FLAGSHIP WHARF BULKHEAD REPAIRS
SHIPYARD PARK
CHARLESTOWN, MA

November 2026

City of Boston
Boston Planning & Development Agency
1 City Hall Square #9
Boston, MA 02201

TABLE OF CONTENTS

TECHNICAL SPECIFICATIONS

Division 01 General Requirements

Section No.	Description
Section 01 10 00	Summary of Work
Section 01 14 00	Work Restrictions
Section 01 18 00	Utility Protection
Section 01 30 00	Administrative Requirements
Section 01 33 00	Submittals
Section 01 40 00	Quality Requirements
Section 01 41 00	Regulatory Requirements
Section 01 50 00	Temporary Facilities and Controls
Section 01 60 00	Products
Section 01 70 00	Project Closeout

Division 02 Existing Conditions

Section No.	Description
Section 02 00 00	Site Preparation
Section 02 41 00	Demolition

Division 03 Concrete

Section No.	Description
Section 03 31 00	Reinforced Concrete

Division 05 Metals

Section No.	Description
Section 05 50 13	Miscellaneous Metals

Division 06 Wood, Plastics, and Composites

Section No.	Description
Section 06 13 00	Heavy Timber Construction

Division 09 Finishes

Section No.	Description
Section 09 96 26	Marine Coatings

Division 31 Earthwork

Section No.	Description
Section 31 00 00	Earthwork
Section 31 41 16	Metal Sheet Piling
Section 31 62 23	Driven Steel Piles
Section 31 62 24	Marine Pile Jackets

SECTION 01 10 00

SUMMARY

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:

1. Contract description.
2. Contractor's use of Site.
3. Work sequence.

1.02 CONTRACT DESCRIPTION

A. Work of the Project includes repairs to the Flagship Wharf Bulkhead including but not limited to the following:

1. Base Bid
   a. Demolition/ Relocation of utilities along existing bulkhead, installation of steel sheet pile bulkhead with concrete backfilling, installation of steel batter piles with concrete infills, installing concrete façade and reinforced concrete pile cap on new steel shee tpile bulkhead.
   b. Extension of outfall
   c. Patching of steel sheeting holes
   d. Repair of deteriorated concrete areas on the underdeck of the harbor walk adjacent to the MBTA floats.
2. Add Alternative 1
   a. Demolition of the existing timber decking and stringers. And installation of new timber decking and stringers along Flagship Wharf from Pier 4 to the eastern side of Pier 5.
3. Add Alternative 2
   a. Selective demolition of the existing concrete pile caps adjacent to Pier 5 to allow of the installation of a steel sheet pile bulkhead with concrete backfilling and facade
   b. Selective demolition of deteriorated concrete and temporary mudline removal for pile jackets. Installation of pile jackets with reinforcement and fiberglass pile jacket forms.
   c. Removal of rubble mound riprap as required.

B. The work is located in Charlestown, Massachusetts at Flagship Wharf Bulkhead, approximately as located on the Drawings.

C. Coordinate Work with utilities of Owner and public or private agencies.

1. Buildings adjacent to the project site will be occupied during the performance of the work.
2. Before work is started, arrange with the Owner a sequence procedure, means

of access, location of material and equipment storage and delivery, and use of approaches.

D. Remove or alter existing work in such a manner as to prevent injury or damage to any portion of the existing work which remain. Repair or replace portions of the existing work which have been altered during construction to match existing or adjoining work as approved by the Owner. At the completion of the work existing work must be in a condition equal to or better than that which existed before new work started.

1.03 CONTRACTOR'S USE OF SITE

A. Access to Site: Limited to waterside access, municipal roadways, Boston Harborwalk, and Flagship Wharf as shown on the contract drawings. Access to the MBTA Ferry and areas of the Boston Harborwalk and Flagship Wharf outside the designated work zone as show on the Contract Drawings shall not be interrupted during construction.

B. Construction Operations: Limited to areas indicated on Drawings.

1. Noise shall comply with "REGULATIONS FOR THE CONTROL OF NOISE IN THE CITY OF BOSTON"

C. Time Restrictions for Performing Work: Monday through Friday 7am to 5 pm, excluding federal and City of Boston holidays.

D. Utility Outages and Shutdown:

1. Coordinate and schedule electrical and other utility outages with Owner.

2. Outages: Allowed only at agreed upon times.

E. Construction Plan: Before start of construction, submit construction plan regarding access to Work, use of Site, and utility outages for acceptance by Owner. After acceptance of plan, construction operations shall comply with accepted plan unless deviations are accepted by Owner in writing.

1.04 WORK SEQUENCE

A. Construct Work in phases during construction period as indicated on the Contract Drawings. Construction should be phased as to not disrupt access to Flagship Wharf. Coordinate construction schedule and operations with the Owner.

B. Sequencing of Construction Plan: Before start of construction, submit a construction plan regarding phasing of demolition and repair Work for acceptance by Owner. After acceptance of plan, construction sequencing shall comply with accepted plan unless deviations are accepted by Owner in writing.

PART 2 PRODUCTS

2.01 NOT APPLICABLE

PART 3 EXECUTION

3.01 NOT APPLICABLE

PART 2 MEASUREMENT AND PAYMENT

2.01 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 01 14 00

WORK RESTRICTIONS

PART 1 GENERAL

1.01 RELATED DOCUMENTS

A. Examine all Drawings and all Sections of the Specifications for requirements and provisions affecting the work of this Section.

1.02 USE OF PREMISES

A. Confine construction operations to areas indicated on Contract Drawings as indicated within the Limits of Construction. Do not disturb portions of site beyond areas in which the Work is indicated.

B. Space for staging work and related operations of Contractor may be provided by the Owner and will be delegated as applicable per availability on the Drawings but is not guaranteed. All areas used for staging shall be coordinated with the Owner.

C. No work shall be done outside of standard Monday through Friday working hours; 7AM to 5PM, on holiday, or weekends, unless prior written approval has been obtained from the Owner and Engineer.

D. Work may not be performed, and materials may not be delivered to the job site except during times when Engineer or representative is present on site.

1.03 PROTECTIVE BARRIERS AND FENCING

A. Contractor shall provide and erect before any work begins, and maintain during the progress of the Work, any and all necessary protective barriers and/or fencing, as indicated on the Drawings or else requested by the Owner and approved in writing. The Contractor is responsible to ensure that work areas are secure and safe at all times.

B. The area inside protective barriers and fencing shall be maintained by the Contractor for the duration of construction and restored to the same or better condition at project completion.

1.04 UTILITY CUTOVERS AND INTERRUPTIONS

A. Make utility cutovers and interruptions only after prior approval by the Owner. The Contractor shall provide a diagram or drawing of area to denote the scope of a shutdown and boundaries at least 5 working days in advance of the date any utility outage is required.

B. Ensure that new utility lines are complete, except for the connection, before interrupting existing service.

1.05 REGULATORY TIME OF YEAR RESTRICTIONS

A. Contractor shall review all regulatory approvals and comply with all regulatory time of year restrictions.

PART 2 PRODUCTS

2.01 NOT APPLICABLE

PART 3 EXECUTION

3.01 NOT APPLICABLE

PART 4 MEASUREMENT AND PAYMENT

4.01 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 01 18 00

UTILITY PROTECTION

PART 1 GENERAL

1.01 RELATED DOCUMENTS

A. Examine all Drawings and all Sections of the Specifications for requirements and provisions affecting the work of this Section.

1.02 SUMMARY

A. This section provides requirements for protection of existing utilities services and structures.

B. The size and location of existing underground utilities, if noted on the drawings, is from the best information available as established from actual field observations and study of existing records. These are noted for informational purposes only and are believed to be correct. However, Contractor shall take sole responsibility for damage to any utility line encountered, whether or not shown on the drawings and whether or not actually located in the field as shown on the drawings.

1.03 UTILITY SHUTDOWNS

A. The Contractor shall provide a diagram or drawing of area to denote the scope of a shutdown and boundaries at least 5 working days in advance of the date any utility outage is required.

PART 2 PRODUCTS

2.01 NOT APPLICABLE

PART 3 EXECUTION

3.01 EXAMINATION

A. Contractor shall locate, expose, and provide temporary support for all existing underground utilities to remain within project area limits in accordance with Division IIB, Article 39.

B. Contractor shall determine the actual location of all existing utilities prior to starting any work that may cause damage to such utilities. If the exact location and depth of existing underground utilities are unknown, the Contractor, prior to beginning construction, shall perform all necessary exploratory excavation to locate any facilities which may affect the work.

C. Contractor shall notify Engineer immediately of any utility discrepancies.

D. Contractor shall inform Engineer of existing utility installations that need relocation.

E. Contractor shall contact all utilities seventy-two (72) hours prior to beginning excavation and/or grading. Contractor shall contact MA Dig Safe (call 811).

F. Contractor assumes all responsibility for determining the agencies and utilities encountered in work limits and for contacting these agencies

3.02 RELOCATION

A. If Contractor requests that utility companies relocate their utilities for Contractor's convenience in construction of any portion of the work, the cost of such shall be at Contractor's expense.

3.03 UTILITY IMPACTS

A. Where Contractor's operations may cause damage or inconvenience to communications, telephone, television, oil, gas, electricity, water, sewer, irrigation, or any other utilities or services, Contractor's operations shall be suspended until all arrangements necessary for the protection of these utilities and services have been made by Contractor.

B. Contractor shall protect all utility poles from damage. If interfering utility poles, guy wires, or anchors are encountered, Contractor shall notify Engineer and the appropriate utility provider at least 48 hours in advance of construction operations to permit the necessary arrangements for protection or relocation of the interfering structure.

C. The Contractor is responsible for mitigating hazards associated with excavating in the proximity of known and identified utilities. Contractor shall hand excavate or vacuum excavate all material within three feet of any known existing utility.

D. Contractor shall replace, at Contractor's sole expense, any and all other existing utilities or structures removed or damaged during construction, unless otherwise provided for in these contract documents or ordered by Engineer.

E. Contractor shall be solely and directly responsible to the providers of such utilities and services for any damage, injury, expense, loss, inconvenience, delay, suits, actions, or claims of any character brought because of any injuries or damage, which may result from the construction operations under this agreement.

F. Neither Engineer nor its officers or agents shall be responsible for damages as a result of Contractor's failure to protect utilities encountered in the work.

G. Full compensation for compliance and cooperation, as required by this section, is considered to be subsidiary to other work items and no additional compensation will be allowed.

3.04 PROCEDURES FOR DAMAGED OR CUT UTILITIES

A. If a utility is accidentally damaged, the Contractor shall evacuate all personnel to a safe distance. No one shall be permitted to work on a damaged line or pipe until it is proven safe.

B. The Contractor shall notify the Owner. The Contractor is responsible for filling out required Engineer reports concerning the incident.

C. The Contractor shall not repair or continue work until Engineer has released the area and proper Lock Out Tag Out (LOTO) or controls are in place.

D. Prior to covering the utility, the Contractor shall notify the Owner that repairs are complete. The Contractor shall not cover the utility until the Owner has verified and approved the repair, inclusive of the placement of any required utility marking tape.

PART 4 MEASUREMENT AND PAYMENT

4.01 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 01 30 00

ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.01 SUMMARY

A. This Section describes Project administrative requirements, the minimum level of coordination and meetings required to execute the Work and required pre-mobilization submittals.

1.02 ON-SITE CONSTRUCTION PERSONNEL

A. The Contractor is to maintain a full-time on-Site Superintendent, who will be responsible for quality assurance, Contractor health and safety, and competent person(s) for the duration of the Work. The Superintendent will be responsible for the supervision and/or coordination of all Contractor employees, Subcontractors, manufacturers, fabricators, suppliers, distributors, installers, and testing agencies whose services, materials, or equipment are required to ensure the completion of the Work. The Superintendent will have sufficient qualifications, experience, and authority to act as a single point of contact for the on-Site staff, and to make adjustments to the means and methods as needed and as requested by the Owner.

B. The Owner will make periodic visits to the Site to observe the Work. The Owner will not direct the Contractor with regard to their means and methods of construction but may identify areas of non-conformance with the Specifications that require redress by the Contractor.

1.03 MEETINGS

A. Attend all Project meetings as deemed necessary by the Owner during the term of the Contract.

B. A pre-construction meeting will be held at the Site prior to the start of the Work. At a minimum, the Contractor's Project Manager and Superintendent for the Project will attend the meeting. It is recommended that the Contractor assemble input from primary Subcontractors prior to this meeting.

1. This meeting is intended to make certain that the Work is properly scheduled, responsibilities are coordinated among Subcontractors and suppliers, and that those responsibilities are reflected on the Contractor submittals. Questions concerning any other aspect of the Project may also be addressed.

C. Beginning with the mobilization to the Site, at a location designated by the Owner, the Contractor will facilitate weekly construction meetings for the duration of the Work. Present a progress update at weekly construction meetings that includes tasks completed from the prior week, currently active tasks, and tasks/activities planned for the next two weeks along with an updated Project schedule. The format of the two-week look ahead must be approved by the Owner.

D. The standard day and time for the weekly construction meeting will be established based on mutual agreement between all regular participants.

E. Individuals authorized to discuss and make decisions on behalf of the Contractor, relative to the meeting agenda, must participate in all weekly construction meetings.

F. All expenses associated with attending the meetings, except those that are incurred by the Owner, their representatives, or consultants, are to be borne by the Contractor.

1.04 REQUESTS FOR INFORMATION, CLARIFICATIONS, AND CHANGES

A. All requests for Project information, clarifications, or changes in the requirements of the Contract Documents must be made in writing to the Owner.

B. Written requests must be provided regardless of any preceding conversations and preliminary decisions regarding the subject matter(s).

C. The Owner will provide written responses to each request.

D. The Owner may also issue clarifications and/or amendments based on their own assessment of Project needs.

E. Any potential increases or decreases in Contractor compensation due to amendments will be in accordance with the provisions of the Supplemental Conditions.

F. If latent or unforeseen conditions require modifications to the Contract, the Contractor must propose changes in the Work by submitting a detailed request to include labor rates, equipment rates, material costs, etc. for a change to the Owner.

1.05 PROJECT RECORD DOCUMENTS

A. Keep on file at job site one complete set of up-to-date Contract Documents, including drawings and specifications, addenda, 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 red colored pencils or felt-tipped pens:

1. Drawings: locations of concealed utilities, field changes of dimension and detail, changes resulting from change order or field order, and details not on original drawings.

2. Specifications: manufacturer and model number of equipment 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.

1.06 PRE-MOBILIZATION SUBMITTALS

A. All submittals are subject to review and approval by the Owner. Provide all submittals to the Owner who will then forward them onto the appropriate party for review. Submittals

will not be approved until the reviewing party has determined that they meet the minimum requirements of these specifications. Claims for lost time or requests for extensions based on rejected pre-mobilization submittals will be denied.

B. Contractor Health and Safety Plan:

1. Prepare and submit a site-specific Contractor Health and Safety Plan.

C. Project Schedule:

1. Prepare a Critical Path Method (CPM) or bar chart project schedule and provide it to the Owner at the first post-award meeting. Update and disseminate the schedule on a weekly basis.

D. Pre-Construction Condition Documentation:

1. Perform a pre-construction condition documentation of the site to 50 feet beyond the Project limits under the supervision of the Owner.

a. Submit the findings of the pre-construction condition documentation to the Owner prior to mobilization.

b. Include video/photographic documentation of the existing conditions of the Site and surrounding structures, including shoreline, buildings, or other structures.

c. Claims determined to be resulting from pre-existing structural and/or cosmetic damage, not identified during the pre-construction survey, will be the sole responsibility of the Contractor to remedy to the satisfaction of the applicable owner(s).

E. Schedule of Permits:

1. Submit copies of all supplemental and/or recurring data required by the permits to the Owner, as needed. Include documentation that the supplemental data was provided to the entity that issued the permit, according to the schedule required by the permit.

2. Submit copies of any Contractor obtained permits to the Owner.

1.07 DAILY REPORT

A. Prepare a daily report summarizing the staff and equipment used and Work performed. The Contractor's internal documentation used for this purpose may fulfill this requirement, subject to approval by the Owner. At a minimum, the daily report will include the following additional items:

1. Summary of any safety related issues, including a summary of the daily safety meeting and running total of safe hours worked.

2. Approximate amount of work completed for the reporting period and a brief description of where the Work was being performed.

B. Submit the daily report to the Owner by 10 AM of the next calendar day.

PART 2 PRODUCTS

2.01 NOT APPLICABLE

PART 3 EXECUTION

3.01 NOT APPLICABLE

PART 4 MEASUREMENT AND PAYMENT

4.01 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 01 33 00

SUBMITTALS

PART 1 GENERAL

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

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

1. The Contractor shall submit to the Owner for approval an electronic copy of all Shop Drawings as called for under the various headings of these specifications for review and approval.

2. Contractor shall submit to the Owner three original "hard" copies of Shop Drawings or Calculations that are required to be Stamped by a Professional Engineer after approval of the electronic submission.

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 their approval. The Contractor shall be responsible for their submission to the Engineer at the proper time so as to prevent delays in delivery of materials.

5. All details on Shop Drawings submitted for approval shall clearly show the relation of the various parts of the work, and where correct fabrication of the work depends upon field measurements, such measurements shall be made and shall be noted on the Shop Drawings before being submitted for approval.

