mail or hand delivery to the Conservation Commission and to the applicant, if he/she is not the appellant.

Any appellants seeking to appeal the Department's Superseding Order associated with this appeal will be required to demonstrate prior participation in the review of this project. Previous participation in the permit proceeding means the submission of written information to the Conservation Commission prior to the close of the public hearing, requesting a Superseding Order, or providing written information to the Department prior to issuance of a Superseding Order.

The request shall state clearly and concisely the objections to the Order which is being appealed and how the Order does not contribute to the protection of the interests identified in the Massachusetts Wetlands Protection Act (M.G.L. c. 131, § 40), and is inconsistent with the wetlands regulations (310 CMR 10.00). To the extent that the Order is based on a municipal ordinance or bylaw, and not on the Massachusetts Wetlands Protection Act or regulations, the Department has no appellate jurisdiction.

Town of Chatham – Order of Conditions
Massachusetts Wetlands Protection Act, M.G.L. c. 131, § 40
Town of Chatham Wetlands Bylaw C. 272 and Regulations
3 CHAMPLAIN ROAD, SE 10-3350, CWP 19-088N

Property: 3 Champlain Road
Map { 13A } and Parcel { 23 }
Owner/Applicant: Town of Chatham
Owner's Representative: GEI Consultants, Inc.
DEP File No.: SE 10-3350
CWP No.: CWP 19-088N
Project Type: Trap Dock Reconstruction

SUPPORTING DOCUMENTS

Through the Public Hearing process, plans, work protocols, and expert testimony were submitted. The following list of documents reflects the project as reviewed by the Commission and represents the project that seeks an Order of Conditions under the Massachusetts Wetlands Protection (310 CMR 10.00) and Town of Chatham Wetlands Protection Regulations. The following materials are hereby made a part of this Order:

- Wetlands Protection Act (WPA) Form 3 – Notice of Intent (NOI) and NOI Wetland Fee Transmittal Form
- Check for State and Local Filing Fees
- Certified Abutters List and Map from the Chatham Assessor's Office
- Abutter Notification Letter and Mail Receipts
- Property description
- Project description
- Performance standards
- Construction Protocol
- Maps: Project Lotus Map, Shellfish Growing Areas, Shellfish Habitat Suitability Map, Seagrass Beds, Rare Species Habitat Map,
- Plan titled: "Existing Site Plan, C-01, Sheet 1 of 2 for property located at 3 Champlain Road, Trap Dock in Stage Harbor, Chatham, MA, prepared for the Town of Chatham, prepared by GEI Consultants, plan is not dated, plan received 5/20/19, stamped by a Registered Professional Engineer"
- Plan titled: "Proposed Site Plan, C-01, Sheet 2 of 2 for property located at 3 Champlain Road, Trap Dock in Stage Harbor, Chatham, MA, prepared for the Town of Chatham, prepared by GEI Consultants, plan is not dated, plan received 5/20/19, stamped by a Registered Professional Engineer"
- Letter from Eileen Feeney, Division of Marine Fisheries, dated 5/28/19
- Letter from Dave Hill, Department of Environmental Protection, dated 5/21/19

**Town of Chatham – Order of Conditions
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 Town of Chatham Wetlands Bylaw C. 272 and Regulations
 3 CHAMPLAIN ROAD, SE 10-3350, CWP 19-088N**

- Letter from Jason Holm, Deputy Harbormaster, Town of Chatham, dated 6/12/19
- Letter from Renee Gagne, Shellfish Constable, Town of Chatham, dated 6/11/19
- Letter from South Coastal Harbor Plan Committee, dated 6/4/19
- Letter from Waterways Advisory Committee, dated 6/10/19

HEARING INFORMATION:

The Applicant submitted a Notice of Intent (NOI) that was received by the Conservation Division on May 20, 2019. The Conservation Commission held a public hearing on June 12, 2019 to review the proposed Notice of Intent. A draft Order of Conditions was reviewed at the July 1, 2019 Work Session.

RESOURCE AREAS:

Resource Areas: Areas subject to protection under M.G.L. c. 131, § 40	310 CMR 10.00: Wetland Protection, promulgated by MA Dept of Environmental Protection	Chatham Wetlands Protection Regulations (CWPR)
Land Under the Ocean (79 square feet of proposed alteration)	310 CMR 10.25 (2)	CWPR 2.01 (2)
Land Containing Shellfish/Shellfish and Shellfish Habitat (79 square feet of proposed alteration)	310 CMR 10.34 (2)	CWPR 2.08 (2)
Land Subject to Coastal Storm Flooding (LSCSF) (8,712 square feet of proposed alteration)	310 CMR 10.04	CWPR 2.10 (2)(a)

PROPERTY AND PROJECT DESCRIPTION:

Property Description:

The Trap Dock is a Town-owned and operated timber pier located at 3 Champlain Road that serves as a fish offloading facility in Stage Harbor for Chatham's commercial fishing fleet. The property is occupied by a 2,227-square foot, timber pier supported by deteriorating timber piles; a 1,280-gross square foot, two-story, storage building with concrete loading dock; and an access drive and vehicle maneuvering yard. The shore edge beneath the dock is supported by a deteriorating concrete bulkhead and retaining rock rubble fill. The existing driveway and vehicle

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Massachusetts Wetlands Protection Act, M.G.L. c. 131, § 40
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3 CHAMPLAIN ROAD, SE 10-3350, CWP 19-088N

maneuvering yard are surfaced with crushed shells. A 12.5' x 30', concrete ramp provides access to the timber pier from the driveway.

Project Description:

The proposed project involves the following activities:

- Demolition and removal of the existing timber pier and all supporting piles, pile caps, and bracing;
- Demolition of the existing storage building;
- Removal of the existing concrete ramp and loading dock;
- Excavation and removal of the crushed shell surface over the vehicle access and maneuvering areas;
- Installation of a new sheet pile bulkhead, approximately 41 feet in length, immediately outshore of the existing, deteriorating concrete bulkhead;
- Installation of a total of 27, 12-inch diameter, bearing piles, together with new concrete pile caps and associated hardware;
- Installation of pre-cast concrete panel decking over the pile caps;
- Installation of a new 12.5' x 30' concrete ramp and 26' x 29' concrete loading dock slab in the locations of the existing ramp and loading dock;
- Construction of a 745-square foot (approx.) shelter (roofed but open-ended) over the concrete loading dock slab;
- Installation of an Armortex" mat surface over the driveway and vehicle maneuvering area and extending east onto Town-owned property adjacent to the Chatham Harbormaster's Building;
- Installation of 21 timber fender piles, access ladders, two service davits, and a lightpole.
- Construction of a 347 square feet concrete walkway on the adjoining Harbormaster's building parcel.

FINDINGS:

Following review of the Application and Supporting Documents referenced above that describe the proposed Project and the information provided at the public hearings held on the application, the Conservation Commission finds that:

1. The proposed project is located in the following Resource Areas: Land Under the Ocean, Shellfish Habitat and Land Subject to Coastal Storm Flowage. The Performance Standards for these Resource Areas apply to the proposed work.

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3 CHAMPLAIN ROAD, SE 10-3350, CWP 19-088N

2. The project is subject to the provisions of the MassDEP Stormwater Management Standards and a portion of the site constitutes redevelopment.
3. The proposed sheet pile reinforcement of the concrete bulkhead beneath the pier will result in a loss of approximately 41 square feet of Land Under the Ocean. However, as existing piles will be removed, there will be no net loss of the Resource Area upon completion of the project.
4. The proposed pier will have a surface area of 81 square feet less than the existing pier, thereby reducing the potential for shading impacts on Land Under the Ocean.
5. As conditioned herein, the project will not increase storm damage or erosion of coastal beaches, coastal banks, coastal dunes, or salt marshes. Proposed use of silt curtains will minimize impacts to fisheries and wildlife habitat.
6. As conditioned herein, the proposed work will not reduce the ability of the land to absorb and contain floodwaters and to buffer inland areas from flooding and wave damage. The proposed work will not displace or divert flood waters to other area, result in collateral damage to other areas, trigger ground, surface or saltate pollution, or reduce the ability of the resource to serve as wildlife habitat.
7. The proposed work is considered maintenance to an already existing structure.
8. The project area contains and/or closely borders mapped habitat for several shellfish species. Portions of the project footprint are mapped habitat for blue mussels (*Mytilus edulis*), quahogs (*Mercenaria mercenaria*), and soft shell clams (*Mya arenaria*). Waters to the south of the project site are also mapped as bay scallop (*Argopecten irradians*) habitat. Land containing shellfish is deemed significant to the interest of the Wetlands Protection Act (310 CMR 10.34) and the protection of marine fisheries.
9. Waters of Stage Harbor to the west of and nearby to the project site have been mapped previously by the Massachusetts Department of Environmental Protection (MA DEP) as an eelgrass (*Zostera marina*) meadow. Eelgrass beds provide one of the most productive habitats for numerous marine species (Heck et al., 2008; Jackson et al., 2001) and are designated “special aquatic sites” under the Federal Clean Water Act 404(b) (1) guidelines.
10. As conditioned herein, the project will not adversely affect the productivity of the land for shellfish.
11. The Town’s upland upweller is located to the east of the existing trap dock. The Town’s Shellfish Constable has called the upweller “the pinnacle of the Town’s shellfish propagation system.” The upweller operates from late May through November.
12. Stage Harbor has also been identified by MA DMF as winter flounder (*Pseudopleuronectes americanus*) spawning habitat (Evans et al., 2011). Winter flounder

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spawn from January through May, laying clumps of eggs directly on the substrate. These demersal eggs hatch approximately fifteen to twenty days later. The Atlantic States Marine Fisheries Commission has designated winter flounder spawning habitat as “Habitat Areas of Particular Concern” (HAPC).