6. All submissions shall be referenced properly to clearly indicate the location, service, and function of each particular item and the specification paragraph under which it is being furnished.

7. 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.

8. The Owner reserves the right to require submittals in addition to those called for in individual sections.

9. The term “Shop Drawings” includes drawings, diagrams, schematics, descriptive literature, illustrations, schedules, performance and test data, and similar materials furnished by Contractor to explain in detail specific portions of the work required by the Contract.

10. 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.

B. Each submittal shall be numbered with the project name (abbreviated), specification section and submittal number in consecutive order (Ex NAME-02 55 00-#). Where resubmission is required, a letter shall be assigned to designate each resubmission (Ex NAME-02 55 00-#A, NAME-02 55 00-#B, etc.)

C. Approval by the Owner shall not relieve Contractor from responsibility for any errors or omissions in such drawings, nor from responsibility for complying with requirements of this Contract with approved variations.

D. If Shop Drawings show variations from Contract requirements, Contractor shall identify and describe such variations in writing, separate from the drawings, at time of submission. All such variations must be approved by the Owner.

E. The Contractor shall distribute approved submittals to job site, record documents files, and to suppliers and subcontractors as required.

F. Samples required by the specifications 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. 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. 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.

2. 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 of 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.

3. 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.

1.02 PROJECT RECORD DOCUMENTS

A. Keep on file at job site one complete set of up-to-date Contract Documents, including drawings and specifications, addenda, 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: locations of concealed utilities, field changes of dimension and detail, changes resulting from change order or field order, and details not on original drawings.
2. Specifications: manufacturer and model number of equipment 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.

PART 2 PRODUCTS

2.01 NOT APPLICABLE

PART 3 EXECUTION

3.01 NOT APPLICABLE

PART 4 MEASUREMENT AND PAYMENT

4.01 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 01 40 00

QUALITY REQUIREMENTS

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:

1. Quality control.
2. Tolerances.
3. References.
4. Mockup requirements.
5. Testing and inspection services.
6. Manufacturers' field services.

1.02 QUALITY CONTROL

A. Establish and maintain a quality control (QC) plan for the project. The plan shall consist of weekly QC Meetings, Submittal review and approval, testing, completion inspection, and QC certifications and documentation as necessary. The plan must cover on and off-site work and be keyed to work sequence. Acceptance of the QC plan is required prior to the start of construction.

B. Monitor quality control over suppliers, manufacturers, products, services, Site conditions, and workmanship, to produce Work of specified quality.

C. Comply with specified standards as the minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

D. Perform Work using persons qualified to produce required and specified quality.

E. Products, materials, and equipment may be subject to inspection by Architect/Engineer at place of manufacture or fabrication. Such inspections shall not relieve Contractor of complying with requirements of Contract Documents.

F. Supervise performance of Work in such manner and by such means to ensure that Work, whether completed or in progress, will not be subjected to harmful, dangerous, damaging, or otherwise deleterious exposure during construction period.

1.03 TOLERANCES

A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.

B. Comply with manufacturers' recommended tolerances and tolerance requirements in reference standards. When such tolerances conflict with Contract Documents, request clarification from Engineer before proceeding.

C. Adjust products to appropriate dimensions; position before securing products in place.

1.04 REFERENCES

A. For products or workmanship specified by association, trade, or other consensus standards, comply with requirements of standard except when more rigid requirements are specified or are required by applicable codes.

B. Conform to reference standard by date of issue current as of date of Contract Documents except where specific date is established by code.

C. Obtain copies of standards and maintain on Site when required by product Specification Sections.

D. When requirements of indicated reference standards conflict with Contract Documents, request clarification from Engineer before proceeding.

E. Neither contractual relationships, duties, or responsibilities of parties in Contract nor those of Architect/Engineer shall be altered from Contract Documents by mention or inference in reference documents.

1.05 MOCK-UP REQUIREMENTS

A. Tests will be performed under provisions identified in this Section and identified in individual product Specification Sections.

B. Assemble and erect specified or indicated items with specified or indicated attachment and anchorage devices, flashings, seals, and finishes.

C. Accepted mockups shall be comparison standard for remaining Work.

D. Where mockup has been accepted by Engineer and is specified in product Specification Sections to be removed, remove mockup and clear area when directed to do so by Architect/Engineer.

1.06 TESTING AND INSPECTION SERVICES

A. Employ and pay for services of an independent testing agency or laboratory acceptable to Owner to perform specified testing.

1. Before starting Work, submit testing laboratory name, address, and telephone number, and names of specialist and responsible officer.

2. Submit copy of report of laboratory facilities' inspection made by Materials Reference Laboratory of National Bureau of Standards during most recent inspection, with memorandum of remedies of deficiencies reported by inspection.

B. Independent firm will perform tests, inspections, and other services specified in individual Specification Sections and as required by Engineer.

1. Laboratory: Authorized to operate in the Commonwealth of Massachusetts

2. Laboratory Staff: Maintain full-time specialist on staff to review services.

3. Testing Equipment: Calibrated at reasonable intervals with devices of an accuracy traceable to National Bureau of Standards or accepted values of natural physical constants.

C. Testing, inspections, and source quality control may occur on or off Project Site. Perform off-Site testing as required by Engineer or Owner.

D. Reports shall be submitted by independent firm to Engineer, Contractor, and authorities having jurisdiction, indicating observations and results of tests and compliance or noncompliance with Contract Documents.

1. Submit final report indicating correction of Work previously reported as noncompliant.

E. Cooperate with independent firm; furnish samples of materials, design mix, equipment, tools, storage, safe access, and assistance by incidental labor as requested.

1. Notify Engineer and independent firm 48 hours before expected time for operations requiring services.

2. Make arrangements with independent firm and pay for additional Samples and tests required for Contractor's use.

F. Employment of testing agency or laboratory shall not relieve Contractor of obligation to perform Work according to requirements of Contract Documents.

G. Retesting or re-inspection required because of nonconformance with specified or indicated requirements shall be performed by same independent firm on instructions from Engineer. Payment for retesting or re-inspection will be born to Contractor.

H. Agency Responsibilities:

1. Test Samples of mixes submitted by Contractor.

2. Provide qualified personnel at Site. Cooperate with Architect/Engineer and Contractor in performance of services.

3. Perform indicated sampling and testing of products according to specified standards.

4. Ascertain compliance of materials and mixes with requirements of Contract Documents.

5. Promptly notify Engineer and Contractor of observed irregularities or nonconformance of Work or products.

6. Perform additional tests required by Engineer.

7. Attend preconstruction meetings and progress meetings.

I. Agency Reports: After each test, promptly submit report to Engineer, Contractor, and Owner. When requested by Engineer, provide interpretation of test results. Include the following:

1. Date issued.

2. Project title and number.

3. Name of inspector.

4. Date and time of sampling or inspection.

5. Identification of product and Specification Section.

6. Location in Project.

7. Type of inspection or test.

8. Date of test.

9. Results of tests.

10. Conformance with Contract Documents.

J. Limits on Testing Authority:

1. Agency or laboratory may not release, revoke, alter, or enlarge on requirements of Contract Documents.

2. Agency or laboratory may not approve or accept any portion of the Work.

3. Agency or laboratory may not assume duties of Contractor.

4. Agency or laboratory has no authority to stop the Work.

1.07 MANUFACTURER'S FIELD SERVICES

A. When specified in individual Specification Sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe Site conditions, conditions of surfaces and installation, quality of workmanship, testing and adjusting cathodic protection system, and as applicable, and to initiate instructions when necessary.

B. Submit qualifications of observer to Engineer 30 days in advance of required observations.

C. Report observations and Site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturer's written instructions.

PART 2 PRODUCTS

2.01 NOT APPLICABLE

PART 3 EXECUTION

3.01 NOT APPLICABLE

PART 4 MEASUREMENT AND PAYMENT

4.01 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 01 41 00

REGULATORY REQUIREMENTS - PERMITS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Examine all Drawings and Sections of the Specifications for requirements and provisions affecting the work of this Section.

1.02 SUMMARY

A. This Section covers the general requirements for regulatory requirements pertaining to the Work and is supplementary to all other regulatory requirements mentioned or referenced elsewhere in the Contract Documents.

1.03 AUTHORITY AND PRECENDENCE OF CODES, ORDINANCES, AND STANDARDS

A. Authority: All codes, ordinances and standards referenced in the Drawings and Specifications shall have the full force and effect as though printed in their entirety in the Specifications.

B. Precedence:

1. Where specified requirements differ from the requirements of applicable codes, ordinances and standards, the more stringent requirements shall take precedence.

2. Where the Drawings or Specifications require or describe products or execution of better quality, higher standard or greater size than required by applicable codes, ordinances and standards, the Drawings and Specifications shall take precedence so long as such increase is legal.

3. Where no requirements are identified in the Drawings or Specifications, comply with all requirements of applicable codes, ordinances and standards of authorities having jurisdiction.

1.04 STATUTORY AND JURISDICTIONAL REGULATIONS

A. Contractor shall conform to all applicable federal, state, and local codes, laws, ordinances, rules and regulations, whether or not referenced in the Contract Documents.

B. Code, laws, ordinances, rules and regulations referred to shall have full force and effect as though printed in full in these Specifications. Code, laws, ordinances, rules and regulations are not furnished to Contractor because Contractor is assumed to be and shall be familiar with these requirements, including readily available access to these requirements. Contractor and each subcontractor or supplier engaged in construction of the project shall be thoroughly familiar with the codes and regulations applicable to their specific construction activities. Where conflict among the requirements or with these Specifications occurs, the most stringent requirements shall be used with no change in Contract Sum or Contract Time.

C. Where such laws, ordinances, rules and regulations require more care or greater time to accomplish Work, or require better quality, higher standards or greater size of products, Work shall be accomplished in conformance to such requirements with no change to the Contract Time and Contract Sum, except where changes in laws, ordinances, rules and regulations occur subsequent to time of issuance of permits.

D. No Change Order shall be considered for any change in any applicable federal, state or local code or regulation if similar language existed in an alternate applicable regulation in force at the time of issuance of permits.

E. Contractor shall not allow design or construction of any conditions wherein the finished Work will not comply with current applicable codes. No Change Order shall be considered for the Work correction of any Work not complying with code.

F. Unless otherwise specified, specific references to codes, regulations, standards, manufacturers' instructions, or requirements of regulatory agencies, when used to specify requirements for materials or design elements, shall mean the edition of each in effect as identified in the Contract Documents.

G. Contractor shall maintain copies of regulatory reference manuals and code books on the job site for reference during planning, submittal processing and field installation of specific work.

1.05 CONFLICTS

A. Unless otherwise directed by the Engineer, if a conflict exists between referenced regulatory requirements, comply with the one establishing more stringent requirements.

B. Unless otherwise directed by the Engineer, if a conflict exists between referenced regulatory requirements and the Contract Documents, comply with the more stringent requirements.

1.06 CONTRACTOR PERMITTING REQUIREMENTS

A. Post issued permits at Work sites as required by regulatory authorities and permits. Contractor shall comply with all permits and regulatory requirements.

B. Maintain communication with regulatory personnel and the Owner during construction, use mitigation measures in a proactive fashion, and resolve issues in a timely manner to avoid regulatory conflicts.

C. Use specific procedures and policies, training programs, teamwork, documentation, and accountability from the time of notice-to-proceed through project close-out.

D. Conduct field compliance inspections and monitoring regularly and in coordination with regulatory inspectors.

E. Provide training to construction personnel prior to their performance of Work so that they understand environmental details associated with work execution.

F. Maintain a consistent interface with regulatory agencies, documentation, and compliance monitoring throughout construction to support efficient permit close-out.

1.07 SUBMITTALS

A. Permits, Licenses, and Certificates: For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with specified standards and regulations bearing on performance of the Work. Maintain copies of the aforementioned documents at the project site at all times.

1.08 CONTRACTOR LICENSING

A. Contractor shall be licensed as applicable to the Work on the Site. All expenses and procedures related to licensing shall be the Contractor’s responsibility.

PART 2 PRODUCTS

2.01 NOT APPLICABLE

PART 3 EXECUTION

3.01 NOT APPLICABLE

PART 4 MEASUREMENT AND PAYMENT

4.01 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 01 50 00

TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.01 GENERAL DESCRIPTION

A. Work under this shall be the providing of temporary facilities and site controls throughout the construction phase and as required to perform the work specified within the contract documents including but not limited to:

1. Site Security
2. Material Storage
3. Site Safety
4. Erosion Control and conformance to regulatory approvals and conditions
5. Signage as required

1.02 FACILITY REQUIREMENTS

A. Employee Parking

1. Contractor responsible for parking of vehicles at an offsite location. No parking is available within the project limits.

B. 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.

C. 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.

D. Maintain site, temporary structures, storage areas, temporary fencing, etc., in a neat and orderly manner.

E. Provide staging, hoists, temporary stairs, ladders, chutes, etc., as required, complying with applicable safety codes.

F. The Contractor, including all subcontractors, will not be permitted to display any descriptive signs indicating their company names and names of equipment of materials installed in the work beyond the specific requirements established with the contract documents.

1.03 FIELD LAYOUT

A. Contractor shall maintain a level, rod, and total station on job, and shall employ competent personnel for use thereof. The Owner shall have reasonable use of these instruments at all times.

B. Project survey information has been located on drawings for Contractor's use. Contractor shall establish benchmarks in at least two widely separated locations, and shall establish and maintain grades, lines, levels, and other dimensional reference guides as required. Annotate project record documents to indicate all modifications of grades, utilities, etc.

C. Scale indicated on the Contract Drawings is for establishing reference points only. Actual field conditions shall govern all dimensions.

1.04 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 ensure 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 of 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.

1.05 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.

1.06 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. MBTA Ferry operations at the floating dock adjacent to Pier 4 shall remain operational throughout construction. Do not obstruct ferry operations.

D. 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.

1.07 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.

E. Telephone:

1. Provide telephone access for construction purposes.

F. Fire Protection:

1. Provide temporary fire protection equipment for the protection of personnel and property during construction. Remove debris and flammable materials daily to minimize potential hazards.

1.08 STORM PROTECTION

A. When a warning of gale force winds is issued take precautions to minimize danger to persons and protection the work Precautions must include, but are not limited to, closing openings, removing loose materials, tools, and equipment from exposed locations, and removing or securing temporary work structure.

1.09 CLEANUP

A. Remove construction debris, waste materials, and packing materials from the work site on a periodic basis. Neatly stack stored materials.

PART 2 PRODUCTS

2.01 NOT APPLICABLE

PART 3 EXECUTION

3.01 NOT APPLICABLE

PART 4 MEASUREMENT AND PAYMENT

4.01 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 01 60 00

PRODUCTS

PART 1 GENERAL

1.01 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.

1.02 ABBREVIATIONS

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

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
AWS	American Welding Society
MassDOT	Massachusetts Department of Transportation
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

1.03 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. Substitutions from contract requirements require both designer of record and Owner approval and will be considered where advantageous to the Owner.

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

1.04 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 stored onsite shall be stored within the areas designated by the Owner.

PART 2 PRODUCTS

2.01 2.01 NOT APPLICABLE

PART 3 EXECUTION

3.01 3.01 NOT APPLICABLE

PART 4 MEASUREMENT AND PAYMENT

4.01 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 01 70 00

PROJECT CLOSEOUT

PART 1 GENERAL

1.01 CLEANUP

A. Before inspection for substantial completion, do all necessary cleaning, including the following:

1. Remove waste, surplus materials, rubbish, and construction equipment from the site.

2. Sweep and rinse with clear water exterior brick, paved, and concrete surfaces.

1.02 SUBSTANTIAL COMPLETION AND FINAL INSPECTION

A. Submit written certification that project, or designated portion of project is substantially complete, and request, in writing, a final inspection. The Owner will make an inspection within 10 days of receipt of request.

B. Should the Owner determine that the work is substantially complete, they will prepare a punch list of deficiencies that need to be corrected before final acceptance and issue a notice of substantial completion with the deficiencies noted.

C. Should the Owner determine that the work is not substantially complete, he will immediately notify Contractor, in writing, stating reasons. After Contractor completes work, he shall re-submit certification and request for final inspection.

1.03 CLOSE-OUT SUBMITTALS

A. Refer to EXECUTION portion of each specification section for closeout requirements, including operating and maintenance manuals; instruction of Owner's personnel in maintenance and operation of systems; submission of certifications, test reports, etc.; provision of spare parts and maintenance materials, all of which shall be neatly wrapped or packaged in standard sizes and clearly labeled.

B. Record Drawings showing the final as-built condition of the project. Drawings shall be submitted within 30 days of final acceptance and include:

1. Location and dimensions of any changes within the structure

2. Changes in details of design or additional information obtained from working drawings, including but not limited to fabrication, erection, installation and placing details and dimensions.

3. Changes or modifications which result from the final inspections

4. Modifications to the project, including change orders.

C. Debris Disposal Tickets

D. Typed list of major subcontractors and suppliers with addresses and telephone numbers.

E. Submissions specified elsewhere in Contract Documents, including consent of surety to final payment; affidavit that all bills and indebtedness connected with the Work have been paid; and certification of payment from subcontractors and suppliers, or bond satisfactory to the Owner indemnifying the Owner against liens or other claims.

1.04 ACCEPTANCE OF THE WORK

A. After all deficiencies have been corrected, a Letter of Final Acceptance will be issued. If only designated portions of the project have been inspected, a Letter of Partial Acceptance will be issued for that portion of the Work.

B. Acceptance may be given prior to correction of deficiencies that do not preclude operation and use of the facility; however, final payment will be withheld until all deficiencies are corrected.

C. Until receipt of Letter of Final Acceptance, Contractor shall be responsible for the work of this Contract.

1.05 POST-CONSTRUCTION INSPECTION

A. Prior to expiration of one year from date of final acceptance, the Owner will inspect the project to determine whether corrective work is required. Contractor will be notified in writing of all deficiencies. In accordance with terms of the General Conditions, corrective work must start on noted deficiencies within 10 days of receipt of notification to Contractor.

PART 2 PRODUCTS

2.01 NOT APPLICABLE

PART 3 EXECUTION

3.01 NOT APPLICABLE

PART 4 MEASUREMENT AND PAYMENT

4.01 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 02 00 00

SITE PREPARATION

PART 1 PART 1 GENERAL

1.01 SCOPE OF WORK

A. Work under this Section, without limiting the generality thereof, consists of the furnishing and installation of all materials, equipment, labor, testing, transportation facilities, and all operations and adjustments required for the complete and operating installation as indicated on the Drawings, stipulated in the Specifications and as reasonably implied by either or both. This includes, but is not limited to the following:

1. Mobilization and demobilization of all equipment, labor, materials, supervision, survey and any incidentals required to satisfactorily complete this project in accordance with these Specifications, the Contract Drawings and as directed by the Engineer.
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:
    a. Furnish and install temporary sediment controls
    b. Contain and remove all debris and waste materials arising during construction.
3. Perform all other miscellaneous work required to complete the project, but not covered by individual items in the contract.
4. Temporary support or relocation and reestablishment of utilities to the extent required to complete the work. No permanent relocations are required.
5. Temporary removal and reinstallation of miscellaneous pier and dock hardware as may be required.
6. Perform site work operations and the removal of debris and waste materials to assure minimum interference with navigation, streets, walks, parking facilities, buildings and all other adjacent facilities.
7. Obtain governing authorities written permission, when required, to close or obstruct street, walks, and adjacent facilities. Provide alternate routes around closed or obstructed traffic ways, when required by governing authorities.
8. Obtain written permission from property owners to trespass and/or transgress their properties where an easement has not been granted.
9. Control dust caused by the work. Dampen surfaces as required. Comply with pollution control regulations of governing authorities.
10. 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 Engineer, and stop all work in that vicinity of said artifacts until directed by the Engineer.

11. 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 Engineer, and stop all work in that vicinity of said until directed by the Engineer.

1.02 SUBMITTALS

A. Location and phasing work plan of staging areas and construction areas and schedule for moving materials or equipment into those areas shall be submitted for Engineer's approval prior to mobilization and related site preparation operations.

B. Updated project schedule weekly shall be submitted for Engineer's approval.

C. Details of silt curtains and floating booms as required by Order of Conditions.

D. Details of platforms and temporary staging as required to prevent debris and dust from falling into the water.

E. Details of containment for underwater work to capture and remove debris from the water.

F. Details of any crane lifting operations and layout.

G. Name and qualifications of firm performing the pre- and post-construction surveys and vibration monitoring, model and manufacturer of the proposed seismographs, and seismograph locations. Weekly vibration monitoring reports. Submit pre- and post-construction surveys within 1 week of completing the surveys. Submit background vibration data within 1 week of collection.

1.03 PROTECTION

A. Protect existing structures and facilities that are adjacent to the work area from damage caused by the project operations. Repair all damage caused to the satisfaction of the Engineer, at the sole expense of the Contractor.

B. Do not interfere with use of adjacent buildings, facilities, or ferry landings. Maintain free and safe passage to and from adjacent buildings, facilities, or ferry landings and between them and the public way.

C. Cease operations and notify Engineer 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.

D. The Contractor shall erect a safety barrier around his work areas as defined in the staging and phasing work plan and shall clearly post extent of diving operations.

1.04 MAINTAINING TRAFFIC

A. Do not close or obstruct roadways or other public access areas without authorization or permits.

B. Do not obstruct access to the Boston Harborwalk, Flagship Wharf, Pier 4 or MBTA ferry landing.

C. 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.

1.05 ENVIRONMENTAL PROTECTION

A. Comply with all requirements of environmental regulations and Project Permits.

B. Provide measures to prevent any construction debris from falling into the water or through the water column. Any material falling into the water shall be retrieved immediately and any material arising from underwater operations shall be retrieved by the end of each work shift.

PART 2 PART 2 PRODUCTS

2.01 Materials shall be as selected by the Contractor and approved by the Engineer, except as indicated on the Contract Drawings and/or in the Specifications.

2.02 CONSTRUCTION FENCE

A. 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 to receive posts.

B. Fence shall be installed around all areas dedicated for construction activities to prevent public access and provide for public safety.

2.03 FLOATING BOOM

A. The Contractor shall place a floating boom, approved by the Owner, around the work area.

B. The boom shall be large enough to enclose the work area the Contractor is working in and shall be moved into new work areas as the Contractor moves. Limits and location are as shown on contract drawings.

2.04 SEDIMENT CONTROLS

A. Contractor to provide sediment controls while completing silt producing work in accordance with the approved permits.

B. Turbidity monitoring shall be completed on any day that sediment excavation is to occur, with baseline measurements being obtained each day prior to the initiation of the excavation activity and subsequent measurements obtained every three (3) hours thereafter while excavation is underway. An exceedance event shall be a reading that is 50 NTUs greater than the baseline for any given day. In the event of an exceedance, excavation activities shall cease until either turbidity levels recede to a point below the threshold exceedance for a period of one (1) hour or the cause of the turbidity exceedance is identified, addressed, and resolved.

PART 3 PART 3 EXECUTION

3.01 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.

C. Complete vibration monitoring during any time piles or sheet piles are being driven. Establish background monitoring levels a minimum of 2 weeks prior to pile driving.

3.02 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 type and location of construction fencing used for this purpose shall be approved by the Engineer.

B. It is the Contractors responsibility to displace project and regulatory signs, as required.

3.03 COORDINATION WITH ADJACENT CONTRACTS

A. The Contractor shall note that adjacent work will be in progress during the term of this Contract and shall comply with the contract requirements to coordinate work and avoid interfering with the work of other contractors.

3.04 INSPECTION

A. The Owner will assign inspectors and/or resident engineers to this project on either a full time or part-time basis, as required to cover the work under this Contract, as justified by the Owner. The inspector or resident engineer shall be the Owner's representative for this project.

B. The Engineer must be notified at least 48 hours in advance of all material shipments in order to make arrangements for the shipment to be inspected as they arrive to the site.

C. All materials that are not suitable for placement on this project and/or have been rejected by the Engineer shall be removed from the site immediately; the cost of the removal of these materials shall be the responsibility of the Contractor.

D. Unless otherwise agreed upon with the 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.

E. The Engineer 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 Engineer with these checks as needed.

3.05 PHASING OF CONSTRUCTION

A. Contractor shall prepare a phasing plan for submittal to the Engineer prior to commencing any work on site. Any proposed revisions to the phasing plan shall be submitted for approval two weeks in advance of proposed change. The phasing plan shall indicate the order in which the work is to occur as shown on the Construction Drawings.

B. No work shall commence without prior approval of the Engineer and approved phasing work plan in place.

PART 4 MEASUREMENT AND PAYMENT

4.01 MEASUREMENT AND PAYMENT

A. METHOD OF MEASUREMENT

1. Measurement of Mobilization and Site Preparation shall be measured by the Contract Unit Price LUMP SUM. Only one Mobilization and Site Preparation shall be measured for MOBILIZATION AND SITE PREPARATION.

2. Measurement of Turbidity Curtain shall be measured by the Contract Unit Price LINEAR FOOT. Length shall be computed using the dimensions shown on the Contract Drawings. No additional length will be included without prior direction and authorization by the Engineer.

B. METHOD OF PAYMENT

1. Payment shall be made for MOBILIZATION AND SITE PREPARATION at the Contract Unit Price LUMP SUM and shall be full compensation for furnishing all necessary labor and equipment to successfully complete the contract and shall include mobilization, demobilization, site preparation, phasing of the work, repeat mobilizations to suit phasing and all items not otherwise called out for individual price breakdown including provision of all materials and equipment to comply with Project Permits, temporary support, removal, replacement or relocation of utilities and other pier and docking equipment. Payment under this item shall be made in two installments, 50% at time of project startup, 50% after substantial completion and the removal of all Contractor's equipment and personnel.

2. Payment shall be made for TURBIDITY CURTAIN at the Contract Unit Price LINEAR FOOT and shall be full compensation for furnishing, installing, maintaining, and removing the turbidity curtain, including all labor, materials, equipment, and incidentals necessary to complete the work.

C. PAYMENT ITEMS

ITEM	DESCRIPTION	UNIT
02 00 00-01	Mobilization and Site Preparation	LS
02 00 00-02	Turbidity Curtain	LF

END OF SECTION

SECTION 02 41 00

DEMOLITION

PART 1 GENERAL

1.01 SCOPE OF WORK

A. Work under this Section, without limiting the generality thereof, consists of providing all materials, equipment, labor, storage, transportation facilities, and all other incidentals as indicated on the Drawings, stipulated in the Specifications and as reasonably implied by either or both for the complete removal and disposal of the following:

1. Selective demolition including but not limited to existing timber boardwalk, brick walkway, concrete decking, and concrete pile encasements.
2. Clearing of debris under timber boardwalk to all free flowage of water.
3. Removal and storage of appurtenances to be reinstalled.
4. Miscellaneous hardware, fasteners, chains, pieces of timber, concrete, rubble, brackets, and other material which are encountered during the course of work which interferes with work specified to be done.
5. All demolition work required as specifically called for on the Drawings and additionally as required to accommodate the proposed work.
6. All utility demolition work required to remove hazards which would otherwise prevent the contractor from completing the proposed work in a safe manner.
7. Removal from site and legal disposal of all removed materials, trash, debris, etc., dismantled and/or removed by demolition operations.

B. Debris Boom shall be used during demolition of existing waterside structures.

C. Incidental materials necessary for the completion of the work of this section and usually furnished in connection therewith, shall be furnished and installed whether or not specifically mentioned.

D. Should drawings not agree within themselves or not agree with the specifications, the greater quantity, or superior quality of work or materials shall be included.

1.02 CODES, STANDARDS, ORDINANCES AND PERMITS

A. Perform all work in strict accordance with all rules, regulations, standards, codes, ordinances, or laws of local, state, and Federal authorities having lawful jurisdiction, and be responsible for compliance therewith. Such authorities include but are not limited to the following:

1. The Massachusetts State Building Code
2. The City of Boston
3. Boston Planning and Development Agency (BPDA)
4. The Massachusetts Department of Public Safety (DPS)
5. Department of Environmental Protection; Order of Conditions (DEP)

1.03 SUBMITTALS

A. Before beginning work, submit a Demolition Plan containing the following:

1. Introduction describing work to be done.
2. Detailed sequence of demolition including any measures to ensure stability of all existing structures. All requirements for temporary support shall be the responsibility of the Contractor at no additional cost to the Agency.
3. Detailed schedule of demolition and removal work, with early and late starting and finishing dates for each activity.
4. Details of falsework, staging, or other containment as required to catch and remove demolition debris such as concrete and rebar in accordance with the environmental permits
5. Description of proposed demolition methods and protection for adjacent areas not being demolished
6. Description of equipment.
7. Locations of proposed dust- and noise-control temporary partitions and means of egress.
8. Proposed disposal facility for each category of demolition materials
9. Methods for maintaining dust control.
10. Methods for clearing storm sewer trunk lines and catch basins.
11. Methods for monitoring and controlling noise.
12. Safety precautions to be undertaken during operations.
13. Evaluation of existing structures by an engineer to confirm that loads to be encountered during demolition activities can be adequately supported by the structures.
14. Preconstruction inspection that includes photograph and or video of existing conditions.

B. Landfill Records: Provide a Waste Management Report that includes the location and quantity of material disposed of, and the quantity diverted from disposal for recycling, salvage, or reuse. Include trip tickets (receipts) indicating receipt and acceptance of wastes by each disposal facility or recycling, salvage, or reuse facility licensed to accept said wastes.

C. Provide a copy of all permits, completed shipping manifests, and destruction certificates to the Agency.

D. Contractor shall provide to the Agency copies of all weight slips, both tare and gross, for every load weighed and disposed of at the disposal or recycling facilities. The Agency shall only allow progress payments after receipt of these weight slips.

PART 2 PRODUCTS

2.01 Not Applicable

PART 3 EXECUTION

3.01 PREPARATION

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. Site Access and Temporary Controls: Conduct demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

1. Comply with requirements for access and protection specified in Section 02 00 00, Site Preparation.

C. 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.

D. 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.

2. Install temporary environmental protection measures to prevent the discharge of construction debris and other pollutants from entering open bodies of water.

E. Manage and dispose of materials in accordance with applicable local, state, and federal regulations. Contractor shall assume work may involve removal of timber containing creosote or other timber treatments.

3.02 APPLICATION

A. The work shall be conducted with prime consideration given to the following:

1. Compliance with applicable laws and building codes.

2. Safety, protection, and convenience of the Agent’s tenants, public, and workmen.

3. Minimization of dirt and dust proliferation.

4. Protection of the existing building structure, materials, and finishes from damage.

5. Neat and accurate cutting and trimming of elements to be partially removed, subject to Engineer's approval.

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 General Contractor including, but not limited to, the DPS Demolition Permit. Provide unobstructed exits approved by the Agency at all times.

C. All work shall be done while maintaining unrestricted access to the Boston Harborwalk, Flagship Wharf, Pier 4, and MBTA ferry landing.

D. Surface under the timber boardwalk shall have debris removed and disposed of in order to effectively allow water to drain freely.

E. All materials removed during demolition designated for disposal shall become the property of the Contractor unless otherwise noted.

F. 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.

G. Do not work in affected areas until the various dust and protective barriers have been installed.

H. Contractor shall be responsible for all concrete saw cutting and removal and disposal of material.

I. Debris shall not be allowed to accumulate and shall be sprinkled during handling and loading to reduce dust. All debris shall be either stored temporarily in Contractor furnished dumpster type container(s) provided by the Contractor at his expense, or shall be removed from the site daily, to ensure absolute minimization of dusting and other pollution. Segregate debris as required for disposal.

J. During demolition activities which are over or in water, the area of the demolition work shall be enclosed with a bottom anchored silt curtain approved by the Engineer.

PART 4 MEASUREMENT AND PAYMENT

4.01 MEASUREMENT AND PAYMENT

A. METHOD OF MEASUREMENT

1. Measurement of DEMOLITION & DEBRIS shall be measured by the Contract Unit Price TON.

2. Measurement of TIMBER BOARDWALK DEMOLITION & DEBRIS shall be measured by the Contract Unit Price TON – Add Alt 1.

3. Measurement of DEMOLITION & DEBRIS shall be measured by the Contract Unit Price TON – Add Alt 2.

B. METHOD OF PAYMENT

1. Payment shall be made for DEMOLITION & DEBRIS at the Contract Unit Price TON and shall be full compensation for furnishing all necessary labor, equipment, materials, preparation, testing, transportation, survey, and supervision to successfully remove, clear, and dispose of concrete, timber, and brick walkway, miscellaneous hardware, chains, brackets, miscellaneous pile attachments, debris and any other items listed for demolition and any incidentals necessary to complete the work specified herein and as shown on the Contract Drawings. 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.

2. Payment shall be made for TIMBER BOARDWALK DEMOLITION & DEBRIS – Add Alt 1 at the Contract Unit Price TON for Add Alternative 1 and shall be full compensation for furnishing all necessary labor, equipment, materials, preparation, testing, transportation, survey, and supervision to successfully remove, clear, and

dispose of the timber boardwalk, any associated components designated for demolition, and any incidentals necessary to complete the work specified herein and as shown on the Contract Drawings. 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.

3. Payment shall be made for DEMOLITION & DEBRIS – Add Alt 2 at the Contract Unit Price TON for Add Alternative 2 and shall be full compensation for furnishing all necessary labor, equipment, materials, preparation, testing, transportation, survey, and supervision to successfully remove, clear, and dispose of concrete, timber, and brick walkway, miscellaneous hardware, chains, brackets, miscellaneous pile attachments, debris and any other items listed for demolition and any incidentals necessary to complete the work specified herein and as shown on the Contract Drawings. 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.

4. Measurement and payment for all other demolition work required shall be included within the work it is associated with.

C. PAYMENT ITEMS

ITEM	DESCRIPTION	UNIT
02 41 00-01	Demolition & Debris	TON
02 41 00-02	Timber Boardwalk Demolition & Debris – Add Alt 1	TON
02 41 00-03	Demolition & Debris – Add Alt 2	TON

END OF SECTION

SECTION 03 31 30

REINFORCED CONCRETE

PART 1 GENERAL

1.01 SCOPE OF WORK

A. Work under this Section, without limiting the generality thereof, consists of the furnishing and installation of all materials, equipment, labor, testing, transportation facilities, and all operations and adjustments required for the complete and operating installation as indicated on the Drawings, stipulated in the Specifications and as reasonably implied by either or both. This includes, but is not limited to the following:

1. Reinforced Concrete for:
    a. Bulkhead Concrete Cap
    b. Concrete Spall Repair and Rehabilitation
    c. Plumb Pipe Encasements
    d. Batter Pipe Encasements
2. Unreinforced Concrete for:
    a. Bulkhead Sheetpile Infill
    b. Bulkhead Concrete Façade with ECOncrete
3. Miscellaneous reinforced concrete items including, but not limited to:
    a. Shallow deck pads
    b. As otherwise shown on Contract Documents or needed to complete the work

B. Should drawings not agree within themselves or the specifications, the greater quantity, or superior quality of work or materials shall be included.