13. The trap dock is in need of reconstruction to safely perform the function of a commercial offloading facility. The existing trap dock cannot meet the needs of the commercial fishing fleet on a reliable basis. The proposed trap dock is a reinforced, stable platform that will ensure the safety of its users.
14. The activity constitutes a minor project modification and this activity does not require a new or amended license from DEP License No. 5143 (1996) and License No. 13961 (2015).

DECISION: The Commission **APPROVES** the Project and finds the project as described in the Supporting Documents can be permitted subject to the following Special, General, and Standard Conditions which protect the interests identified in the Chatham Wetland Bylaw c. 272 and Regulations and Massachusetts Wetland Protection Act M.G.L. c. 131 § 40 and the Regulations 310 CMR 10.00 (inclusive). The Supporting Documents are hereby incorporated by reference and made a part of this Order. To the extent that these conditions modify or differ from the plans, specifications, or other proposals submitted with the Notice of Intent, these conditions shall control.

SPECIAL CONDITIONS:

1. All of the Construction Notes on the Plan and Construction Protocols contained in the Applicant’s Narrative are hereby incorporated by reference and made a part of this Order of Conditions.
2. Since winter flounder utilize Stage Harbor as spawning habitat, the project should be designed to avoid in-water, silt producing work during the time of year (TOY) restriction period of January 15 to May 31 (Evans et al. 2011). This TOY period is designed to protect the spawning period, larval settlement and juvenile development of winter flounder.
3. A silt curtain shall be deployed around the reconstruction area prior to demolition and pile removal activities. If the silt curtain is installed prior to the winter flounder TOY restriction period (i.e., before January 15th), silt-producing work can occur within the silt curtain during the TOY restriction period. The contractor shall be responsible for maintaining the silt curtain throughout construction.

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4. The proposed work shall not disrupt the propagation program or any other operations at the upweller. The pumps for the upweller are operational and feeding juvenile shellfish by early June. Staff shall have unimpeded access to the front of Harbormaster's building by Mid-May and all work potentially causing sediment disruption shall cease by early June. If the timeline described above cannot be followed, the revised timeline shall be coordinated with the Shellfish Constable.
5. A brief construction protocol was submitted at the hearing for proposed project. A detailed construction protocol shall be submitted, reviewed and approved by the Conservation Agent prior to the start of construction.
6. The revised construction protocol shall also contain information on the procedure for evacuating and securing the project area in the case of bad weather.
7. Oil spill booms shall be on site and ready to be used.
8. The proposed Trap Dock design does not include a containment area for toxic fluids (i.e. oil and gas). Therefore, toxic fluids could leak, drain or spill onto the dock and into the Resource Areas. The Town shall prepare a plan to protect the Resource Areas from such occurrences. This plan shall be submitted to the Conservation Agent for review and approval prior to the start of construction and approval prior to start of construction.

STANDARD CONDITIONS

These general conditions supplement the above Special Conditions as they relate to steps necessary for the protection of the Resource Areas both during the project and after project completion, and to provide documentation necessary to confirm that the project has been completed as permitted.

A. Pre-construction

1. Avoid and minimize all activities involved with this project shall be conducted in a manner that avoids alteration to vegetation, beach and bank and, where it is unavoidable, the alteration shall be minimized.
2. The project shall be implemented only by a qualified consultant / contractor who, on the basis of his/her qualifications, expertise, and documented experience in such projects, is found acceptable to the Agent/Commission. The Commission reserves the right to interview the prospective contractor / consultant prior to making its determination.
3. Prior to any site disturbance, the limit of work and foundation stakes for the project shall be refreshed as necessary by the surveyor/engineer to reflect the approved plan. The engineer shall submit a memo to the Commission stating that this has been done.

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4. Prior to any site disturbance, a pre-construction meeting will be held with the responsible contractor, engineer, applicant and Commission/Agent to review the Order of Conditions and the work protocol. *Please call for an appointment at least one week in advance.*
5. The applicant shall secure a Massachusetts registered professional engineer to act as clerk of the works to be approved or designated by the Commission. The engineer will supervise the contractor and will inspect the site regularly whenever construction in or within 100feet to the wetland is in progress. The engineer will be onsite during and after storm events so as to take responsibility for the proper functioning of drainage and erosion control systems for the project.
6. Prior to any site disturbance and to the pre-construction meeting, all sedimentation controls (i.e. straw bales at the work limit) shall be in place and ready for inspection at the time notice is sent. Once notified, the Commission/Agent may conduct a pre-construction inspection of the site and instruct the applicant of any preliminary modifications necessary for compliance with the Order of Conditions.
7. Prior to any work commencing, a sign shall be visibly displayed on the site showing the DEP or local file number and shall remain so until the issuance of a Certificate of Compliance. A copy of this Order of Conditions shall be retained on the site and visibly displayed until a Certificate of Compliance has been obtained and recorded.
8. Notice of work start and completion shall be given to the Commission in writing. The applicant shall advise the Commission of the name(s) and telephone number(s) of the person(s) responsible on site for compliance with this Order.
9. Prior to any work commencing, the contractor(s) shall sign and submit the signed form acknowledging their understanding of this Order of Conditions to the Conservation Commission for the record.
10. **DISCLAIMER CONDITION:** By issuing this permit, the Commission in no way makes a determination of property rights or the legal ability of the applicant to undertake this project. In all cases, the applicant proceeds with the project at his/her own peril in this regard.

B. Excavation and Site Disturbance

1. Erosion control method as approved by the Agent shall remain in place throughout construction. It shall be the responsibility of the applicant to implement and maintain appropriate and adequate erosion control measures throughout the construction process. NOTE: HAY is not acceptable.

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2. In areas subject to wind, construction fencing shall be erected along the limit of work to aid in the capture of any windblown debris.
3. Any excavated material to be stored for backfilling or later grading will be stockpiled outside the Resource Area. All excavated material not needed for backfill or new contours will be removed from the site.
4. Debris, including litter, shall be picked up daily. No debris of any sort will be left on the site. Debris shall be disposed of in a covered dumpster.
5. No herbicides of any sort shall be used on the site for the purposes of construction.
6. Machinery and/or material access shall be discussed at the Pre-Construction meeting with the Agent. The granting of this permit does not obviate the applicant's need to gain proper permission from any abutter whose property is to be used for access.
7. Machinery, when not in use, shall be parked outside the 100 foot buffer to the resource area.
8. Washing of equipment/tools shall be done OFF-SITE or handled in a manner approved by the Agent, however in no cases shall concrete or masonry debris be left on the site.
9. Cleaning of paintbrushes shall be done OFF-SITE or within containers that will be removed from the site; cleaning of brushes or disposal of paints or cleaning fluids on the site is prohibited.
10. There shall be no discharge or spillage of fuel, oil or other pollutants on to any part of this site. The applicant shall take all reasonable precautions to prevent the release of pollutants through ignorance, accident or vandalism.

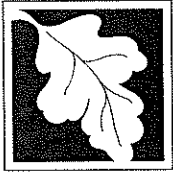
C. GENERAL

1. This Order of Conditions is subject to the applicant obtaining all applicable local and state permits.
2. The applicant shall furnish the contractor with a copy of this Order. The applicant shall assure that all contractors, subcontractors and other personnel performing the permitted work are fully aware of the permit's terms and conditions. Thereafter, the contractor will be held jointly liable for any violation of this Order resulting from failure to comply with its conditions.
3. Any further construction or site alteration beyond the work limit within 100 feet of the resource area is subject to prior approval by the Conservation Commission.
4. The Commission, its employees and agents shall have the right of entry to inspect for compliance with the terms of this Order until a Certificate of Compliance has been obtained and recorded at the Barnstable Registry of Deeds. Commission members or their agent may acquire any information, measurements, photographs, observations

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and/or materials or may require the submittal of any data or information deemed necessary by this Commission for that evaluation.

5. This Order of Conditions is valid for three years under the local Wetlands Protection By-Law and three years under MGL Ch. 131, s 40. Application for an extension shall be submitted in writing to the Conservation Commission at least thirty days prior to the expiration date.
6. The Commission reserves the right to amend this Order of Conditions prior to completion of construction, after a legally advertised public hearing, if plans or circumstances are changed or if new conditions or information so warrant.
7. Upon completion of the project the applicant shall submit a written request for a Certificate of Compliance to the Commission.
8. The request for a Certificate of Compliance shall include:
 - a. A written statement from a Massachusetts registered professional engineer certifying that the work has been conducted as shown on the plan and documents referenced above, as conditioned by the Commission.
 - b. An “as-built” plan shall be prepared and signed and stamped by a Massachusetts registered professional engineer or land surveyor for the file.
9. This Order of Conditions shall be deemed not to have been complied with until the applicant has obtained a Certificate of Compliance and it has been recorded in the Barnstable County Registry of Deeds.
10. Under no conditions will the operation of equipment, stockpiling of soil, cutting, clearing or pruning of trees, shrubs or ground cover or other site disturbance take place on the wetland side of the no-work line without prior consent of the Commission.
11. The “applicant” as used in this Order of Conditions shall refer to the owner, any successor in interest or successor in control of the property referenced in the Notice of Intent, supporting documents and this Order of Conditions. The Commission shall be notified in writing within 30 days of all transfers of title of any portion of property that take place prior to issuance of a Certificate of Compliance.
12. The Approved Plan for this Order of Conditions does not constitute specific acceptance of the boundaries of resource areas for any work not described in item 6 of the corresponding Notice of Intent. For any such work not described as per the provisions above, the Commission may require new plans and/or delineation of resource areas, as it deems appropriate.
13. Failure to comply with the above conditions shall be cause to revoke this permit and/or issue fines.