1.02 RELATED WORK SPECIFIED IN OTHER SECTIONS:

A. The following items of related work are specified and included in other Sections of the Specifications:

1. Demolition under DEMOLITION, SECTION 02 41 00
2. Metal fabrications under MISCELLANEOUS METAL FABRICATIONS, SECTION 05 50 13
3. Earthwork under EARTHWORK, SECTION 31 00 00
4. Steel Sheet Pile Bulkhead under METAL SHEET PILING, SECTION 31 41 16

B. Examine all Drawings and all sections of the Specifications for requirements and provisions affecting the work of this Section.

1.03 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 Galvanized Reinforcing Bar"

d. The Commonwealth of Massachusetts, Department of Public Works "Standard Specifications for Highways and Bridges" (MHD)

1.04 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

b. Drawings for reference.

c. Shall include number of pieces, sizes, and grade of reinforcing steel, accessories, and any other information required for fabrication and placement.

d. Shall show joint layout and design

2. Precast Concrete 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 include details of lifting arrangements

3. Contractor shall check structural and site 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. Precast concrete manufacturer details and qualifications

C. Concrete mix designs for each type of work, each supplier and as specified in this Section

D. Concrete break history on the mix design for no less than 2 years of history

E. Concrete repair mortar/manufacturer/design mix

F. Concrete spall repair procedure plan

G. ECOncrete product data

H. Name and address of Independent Testing Laboratory for approval by Engineer

I. Cold weather concrete protection and curing details

J. Hot weather concrete protection and curing details

K. Concrete wind protection and curing details

1.05 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 five 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. Two cylinders shall be broken after seven days and two cylinders after twenty-eight days. The fifth cylinder shall be stored on the site to the same conditions of the ongoing work as reserve to break if and when the placed concrete does not achieve the required strength at 28 days.

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 and for each fifty cubic yards 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 Engineer 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 Authority. Any other work damaged because of this concrete removal shall be replaced with new materials to the satisfaction of the Engineer at no additional cost to The Authority. 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 Engineer at no additional cost to The Authority.

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

1.06 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 coating. A sufficient supply of approved reinforcing steel shall be stored on site at all times to ensure that there will be no delay of work. Identification of steel shall be maintained after bundles are broken.

PART 2 PRODUCTS

2.01 MATERIALS

A. The following materials shall be used unless specifications define elsewhere with a specific construction element.

B. Portland Cement: ASTM C 150, Type II or V of U.S. manufacture. Only one brand of cement shall be used on the project.

C. 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.

D. All admixtures shall all be from the same manufacturer

E. Air Entraining Agent: Conforming to ASTM C 260 for Air-Entraining Admixtures for Concrete.

F. Water Reducing Agent: Conforming to ASTM C 494 Type A for Chemical Admixtures for Concrete.

G. Shrinkage-Reducing Agent: Conforming to ASTM C 494 Type S and suitable for use in saltwater environment. Admixture shall be non-expansive and able to reduce shrinking by a minimum of 40%. Shrinkage reducing agent shall be used in all concrete mixes except tremie concrete.

H. Anti-Washout Agent: Conforming to ASTM C 494 Type S and suitable for use in saltwater environment. Anti-washout agent shall be used in tremie concrete.

I. Microsilica Admixture (if required): Packaged in easily dispersing form.

J. All chemical admixtures shall be by the same manufacturer.Water: Clean and potable, free of impurities detrimental to concrete.

K. Welded Wire Mesh: New, smooth steel with 6”x6” spacing, size W1.4, W1.4 in accordance with ASTM A1064.

L. 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.

M. 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.

N. Mechanical splices shall meet or exceed ASTM A615 and be hot dipped galvanized.

O. 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.

P. Form Ties and Spreaders: Standard metal form clamp assemble and plastic cone, of type acting as spreaders and leaving no metal within 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.

Q. 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. Coating containing mineral oils or the nondrying ingredients will not be permitted.

R. ECOncrete: ECOncrete admixture and form liner suitable for use in a saltwater environment. Materials shall be incorporated into the Bulkhead Concrete Façade and installed in accordance with the manufacturer's recommendations.

S. Concrete Repair Mortar: A fast setting, high-strength, non-shrink repair mortar with saltwater resistance suitable for repair orientation and depth indicated on the Contract Drawings, including overhead and vertical repairs, such as SikaRepair SHA with Sika Latex R, Five Star EZ-Cure Repair Mortar, Prospec Vertical Leveling Mortar, or approved equal. Surfaces shall be prepared and Concrete Repair Mortar shall be mixed and applied in accordance with the manufacturer's recommendations.

T. Bonding agents suitable for concrete and grout. Agent shall be resistant to saltwater environment such as SIKA Armatec 110, EUCO #452 epoxy system or approved equal.

U. Bond Breaker:

1. Tape for Joints: Adhesive-backed glazed butyl or polyethylene tape.
2. Nonstaining type, providing positive bond prevention.

2.02 CONCRETE STRENGTHS AND PROPORTIONS

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

Class	Minimum Strength at 28 days	Maximum Size of Aggregate	Max Water Cement Ratio	Minimum Cementitious Material Content	Maximum Cement Replacement	Air Entrainment (air content)
A	5000 psi	¾"	0.40	660 lbs./CY	Per ACI 318 Except Max slag 25%	5 to 7%

B. Air-Entrainment: The air content in all concrete shall be maintained as defined above.

C. Slump: The slump in 5000psi concrete shall be between 4 inches to 6 inches and in accordance with ASTM C 143.

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.

E. Concrete mix design by supplier shall have been in satisfactory use for a minimum of 2 years.

PART 3 EXECUTION

3.01 CAST-IN-PLACE CONCRETE GENERAL

A. Falsework for Forms

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

B. Construction of Forms

1. Forms shall be constructed of sound material, 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. Cold joint forms shall have a roughened profile for adjacent pours.

2. During pumping, forms shall be inspected to guarantee that no leaks are present and Contractor shall ensure that concrete, when cured, will result in a composition as specified herein.

3. 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.

4. 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 because of failure to provide for such openings, shall be paid for by the Contractor at no additional expense to The Authority.

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 ensure 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 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 Engineer. 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 1-1/2 times the maximum sized aggregate.

5. Minimum edge distance of 3” unless otherwise noted on the Contract Drawings.

6. Splices shall be in accordance with the following:

   a. Lap Splicing:

      1) Maximum 50% of steel spliced occurring within lap length.

      2) Top bars shall be 1.4 times values given below.

      3) Splice lengths - #6 bars and smaller 40 bar diameters

      4) Splice lengths - #7 bars and greater 47 bar diameters

   b. Mechanical Splicing:

      1) Mechanical butt splices shall be the tension-compression shear screw and wedge coupling sleeve type, with smooth converging sides and cone-pointed hex-head screws, to develop a strength in the bar equal to $1.25F_y$

      2) Mechanical lap splices shall be the shear screw and double wedge coupling sleeve type, with converging sides and cone-pointed hex-head screws opposite the wedges.

7. 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 admixtures, 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 be presented to the Engineer and shall indicate the quantity and quality of concrete, additives, date and time of batching and delivery, and the location of placement. No concrete shall be placed until the Engineer has reviewed and approved the delivery slip for that placement.

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. Contractor shall provide heating and/or insulation to formwork as required to comply with these minimum temperature requirements.

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.

H. Conveying and Placing Concrete

1. Notification: Contractor shall notify Authority'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 Engineer. 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. Saltwater: Where work is submerged in saltwater or subject to salt air or mist, rinse all steel and forms with fresh water immediately prior to placement of concrete.

6. Existing Concrete Preparation: All existing concrete that is to have fresh concrete placed against shall be surfaced roughened to a minimum of ¼" amplitude within 2 inches of the edges and shall be coated with approved bonding agent.

7. 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.

8. 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. Cold joints will not be accepted. Horizontal construction joints will be permitted between lifts for concrete infill.

    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.

9. Pumping

a. Concrete may be placed by pumping if first approved in writing by the Engineer 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 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 Engineer and paid for by the Contractor. The cost of this fill-time inspection shall be included in the Contractor's bid proposal if the option of pumping is elected.

10. 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) impulses 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. Vibrations shall not be used to walk concrete from one side to another within given form. Walking concrete will cause separation of the mix.

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. 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 Engineer's opinion are too large and unsatisfactory for mortar patching as described above, shall be cut out to solid surface, keyed, and packed solid 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 sand mix.

J. Protection and Curing

1. Protect concrete from injurious action of the elements and defacement of any nature during construction operations.

2. 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.

3. Keep concrete in a thoroughly moist condition from the time it is placed until it has cured, for at least seven (7) days.

4. Carefully protect exposed concrete corners from damage.

5. Allow no slabs 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 wetted Burlene or fog spray unless otherwise approved.

K. ECOncrete Bulkhead Façade

1. Install the ECOncrete marine enhancement system at locations indicated on the Contract Drawings in accordance with approved product data and manufacturer’s recommendations.

2. Coordinate the concrete mix, admixtures, form liners, surface treatments, placement, consolidation, form removal, curing, and protection within the ECOncrete system requirements.

3. Protect the specified ECOncrete surface texture during form removal, curing, and subsequent construction.

L. Concrete Finishes

1. Unexposed Surfaces - All unexposed surfaces shall have 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. 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.

3. Exposed Surfaces

   a. The following finishing requirements shall not apply to ECOncrete surfaces unless otherwise approved by Engineer.

   b. 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.

   c. If the Engineer 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 Engineer shall be the sole judge of the amount of rubbing which will be required.

   d. 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 Engineer, rubbing may be performed by use of satisfactory power equipment and tools, providing the operational procedures shall be the same as those outlined above for hand rubbing.

   e. Rubbing will be kept to the minimum found necessary to produce smooth, even surfaces of uniform appearance. Rubbing will not be required to fill very small surface air bubble holes.

   f. Patches required for form ties, if carefully and properly done, may not necessitate rubbing. However, if the work is done in such a way that the

patches are conspicuous; the entire exposed face on which they occur shall be rubbed.

g. 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.

h. No rubbing will be permitted when the air temperature is below 40 °F.

i. 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. Addition of Material

a. The addition of cement, sand, water, or mortar to any surface while finishing concrete is strictly prohibited.

M. Concrete Repair

1. Inject cracks that leak with crack repair epoxy.

2. Repair defective areas of concrete.

3. Repair concrete surfaces using specified materials. Select system, submit for review, and obtain approval from Engineer prior to use.

4. Develop repair techniques with material manufacturer on surface that will not be visible in final construction prior to starting actual repair work. Obtain approval from Engineer.

5. Obtain quantities of repair material and manufacturer's detailed instructions for use to provide repair with finish to match adjacent surface or apply sufficient repair material adjacent to repair to blend finish appearance.

6. Repair of concrete shall provide structurally sound surface finish, uniform in appearance or upgrade finish by other means until acceptable to Engineer.

N. Concrete Spall Repair & Rehabilitation

1. Perform concrete spall repairs at locations shown on the Contract Drawings and as directed by the Engineer.

2. Establish limits of unsound or deteriorated concrete and obtain clearance from Engineer prior to removal of deteriorated concrete.

3. Remove deteriorated concrete to the limits shown on the Contract Drawings, including extending removal a minimum of 2 inches beyond the limits of the defect where indicated. Do not damage adjacent concrete or reinforcing steel to remain.

4. Replace reinforcing steel where indicated on the Contract Drawings.

5. Prepare existing concrete substrate and apply bonding agents in accordance with the approved repair-material manufacturer's requirements.

6. Place, finish, cure, and protect repair mortar in accordance with the approved repair-material manufacturer's requirements.

O. Defective Work

1. The following concrete work shall be considered defective and may be ordered by the Engineer 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.

PART 4 MEASUREMENT AND PAYMENT

4.01 Measurement and Payment

A. METHOD OF MEASUREMENT

1. Measurement of BULKHEAD CONCRETE CAP shall be measured by the Contract Unit Price CUBIC YARD. Volume shall be computed using the dimensions shown on the Contract Drawings. No additional volume will be included without prior direction and authorization by the Engineer.

2. Measurement of CONCRETE SPALL REPAIRS shall be measured by the Contract Unit Price SQUARE FOOT. Area shall be computed using the dimensions shown on the Contract Drawings. No additional area will be included without prior direction and authorization by the Engineer.

3. Measurement of BULKHEAD SHEETPILE INFILL shall be measured by the Contract Unit Price CUBIC YARD. Volume shall be computed using the dimensions shown on the Contract Drawings. No additional volume will be included without prior direction and authorization by the Engineer.

4. Measurement of BULKHEAD CONCRETE FAÇADE shall be measured by the Contract Unit Price CUBIC YARD. Volume shall be computed using the dimensions shown on the Contract Drawings. No additional volume will be included without prior direction and authorization by the Engineer.

5. Measurement of BULKHEAD CONCRETE CAP/DECK – Add Alt 2 shall be measured by the Contract Unit Price CUBIC YARD. Volume shall be computed using the dimensions shown on the Contract Drawings. No additional volume will be included without prior direction and authorization by the Engineer.

6. Measurement of BULKHEAD SHEETPILE INFILL – Add Alt 2 shall be measured by the Contract Unit Price CUBIC YARD. Volume shall be computed

using the dimensions shown on the Contract Drawings. No additional volume will be included without prior direction and authorization by the Engineer.

7. Measurement of BULKHEAD CONCRETE FAÇADE – Add Alt 2 shall be measured by the Contract Unit Price CUBIC YARD. Volume shall be computed using the dimensions shown on the Contract Drawings. No additional volume will be included without prior direction and authorization by the Engineer.

8. Measurement of PLUMB PIPE ENCASEMENTS – Add Alt 2 shall be measured by the Contract Unit EACH encasement installed as shown on the contract drawings. No additional units will be included without prior direction and authorization by the Engineer.

9. Measurement of BATTER PIPE ENCASEMENTS – Add Alt 2 shall be measured by the Contract Unit EACH encasement installed as shown on the contract drawings. No additional units will be included without prior direction and authorization by the Engineer.

10. For all other concrete work, no separate measurement or payment will be made for the work in this Section. Measurement and payment for these items shall be included within the work it is associated with.

B. METHOD OF PAYMENT

1. Payment shall be made for BULKHEAD CONCRETE CAP at the Contract Unit Price CUBIC YARD, complete in place. 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 new concrete cap along the proposed sheetpile bulkhead including, but not limited to, excavation, excavation support, compaction, falsework, temporary supports, lifting, forming, finishing, dowels, reinforcing steel, mortars, grouts, epoxy adhesives, inserts, anchors, steel plates, surface preparation, curing, attachments, disposal of items not otherwise indicated for separate payment and any incidentals necessary to complete the work specified herein and as shown on the Contract Drawings.

2. Payment shall be made for CONCRETE SPALL REPAIRS at the Contract Unit Price SQUARE FOOT, complete in place. This price and payment shall constitute full compensation for all labor, equipment, materials, preparation, testing, transportation, survey, and supervision for the satisfactory repair of concrete spalls along the proposed sheetpile bulkhead including, but not limited to, sounding and establishing repair limits, removal of unsound concrete, preparation of existing concrete and reinforcing steel, forming, repair mortar, bonding agents, finishing, curing, protecting, disposal of removed materials, and any incidentals necessary to complete the work specified herein and as shown on the Contract Drawings.

3. Payment shall be made for BULKHEAD SHEETPILE INFILL at the Contract Unit Price CUBIC YARD, complete in place. 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 new bulkhead sheetpile infill along the proposed sheetpile bulkhead including, but not limited to, falsework, temporary supports, lifting, forming, finishing, dowels, reinforcing steel, mortars, grouts, epoxy adhesives, inserts, anchors, steel plates, surface preparation, curing, attachments, disposal of

items not otherwise indicated for separate payment and any incidentals necessary to complete the work specified herein and as shown on the Contract Drawings.

4. Payment shall be made for BULKHEAD CONCRETE FAÇADE at the Contract Unit Price CUBIC YARD, complete in place. 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 new bulkhead concrete façade, including specified ECOncrete admixture and form liner, along the proposed sheetpile bulkhead including, but not limited to, falsework, temporary supports, lifting, forming, finishing, dowels, reinforcing steel, mortars, grouts, epoxy adhesives, inserts, anchors, steel plates, surface preparation, curing, attachments, disposal of items not otherwise indicated for separate payment and any incidentals necessary to complete the work specified herein and as shown on the Contract Drawings.

5. Payment shall be made for BULKHEAD CONCRETE CAP/DECK – Add Alt 2 at the Contract Unit Price CUBIC YARD, complete in place for Add Alternative 2. 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 new bulkhead concrete cap/deck along the proposed sheetpile bulkhead including, but not limited to, falsework, temporary supports, lifting, forming, finishing, dowels, reinforcing steel, mortars, grouts, epoxy adhesives, inserts, anchors, steel plates, surface preparation, curing, attachments, disposal of items not otherwise indicated for separate payment and any incidentals necessary to complete the work specified herein and as shown on the Contract Drawings.

6. Payment shall be made for BULKHEAD SHEETPILE INFILL – Add Alt 2 at the Contract Unit Price CUBIC YARD, complete in place for Add Alternative 2. 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 new bulkhead sheetpile infill along the proposed sheetpile bulkhead including, but not limited to, falsework, temporary supports, lifting, forming, finishing, dowels, reinforcing steel, mortars, grouts, epoxy adhesives, inserts, anchors, steel plates, surface preparation, curing, attachments, disposal of items not otherwise indicated for separate payment and any incidentals necessary to complete the work specified herein and as shown on the Contract Drawings.

7. Payment shall be made for BULKHEAD CONCRETE FAÇADE – Add Alt 2 at the Contract Unit Price CUBIC YARD, complete in place for Add Alternative 2. 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 new bulkhead concrete façade, including specified ECOncrete admixture and form liner, along the proposed sheetpile bulkhead including, but not limited to, falsework, temporary supports, lifting, forming, finishing, dowels, reinforcing steel, mortars, grouts, epoxy adhesives, inserts, anchors, steel plates, surface preparation, curing, attachments, disposal of items not otherwise indicated for separate payment and any incidentals necessary to complete the work specified herein and as shown on the Contract Drawings.

8. Payment shall be made for PLUMB PIPE ENCASEMENTS – Add Alt 2 at the Contract Unit Price EACH, complete in place for Add Alternative 2. 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 new plumb pipe encasements along the proposed sheetpile bulkhead including, but not limited to, falsework, temporary supports, lifting, forming, finishing, dowels, reinforcing steel, mortars, grouts, epoxy adhesives, inserts, anchors, steel plates, surface preparation, curing, attachments, disposal of items not otherwise indicated for separate payment and any incidentals necessary to complete the work specified herein and as shown on the Contract Drawings.

9. Payment shall be made for BATTER PIPE ENCASEMENTS – Add Alt 2 at the Contract Unit Price EACH, complete in place for Add Alternative 2. 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 new batter pipe encasements along the proposed sheetpile bulkhead including, but not limited to, falsework, temporary supports, lifting, forming, finishing, dowels, reinforcing steel, mortars, grouts, epoxy adhesives, inserts, anchors, steel plates, surface preparation, curing, attachments, disposal of items not otherwise indicated for separate payment and any incidentals necessary to complete the work specified herein and as shown on the Contract Drawings.

C. PAYMENT ITEMS

ITEM	DESCRIPTION	UNIT
03 31 30-01	Bulkhead Concrete Cap	CY
03 31 30-02	Concrete Spall Repairs	SF
03 31 30-03	Bulkhead Sheetpile Infill	CY
03 31 30-04	Bulkhead Concrete Façade	CY
03 31 30-05	Bulkhead Concrete Cap/Deck	CY
03 31 30-06	Bulkhead Sheetpile Infill – Add Alt 2	CY
03 31 30-07	Bulkhead Concrete Façade – Add Alt 2	CY
03 31 30-08	Plumb Pipe Encasements – Add Alt 2	EA
03 31 30-09	Batter Pipe Encasements – Add Alt 2	EA

END OF SECTION

SECTION 05 50 13

MISCELLANEOUS METALS

PART 1 GENERAL

1.01 SCOPE OF WORK

A. Work under this Section, without limiting the generality thereof, consists of manufacturing or shop-fabricating metal elements itemized below and installation of all materials, equipment, labor, transportation facilities, and all operations and adjustments required for the complete and operating installation as indicated on the Drawings, stipulated in the Specifications and as reasonably implied by either or both. This includes, but is not limited to the following:

1. Machine bolts and washers
2. Anchor and expansion bolts, washers, and nuts
3. Plates
4. Wedge anchors
5. Threaded inserts
6. Stainless steel screws
7. Miscellaneous angles and brackets
8. Fabricated steel elements
9. Miscellaneous fabricated elements and other hardware not otherwise identified

B. Should drawings not agree within themselves or the specifications, the greater quantity, or superior quality of work or materials shall be included.

1.02 RELATED WORK SPECIFIED IN OTHER SECTIONS

A. The following items of related work are specified and included in other Sections of the Specifications.

1. Concrete under REINFORCED CONCRETE, SECTION 03 31 30
2. Coatings under MARINE COATINGS, SECTION 09 96 26
3. Sheet pile bulkhead under METAL SHEET PILING, SECTION 31 41 16
4. Timber harborwalk deck under HEAVY TIMBER CONSTRUCTION, SECTION 06 13 00

B. Examine all Drawings and all Sections of the Specifications for requirements and provisions affecting the work of this Section.

1.03 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).

4. The Commonwealth of Massachusetts, Department of Public Works "Standard Specifications for Highways and Bridges" (latest edition). (MHD)

1.04 SUBMITTALS

A. 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, and 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. 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, specifications, and certification of compliance with applicable ASTM specifications for all bolts and other connection items identified within the contract drawings.

D. 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.

E. 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 metal fabricating firm or firms certifying that all fabricated metal has been fabricated in complete accordance with this Section of these specifications.

F. Name and address of Independent Testing Laboratory for approval by Engineer

1.05 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 Authority.

PART 2 PRODUCTS

2.01 MATERIALS

A. All structural steel, including rolled shapes, angles and plates shall conform to ASTM A572 Gr. 50 unless otherwise noted.

B. All steel items under this section shall be galvanized unless noted otherwise on the Contract Drawings. Galvanizing shall be by the hot dip method according to ASTM Specifications A-123 and A-153.

C. All bolts for timber and/or composite materials shall conform to ASTM A307, Gr. A for Mild Steel Bolts unless otherwise notes and shall be Hot Dipped Galvanized according to ASTM Specifications A-123 and A-153.

D. Stainless Steel shall be Series 300, Type 316.

E. All hardware not encased in concrete shall be stainless steel unless otherwise noted.

2.02 WELD ELECTRODES

A. Weld rod shall conform to AWS E70XX grade.

PART 3 EXECUTION

3.01 FABRICATION

A. Fabricate products in a fully-equipped facility capable of producing a high grade of metal fabrication work. All work shall be straight and true, and free from warpage and other defects. Joints, covers, copes, and miters shall be accurately and neatly cut, machined, field, and fitted.

B. Fabrication shall conform to AISC Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings.

C. 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.

D. All steel will be free from imperfections, dirt, loose scale, paint, oil, or other foreign substances.

E. 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.

F. All welds shall be made watertight.

G. All material shall be fabricated to within + or - 1/8 inch of their theoretical dimensions as shown on the drawings.

H. Holes for bolts shall be located as shown on the drawings and shall be drilled 1/6" in diameter larger than the galvanized bolt.

I. All fabrication under this section shall be hot dipped galvanized in accordance with ASTM Specifications A-123 and A-153, unless noted otherwise on the Contract Documents.

J. Prior to fabricating any structural steel members, contractor shall confirm the exact field measurements of each unit to account for the subtle changes of individual unit’s field condition.

3.02 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. 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. No cutting or burning of steel shall be done to install fasteners without approval of the Engineer.

D. Clean installed work from weld spatter, dirt and other foreign materials. Protect installed work as required from damage by subsequent building operations.

E. Joints are to be square, tight, and well-fastened with all members assembled in accordance with the Contract Drawings.

3.03 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.

3.04 DEFECTIVE WORK

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

PART 4 METHOD OF MEASUREMENT AND PAYMENT

4.01 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 06 13 00

HEAVY TIMBER CONSTRUCTION

PART 1 GENERAL

1.01 SCOPE OF WORK

A. Work under this Section, without limiting the generality thereof, consists of the furnishing and installation of all materials itemized under MATERIALS in this Section, equipment, labor, transportation facilities, and all operations and adjustments required for the complete and operating installation as indicated on the Drawings, stipulated in the Specifications and as reasonably implied by either or both. This includes, but is not limited to the following:

1. Timber boardwalk, including replacement of timber decking, stringers, and fasteners.

B. Should drawings not agree within themselves or the specifications, the greater quantity, or superior quality of work or materials shall be included.

1.02 RELATED WORK SPECIFIED IN OTHER SECTIONS:

A. The following items of related work are specified and included in other Sections of the Specifications:

1. Timber Fasteners under MISCELLANEOUS METALS, SECTION 05 50 13

B. Examine all Drawings and all Sections of the Specifications for requirements and provisions affecting the work of this Section.

1.03 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)
7. American Wood Protection Association (AWPA)

1.04 SUBMITTALS

A. Certification of timber species.

B. Certification of timber treatment.

C. AWPA quality certification for all treated timber.

1.05 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.

D. All timber shall be covered to maintain consistent coloring and fading between pieces.

PART 2 PRODUCTS

2.01 MATERIALS

A. Unless otherwise specified on the Contract Drawings, all timber to be used for decking shall be Ipe. All timber to be used for stringers and caps shall be Southern Yellow Pine (SYP).

B. Ipe timber shall be supplied by a company that operates in the Guiana Shield countries and in conformity with the International Conventions and National Forestry Regulations relating to the management of forestry concessions. Company shall enforce the protection of the endangered species listed by CITES (Convention on Trade in Endangered Species) and the biodiversity of the ecosystems. It respects the Intellectual Property Rights of the Indigenous Peoples, whose communities are the beneficiaries of the Company's field operation.

C. SYP and Ipe timber 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.

D. All timber shall be new and supplied with nominal dimensions unless otherwise noted.

E. SYP shall be pressure treated in accordance with AWPA Standard U1, Use Category UC4B.

F. SYP exposed to public contact shall be treated with Micronized Copper Azole (MCA). SYP not exposed to public contact shall be treated with Chromated Copper Arsenate (CCA).

G. Minimum preservative retention shall be 0.31 pounds per cubic foot for MCA treatment and 0.60 pounds per cubic foot for CCA treatment.

H. All timber fasteners shall meet ASTM A-316 stainless steel.

PART 3 EXECUTION

3.01 PREPARATION

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

B. Prior to installation all concrete patches affecting the new work shall be completed.

C. Prior to treatment all dimension lumber shall be kiln-dried. Conditioning by heating is not permitted.

3.02 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. All fasteners shall be pre-drilled.

D. Holes for bolts shall be drilled 1/16 of an inch greater in diameter than the anchoring bolts. Holes shall be swabbed with 2 coats of sealing compound as specified herein before installing the bolts.

E. 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.

F. All timber shall be cut and fit in such a manner as to have full bearing over the entire contact surface.

G. All cut faces and drilled holes, including drilled bolt holes, of treated timber shall be coated with a minimum of 2 coats of copper naphthenate meeting AWPA standard P8 before sealing compound as specified herein before installation. .

H. Self adhering butyl tape shall be applied on top of all stringers and pile caps. Tape shall extend full width of horizontal surface and a minimum of 1 inch down each vertical face.

PART 4 MEASUREMENT AND PAYMENT

4.01 METHOD OF MEASUREMENT

A. Measurement of TIMBER BOARDWALK – Add Alt 1 shall be measured by Contract Unit Price SQUARE FOOT. Area shall be computed using the dimensions shown on the Contract Drawings. No additional area will be included without prior direction and authorization by the Engineer.

B. Measurement of TIMBER STRINGERS & CAPS – Add Alt 1 shall be measured by Contract Unit Price LINEAR FOOT. Length shall be computed using the dimensions shown on the Contract Drawings. No additional length will be included without prior authorization by the Engineer.

4.02 METHOD OF PAYMENT

A. Payment shall be made for TIMBER BOARDWALK – Add Alt 1 at the Contract Unit Price SQUARE FOOT of completed in place for Add Alternative 1. This price and payment shall constitute full compensation for supply and satisfactory installation of all new timber decking, and associated hardware as identified on the contract drawings complete in place, including all labor, equipment, testing, transportation, survey,

supervision, materials, drilling, all hardware, disposal of any surplus materials, and all other items necessary for the satisfactory installation of connection hardware of the Timber Boardwalk, including any incidentals necessary to complete the work specified herein and as shown on the Contract Drawings.

B. Payment shall be made for TIMBER STRINGERS & CAPS – Add Alt 1 at the Contract Unit Price LINEAR FOOT of completed in place for Add Alternative 1. This price and payment shall constitute full compensation for supply and satisfactory installation of all new timber stringers and caps, and associated hardware as identified on the contract drawings complete in place, including all labor, equipment, testing, transportation, survey, supervision, materials, preservative treatment, field treatment of cuts and holes, butyl tape, drilling, all hardware, disposal of any surplus materials, and all other items necessary for the satisfactory installation of connection hardware of the Timber Stringers & Caps, including any incidentals necessary to complete the work specified herein and as shown on the Contract Drawings.

4.03 PAYMENT ITEMS

ITEM	DESCRIPTION	UNIT
06 13 00-01	Timber Boardwalk – Add Alt 1	SF
06 13 00-02	Timber Stringers & Caps - Add Alt 1	LF

END OF SECTION

SECTION 09 96 26

MARINE COATINGS

PART 1 GENERAL

1.01 SCOPE OF WORK

A. Work under this Section, without limiting the generality thereof, consists of the furnishing and installation of all materials, equipment, labor, testing, transportation facilities, and all operations and adjustments required for the complete and operating installation as indicated on the Drawings, stipulated in the Specifications and as reasonably implied by either or both. This includes, but is not limited to the following:

1. Hot Dipped Galvanized:

a. All hardware and fasteners unless noted otherwise

b. All other metal fabrications unless noted otherwise

1.02 RELATED WORK SPECIFIED IN OTHER SECTIONS:

A. The following items of labor and/or materials and equipment are furnished and/or installed under other Sections of the specifications.

1. Concrete under REINFORCED CONCRETE, SECTION 03 31 30

2. Miscellaneous metals under MISCELLANEOUS METALS, SECTION 05 50 13.

B. Examine all Drawings and all Sections of the Specifications for requirements and provisions affecting the work of this Section.

1.03 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.

1.04 SUBMITTALS

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

B. Color of coatings with samples.

C. Name and address of a licensed independent testing service for approval by Engineer.

D. Test reports including:

1. Surface preparation verification

2. Thickness measurements

1.05 FIELD TESTING

A. Contractor shall provide an independent testing company having at least 10 years of

B. experience on similar types of construction to perform all testing.

C. All coated elements shall be thoroughly inspected by an independent coating inspection by non-destructive methods.

D. Coatings may be inspected by the Engineer using holiday detectors, field adhesion tests, or a combination of both.

1.06 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 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 Engineer, and the materials replaced, unless otherwise agreed to by the Engineer, at no additional cost to the Owner.

PART 2 PRODUCTS

2.01 MATERIALS

A. All structural steel members, connections and other components to be embedded within concrete infill including angles shall be hot dip galvanized unless noted otherwise.

B. All fasteners, bolts, nuts, washers, and plates shall be hot dip galvanized unless noted otherwise on the Contract Documents.

C. No coating of stainless steel is required.

PART 3 EXECUTION

3.01 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 climate controlled building. Before grit blasting, the temperature shall be a minimum of 10°F above the dew point, and steel temperature shall be maintained at ambient room temperature or as otherwise required by manufacturer’s recommendations. The contractor shall monitor the temperature and dew point throughout the cleaning and coating process.

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 the same 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 at the time coating is applied.

5. The Owner or Engineer shall have access to each part of the process and shall have the right and opportunity to witness any of the quality control tests and/or perform such test theirself on a random sampling basis.

3.02 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.

3.03 CARE OF EXISTING WORK

A. Existing work shall be protected from spillage and spattering during application of coatings.

B. All spillages and spatterings shall be cleaned up immediately. Contractor is responsible to leave existing areas free of all such foreign materials.

3.04 DEFECTIVE MATERIALS

A. Coating which, in the opinion of the Engineer, 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 Engineer, 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

4.01 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 31 00 00

EARTHWORK

PART 1 GENERAL

1.01 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. Excavation, filling, and compaction of granular materials.

2. Grading, compaction and subgrade preparation for surface areas.

1.02 RELATED WORK SPECIFIED IN OTHER SECTIONS

1. Site Preparation under SITE PREPARATION, SECTION 02 00 00.

2. Site Demolition under DEMOLITION, SECTION 02 41 00.

3. Concrete under REINFORCED CONCRETE, SECTION 03 31 30.

1.03 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. 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 an independent firm certified in soil testing and who is acceptable to the Owner.

1.04 SUBMITTALS

A. Name and address of testing service for approval by Owner.

B. Design of temporary support of excavations or structures to remain as required.

C. Test reports on excavating, filling and grading:

1. Submit copies of the following reports directly to the Owner from the testing services:

a. Test reports on borrowed materials and crushed stone.

b. One optimum moisture-maximum density curve for each type of soil encountered.

c. Results of recent (within previous month) grain size analyses for each soil material.

d. Field density test reports.

D. Contractor experience and references of similar work including crew foreman experience.

1.05 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, 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 or ASTM Standard Method of Test for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (shallow depth), Designation D-2922.

3. Gradation Analyses shall be performed in accordance with the applicable sections of ASTM D422 Particle-Size Analysis of Soils.