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

DEP File Number:

**Request for Departmental Action Fee
Transmittal Form**

Provided by DEP

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

A. Request Information

1. Location of Project

a. Street Address	b. City/Town, Zip
c. Check number	d. Fee amount

2. Person or party making request (if appropriate, name the citizen group's representative):

Name

Mailing Address

City/Town	State	Zip Code
Phone Number	Fax Number (if applicable)	

3. Applicant (as shown on Determination of Applicability (Form 2), Order of Resource Area Delineation (Form 4B), Order of Conditions (Form 5), Restoration Order of Conditions (Form 5A), or Notice of Non-Significance (Form 6)):

Name

Mailing Address

City/Town	State	Zip Code
Phone Number	Fax Number (if applicable)	

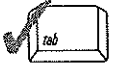
4. DEP File Number:

B. Instructions

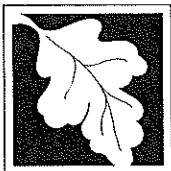
1. When the Departmental action request is for (check one):

- Superseding Order of Conditions – Fee: \$120.00 (single family house projects) or \$245 (all other projects)
- Superseding Determination of Applicability – Fee: \$120
- Superseding Order of Resource Area Delineation – Fee: \$120

Important:
When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



For Information Only



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
**Request for Departmental Action Fee
Transmittal Form**

DEP File Number:

Provided by DEP

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

B. Instructions (cont.)

Send this form and check or money order, payable to the *Commonwealth of Massachusetts*, to:

Department of Environmental Protection
Box 4062
Boston, MA 02211

2. On a separate sheet attached to this form, state clearly and concisely the objections to the Determination or Order which is being appealed. To the extent that the Determination or Order is based on a municipal bylaw, and not on the Massachusetts Wetlands Protection Act or regulations, the Department has no appellate jurisdiction.
3. Send a **copy** of this form and a **copy** of the check or money order with the Request for a Superseding Determination or Order by certified mail or hand delivery to the appropriate DEP Regional Office (see <http://www.mass.gov/eea/agencies/massdep/about/contacts/>).
4. A copy of the request shall at the same time be sent by certified mail or hand delivery to the Conservation Commission and to the applicant, if not she is not the appellant.

For Information Only



The Commonwealth of Massachusetts
Executive Office of Energy and Environmental Affairs
 100 Cambridge Street, Suite 900
 Boston, MA 02114

Charles D. Baker
 GOVERNOR

Karyn E. Polito
 LIEUTENANT GOVERNOR

Kathleen A. Theoharides
 SECRETARY

Tel: (617) 626-1000
 Fax: (617) 626-1081
<http://www.mass.gov/eea>

June 7, 2019

CERTIFICATE OF THE SECRETARY OF ENERGY AND ENVIRONMENTAL AFFAIRS
 ON THE
 ENVIRONMENTAL NOTIFICATION FORM

PROJECT NAME : Trap Dock Reconstruction
 PROJECT MUNICIPALITY : Chatham
 PROJECT WATERSHED : Cape Cod
 EEA NUMBER : 16021
 PROJECT PROPONENT : Town of Chatham
 DATE NOTICED IN MONITOR : May 8, 2019

Pursuant to the Massachusetts Environmental Policy Act (MEPA; M.G. L. c. 30, ss. 61-62I) and Section 11.06 of the MEPA regulations (301 CMR 11.00), I hereby determine that this project does not require an Environmental Impact Report (EIR).

Project Description

As described in the Environmental Notification Form (ENF), the project consists of the replacement of a municipal pier with a new pier in Stage Harbor. The site has supported commercial fisheries for over a century. It has becoming increasingly important to the Chatham fishing fleet as shoaling at the Chatham inlet is limiting navigation of larger vessels to access offloading facilities in Chatham Harbor.

The timber pier, supporting piles and storage building will be demolished and replaced with a pre-cast concrete pier. The project includes the installation of a 41-foot long Fiberglass Reinforced Polymer (FRP) sheet pile bulkhead immediately outside of the deteriorated concrete bulkhead; a bulkhead along 61.7 lf of the west side of the dock; 26 FRP bearing piles, 21 FRP fender piles and concrete panel decking. In addition, it includes installation of a concrete ramp from the pier to the driveway; construction of a 745-sf building to provide weather protection around the loading area; and

installation of ArmorFlex mat surface over the driveway. A 347-sf concrete walkway will be installed to provide a connection to the adjoining parcel upon which the Harbor Master building is located.

Project Site

The 0.2-acre project site consists of a deteriorating 2,227-sf timber pier supported by approximately 60 timber piles, a 1,280-sf two-story storage building with concrete loading dock, access drive and vehicular maneuvering area. It includes a portion of a privately owned pier to the west and the Harbor Master building parcel. The project area is bounded by a timber pier to the west, the Harbor Master Office, public pier and float system to the east, Stage Harbor to the south and Stage Harbor Road and residential area to the north.

Environmental Impacts and Mitigation

The project will impact 2,227 sf of Land Under Ocean (LUO) and 8,557 sf of Land Subject to Coastal Storm Flowage (LSCSF). Measures to avoid, minimize and mitigate Damage to the Environment include the use of a silt curtain during demolition and construction to limit turbidity outside of the work area.

Jurisdiction and Permitting

This project is subject to MEPA review and preparation of an ENF pursuant to 11.03(3)(b)(6) because it requires an Agency Action and involves the reconstruction of a pile supported structure of 2,000 or more sf. The project may require a 401 Water Quality Certificate (401 WQC) from MassDEP.

The project will require an Order of Conditions from the Chatham Conservation Commission, or in the case of an appeal, a Superseding Order of Conditions from MassDEP. The project may be subject to federal consistency review by the Office of Coastal Zone Management (CZM).

The project is receiving a grant from the Seaport Economic Council; therefore, MEPA jurisdiction is broad in scope and extends to all aspects of the project that may cause Damage to the Environment, as defined in the MEPA regulations.

Review of the ENF

The ENF provided a description of existing and proposed conditions, preliminary project plans, and identified measures to avoid, minimize and mitigate environmental impacts. Comments from State Agencies did not identify any major concerns with the project. CZM comments were supportive of the reconstruction project because it will provide safer and more functional support for commercial fishing.

Alternatives Analysis

The Trap dock has supported commercial fishing uses for the past fifty years. The Town purchased the dock from a private owner in 2016 specifically to continue to provide offloading of commercial fishing vessels within Stage Harbor. Therefore, the alternatives analysis was limited to the

selection of materials. The Town is still considering the use timber piles and a steel sheetpile for the bulkhead, however FRP is the preferred material.

Wetlands and Waterways

Permanent impacts to wetland resources are associated with 41 sf of fill behind the proposed bulkhead; the remainder of impacts are temporary. The Chatham Conservation Commission will review the project for its consistency with the Wetlands Protection Act, Wetlands Regulations (310 CMR 10.00) and associated performance standards. Because the area of fill is less than 5,000 sf, the final Order of Conditions will also serve as the Section 401 WQC. Comments from MassDEP indicate that reconstruction of the Trap dock may be approved through a Minor Project Modification to the existing c. 91 Licenses (No.'s 5143 and 13961) because it will result in insignificant deviations from the original Licenses.

Comments from the Division of Marine Fisheries note that Stage Harbor has been identified as winter flounder (*Pseudopleuronectes americanus*) spawning habitat. Therefore, the project should be designed to avoid in-water, silt producing work during the time of year (TOY) restriction period of January 15 to May 31 to protect the spawning period, larval settlement and juvenile development of winter flounder. However, comments note that if the silt curtain will be deployed prior to the winter flounder TOY restriction period (before January 15th), silt-producing work could occur within the silt curtain during the TOY restriction period. Comments from CZM note that a pollution prevention plan should be presented as part of the permitting process. The plan should address all aspects of facility operations, with the goal of reducing the risk of water quality impacts associated with these operations,

Construction

The project must comply with MassDEP's Solid Waste and Air Pollution Control regulations, pursuant to M.G.L. c.40, s.54. Should oil and/or hazardous materials be identified during construction activities the Proponent should notify MassDEP in accordance with the Massachusetts Contingency Plan (310 CMR 40.00). All construction activities should be undertaken in compliance with the conditions of all State and local permits.

If underwater archaeological resources are encountered during the construction period, the Proponent should consult with the Board of Underwater Archaeological Resources (BUAR) and the Massachusetts Historical Commission (MHC).

Conclusion

The ENF has adequately described and analyzed the project and its alternatives, and assessed its potential environmental impacts and mitigation measures. Based on review of the ENF and comments received on it, and in consultation with State Agencies, I have determined that an EIR is not required.