B. If subgrade or placed materialare below specified density, based on reports of testing service and inspection, the Contractor shall provide additional compaction and testing at no additional expense to the Owner.

1.06 JOB CONDITIONS

A. Site information: Data on indicated subsurface conditions are not intended as representations or warrants of continuity of such conditions between soil boring. 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. Additional test borings and other exploratory operations may be made by the Contractor at no cost to the Owner.

B. 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 Engineer immediately for directions to proceed. 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.

C. Use of explosives:

1. Use of explosives is prohibited.

D. Protection of Existing Structures: Provide bracing, shoring, sheeting, underpinning or other retaining structures necessary to prevent movement or settlement of existing or new construction, utilities, paving, light standards, piping or conduit. The Contractor shall be responsible for the strength and adequacy of retaining structures, and for the safety and support of construction, utilities, or paving, and for any movement, settlement, or damage thereto. In exercising this responsibility, the Contractor shall, if required, retain a qualified consultant who is a licensed Professional Engineer registered in the

Commonwealth of Massachusetts to design, check, and approve all temporary retaining structures and other items pertinent to this work.

E. Protection of persons and property: Barricade open excavations occurring as part of this work and post with warning lights. Operate warning lights during hours from dusk to dawn each day and as otherwise required.

1. Protect structures, utilities, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout and other hazards created by earthwork operations.

PART 2 PRODUCTS

2.01 MATERIALS

A. Ordinary Borrow: Granular soil, free from debris, organics, or frozen materials that can readily be compacted. Ordinary Borrow shall have less than 20% by weight passing the No. 200 sieve and shall contain no stones larger than 4 inches in maximum dimension. Material passing the No. 200 sieve shall be non-plastic. On-Site Fill may be used with the approval of the Engineer.

B. On-Site Fill: Soil excavated for work performed under this section that meets the requirements for Ordinary Borrow. Screen and remove all asphalt, concrete, cobbles, boulders, and debris larger than 4 inches and organic materials from the On-Site Fill.

C. Gravel Borrow: Gravel Borrow shall conform to M1.03.0 in the "Standard Specifications for Highways and Bridges" 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:

Sieve	Percent Passing
1/2 inch	50-85
No. 4	40-75
No. 50	8-28
No. 200	0-8

Maximum size of stone shall meet M1.03.0 Type B with 3 inches as the largest dimension.

D. Dense Graded Crushed Stone: Dense graded crushed stone for subbase in accordance with MassDOT Section M2.01.7 and the following:

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

PART 3 EXECUTION

3.01 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 full extent of depths 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 by 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 (Above Tidal Fluctuations): 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.

3.02 SUBGRADE PREPARATION

A. Before placing the underlayer, the subgrade shall be shaped to a true surface conforming to the cross section shown. All depressions shall be filled with suitable material and high spots removed and such areas again compacted. A tolerance of 0.1 feet above or below the required finished subgrade line and grade will be allowed.

3.03 COMPACTION

A. General: Control soil compaction during construction providing minimum percentage of density specified for each area classification.

B. 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.

C. 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. Pavements: Compact top 12 inches below the pavement base to 95%. Compact the remainder to 90%.

2. Open areas: Compact to 90%.

3. Subgrades: Compact to 90%.

D. 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.

3.04 BACKFILL AND FILL

A. General: Place acceptable soil material in layers to required subgrade elevations, for each area classification as shown on the contract drawings.

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.

3.05 PLACEMENT AND COMPACTION

A. General: All compacted fill shall be placed in layers no greater than 12 inches 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.

3.06 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.

3.07 DUST CONTROL

A. During the progress of the work, the Contractor shall conduct his operations and maintain the area of his activities, including sweeping and sprinkling of roads as necessary, 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.

3.08 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.

3.09 EXAMINATION OF THE WORKS

A. No material shall be placed to cover a previous layer until the Engineer has approved the sizes, lines, levels and slope of the previous layer. The Contractor shall provide all assistance necessary as required by the Engineer for checking the work. If subsequent layers are placed without first obtaining the approval of the Engineer, the Contractor shall remove all or part of the covering layer, as directed by the Engineer, to enable the Engineer to check revetment construction is in compliance with the Contract Documents at no additional cost to the Employer.

3.10 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

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 31 41 16

METAL SHEET PILING

PART 1 GENERAL

1.01 SCOPE OF WORK

A. Work Included: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:

A. Furnishing and delivering:

a. Steel sheet piles for bulkhead

b. Special connectors

c. Angles and all hardware associated with the bulkhead to make a complete system as specified in the Contract Documents.

B. Obstruction removal

C. Installing sheet piles to the specified tip elevations.

D. Excavation, backfill, and compaction associated with the bulkhead and tieback system, unless paid under another pay item.

B. Should drawings not agree within themselves or the specifications, the greater quantity, or superior quality of work or materials shall be included.

1.02 RELATED WORK SPECIFIED ELSEWHERE INCLUDES:

A. The following items of related work are specified and included in other Sections of the Specifications

A. Demolition under DEMOLITION, SECTION 02 41 00.

B. Concrete under REINFORCED CONCRETE, SECTION 03 31 30.

C. Metal fabrications and fasteners under MISCELLANEOUS METAL FABRICATIONS, SECTION 05 50 13.

D. Coatings under MARINE COATINGS, SECTION 09 96 26.

E. Excavation and fills under EARTHWORK, SECTION 31 00 00.

B. Examine all Drawings and all Sections of the Specifications for requirements and provisions affecting the work of this Section.

1.03 QUALITY ASSURANCE

A. Except as noted, work shall conform to the following codes and standards, latest edition:

A. ASTM - Specifications for the American Society for Testing and Materials

B. ANSI/AASHTO/AWS - Bridge Welding Code D1.5-88

C. AISC - Specifications of the American Institute of Steel Construction

D. The Commonwealth of Massachusetts, Department of Public Works "Standard Specifications for Highways and Bridges" (latest edition). (MHD)

B. Comply with all rules, regulations, laws and ordinances of the Commonwealth 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. All welding shall be performed by operators who have been previously qualified by tests as prescribed in the "ANSI/AASHTO/AWS Bridge Welding Code D1.5-88". Evidence that welders meet qualification requirements shall be submitted to the Engineer before welding is begun.

D. Field Monitoring

A. All piles shall be observed and/or tested prior to installation. Observations and/or testing shall include:

a. Checking piles for general straightness: Piles with 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 gas pockets: Piles showing evidence of lamination flaws or gas pockets shall be rejected.

1.04 SUBMITTALS

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

A. Steel sheeting material, specifications and certifications.

B. Steel sheet piling layout, wale layout and assembly, and tie rod layout and assembly including quantities, special fabricated corners and cut-outs details for bulkhead penetrations.

C. Driving plan and schedule for installation of the bulkhead.

D. Method of installation of piling including size and type of pile hammer, and temporary systems.

E. Templates and falsework to be used for support and layout of piles during driving.

F. Shop drawings of all shop welding submitted for review prior to fabrication.

G. Welder qualifications.

H. Materials and methods for temporary lateral support of existing structures during pile installation, if required.

I. Sequence of installation for piles.

B. Certificates

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

1.05 JOB CONDITIONS

A. Site and Subsurface Conditions

A. Subsurface investigation data is contained in the Contract Documents. Prior to submitting a bid, the Contractor shall review the data provided. The subsurface investigation data is made available to the Contractor for information on factual data only at the specific locations given and any interpretation by the contractor between locations from written text, boring logs or other data shall be at the contractor's own risk.

B. Interpretation of the subsurface data for purposes of the work of the Contract shall be the sole responsibility of the Contractor. The Contractor should note that the subsurface data pertains only to the conditions at the boring locations at the time of the investigations.

C. The Contractor shall protect existing adjacent property, utilities and structures, and completed work from damage associated with the sheet pile installations. Damage done due to sheet pile installations shall be repaired by the Contractor at his own expense.

D. The Contractor should carefully review potential interference from existing surface and subsurface debris, concrete, riprap, seawalls, utilities, cofferdams, bulkheads, timber piles, and any other obstructions encountered, during installation of the sheet piles. Contractor should be prepared to take appropriate and adequate measures to remove or work around these interferences and obstructions as necessary for installation of the sheet piles and toe pins and protection of existing structures.

1.06 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. The Contractor shall deliver steel sheet piles and all required materials in a timely manner to assure continuity of construction of the bulkhead.

B. Piles shall be handled, transported, and stacked with care to prevent damage to pile and coating. 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.

C. Materials shall be stored in areas on site or as designated by the Owner

1.07 EXAMINATION OF SITE

A. Inspect the site personally to evaluate the conditions affecting the work. No claim for additional costs will be allowed because of lack of knowledge of any existing conditions discernible from observation at the site, adjoining properties, and available sources of information. Copies of available drawings of existing on-site structures are provided with Existing Site Data as an attachment to the bid documents.

1.08 LINES AND GRADES

A. Lay out bulkhead alignment and establish all elevations required. Provide and maintain an approved baseline and benchmark located on or close to the work.

B. Employ, within the Contract Price, a licensed Registered Land Surveyor or a Registered Professional Engineer, familiar with this type of work, who shall establish lines and levels.

C. Determine the correct alignment of the bulkhead. Establish actual locations of each sheet pile pair. Show alignment of bulkhead on a drawing in relation to the design location and submit to the Owner within five days after the installation of each 100 feet of bulkhead. Include the following on the drawings:

   A. Pile bent numbers and north arrow.

   B. Elevation of top and bottom of each sheet pile pair to nearest 0.1 foot.

   C. Deviation from plan location in inches, measured to nearest ¼ inch.

D. Submit to the Owner within two weeks after the completion of installing the bulkhead, a plan, certified by the Surveyor, showing the as-driven alignment of all pairs of sheet piles to the nearest ¼ inch.

1.09 OBSERVATION AND TESTING

A. Full-time observation of installation of all bulkhead piles will be performed by the Engineer. Install no piles except in the presence of the Engineer.

B. Cooperate with the Engineer to document all pertinent data relative to the installation of piles. The record for each soldier pile or sheet pile pair shall include:

   A. The date and time of installation.

   B. Kind and size of hammer.

   C. Total penetration, shown by pile tip and top elevation of each sheet pile pair.

   D. Time for each 5-foot of penetration.

   E. Depth of changes in hammer stroke or driving energy during driving.

   F. Pertinent notes as to unusual behavior during installation.

C. Inspection: Engineer shall have access to work. Contractor shall make available all materials and equipment necessary at all times for purposes of inspection. Contractor shall cooperate with and assist the Engineer's inspection. Inspection by the Engineer may include, but is not necessarily limited to:

   A. Condition of piles prior to driving.

   B. Condition of the hammer prior to driving.

   C. Measurement of penetration resistance.

   D. Verification of hammer performance and energy.

   E. Condition of piles after driving.

D. Approvals given by the Owner or their Engineer shall not relieve the Contractor of responsibility for performing the work in accordance with the plans and specifications.

PART 2 PRODUCTS

2.01 MATERIALS

A. The type, size and length of steel bulkheads are shown on the Contract Drawings.

   A. Minimum Thickness shall be 0.375 inches

   B. Sheet Pile Tip Elevation: see Contract Drawings

B. Refer to Contract Drawings for details of Toe Pins. Toe Pins will only be installed if specifically directed by the Engineer.

C. All angles shall meet ASTM A-572, Grade 50 and have a minimum thickness 0.375".

PART 3 EXECUTION

3.01 DEBRIS AND OBSTRUCTIONS

A. Remove debris and obstructions that interfere with installation of the bulkhead by pulling or pre-excavating as required. Remove obstructions to a minimum depth of 5 feet below existing mudline and for a minimum distance of 5 feet landward of the bulkhead and 2 feet seaward of the bulkhead unless directed otherwise by the Owner.

B. Material and debris excavated during obstruction removal shall be fully contained within an upland stockpile.

3.02 INSTALLATION

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. Bulkhead shall be installed at the locations shown on the Drawings. Notify Engineer immediately if field conditions prevent installation of any piles at their design locations.

C. Driving equipment and method shall be submitted for review by the Engineer prior to commencement of installation.

D. All 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. No jetting will be permitted for the bulkhead. Extraction and redriving, excavating to remove obstructions, use of an impact hammer, use of a vibratory hammer, and other means may be required for installation of the piles to achieve the required tip elevation.

F. All piles shall be driven to elevations specified in the Contract Documents. Notify Engineer immediately if any piles cannot be installed to their specified tip elevations.

G. All piles shall be driven plumb and true to line. Maximum horizontal deviation from the intended bulkhead line shall not exceed 3 in. over the length of the bulkhead unless otherwise approved by the Engineer. The Contractor shall note the tolerance as allowed above is towards landside of installed bulkhead.

H. No splicing of sheet piles will be permitted.

I. Review of the Contractor's means and methods does not relieve the contractor of their responsibility to perform all work in accordance with the Contract Documents.

3.03 FIELD REPORTS

A. The Contractor will keep a record of each pile or pair of sheet piles installed, and a full report made available to the Engineer after the installation of bulkhead. Such report will include the following at a minimum:

A. Sheet Pile Pair Number.

B. Plan with Pile numbers.

C. Date of driving.

D. Type and size of pile.

E. Tip elevation to nearest 0.1 inch after driving.

F. Pile length before and after cut-off.

G. Hammer type and size.

H. Hammer speed.

I. Vibratory Hammer: Time per foot for each 10 feet, at obstructions and for last 5 feet.

J. If Impact hammer used: Blows per foot of driven length and final blows per inch for last three inches. Hammer stroke and ram weight.

K. Description of any unusual circumstances affecting the driving of the pile.

L. The time pile driving is started, interrupted, resumed and stopped.

3.04 OBSTRUCTIONS

A. Refer to the test boring logs and available plans showing the site conditions. The Contractor is advised that obstructions may be encountered buried within the fill and soil materials.

B. If pile driving is stopped due to an obstruction, notify the Engineer immediately.

C. The Contractor shall attempt to install the pile past the obstruction by raising and redriving the pile and/or by using the hammer for longer on the pile.

D. Where obstructions make it impossible to install certain piles to the required depth at the correct location, attempt to remove or clear the obstruction by excavation. Excavation to a depth of 10 feet below existing mudline to remove obstructions shall be at the Contractor's expense. If the Engineer determines that obstructions should be removed by excavation to a depth greater than 10 feet, the Contractor will be reimbursed for the additional work.

3.05 INFILL AND MONITORING

A. The Contractor shall survey the bulkhead prior to concrete infill operations and shall carefully monitor the bulkhead for movement during all infilling operations.

B. All concrete infill shall be placed in maximum 3 foot vertical lifts and shall be allowed to reach 7 day strength prior to placing the next lift.

PART 4 MEASUREMENT AND PAYMENT

4.01 METHOD OF MEASUREMENT

A. Measurement of STEEL BULKHEAD shall be measured by the Contract Unit Price LINEAR FOOT. Length shall be computed using the dimensions shown on the Contract Drawings. No additional length will be included without prior direction and authorization by the Engineer.

B. Measurement of OBSTRUCTION REMOVAL DURING BULKHEAD INSTALLATION shall be measured by the Contract Unit HOUR.

   a. Obstruction removal within a depth of 10 feet below the existing mudline will not be measured nor paid separately and will be treated as incidental to payment for the Steel Bulkhead. Obstruction removal below a depth of 10 feet below the existing mudline will be paid per hour for a time required to remove obstructions, beyond the first 15 minutes of time spent on obstruction removal. Obstruction removal time will be measured to the nearest 0.25 hours.

C. Measurement of OUTFALL EXTENSION shall be measured by the Contract Unit Price LUMP SUM, complete in place.

D. Measurement of Utility Relocation/Reinstallation shall be measured and paid by the Contract Unit Price LUMP SUM, complete in place.

E. Measurement of Miscellaneous Sheet Pile Hole Repairs shall be measured by the Contract Unit Price SQUARE FOOT. Length shall be computed using the dimensions shown on the Contract Drawings. No additional length will be included without prior direction and authorization by the Engineer.

F. Measurement of STEEL BULKHEAD – Add Alt 2 shall be measured by the Contract Unit Price LINEAR FOOT. Length shall be computed using the dimensions shown on the Contract Drawings. No additional length will be included without prior direction and authorization by the Engineer.

G. Measurement of OBSTRUCTION REMOVAL DURING BULKHEAD INSTALLATION – Add Alt 2 shall be measured by the Contract Unit HOUR.

   a. Obstruction removal within a depth of 10 feet below the existing mudline will not be measured nor paid separately and will be treated as incidental to payment for the Steel Bulkhead. Obstruction removal below a depth of 10 feet below the existing mudline will be paid per hour for a time required to remove obstructions, beyond the first 15 minutes of time spent on obstruction removal. Obstruction removal time will be measured to the nearest 0.25 hours.

4.02 METHOD OF PAYMENT

A. Payment shall be made for STEEL BULKHEAD at the Contract Unit Price LINEAR FOOT. 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 steel pile bulkhead system, obstruction removal within 10 feet of existing mudline, steel sheeting, fasteners, weep drains, all types of washers, spacers, connections, all other bulkhead hardware, associated

excavation, cutting to final elevation, disposal of excess material, trimming, and any other incidentals necessary to complete the work specified herein and as shown on the Contract Documents.

B. Payment shall be made for OBSTRUCTION REMOVAL DURING BULKHEAD INSTALLATION at the Contract Unit Price HOUR and shall be full compensation for furnishing all necessary labor, equipment, materials, preparation, testing, transportation, survey, and supervision for the satisfactory labor and equipment to successfully remove and dispose of obstructions found during bulkhead installation. Items including but not limited to concrete debris, removal and disposal of timber piles and timber debris, large buried stones, and all other items that interfere with installation of proposed bulkhead and any other incidentals necessary to complete the work specified herein and as shown on the Contract Drawings.

C. Payment shall be made for OUTFALL EXTENSION at the Contract 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 outfall extension, fasteners, connections, seals, disposal of excess material, trimming, and any other incidentals necessary to complete the work specified herein and as shown on the Contract Documents.

D. Payment shall be made for UTILITY RELOCATION/REINSTALLATION at the Contract 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 relocation/reinstallation of utilities along the face of the bulkhead, and any other incidentals necessary to complete the work specified herein and as shown on the Contract Documents.

E. Payment shall be made for MISCELLANEOUS SHEET PILE HOLE REPAIRS at the Contract Unit Price SQUARE FOOT. This price and payment shall constitute full compensation for all labor, equipment, materials, preparation, testing, transportation, survey, and supervision for the satisfactory supply and repair of steel pile holes, fasteners, weep drains, all types of washers, spacers, connections, cutting to final elevation, disposal of excess material, trimming, and any other incidentals necessary to complete the work specified herein and as shown on the Contract Documents.

F. Payment shall be made for STEEL BULKHEAD – Add Alt 2 at the Contract Unit Price LINEAR FOOT for Add Alternative 2. 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 steel pile bulkhead system, obstruction removal within 10 feet of existing mudline, steel sheeting, fasteners, weep drains, all types of washers, spacers, connections, all other bulkhead hardware, associated excavation, cutting to final elevation, disposal of excess material, trimming, and any other incidentals necessary to complete the work specified herein and as shown on the Contract Documents.

G. Payment shall be made for OBSTRUCTION REMOVAL DURING BULKHEAD INSTALLATION – Add Alt 2 at the Contract Unit Price HOUR for Add Alternative 2 and shall be full compensation for furnishing all necessary labor, equipment, materials, preparation, testing, transportation, survey, and supervision for the satisfactory labor and equipment to successfully remove and dispose of obstructions found during bulkhead installation. Items including but not limited to concrete debris, removal and disposal of timber piles and timber debris, large buried stones,

and all other items that interfere with installation of proposed bulkhead and any other incidentals necessary to complete the work specified herein and as shown on the Contract Drawings.

4.03 PAYMENT ITEM

ITEM	DESCRIPTION	UNIT
31 41 16-01	Steel Bulkhead	LF
31 41 16-02	Obstruction Removal During Bulkhead Installation	HOUR
31 41 16-03	Outfall Extension	LS
31 41 16-04	Utility Relocation/Reinstallation	LS
31 41 16-05	Miscellaneous Sheet Pile Hole Repairs	SF
31 41 16-06	Steel Bulkhead – Add Alt 2	LF
31 41 16-07	Obstruction Removal During Bulkhead Installation – Add Alt 2	HOUR

END OF SECTION

SECTION 31 62 23

DRIVEN STEEL PILES

PART 1 GENERAL

1.01 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. Steel bater piles, concrete filled
   2. HDPE Pile Sleeves.
   3. Connectors, fasteners, and other accessories as required

1.02 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)

1.1 SUBMITTALS

A. Submit for approval by the Engineer proposals for the following items:
   1. Driving plan and schedule for installation of the pipe 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
   5. HDPE Sleeves
   6. Pile Products

B. Certificates:
   1. Material specifications and certification that materials are new and meet or exceed specification requirements.
   2. Material List

1.03 PRODUCT HANDLING

A. Piles shall be handled with care to prevent damage to pile and coating. 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.

1.04 SUBSURFACE CONDITIONS

B. The results of a subsurface exploration program are presented in the Contract Drawings. The subsurface information was obtained primarily for use in preparing the foundation design and is included in the Contract Documents for the Contractor's information. Interpretation of the subsurface data for purposes of the work of the Contract shall be the sole responsibility of the Contractor. The Contractor should note that the subsurface data pertains only to the conditions at the boring locations at the time of the investigations.

1.05 OBSERVATION AND TESTING

A. Full-time inspection of pile installation operations will be performed by the Engineer. Drive no piles except in the presence of the Engineer.

B. Document all pertinent data relative to the installation of piles. The record for each pile shall include:
1. The date and time of installation.
2. Type and size of hammer; pressure and stroke at which operated.
3. Total penetration, shown by point elevation and cutoff elevation.
4. Number of blows for each foot of penetration.
5. Depth of changes in hammer stroke or driving energy during driving.
6. Rate of penetration in blows per inch for the final six (6) inches.
7. Pertinent notes as to unusual behavior of a pile.

C. Inspection: Engineer shall have access to work. Contractor shall make available all materials and equipment necessary at all times for purposes of inspection. Contractor shall cooperate with and assist the Engineer's inspection. Inspection by the Engineer may include, but is not necessarily limited to:
1. Condition of piles prior to installation.
2. Condition of the hammer prior to driving including:
   a. Inspection and verification of cap block alignment and thickness.
   b. Inspection of pile cushion material (if used), thickness and condition.
   c. Inspection and verification of trip valves and wedge locations and condition of hammer.
3. Location of piles prior to installation.
4. Measurement of penetration resistance.
5. Verification of hammer performance and energy.
6. Location of piles after installation.
7. Condition of piles after installation.

D. Approvals given by the Engineer shall not relieve the Contractor of responsibility for performing the work in accordance with the plans and specifications.

PART 2 PRODUCTS

2.01 MATERIALS

A. All Piles: Pipe piles shall be as designated on the Drawings. Pipe shall be seamless or fusion-welded and conform to ASTM A252, Grade 3 for Welded and Seamless Steel Pipe Piles.

B. Pile Points: All piles shall be provided with conical pile points. Pile points shall be 60 degree configuration inside flange fitting by Associated Pile and Fitting LLC, Clifton, NJ or equal approved.

C. Concrete Fill for Piles specified under Section 03 31 30, Reinforced Concrete.

D. Coating shall be Amercoat 235, Devoe Bar rust 235, Sherwin Williams Seaguard 500 HS two part epoxy with 68% solids, or approved equal. There shall be a minimum of two coats with a final dry film thickness of 14 mils (minimum, not average). There shall be a strip coat over sharp edges, cutouts, and welds

E. Piles shall be encased in HDPE pipe sleeve with minimum thickness of 0.2" and fusion welded (Lee Composite LC200 or equivalent). Sleeves shall extend from top of pile to 2 feet below mudline. Temporary mudline removal shall be replaced following install. Annular space between pile and pile sleeve shall be filled with epoxy.

PART 3 EXECUTION

3.01 DRIVING EQUIPMENT

A. Fix the leads of the pile driving rig at two points. The points shall be at least half the length of the pile apart to maintain the pile and hammer in axial alignment at the correct plan location during the entire driving operation. The leads shall extend down to the lowest point at which the hammer must operate.

B. When the determination of the final penetration resistance is being made, operate the pile riving hammer in accordance with the approved final driving criteria confirmed by the dynamic load testing. Maintain the boiler or air pressure recommended by the manufacturer and employ proper size hose and connections. For double-acting diesel hammers, provide a means to measure the bounce chamber pressure, and operate the hammer to achieve the appropriate bounce chamber pressure. Boilers and compressors shall be equipped with pressure gauges or other devices, calibrated against the rated hammer energy. When directed by the Engineer, a gauge readable from the ground surface shall be provided to determine the actual pressure delivered to the hammer. For variable stroke hammers provide means of visual verification of the operating stroke.

C. Provide a cap block in the hammer as recommended by the manufacturer and modeled in the wave equation analyses. Replace the cap block when worn or as directed by the Engineer.

D. Hammers used to drive production piles shall be of the same type and have the same rated energy as the hammer used to drive the indicator piles for the pile load test program. If the Contractor proposes to change the hammer, the Engineer will be the sole judge of whether the Contractor will be required to perform additional wave equation analyses and dynamic

load tests with the new hammer. The wave equation analyses shall be performed and stamped by a Massachusetts Registered Professional Engineer engaged by the Contractor.

E. Pile Hammers:

a. 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 only be allowed when bearing capacity determination by blow count or driving energy is not required.

3.02 HANDLING

A. Before installation, mark and number each pile in 5-foot intervals along its entire length. In addition, provide marks at 1-foot intervals for the top 20 feet of the pile.

B. Inspect piles in the leads, and where the protective shell is impaired, the piles shall be repaired unless the pile is damaged to such extent that it is rejected. Rejected piles will be replaced at no additional cost to the Owner. 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.

3.03 HIGH SOLIDS EPOXY COATING

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 14 mils dry film is required on all surfaces to be coated.

b. Where two coats are 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:

c. The next coat be applied as soon as possible after the previous coast has undergone final curing.

d. If the previous coat has cured for more than the recoat time specified by the manufacturer, wash with fresh water, 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 of 14 mils.

3.04 DRIVING PILES

C. All piles shall be driven in the presence of the Engineer, unless approved otherwise.

D. Steel Pipe Piles:

1. Drive without interruption to the required depth
   a. Tip Elevation: - 21 ft NAVD88
   b. Cut-off Elevations: as indicated on drawings
2. 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.

3.05 INSTALLATION

E. Before installation, mark and number each pile in 5-foot intervals along its entire length. In addition, provide marks at 1-foot intervals for the top 20 feet of the pile.

F. Install all piles at the proper locations shown on the Drawings. Check pile locations during installation and take appropriate corrective measures if the pile moves off location during installation as specified below. Advise the Engineer immediately when this becomes necessary.

G. Timber driving blocks shall be used on the head of the steel piles to the extent practical.

H. All piles shall be installed using a soft start method and as indicated within the regulatory permits.

I. Drive piles continuously and without interruption for at least the final 10 feet of penetration. If driving should be interrupted before final penetration is reached, the record of the penetration shall not be considered representative until after at least a 12-inch penetration has been obtained after the resumption of driving, except as otherwise directed by the Engineer.

J. Pile support: All piles shall be supported by using either a two-level 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.

K. Contractor shall notify Engineer 48 hours prior to pile installation and no piles shall be installed to final position without the presence of the Engineer's Representative.

L. Provide a vertical reference stake, at least 2 feet long and marked clearly in inches, which can be used to measure the penetration of the pile with each blow as the pile is driven. Support the stake firmly against a fixed object no more than 5 feet away from the pile.

M. Immediately after a pile is installed, establish a reference point on the pile and measure its elevation on the pile for the purpose of checking heave of the pile tip. After all piles within a radius of 20 feet have been installed, determine the elevation of the reference point on the pile. If uplift of ½ inch or more has occurred, redrive the pile to its original elevation, and deeper if necessary, to the required final driving resistance. After redriving each pile, reestablish the elevation of the reference point. Redrive as often as necessary until the measured uplift on any pile is less than ½ inch. Also, check for pile heave after cleaning out the pile.

N. Drive no piles within 20 feet of concrete-filled pipe piles or concrete structures poured within 72 hours.

O. There shall be no more than 12 hours of impact pile driving within a 24-hour period.

3.06 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), number of blows for final 6 inches of penetration, and all other pertinent information.

3.07 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

4.01 METHOD OF MEASUREMENT

A. Measurement of STEEL BATTER PILES shall be measured by the Contract Unit EACH pipe installed. Measurement shall be the actual number of batter piles as shown on the Contract Drawings.

B. Measurement of OBSTRUCTION REMOVAL DURING STEEL BATTER PILE INSTALLATION shall be measured by the Contract Unit HOUR.

1. Obstruction removal within a depth of 10 feet below the pre-existing mudline will not be measured nor paid separately and will be treated as incidental to payment for the Steel Batter Piles. Obstruction removal below a depth of 10 feet below the pre-existing mudline will be paid per hour for time required to remove obstructions, beyond the first 15 minutes of time spent on obstruction removal. Obstruction removal time will be measured to the nearest 0.25 hours.

4.02 METHOD OF PAYMENT

A. Payment shall be made for the STEEL BATTER PILES at the Contract Unit EACH pipe installed and shall include all compensation for all materials, equipment, labor, transportation, survey, supervision, driving, templates, temporary supports, extraction and re-driving as necessary to ensure required horizontal or vertical tolerances and/or required pile capacity, removal of obstructions, probing, materials including piles, pile shoes, pile splices, HDPE sleeves, disposal of any surplus material and incidental or appurtenant work, including all cutting, coating, horizontal pile movements, and as may be required to complete the work in accordance with these Specifications and as shown on the Contract Drawings.

B. Payment shall be made for the OBSTRUCTION REMOVAL DURING STEEL BATTER PILE INSTALLATION at the Contract Unit Price HOUR and shall be full compensation for furnishing all necessary labor, equipment, materials, preparation, testing, transportation, survey, and supervision for the satisfactory labor and equipment to successfully remove and dispose of obstructions found during steel batter pile installation. Items including but not limited to concrete debris, removal and disposal of timber piles and timber debris, large buried stones, and all other items that interfere with installation of proposed bulkhead and any other incidentals necessary to complete the work specified herein and as shown on the Contract Drawings.

4.03 PAYMENT ITEM

ITEM	DESCRIPTION	UNIT
31 62 23-01	Steel Batter Piles	EA
31 62 23-02	Obstruction Removal During Steel Batter Pile Installation	HOUR

END OF SECTION

SECTION 31 62 24

MARINE PILE JACKET

PART 1 GENERAL

1.01 SUMMARY

A. Description of Work:

1. The work under this section includes installation of structural pile jackets for the repair of piles. Piles shall be repaired as indicated on the Drawings by removing all marine growth and unsound concrete, placing reinforcing steel, installation of fiberglass reinforced polymer (FRP) pile jackets with pumping ports, filling the annular space with cementitious grout, and associated work.

2. The work includes water blasting the surface of the pile affected by the repair to remove marine growth and loose concrete materials and taking appropriate measures to assure that construction materials and wastes do not enter the marine environment. Construction materials and waste shall be captured and removed from the marine environment.

1.02 REFERENCES

A. Except as noted, work shall conform to the latest edition of the following code specifications and standards:

B. American Society for Testing and Materials (ASTM)

1. A615/A615M, Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement

2. C109/C109M, Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or (50-mm) Cube Specimens).

3. C230, Standard Specification for Flow Table for Use in Tests of Hydraulic Cement.

4. C307, Standard Test Method for Tensile Strength of Chemical-Resistant Mortar, Grouts, and Monolithic Surfacings.

5. C413, Absorption of Chemical-Resistant Mortars, Grouts, Monolithic Surfacings, and Polymer Concretes

6. C531, Standard Test Method for Linear Shrinkage and Coefficient of Thermal Expansion of Chemical-Resistant Mortars, Grouts, Monolithic Surfacings, and Polymer Concretes.

7. C579, Standard Test Methods for Compressive Grout Strength of Chemical-Resistant Mortars, Grouts, Monolithic Surfacings, and Polymer Concretes.

8. C580, Flexural Strength and Modulus of Elasticity of Chemical-Resistant Mortars, Grouts, Monolithic Surfacings, and Polymer Concretes.

9. C882, Standard Test Method for Bond Strength of Epoxy-Resin Systems Used With Concrete By Slant Shear.

10. C940, Standard Test Method for Expansion and Bleeding of Freshly Mixed Grouts for Preplaced-Aggregate Concrete in the Laboratory.
11. C1107/C1107M, Standard Specification for Packaged Dry, Hydraulic-Cement Grout (Nonshrink).
12. D570, Standard Test Method for Water Absorption of Plastics.
13. D638, Standard Test Method for Tensile Properties of Plastics.
14. D790, Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.
15. D2583, Indentation Hardness of Rigid Plastics by Means of a Barcol Impressor
16. D4263, Standard Test Method for Indicating Moisture in Concrete by the Plastic Sheet Method.

C. American Concrete Institute (ACI):

1. 301, Specification for Structural Concrete.
2. 304, Recommended Practice for Measuring, Mixing, and Placing Concrete.
3. 318/318M, Building Code Requirements for Reinforced Concrete.

D. Concrete Reinforcing Steel Institute (CRSI):

1. Design of Reinforced Concrete Structures - "A Manual of Standard Practice".
2. "Placing Reinforcing Bars".
3. "Field Handling Techniques for Galvanized Reinforcing Bar"

1.03 QUALITY ASSURANCE

A. The Contractor performing the marine pile jacket repair work shall have successfully installed pile jacket repairs for a minimum of five projects of similar scope and structural configuration in the last five years.

B. Use skilled personnel and divers who are thoroughly trained and experienced in the necessary crafts, and who are completely familiar with the specified requirements and methods needed for proper performance of the work of this section.

1.04 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 coating. A sufficient supply of approved reinforcing steel shall be stored on site at all times to ensure that there will be no delay of work. Identification of steel shall be maintained after bundles are broken.

1.05 SUBMITTALS

A. Furnish submittals following procedures specified in applicable Sections of the Contract Documents.

B. Preconstruction Submittals

1. Qualifications:

a. Submit Contractor qualifications on the five projects of similar scope and structural configuration in the last five years. The Contractor's foreman and lead diver shall have worked on at least two of the projects.