June 7, 2019

Date


Kathleen A. Theoharides

Comments received:

05/28/2019 Office of Coastal Zone Management (CZM)
05/28/2019 Department of Environmental Protection (MassDEP) Southeast Regional Office (SERO)
05/28/2019 Division of Marine Fisheries (DMF)

KAT/EFF/eff

For Information Only



Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

Southeast Regional Office • 20 Riverside Drive, Lakeville MA 02347 • 508-946-2700

Charles D. Baker
Governor

Karyn E. Polito
Lieutenant Governor

Kathleen A. Theoharides
Secretary

Martin Suuberg
Commissioner

May 28, 2019

Kathleen A. Theoharides
Secretary of Energy and Environment
Executive Office of Energy &
Environmental Affairs
ATTN: MEPA Office,
100 Cambridge Street, Suite 900
Boston, MA 02114

RE: EENF Review EOEEA #16021
CHATHAM. Trap Dock Reconstruction -3 Champlain
Road

Dear Secretary Theoharides,

The Southeast Regional Office of the Department of Environmental Protection (MassDEP) has reviewed the Expanded Environmental Notification Form (ENF) for the Trap Dock Reconstruction at 3 Champlain Road, Chatham, Massachusetts (EOEEA # 16021). The Project Proponent provides the following information for the Project:

The proposed project consists of the reconstruction of the Town-owned Trap Dock, including:

- demolition and removal of the existing timber pier and all supporting piles, pile caps, and bracing;
- demolition of the existing storage building;
- removal of the existing concrete ramp and loading dock;
- excavation and removal of the crushed shell surface over the vehicle access and maneuvering areas;
- installation of a new sheet pile bulkhead, approximately 41 feet in length, immediately outshore of the existing, deteriorating concrete bulkhead;
- installation of a total of 27, 12-inch diameter, bearing piles, together with new concrete pile caps and associated hardware;
- installation of pre-cast concrete panel decking over the pile caps;
- installation of a new 12.5' x 30' concrete ramp and 26' x 29' (approx.) concrete loading dock slab in the locations of the existing ramp and loading dock;
- the erection of a 745-square foot (approx.) shelter (roofed but open-ended) over the concrete loading dock slab;
- installation of an ArmorFlex® mat surface over the driveway and vehicle maneuvering area and extending east onto Town-owned property adjacent to the Chatham Harbormaster's building; and

- installation of 21 timber fender piles, access ladders, two service davits, and a lightpole.

In addition to the above-described work, a 347-square foot (approx.) concrete walkway will be installed on the adjoining Harbormaster's building parcel. All proposed work is depicted in the attached Drawing 2 – Proposed Site Plan.

Bureau of Water Resources Comments

Wetlands Comments: The Project proposes the reconstruction of Trap Dock, a Town owned and operated pier for Chatham's commercial fishing fleet in Stage Harbor. As noted in the ENF, the Project will require a Notice of Intent and receipt of an Order of Conditions under the Wetlands Protection Act.

Waterways Comments: The Waterways Program offers the following comments on the ENF submitted by the Town of Chatham for the reconstruction of the Trap Dock wharf and other site improvements.

Pursuant to the Waterways Regulation at 310 CMR 9.22(3), the Waterways Program has determined that the activities associated with the reconstruction of the Trap Dock wharf can be approved through a "Minor Project Modification" to existing Chapter 91 License No.'s 5143 & 13961. The work will result in insignificant deviations from the original specifications of the Licenses and as such this activity does not require a new or amended license.

Bureau of Waste Site Cleanup Comments

ENF #16021– Based upon the information provided, the Bureau of Waste Site Cleanup (BWSC) searched its databases for disposal sites and release notifications that have occurred at or might impact the proposed Project area. A disposal site is a location where there has been a release to the environment of oil and/or hazardous material that is regulated under M.G.L. c. 21E, and the Massachusetts Contingency Plan [MCP – 310 CMR 40.0000].

There are no listed MCP disposal sites located at or in the vicinity of the site that would appear to impact the proposed Project area. Interested parties may view a map showing the location of BWSC disposal sites using the MassGIS data viewer (Oliver) at: http://maps.massgis.state.ma.us/map_ol/oliver.php Under "Available Data Layers" select "Regulated Areas", and then "DEP Tier Classified 21E Sites". MCP reports and the compliance status of specific disposal sites may be viewed using the BWSC Waste Sites/Reportable Release Lookup at: <https://eeaonline.eea.state.ma.us/portal#!/search/wastesite>

The Project Proponent is advised that if oil and/or hazardous material are identified during the implementation of this Project, notification pursuant to the Massachusetts Contingency Plan (310 CMR 40.0000) must be made to MassDEP, if necessary. A Licensed Site Professional (LSP) should be retained to determine if notification is required and, if need be, to render appropriate opinions. The LSP may evaluate whether risk reduction measures are necessary if contamination is present. The BWSC may be contacted for guidance if questions arise regarding cleanup.

Bureau of Air and Waste Comments:

Air Quality. Construction and operation activities shall not cause or contribute to a condition of air pollution due to dust, odor or noise. To determine the appropriate requirements please refer to:

- 310 CMR 7.09 Dust, Odor, Construction, and Demolition
- 310 CMR 7.10 Noise

Construction-Related Measures. MassDEP requests that all non-road diesel equipment rated 50 horsepower or greater meet EPA's Tier 4 emission limits, which are the most stringent emission standards currently available for off-road engines. If a piece of equipment is not available in the Tier 4 configuration, then the Proponent should use construction equipment that has been retrofitted with appropriate emissions reduction equipment. Emission reduction equipment includes EPA-verified, CARB-verified, or MassDEP-approved diesel oxidation catalysts (DOCs) or Diesel Particulate Filters (DPFs). The Proponent should maintain a list of the engines, their emission tiers, and, if applicable, the best available control technology installed on each piece of equipment on file for Departmental review.

Massachusetts Idling Regulation. MassDEP reminds the Proponent that unnecessary idling (i.e., in excess of five minutes), with limited exception, is not permitted during the construction and operations phase of the Project (310 CMR 7.11). With regard to construction period activity, typical methods of reducing idling include driver training, periodic inspections by site supervisors, and posting signage. In addition, to ensure compliance with this regulation once the Project is occupied, MassDEP requests that the Proponent install permanent signs limiting idling to five minutes or less on-site.

Spills Prevention. A spills contingency plan addressing prevention and management of potential releases of oil and/or hazardous materials from pre- and post-construction activities should be presented to workers at the site and enforced. The plan should include but not be limited to, refueling of machinery, storage of fuels, and potential on-site activity releases.

Solid Waste Comments: MassDEP Solid Waste Section staff has reviewed the Environmental Notification Form ("ENF") for the Trap Dock Reconstruction Project in Chatham, ENF No. 16021 ("Project" or "site"), and is offering the following comments regarding demolition activities pursuant to Massachusetts Solid Waste Regulations 310 CMR 16.00: *Site Assignment Regulations For Solid Waste Facilities*, 310 CMR 19.000: *Solid Waste Management* and 310 CMR 7.15: *Asbestos Regulations*.

The ENF states that the proposed Project will require the handling of various materials (e.g., metal, wood, concrete, etc.) associated with the demolition of multiple structures and buildings.

Any solid waste resulting from the replacement of the deteriorating sections of the existing wooden bulkhead and the replacement of the boardwalk ramps and docks must be disposed at an appropriate solid waste facility, including compliance of all applicable solid waste bans. Further guidance can be found at: <https://www.mass.gov/guides/massdep-waste-disposal-bans>.

Waste materials that are determined to be solid waste (e.g., construction and demolition waste) and/or recyclable material (e.g., metal, asphalt, brick, and concrete) shall be disposed, recycled, and/or otherwise handled in accordance with the Solid Waste Regulations, including 310 CMR 19.017: *Waste Bans*.

Demolition and Asbestos Containing Waste Material: The proposed Project includes the demolition of structures which may contain asbestos. The Project Proponent is advised that demolition activity must comply with both Solid Waste and Air Quality Control regulations. Please note that MassDEP promulgated revised Asbestos Regulations (310 CMR 7.15) that became effective on June 20, 2014. The new regulations contain requirements to conduct a pre-demolition/renovation asbestos survey by a licensed asbestos inspector and post-abatement visual inspections by a licensed asbestos Project monitor. The Massachusetts Department of Labor and Work Force Development, Division of Labor

Standards (DLS) is the agency responsible for licensing and regulating all asbestos abatement contractors, designers, Project monitors, inspectors and analytical laboratories in the state of Massachusetts.

- In accordance with the Air Quality Regulations at **310 CMR 7.09(2)**, the Proponent must submit a ***BW777P AQ 06 Notification Prior to Construction or Demolition*** form to MassDEP for any construction or demolition of an industrial, commercial or institutional building or residential building with 20 or more dwelling units at least ten (10) working days prior to initiation of said construction or demolition Project. The Proponent should propose measures to prevent or alleviate dust, noise, and odor nuisance conditions, which may occur during the demolition.
- In accordance with the revised Asbestos Regulations at **310 CMR 7.15(4)**, any owner or operator of a facility or facility component that contains suspect asbestos containing material (ACM) shall, prior to conducting any demolition or renovation, employ a DLS licensed asbestos inspector to thoroughly inspect the facility or facility component, to identify the presence, location and quantity of any ACM or suspect ACM and to prepare a written asbestos survey report. As part of the asbestos survey, samples must be taken of all suspect asbestos containing building materials and sent to a DLS certified laboratory for analysis, using USEPA approved analytical methods.
- If ACM is identified in the asbestos survey, the Proponent must hire a DLS licensed asbestos abatement contractor to remove and dispose of any asbestos containing material(s) from the facility or facility component in accordance with **310 CMR 7.15**, prior to conducting any demolition or renovation activities. The removal and handling of asbestos from the facility or facility components must adhere to the Specific Asbestos Abatement Work Practice Standards required at **310 CMR 7.15(7)**. The Proponent and asbestos contractor will be responsible for submitting an *Asbestos Notification Form ANF-001* to MassDEP at least ten (10) working days prior to beginning any removal of the asbestos containing materials as specified at **310 CMR 7.15(6)**.
- The Proponent shall ensure that all asbestos containing waste material from any asbestos abatement activity is properly stored and disposed of at a landfill approved to accept such material in accordance with **310 CMR 7.15 (17)**. The Solid Waste Regulations at **310 CMR 19.061(3)** list the requirements for any solid waste facility handling or disposing of asbestos waste. Pursuant to **310 CMR 19.061(3) (b) 1**, no asbestos containing material; including VAT, asphaltic-asbestos felts or shingles; may be disposed at a solid waste combustion facility.
- **Asphalt, brick and concrete (ABC)** rubble, such as the rubble generated by the demolition of buildings or other structures must be handled in accordance with the Solid Waste regulations. These regulations allow, and MassDEP encourages, the recycling/reuse of ABC rubble. The Proponent should refer to MassDEP's Information Sheet, entitled "*Using or Processing Asphalt Pavement, Brick and Concrete Rubble, Updated February 27, 2017*", that answers commonly asked questions about ABC rubble and identifies the provisions of the solid waste regulations that pertain to recycling/reusing ABC rubble. This policy can be found on-line at the MassDEP website: <https://www.mass.gov/files/documents/2018/03/19/abc-rubble.pdf>

If you have any questions regarding the Solid Waste Management Program comments above, please contact Mark Dakers at (508) 946-2847 or Cynthia Baran at (508) 946-2887.


Proposed s.61 Findings

The "Certificate of the Secretary of Energy and Environmental Affairs on the Environmental Notification Form" may indicate that this Project requires further MEPA review and the preparation of an Environmental Impact Report. Pursuant to MEPA Regulations 301 CMR 11.12(5)(d), the Proponent will prepare Proposed Section 61 Findings to be included in the EIR in a separate chapter updating and summarizing proposed mitigation measures. In accordance with 301 CMR 11.07(6)(k), this chapter should also include separate updated draft Section 61 Findings for each State agency that will issue permits for the Project. The draft Section 61 Findings should contain clear commitments to implement mitigation measures, estimate the individual costs of each proposed measure, identify the parties responsible for implementation, and contain a schedule for implementation.

Other Comments/Guidance

The MassDEP Southeast Regional Office appreciates the opportunity to comment on this proposed Project. If you have any questions regarding these comments, please contact George Zoto at (508) 946-2820.

Very truly yours,



Jonathan E. Hobbs,
Regional Engineer,
Bureau of Water Resources

JH/GZ

Cc: DEP/SERO

ATTN: Millie Garcia-Serrano, Regional Director
David Johnston, Deputy Regional Director, BWR
Gerard Martin, Deputy Regional Director, BWSC
Seth Pickering, Deputy Regional Director, BAW
Jennifer Viveiros, Deputy Regional Director, ADMIN
Jim Mahala, Chief, Wetlands and Waterways, BWR
David Hill, Wetlands and Waterways, BWR
Mark Dakers, Chief, Solid Waste, BAW
Douglas Coppi, Solid Waste, BAW
Allen Hemberger, Site Management, BWSC



David E. Pierce, PhD.
Director

Commonwealth of Massachusetts

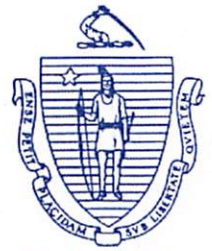
Division of Marine Fisheries

251 Causeway Street, Suite 400

Boston, Massachusetts 02114

(617) 626-1520

fax (617) 626-1509



Charles D. Baker
Governor

Karyn E. Polito
Lieutenant Governor
Kathleen Theoharides
Secretary

Ronald S. Amidon
Commissioner
Mary-Lee King
Deputy Commissioner

May 28, 2019

Secretary Kathleen Theoharides
Executive Office of Energy and Environmental Affairs (EEA)
Attn: MEPA Office
Erin Flaherty, EEA No. 16021
100 Cambridge Street, Suite 900
Boston, MA 02114

Dear Secretary Theoharides:

The Division of Marine Fisheries (MA DMF) has reviewed the Environmental Notification Form (ENF) by the Town of Chatham for the Trap Dock Reconstruction project on Stage Harbor in the Town of Chatham. Proposed reconstruction activities include the demolition and removal of the existing timber pier and support structures, demolition of the existing storage building, removal of the existing concrete ramp and loading dock, and removal of the crushed shell surface over the vehicle access and maneuvering areas. Proposed new structures include a 41 foot long sheet pile bulkhead to be installed seaward of the existing concrete bulkhead, 27 twelve-inch diameter pilings, a pre-cast concrete panel decking a new concrete ramp and loading dock slab, a new 745 square foot structure over the slab, a mat surface over the driveway and vehicle maneuvering area, 21 timber fender piles, and a 347 square foot concrete walkway. Existing marine fisheries resources and habitat and potential project impacts to these resources are outlined in the following paragraphs.

The project area contains and/or closely borders mapped habitat for several shellfish species. Portions of the project footprint are mapped habitat for blue mussels (*Mytilus edulis*), quahogs (*Mercenaria mercenaria*), and soft shell clams (*Mya arenaria*). Waters to the south of the project site are also mapped as bay scallop (*Argopecten irradians*) habitat. Land containing shellfish is deemed significant to the interest of the Wetlands Protection Act (310 CMR 10.34) and the protection of marine fisheries.

Waters of Stage Harbor to the west of the project site have been mapped previously by the Massachusetts Department of Environmental Protection (MA DEP) as an eelgrass (*Zostera marina*) meadow. Eelgrass beds provide one of the most productive habitats for numerous marine species (Heck et al., 2008; Jackson et al., 2001) and are designated "special aquatic sites" under the Federal Clean Water Act 404(b) (1) guidelines.

Stage Harbor has also been identified by MA DMF as winter flounder (*Pseudopleuronectes americanus*) spawning habitat (Evans et al., 2011). Winter flounder spawn from January through

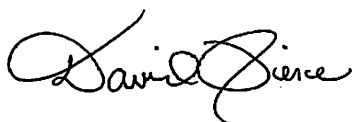
May, laying clumps of eggs directly on the substrate. These demersal eggs hatch approximately fifteen to twenty days later. The Atlantic States Marine Fisheries Commission has designated winter flounder spawning habitat as "Habitat Areas of Particular Concern" (HAPC).

MA DMF offers the following comments for your consideration:

- Since winter flounder utilize Stage Harbor as spawning habitat, the project should be designed to avoid in-water, silt producing work during the time of year (TOY) restriction period of **January 15 to May 31** (Evans et al. 2011). This TOY period is designed to protect the spawning period, larval settlement and juvenile development of winter flounder. The ENF notes that a silt curtain will be deployed around the reconstruction area prior to demolition and pile removal activities. If the silt curtain is installed prior to the winter flounder TOY restriction period (i.e., before January 15th), silt-producing work could occur within the silt curtain during the TOY restriction period.

Questions regarding this review may be directed to John Logan in our New Bedford office at (508) 742-9722.

Sincerely,



David E. Pierce, Ph.D.
Director

cc: Chatham Conservation Commission
Renee Gagne, Chatham Shellfish Com. Staff
Alison Verkade, NMFS
David Wong, DEP
Robert Boeri, CZM
Ed Reiner, EPA
Richard Lehan, DFG
Kathryn Ford, Ryan Nuttall, Tom Shields, Terry O'Neil, DMF

References

- Evans, N.T., Ford, K.H., Chase, B.C., Sheppard, J., 2011. Recommended Time of Year Restrictions (TOYs) for Coastal Alteration Projects to Protect Marine Fisheries Resources in Massachusetts. Massachusetts Division of Marine Fisheries Technical Report, TR-47.
- Heck, K.L., Jr., Carruthers, T.J.B., Duarte, C.M., Hughes, A.R., Kendrick, G., Orth, R.J., Williams, S.W., 2008. Trophic transfers from seagrass meadows subsidize diverse marine and terrestrial consumers. *Ecosystems* 11, 1198-1210.
- Jackson, E.L., Rowden, A.A., Attrill, M.J., Bossey, S.J., Jones, M.B., 2001. The importance of seagrass beds as a habitat for fishery species. *Oceanogr. Mar. Biol. Annu. Rev.* 39, 269-303.

DP/JL/sd



MEMORANDUM

TO: Kathleen A. Theoharides, Secretary, EEA
ATTN: Erin Flaherty, MEPA Unit
FROM: Lisa Berry Engler, Director, CZM
DATE: May 28, 2019
RE: EEA-16021 –Trap Dock Reconstruction, Chatham

The Massachusetts Office of Coastal Zone Management (CZM) has completed its review of the above-referenced Environmental Notification Form (ENF), noticed in the *Environmental Monitor* dated May 8, 2109, and submits the following comments.

Project Description

The project involves the demolition and reconstruction of an existing commercial fish offloading facility in Stage Harbor. The project site includes a 2,227 square foot pile supported timber pier, and 1,280 square foot two-story storage building with a concrete loading dock. The area below the dock is supported by a deteriorating concrete bulkhead, and a concrete ramp exists on the north side of the property to provide access to the timber pier from the driveway.

The proposed reconstruction includes all aspects of the property, including installation of a new sheet pile bulkhead immediately outside of the existing, deteriorated bulkhead; reconstruction of the entire pier with new timber piles and concrete pier decking; construction of a new, 745 square-foot open ended building to provide weather protection to the loading area; and installation of ArmorFlex mat surface over the driveway and vehicle maneuvering area adjacent to the Harbormaster's building.

Project Comments

CZM recognizes importance of this commercial, water dependent facility to the town of Chatham and to the Chatham commercial fishing fleet. This site has supported commercial operations in Stage Harbor for over a century, and currently serves as the only fish offloading facility in the Stage Harbor complex. This role is increasingly important as the Chatham fishing fleet gradually relocates from Chatham Harbor to Stage Harbor due to the dangerous and deteriorating conditions associated with the Chatham inlet. The pier and associated structures are over fifty years old, and are in very poor condition, and in need of reconstruction. CZM supports the town's efforts to maintain and improve this facility and believes the new facility will provide a safer and more functional facility to support commercial fishing operations.

The development of a pollution prevention plan should be presented as part of the required local, state and federal permitting process. This plan should address all aspects of facility operations, with the goal of reducing the risk of water quality impacts associated with these operations. CZM staff is available to provide guidance and assistance with the development of a pollution prevention plan.



Federal Consistency Review

The proposed project may be subject to CZM federal consistency review, in which case it must be found to be consistent with CZM's enforceable program policies. For further information on this process, please contact Robert Boeri, Project Review Coordinator, at 617-626-1050, or visit the CZM web site at www.mass.gov/czm.

LBE/sm

cc: Jim Mahala, Chief, Wetlands & Waterways Program
Southeast Regional Office, MassDEP
Ted Keon, Chatham Coastal Resources
Chatham, MA
Bradford Saunders, GEI Consultants
Franklin, MA

For Information Only

Because the Town is not seeking Financial Assistance from the Commonwealth for the project, MEPA jurisdiction extends to those aspects of the project that are within the subject matter of required or potentially required Agency Actions and that may cause Damage to the Environment as defined in the MEPA regulations.

Review of the ENF

The ENF included a description of the project, project plans, and an alternatives analysis. It identified measures to avoid, minimize and mitigate project-related impacts. The Town analyzed the following alternatives: No Action; New WTP; Upgrades to the Old Marlboro Road WTP; and the Preferred Alternative. The No Action alternative was rejected because it would not meet the project goal of improving reliability of the water system. The New WTP alternative would establish a new water source and WTP at White Pond in Stowe and Hudson. The WTP would have a 1 mgd capacity, which would improve reliability and meet future demand. The New WTP alternative was rejected because it would be significantly more expensive to construct and operate than any of the other alternatives. The Upgrades to the Old Marlboro Road alternative would address water quality concerns with the Town's existing wells. This alternative was rejected because it would not increase source capacity.

The Preferred Alternative includes construction of a new wellfield on municipal land. The 250-ft radius Zone I protection area is located entirely on the parcel and the 400-ft radius Zone II protection area is undeveloped. The Preferred Alternative will increase the reliability and capacity of the water supply by providing a new high quality water source with a capacity of up to 0.35 mgd. Installation of the water main with HDD will avoid direct impacts to an approximately 400-ft section of BVW.

The project will provide redundancy in the municipal water supply and increase its resiliency to the effects of climate change. This project highlights the role cities and towns play in preparing for the impacts of climate change, such as changes in precipitation and increases in temperatures. I encourage the Town to participate in the Massachusetts Municipal Vulnerability Preparedness (MVP) grant program. The MVP program is a community-driven process to define natural and climate-related hazards, identify existing and future vulnerabilities and strengths of infrastructure, environmental resources and vulnerable populations, and develop, prioritize and implement specific actions to reduce risk and build resilience.

Water Supply and Rare Species Habitat

MassDEP will review the project for its consistency with the WMA and the Drinking Water Regulations (310 CMR 22.00). Wellfield 4A is comprised of four wells. MassDEP authorized a 15-day pump test with a target pumping rate of 125 gallons per minute (gpm) for each well. According to the ENF, the test was conducted in September and October of 2018. Analysis of water samples indicated that the wells meet primary drinking water quality standards. The existing WTP will be upgraded to treat high concentrations of iron and manganese from the wells.

The Town monitored surface and groundwater levels during the pump test. Impacts to surface water levels were not observed during the pump test. A computer model of groundwater flow and the interaction between groundwater and surface water levels was developed to determine whether the use of the wells could have a long-term impact to surface water. According to the ENF, the model predicted

that the surface water level of the nearby wetland would be drawn down by 0.47 ft after an extended period of pumping at the maximum rate under average rainfall conditions.

Comments from NHESP and USFW emphasize the important habitat present in the ARNWR for Blanding's Turtle and other reptiles, amphibians and migratory birds. As requested by NHESP, the Town will conduct a survey of the bathymetry and overall condition of the wetland and model additional pumping scenarios to determine potential impacts to Blanding's Turtle. Based on these analyses, NHESP may determine that the project will result in a Take of Blanding's Turtle and requires a CMP pursuant to the Massachusetts Endangered Species Act (MESA) regulations at 321 CMR 10.00. To qualify for a CMP, the Proponent must demonstrate that the projects will avoid, minimize and mitigate impacts to rare species. The analysis must include: (1) an assessment of alternatives to temporary and permanent impacts to the species; (2) a demonstration that an insignificant portion of the local population will be impacted; and, (3) the development and implementation of a conservation and management plan that provides a long-term net benefit to the conservation of the local population of the impacted species. According to the ENF, the Town expects that permits will require long-term monitoring of the wetland and development of a management plan to reduce or discontinue pumping under certain conditions to minimize impacts to rare species habitat and wetland resources.

The HDD portion of the project may require a WQC. The Town should develop a Monitoring and Clean-up Plan to address the potential for inadvertent releases of HDD drilling fluid.

Construction Period

The project must comply with the Solid Waste and Air Pollution Control regulations, pursuant to M.G.L. c.40, s.54. All construction activities should be undertaken in compliance with the conditions of all State and local permits. Erosion and sedimentation controls should be implemented to reduce potential impact to wetland resource areas. Encourage the Town to select project contractors that have installed retrofit emissions control devices, or vehicles that use alternative fuels to reduce emissions of VOCs, carbon monoxide (CO) and particulate matter (PM) from diesel-powered equipment. Off-road vehicles are required to use ultra-low sulfur diesel fuel (ULSD). The Proponent is advised that if oil and/or hazardous material are identified during the implementation of this project, notification pursuant to the Massachusetts Contingency Plan (MCP; 310 CMR 40.0000) must be made to MassDEP.

Conclusion

The ENF has sufficiently defined the nature and general elements of the project for the purposes of MEPA review and demonstrated that the project's environmental impacts will be avoided, minimized and/or mitigated to the extent practicable. Based on the information in the ENF and after consultation with State Agencies, I find that no further MEPA review is required. Remaining issues can be addressed through permitting.

June 7, 2019

Date

Kathleen A. Theoharides



Town Of Chatham Zoning Board of Appeals

Town Annex 261 George Ryder Road
Chatham, MA 02633



TELEPHONE (508) 945-5168

FAX (508) 945-5163

June 18, 2019

Application No. 19-042

Town of Chatham
549 Main Street
Chatham, MA 02633

BK 32158 Pg 280 #33389
07-16-2019 @ 01:29p

RE: 3 Champlain Road
Chatham, MA

'19 JUN 18 2:45PM

Dear Mr. Keon:

CHATHAM TOWN CLERK

At an open meeting held on June 13, 2019, following the Public Hearing on this Application No. 19-042, the Chatham Zoning Board of Appeals voted to grant your request for a Variance under Section VIII.D.2.c., of the Chatham Protective Bylaw. The Applicants sought a Dimensional Variance from the required abutters setbacks for the construction of a 27 foot by 29 foot shelter. The proposed shelter will be located 0 feet from the westerly abutter. **A Dimensional Variance is required under M.G.L. Chapter 40A Section 10 and Section VIII.D.2.c of the Chatham Protective Bylaw.** The parcel is shown on Assessors' Map 13A Block 3 Lot 23 and in the Barnstable County Registry of Deeds Book 29552 Page 258.

Present and voting to grant the Variance were Board members David Nixon, Robert Hessler, David Veach, Paul Semple and Associate Member David Thomson. Also present was Associate Member Happy Van Sickle.

From the Petition, and facts brought out at the hearing, the Board members found that the Applicant proposes to construct a shelter as described in paragraph 1 of this document. In a memo dated June 7, 2019, the South Costal Harbor Plan Committee wrote in support of the proposal to reconstruct the Trap Dock pier which supports the local commercial fishing industry. In a letter dated June 10, 2019, the Waterways Advisory Committee wrote in support of the proposed reconstruction. In a letter dated June 11, 2019, the Shellfish Constable wrote with requests for construction protocols and timing of the project so as to not cause disruption to shellfish propagation. In a letter dated June 12, 2019, the Deputy Harbormaster wrote in support of the application. In a memo dated June 13, 2019, the Conservation Commission wrote that the project can be approved with special conditions.

The Board heard from the applicant's representative Theodore Keon who presented the application for the Variance. Mr. Keon reviewed the criteria stating the lot shape with a 42 foot width is unique in that no commercial structure could be reconstructed on the site without the grant of a Variance due to the required 25 foot setback in the R40 zoning district. He noted that a literal enforcement of the Bylaw would involve a hardship to the commercial fishing fleet in that the construction of the open ended shelter is necessary to provide an area where fishermen

4

can temporarily store their offloaded cargo if the receiving truck is not at the facility. He concluded that the desired relief may be granted without substantial detriment to the public good and without nullifying or substantially derogating from the purpose and intent of the Bylaw.

The Board is in receipt of correspondence in support from William Marsh, 33 Champlain Road, dated June 4, 2019; and from Bernard Cornwell, 25 Champlain Road, dated June 10, 2019.

The Board heard from Attorney William Riley, speaking on behalf of the abutter, the Stage Harbor Yacht Club, who spoke in support of the proposal.

The Board reviewed the criteria for the granting of a Variance and found that the request met the criteria. The proposal met the standards for a hardship due to the lot shape, specifically the width of the property. The inability to reconstruct the shelter would be a hardship to the local commercial fishing fleet. In addition, the Board found that the desired relief could be granted without substantial detriment to the public good and without nullifying or substantially derogating from the purpose and intent of the Bylaw.

Following the close of the hearing, on a motion by Paul Semple and a second by David Veach, to approve the Applicant's request for relief under Section VIII D.2.c. of the Bylaw and voted 5-0-0 to grant the Variance as presented on the site plan by GEL Consultants, dated May 15, 2019 without conditions.

This Notice of Decision has been filed with the Chatham Town Clerk. An appeal, if any, from this Decision must be filed with the Superior or a District Court of Barnstable County or the Massachusetts Land Court within twenty days.

The granting of this Variance requires that, after twenty days following the filing of this Decision with the Chatham Town Clerk, the Town Clerk certifies on the Certificate and the Notice of Decision that no Appeal has been taken. Upon certification by the Town Clerk, you, the petitioner, must then record this Notice of Decision and Certificate at the Barnstable County Registry of Deeds. After recording the Notice of Decision and the Certificate, return a copy of the Certificate and the Notice of Decision (stamped at the Registry), to both the Chatham Zoning Board of Appeals and the Chatham Town Clerk.

This Variance shall lapse at the end of one year from the date of the filing of the Board's decision in the office of the Town Clerk if substantial use has not sooner commenced, except for good cause, including any court appeal process. Any construction authorized by this Variance must be carried through to completion as continuously and expeditiously as is reasonable after issuance of a building permit.

Massachusetts General Law Chapter 40A Section 14 does provide the Zoning Board of Appeals with the authority to, after conducting a public hearing with notice to all interested parties, reverse or affirm, in whole or in part, any decisions previously rendered. Any departure from the terms and representations made by the applicant in his/her application will be cause for review of this Variance if the Board finds, after notice and hearing in the manner described in M.G.L. Ch.

40A, that such departure is significant. All Applicants are therefore advised to proceed with approved projects in a manner consistent with the specifics noted in the Notice of Decision and as presented at the Public Hearing. The applicants are subject to all federal, state and local rules and regulations not specifically covered by the granting of a Variance.

Very truly yours,

Paul Semple
Paul Semple
Clerk

FOR INFORMATION ONLY

PURSUANT TO MGL CHAPTER 40A, I HEREBY CERTIFY THAT TWENTY DAYS HAS ELAPSED AFTER THIS DECISION WAS FILED IN THE OFFICE OF THE CHATHAM TOWN CLERK AND NO APPEAL HAS BEEN FILED, OR IF SUCH APPEAL WAS FILED THAT IT HAS BEEN DISMISSED OR DENIED.

1712

July 11, 2019
DATE

Paula John
TOWN CLERK

COMMONWEALTH OF MASSACHUSETTS
TOWN OF CHATHAM
ZONING BOARD OF APPEALS

Certificate of Granting of a Variance
(Massachusetts General Laws Chapter 40A, Section 14)

Application No. 19-042
June 18, 2019

The Zoning Board of Appeals of the Town of Chatham hereby certifies that a Variance has been granted:

To: *Town of Chatham*
Address: *549 Main Street*
Chatham, MA 02633

Affecting the rights of the owner with respect to land or buildings at **3 Champlain Road Meetinghouse Road**, Chatham, MA also shown on Assessors' Map 13A Block 3 Lot 23 and in the Barnstable County Registry of Deeds Book 29852 Page 258 and said Zoning Board of Appeals further certifies that the decision attached thereto is a true and correct copy of its decision granting a **Variance** and that copies of said decision, and of all plans referred to in the decision, have been filed with the Planning Board and the Town Clerk.

The Zoning Board of Appeals also calls to the attention of the owner or applicant that General Laws, Chapter 40A, Section 11 (last paragraph) provides that no granting of a **Variance** shall take effect until a copy of the decision bearing the certification of the Town Clerk that twenty days have elapsed after the decision has been filed in the office of the Town Clerk and that no appeal has been filed or that, if such appeal has been filed, that it has been dismissed or denied, is recorded in the Barnstable County Registry of Deeds and indexed in the grantor index under the name of the owner of record is recorded and noted on the owner's certificate of title. The fee for such recording or registering shall be paid by the owner or applicant.

David Nelson
Chairman

Paul Sample
Clerk

PURSUANT TO MGL CHAPTER 40A I HEREBY CERTIFY THAT TWENTY DAYS HAS ELAPSED AFTER THIS DECISION WAS FILED IN THE OFFICE OF THE CHATHAM TOWN CLERK AND NO APPEAL HAS BEEN FILED, OR IF SUCH APPEAL WAS FILED THAT IT HAS BEEN DISMISSED OR DENIED.

July 11, 2019
DATE

Paula Yobin
Asst. TOWN CLERK

BARNSTABLE REGISTRY OF DEEDS
John F. Meade, Register



Town Of Chatham Zoning Board of Appeals



Town Annex 261 George Ryder Road
Chatham, MA 02633

TELEPHONE (508) 945-5168

FAX (508) 945-5163

June 18, 2019

Application No. 19-043

Town of Chatham
c/o Theodore Keon
549 Main Street
Chatham, MA 02633

Bk 32158 Pg 284 #33390
07-16-2019 @ 01:29P

RE: 3 Champlain Road
Chatham, MA

19 JUN 18 2:45PM

Dear Mr. Keon:

CHATHAM TOWN CLERK

At an open meeting held on June 13, 2019, following the Public Hearing on this Application No. 19-043, the Chatham Zoning Board of Appeals voted to grant your request for a Special Permit under Sections V.B. and VIII.D.2.b. of the Chatham Protective Bylaw. The Applicant sought to demolish the existing ice making structure and shelter and construct a new shelter. The existing ice making structure is nonconforming in that it is located 8 feet over the westerly abutters setback. The existing shelter is nonconforming in that it is located 5 feet from the westerly abutter where a 25 foot setback is required. Also proposed is the demolition of the existing commercial municipal pier and construction of a new commercial municipal pier. **A Special Permit is required under M.G.L. Chapter 40A Sections 6 and 9 and Sections V.B. and VIII.D.2.b. of the Protective Bylaw.** The parcel is shown on Assessors' Map 13A Block 3 Lot 23 and in the Barnstable County Registry of Deeds Book 29852 Page 258.

Present and voting to grant the Special Permit were Board members David Nixon, Robert Hessler, David Veach, Paul Semple and Associate Member David Thomson. Also present was Associate Member Happy Van Sickle.

From the Petition, and facts brought out at the hearing, the Board members found that the Applicant proposes to construct a shelter and reconstruct the existing pier as described in paragraph 1 of this document. In a memo dated June 4, 2019, the South Costal Harbor Plan Committee wrote in support of the proposal to reconstruct the Trap Dock pier which supports the local commercial fishing industry. In a letter dated June 3, 2019, the Planning Board, acting as the technical review body, voted to send a positive recommendation to the Zoning Board with the recommendation that Applicant should address a possible relocation of the existing utility pole or in the alternative, protect the utility pole with the addition of bollards. In a letter dated June 10, 2019, the Waterways Advisory Committee wrote in support of the proposed reconstruction. In a letter dated June 11, 2019, the Shellfish Constable wrote with requests for construction protocols and timing of the project so as to not cause disruption to shellfish propagation. In a letter dated June 12, 2019, the Deputy Harbormaster wrote in support of the application. In a memo dated June 13, 2019, the Conservation Commission wrote that the project

For Information Only

can be approved with special conditions.

The Board heard from the applicant's representative Theodore Keon who presented the application for the Special Permit. Mr. Keon reviewed the criteria stating the site is adequate for the proposed open-ended shelter and reconstructed pier. He stated the size of the site is adequate for the proposed changes and the scale and mass of the structure is compatible with the neighborhood and there will be no negative impact on the use, views, vistas, the natural environment, sewage flow, noise, litter, traffic flow or utilities. Mr. Keon concluded that the proposed shelter and reconstructed pier will not have any negative impact on the character of the neighborhood and is in harmony with the purpose and intent of the Bylaw.

The Board is in receipt of correspondence in support from William Marsh, 33 Champlain Road, dated June 4, 2019; and from Bernard Cornwell, 25 Champlain Road, dated June 10, 2019.

The Board heard from Attorney William Riley, speaking on behalf of the abutter, the Stage Harbor Yacht Club, who spoke in support of the proposal.

The Board reviewed the criteria for the granting of a Special Permit and found that the request met the criteria. Specifically, the size of the site was adequate for the proposed shelter and reconstructed pier. The Board found the site to be suitable with no impact on the natural environment or storm water run-off. The scale, siting and mass will not negatively impact the neighborhood visual character and the proposed use is compatible with neighborhood uses. The method of drainage is adequate. There will be no adverse impact on traffic flow and safety or noise and litter. The utilities and other public services are adequate. The Board members found that the proposed changes would not be substantially more detrimental to the neighborhood. Board members concluded that the proposed shelter and reconstructed pier will not have any negative impact on the character of the neighborhood and is in harmony with the purpose and intent of the Bylaw.

Following the close of the hearing, on a motion by Paul Semple and a second by David Veach, to approve the Applicant's request for relief under Sections V.B and VIII.D.2.b. of the Bylaw and voted 5-0-0 to grant the Special Permit as presented on the site plan by GEI Consultants, dated May 15, 2019 without conditions.

This Notice of Decision has been filed with the Chatham Town Clerk. An appeal, if any, from this Decision must be filed with the Superior or a District Court of Barnstable County or the Massachusetts Land Court within twenty days.

The granting of this Special Permit requires that, after twenty days following the filing of this Decision with the Chatham Town Clerk, the Town Clerk certifies on the Certificate and the Notice of Decision that no Appeal has been taken. Upon certification by the Town Clerk, you, the petitioner, must then record this Notice of Decision and Certificate at the Barnstable County Registry of Deeds. After recording the Notice of Decision and the Certificate, return a copy of the Certificate and the Notice of Decision (stamped at the Registry), to both the Chatham Zoning Board of Appeals and the Chatham Town Clerk.

This Special Permit shall lapse at the end of two years from the date of the filing of the Board's decision in the office of the Town Clerk if substantial use has not sooner commenced, except for good cause, including any court appeal process. Any construction authorized by this Special Permit must be carried through to completion as continuously and expeditiously as is reasonable after issuance of a building permit.

Massachusetts General Law Chapter 40A Section 14 does provide the Zoning Board of Appeals with the authority to, after conducting a public hearing with notice to all interested parties, reverse or affirm, in whole or in part, any decisions previously rendered. Any departure from the terms and representations made by the applicant in his/her application will be cause for review of this Special Permit if the Board finds, after notice and hearing in the manner described in M.G.L. Ch. 40A, that such departure is significant. All Applicants are therefore advised to proceed with approved projects in a manner consistent with the specifics noted in the Notice of Decision and as presented at the Public Hearing. The applicants are subject to all federal, state and local rules and regulations not specifically covered by the granting of a Special Permit.

Very truly yours,

Paul Semple

Paul Semple
Clerk

For Information Only

PURSUANT TO MGL CHAPTER 40A, I HEREBY CERTIFY THAT TWENTY DAYS HAS ELAPSED AFTER THIS DECISION WAS FILED IN THE OFFICE OF THE GATHAM TOWN CLERK AND NO APPEAL HAS BEEN FILED, OR IF SUCH APPEAL WAS FILED THAT IT HAS BEEN DISMISSED OR DENIED.

July 11, 2019
DATE
Paula Lobin
TOWN CLERK

COMMONWEALTH OF MASSACHUSETTS
TOWN OF CHATHAM
ZONING BOARD OF APPEALS

Certificate of Granting of a Special Permit
(Massachusetts General Laws Chapter 40A, Section 14)

Application No. 19-043
June 18, 2019

The Zoning Board of Appeals of the Town of Chatham hereby certifies that a Special Permit has been granted:

To: *Town of Chatham*

Address: *549 Main Street
Chatham, MA 02633*

Affecting the rights of the owner with respect to land or buildings at **3 Champlain Road**, Chatham, MA also shown on Assessors' Map 13A Block 3 Lot 23 and in the Barnstable County Registry of Deeds Book 29852 Page 258 and said Zoning Board of Appeals further certifies that the decision attached thereto is a true and correct copy of its decision granting a **Special Permit** and that copies of said decision, and of all plans referred to in the decision, have been filed with the Planning Board and the Town Clerk.

The Zoning Board of Appeals also calls to the attention of the owner or applicant that General Laws, Chapter 40A, Section 11 (last paragraph) provides that no granting of a **Special Permit** shall take effect until a copy of the decision bearing the certification of the Town Clerk that twenty days have elapsed after the decision has been filed in the office of the Town Clerk and that no appeal has been filed or that, if such appeal has been filed, that it has been dismissed or denied, is recorded in the Barnstable County Registry of Deeds and indexed in the grantor index under the name of the owner of record is recorded and noted on the owner's certificate of title. The fee for such recording or registering shall be paid by the owner or applicant.

David Nixon
Chairman

Paul Semple
Clerk

PURSUANT TO MGL CHAPTER 40A, I HEREBY CERTIFY THAT TWENTY DAYS HAS ELAPSED AFTER THIS DECISION WAS FILED IN THE OFFICE OF THE CHATHAM TOWN CLERK AND NO APPEAL HAS BEEN FILED, OR IF SUCH APPEAL WAS FILED THAT IT HAS BEEN DISMISSED OR DENIED.

July 11, 2019
DATE
Paula John
Asst. TOWN CLERK

BARNSTABLE REGISTRY OF DEEDS
John F. Meade, Register

**TRAP DOCK RECONSTRUCTION
CHATHAM, MA**

**ATTACHMENT C
HAZARDOUS MATERIAL INSPECTION REPORT**

For Information Only

Client	
Name	Axiom Partners, Inc.
Address	1 Pleasure Island Road, Wakefield, MA
Job #	#01136.888
Job Name	613 Stage Harbor Road, Chatham, MA
PO #	

Results			
Tel	Fax	Email	HC
		X	

Final Report	
Email	Hard Copy
X	

Contact	
Name	Edward Kearney
Phone/Fax	508-274-5703
Email	ekearney@axiomenv.com

Relinquished By _____
 Received By _____
 Relinquished By _____
 Received By _____

Analysis		Special Instructions	
Bulk (600 / R-93 / 116)	X	Stop on First Positive	
Wipes (EPA 600)		TEM NOB Negative Bulk Samples	
Point Count (EPA 600)		Point Count <10% Asb. Samples	
Soil (EPA)			
NOB (NY-ELAPY)			

TAT (Circle) Rush 12h 24h **48h** 3d 4d 5d Other
PLM Off-hours work is available but subject to PASI approval and surcharges.
 Chain of Custody ver 3.0
 Batch # 8118186

Client ID	Description	Type	Location / Date & Time Collected	Volume or Area	Comments
092419-02-01	Interior Paper Insulation				
092419-02-02A	Interior Linoleum Ceiling Sheeting, First Floor				
092419-02-02B	Interior Linoleum Ceiling Sheeting, Second Floor				
092419-02-02C	Interior Linoleum Ceiling Sheeting, Second Floor				
092419-02-03	Exterior Shed, Gas Pipe Putty Sealant				
092419-02-04A	Exterior Tar Paper under Wood Shingles				
092419-02-04B	Exterior Tar Paper under Wood Shingles				
092419-02-05A	Interior Second Floor Gypsum Wall Board				
092419-02-05B	Interior Second Floor Gypsum Wall Board				
092419-02-06	Interior Second Floor Joint Compound				
092419-02-07A	Interior Second Floor Window Glazing				
092419-02-07B	Interior Second Floor Window Glazing				
092419-02-08	Interior Mastic on Fiberglass Insulation				

For Informal Use Only

Relinquished By Edward Kearney Date / Time 9-24-19 12:15 PM
 Received By Michelle Cavallaro Date / Time 9-25-19 9:20



Laboratory Report

Contact: Ed Kearney
Client: Axiom Partners
Address: One Pleasure Island Road, Suite 2C
Wakefield, MA 01880

Batch #: C 300652
Date received: 9/25/2019
Date analyzed: 9/25/2019
Date of report: 9/25/2019

Project # 01136.888
P.O.# N/A
Project Site: 613 Stage Harbor
Chatham

AIHA-LAP, LLC Lab ID 102754

Lead Analysis In Paint Using SOP Based on SW846-7420/3051
Results in weight percent on an "as received" weight basis

Lab ID	Client ID	Sample date	Description	Result	Reporting Limit	Comments
C 632847	Pb-01	9/24/19	Exterior Wood Vert Trim, Grey Paint	3.65	0.026	
C 632848	Pb-02	9/24/19	Interior Wood Wall/Door Panel, White Paint	<RL	0.023	
C 632849	Pb-03	9/24/19	Interior Wood Wall/Door Panel, Red Paint	<RL	0.040	
C 632850	Pb-04	9/24/19	Interior Wood Door, Paint, Grey Paint	<RL	0.020	
C 632851	Pb-05	9/24/19	Interior Wood Door Paint, Multi Color	0.18	0.031	
C 632852	Pb-06	9/24/19	Interior FWS Second Floor Office, Green	0.019	0.017	

For Information Only

Simona Peavey, Tech. Manager Chemistry
Aimee Cormier, Lab Director

Unless otherwise indicated, all samples were received in acceptable condition.
All results apply only to the samples tested and as received and are accurate to no more than three significant figures.
Unless otherwise indicated, all the quality control criteria for the method above have been met.

RL-Reporting Limit(%by weight) Note on units: mg/Kg is the same as ppm by weight.