2. Work Plan: Submit a written Work Plan outlining how the work is to be accomplished. As a minimum, the Work Plan shall include: procedures for removal of marine growth, inspection procedures for determining the extent of the repair to be completed, concrete and steel surface preparation procedures, a description of pile jacket materials and methods for support, injecting inlets, and vents, identification of the cementitious materials to be used for pile repair (proprietary products or Contractor provided mix designs), the quality control plan for mixing and testing repair materials on site, means and methods to be used for placement of cementitious repair materials, and means and methods for preventing contamination of the adjacent marine habitat.

3. Work Schedule: Submit a written Work Schedule outlining order in which piles will be repaired.

4. Equipment: Submit proposed equipment for:

a. Pressure washing equipment for cleaning the piles prior to repair.

b. Concrete mixing equipment.

c. Concrete injecting systems for installing concrete underwater.

C. Shop Drawings:

1. Reinforcement and pile jackets

2. Pile Jacket: Details showing the proposed pile jacket system, pumping ports, interlocking connections, seals.

D. Product Data

1. Manufacturer's specifications and installation instructions for each item of proprietary material used showing compliance with these specifications.

a. Epoxy Grout

b. Cementitious Grout

c. Reinforcing Supports

d. Jacket System

e. Reinforcing Steel

E. Test Reports

1. Submit field test reports and laboratory test results for concrete.

1.06 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Provide and maintain one set of current MSDS sheets for each material being used on site. Comply with MSDS requirements.

B. 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 coating. A sufficient supply of approved

reinforcing steel shall be stored on site at all times to ensure that there will be no delay of work. Identification of steel shall be maintained after bundles are broken.

1.07 Shop Drawings

A. Provide shop drawings detailing the FRP pile jacket installation, indicating size, spacing, and material properties of the formwork, connections, hardware, and steel connection hardware. Shop drawings shall clearly indicate size, location, and spacing of pumping ports.

PART 2 PRODUCTS

2.01 MATERIALS

A. MULTI-PURPOSE MARINE EPOXY GROUT

1. Epoxy grout for FRP Jackets shall be moisture insensitive, 100% solids epoxy grout. It shall be specifically formulated to cure underwater. It shall exhibit good flow, high strengths, and low absorption. It shall be pumpable into the void created between the existing pile and corrosion free jacket.

2. Performance Data:

Compressive Strength	7 days - 8,500 psi (ASTM C579)
Flexural Strength	7 days - 3,500 psi (ASTM C580)
Tensile Strength, Grout	7 days - 2,200 psi (ASTM C 307)
Tensile Strength, Resin	7 days - 6,200 psi (ASTM D 638)
Tensile Bond Strength	345 psi (2.4 MPa)
Shrinkage	-0.02% (ASTM C 531)
Absorption	0.08% (ASTM C 413)

B. CEMENTITIOUS GROUT

1. Cementitious grout shall be a non-shrink non-metallic grout containing no chlorides. It shall consist of a mixture of Portland Cement, fine aggregate, water and approved admixtures. The use of fly ash or slag in the mix is not allowed. It shall be flowable and specifically formulated for underwater placement. The material shall contain special blend of shrinkage reducing and plasticizing/water reducing agents that is capable of being pumped through water. The cementitious grout shall be a single component grout meeting the requirements of ASTM C1107/ASTM C1107M, Grade C and meeting the following requirements.

Compressive Strength	28 days - 5,000 psi (ASTM C109/C109M)
Bond Strength	28 days – 1,800 psi (ASTM C882/C882M)

C. TROWEL GRADE EPOXY MORTAR

1. Trowel grade epoxy shall be a 100% solids, moisture insensitive, non-sag epoxy adhesive. It shall be formulated for repairs of vertical or overhead surfaces. It shall meet the requirements of ASTM C 881 to ASTM C 891, Types I, II, and V, Grade 3, Class "B" and "C".

2. Performance Data:

Gel Time @ 72°F (22.2°C) + 2°	30 minutes min
Tensile Strength @ 72°F (22.2°C)(ASTM D638)	6,000 psi min
Linear Coefficient of Shrinkage on cure (ASTM D 2566)	0.005
Compressive Strength (ASTM D 695) 7 days	9,000 psi min
Compressive Modulus (ASTM D 695)	200,000
Bond Strength (Slant Shear)(ASTM C 882-99) 7 days	1,500 psi min
Bond Strength (Slant Shear)2 day moist cure	1,000 psi
Bond Strength (Slant Shear)14 day moist cure	1,500 psi

D. REINFORCING STEEL

1. Reinforcing Bars: New, deformed billet steel bars conforming to ASTM A615, Grade 60, hot-dipped galvanized after fabrication in accordance with ASTM A767 Class 1. Bend diameters shall comply with ASTM A767.
2. Welded Wire Reinforcement: New, deformed zinc-coated (Galvanized) bars preassembled into a woven mesh conforming to ASTM A1060, Grade 60.
3. 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.
4. 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.
5. Mechanical splices shall meet or exceed ASTM A615 and be hot-dipped galvanized.

E. FRP PILE JACKETS

1. The pile jackets shall consist of stay-in-place fiberglass forms selected by the Contractor and submitted to the Owner for approval prior to use.
2. The pile jackets shall have an interlocking joint. The jackets shall be fabricated from fiberglass and polymer resins and shall be a minimum thickness of 1/8 inch. The inside face of the jacket shall be textured similar to a sandblasted surface and shall have no bond-inhibiting agents in contact with the grouts. The jackets shall be provided with non-corrosive standoffs, which will maintain the jackets in the required positions. The jacket shall be capable of being opened, placed around a pile, and then returned to its original shape without damaging the jacket.

a. Water Absorption (ASTM D-570)	1% max
b. Ultimate Tensile Strength (ASTM D-638)	
Longitudinal, transverse, and diagonal	15,000 psi
c. Flexural Strength (ASTM D-796)	25,000 psi
d. Flexural Modulus of Elasticity (ASTM D-790)	700,000 psi min
e. Barcol Hardness (ASTM D-2583)	45 min

3. The pile jacket construction and stiffness shall provide for a neat concrete placement in conformance with the lines and dimensions on the drawings. The required injecting pressures shall be considered in the stiffness design. The Contractor shall indicate how the form is fastened to the pile to support the weight of the form and concrete during concrete placement.

4. Provide spacers or guides to maintain the specified clear cover between the form surface, existing pile, and the reinforcing. The materials used for spacers and guides shall not create a chemical or electrochemical deterioration of the pile, the reinforcing, or of the repair.

5. Provide a positive means of sealing the form against the pile to prevent leakage when subjected to all probable injecting pressures.

6. Injecting ports shall be located around the perimeter of the form and at elevations in the form suitable for injecting all materials without segregation or compromise to adequate compaction.

7. Indicate how the concrete is to be injected into the forms, how the water is vented, and how excess concrete is handled as the form is filled. At no time shall excess concrete be allowed to enter the water under the pier.

PART 3 EXECUTION

3.01 STRUCTURAL REPAIR PROCEDURE

A. Repair Length Determination: Contractor shall determine the mudline elevation at each pile to be repaired and recorded to the nearest one-tenth of a foot. Mudline elevations shall be submitted to the Agency and be in relation to the Mean Low Water Datum. Repair limits of the piles shall extend from the underside of the concrete beams to two (2) feet below mudline.

B. Submit mudline elevations and repair limits for review and approval by the engineer prior to completing any repairs:

C. Pile Preparation: Remove all marine growth, loose concrete pieces and/or any corrosion from the pile. High-pressure water blast the surface area to be jacketed to remove surface contamination such as marine organisms, rust, and loose concrete. At no time shall any contaminants be allowed to enter the water under the pier.

D. Reinforcement Placement: Reinforcement shall be placed as shown on the contract drawings. Splicing of the longitudinal bars will not be permitted.

E. Forming: Jacket shall be held in place with clamps. Do not drill or cut into the existing piles. Provide standoffs in the Jacket to maintain the required clearances evenly around the perimeter of the pile. Standoffs shall be made of non-corrosive material. Jacket and all support devices shall be left in place for 48-hours after placement of the repair concrete.

F. Install epoxy grout bottom seal and allow to fully cure prior to pumping grout. Grout shall be pumped from the bottom of the jacket to displace water. Ports shall be spaced at a maximum of 4 feet on center.

G. Grout Placement: The cementitious repair material shall be placed by injecting from the bottom of the form. Placement by tremie will not be allowed. Continue to inject until undiluted concrete reaches the top of the Jacket. Do not allow concrete to enter the

marine habitat. Grout placement shall be performed as one uninterrupted operation. Grout shall complete fill the annular space, be fully compacted, and free of air pockets.

H. Hand pack the top of the concrete to form a 45-degree slope at the top as shown on the Drawings.

3.02 EQUIPMENT

A. Pile cleaning equipment shall be high-pressure hydrojet capable of removing surface contaminants, or other equipment approved by the Agency.

B. Injecting equipment shall be of sufficient size and capacity to inject the cementitious repair material from the bottom of the form to the full height of the longest jacket without causing segregation.

3.03 STRENGTH TESTS

A. Compressive strength tests shall be completed on all cementitious materials use for pile repair. For Contractor provided grout, a minimum of six (6) grout cubes for each day of grout placement and 20 CY thereafter. For proprietary cementitious products, a minimum of three compressive strength tests in accordance with ASTM C469 shall be completed for each pile repaired.

3.04 INSPECTION

A. Prior to placement of jackets, the Agency may randomly inspect the surface preparation for removal of marine growth, removal of loose concrete, and rust.

B. The pile repair will be visually inspected by the Agency's Representative for dimensions and rock pockets to determine whether the jacket repair meets the intent of these Specifications and the Drawings. Additional destructive tests to determine location of the reinforcing or to check the bond strength at the interface between the jacket and the existing pile may be performed at the Engineer's option. The Contractor shall repair areas of destructive testing as directed by the Engineer at no cost to the Agency.

3.05 ACCEPTANCE OR REJECTION

A. Acceptance or rejection of the concrete jacket repairs will be based on satisfactory strength and modulus of elasticity tests and by visual inspection.

PART 4 MEASUREMENT AND PAYMENT

4.01 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

REGULATORY PERMITS

City of Boston
Environment

CITY of BOSTON
Conservation Commission

March 31, 2026

Daniel Robbins
GEI Consultants, Inc.
100 Quannapowitt Parkway, Suite 300
Wakefield, MA 01880

CERTIFIED MAIL: 9589 0710 5270 0405 6856 18

Notice of Intent for DEP File No. 006-2108 and BOS File No. 2026-011 from GEI Consultants, Inc., on behalf of the Boston Planning & Development Agency for the proposed reinforcement of the bulkhead between Piers 4 and 5, repairs to adjacent concrete, and deck replacement at Eighth Street, Charlestown, MA (LUO, Coastal Bank, Rocky Intertidal Shores, LSCSF, 25ft Waterfront, 100ft Buffer to Coastal Bank, 100ft Buffer to Rocky Intertidal Shores).

Dear Daniel Robbins,

Pursuant to the Massachusetts Wetlands Protection Act, General Laws, Chapter 131, Section 40, and Boston Wetlands Ordinance, Boston City Code, Ordinances, Chapter 7-1.4, I have enclosed the Order of Conditions ("the Order") for the above referenced project. Please arrange to have the Order recorded at the Suffolk County Registry of Deeds in accordance with General Condition 9. Work on the project may not begin until the Boston Conservation Commission receives the completed Recording Information form.

In accordance with General Condition 12 of the Order, upon completion of the project a Request for a Certificate of Compliance (WPA Form 8A), must be filed with the Commission stating that the work has been satisfactorily completed. If the project filing included plans stamped by a registered professional engineer, architect, landscape architect or land surveyor a written statement by such professional must accompany the Certificate request confirming that the project has been completed in substantial compliance with the plans and the conditions of the Order.

Please make certain that all contractors and workers involved in the project review the permit conditions as required. Please also ensure that the prior to construction requirements listed in the Order are satisfied prior to the start of work.

If you have any questions regarding the enclosed Notice of Intent, you may contact Boston Conservation Commission Staff at cc@boston.gov or 617-635-3850.

For the Commission,

Elena Itämeri, Conservation Agent
Boston Conservation Commission
Enclosure: WPA Form 5

Massachusetts Department of Environmental Protection

eDEP Transaction Copy

Here is the file you requested for your records.

To retain a copy of this file you must save and/or print.

Username:	**BOSTONCONCOM**
Transaction ID:	**2003393**
Document:	**WPA Form 5 - OOC**
Size of File:	**151.92K**
Status of Transaction:	**In Process**
Date and Time Created:	**3/31/2026:2:46:37 PM**

Note: This file only includes forms that were part of your transaction as of the date and time indicated above. If you need a more current copy of your transaction, return to eDEP and select to “Download a Copy” from the Current Submittals page.

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:
MassDEP File #:006-2108
eDEP Transaction #:2003393
City/Town:BOSTON

A. General Information

1. Conservation Commission: BOSTON
2. Issuance: a. ☑ OOC b. ☐ Amended OOC

3. Applicant Details

a. First Name	WILLIAM	b. Last Name	EPPERSON		
c. Organization	BOSTON PLANNING AND DEVELOPMENT AGENCY				
d. Mailing Address	12 CHANNEL STREET, SUITE 901				
e. City/Town	BOSTON	f. State	MA	g. Zip Code	02210

4. Property Owner

a. First Name	WILLIAM	b. Last Name	EPPERSON		
c. Organization	BOSTON PLANNING AND DEVELOPMENT AGENCY				
d. Mailing Address	12 CHANNEL STREET, SUITE 901				
e. City/Town	BOSTON	f. State	MA	g. Zip Code	02210

5. Project Location

a.Street Address	EIGHTH STREET		
b.City/Town	BOSTON	c. Zip Code	02129
d. Assessors Map/Plat#	N/A	e. Parcel/Lot#	0203505550
f. Latitude	42.37310N	g. Longitude	71.05150W

6. Property recorded at the Registry of Deed for:

a. County	b. Certificate	c. Book	d. Page
SUFFOLK	N/A	N/A	N/A

7.Dates

a. Date NOI Filed : 3/18/2026 b. Date Public Hearing Closed: 3/25/2026 c. Date Of Issuance: 3/31/2026

8.Final Approved Plans and Other Documents

a. Plan Title:	b. Plan Prepared by:	c. Plan Signed/Stamped by:	d. Revised Final Date:	e. Scale:
V-101	GEI CONSULTANTS	DANIEL B. ROBBINS	2/25/2026	1"=20'
V-102	GEI CONSULTANTS	DANIEL B. ROBBINS	2/25/2026	1"=10'
V-103	GEI CONSULTANTS	DANIEL B. ROBBINS	2/25/2026	1"=10'
V-301	GEI CONSULTANTS	DANIEL B. ROBBINS	2/25/2026	1/4"=1'-0"
S-101	GEI CONSULTANTS	DANIEL B. ROBBINS	2/25/2026	1"=20'
S-102	GEI CONSULTANTS	DANIEL B. ROBBINS	2/25/2026	1"=10'
S-103	GEI CONSULTANTS	DANIEL B. ROBBINS	2/25/2026	1"=10'
S-301	GEI CONSULTANTS	DANIEL B. ROBBINS	2/25/2026	1/4"=1'0"

B. Findings

1.Findings pursuant to the Massachusetts Wetlands Protection Act

Following the review of the 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.

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. ☐ Ground Water Supply	h. ☑ Storm Damage Prevention	i. ☑ Flood Control

2. Commission hereby finds the project, as proposed, is:

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.

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 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 interests of the Act , 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 310CMR10.02(1)(a). _____ a. linear feet

Inland Resource Area Impacts:(For Approvals Only):

Resource Area	Proposed Alteration	Permitted Alteration	Proposed Replacement	Permitted Replacement
4. ☐ Bank	_____ a. linear feet	_____ b. linear feet	_____ c. linear feet	_____ d. linear feet
5. ☐ Bordering Vegetated Wetland	_____ a. square feet	_____ b. square feet	_____ c. square feet	_____ d. square feet
6. ☐ 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. ☐ 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. ☐ 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. ☐ 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

Coastal Resource Area Impacts:

Resource Area	Proposed Alteration	Permitted Alteration	Proposed Replacement	Permitted Replacement
10. ☐ Designated Port Areas	Indicate size under Land Under the Ocean, below			
11. ☑ Land Under the Ocean	604 a. square feet	604 b. square feet		
	0 c. c/y dredged	0 d. c/y dredged		
12. ☐ Barrier Beaches	Indicate size under Coastal Beaches and/or Coastal Dunes below			
13. ☐ Coastal Beaches	a. square feet	b. square feet	c. c/y nourishment	d. c/y nourishment
14. ☐ Coastal Dunes	a. square feet	b. square feet	c. c/y nourishment	d. c/y nourishment
15. ☑ Coastal Banks	378 a. linear feet	378 b. linear feet		
16. ☑ Rocky Intertidal Shores	2517 a. square feet	2517 b. square feet		
17. ☐ Salt Marshes	a. square feet	b. square feet	c. square feet	d. square feet
18. ☐ Land Under Salt Ponds	a. square feet	b. square feet		
	c. c/y dredged	d. c/y dredged		
19. ☐ Land Containing Shellfish	a. square feet	b. square feet	c. square feet	d. square feet
20. ☐ Fish Runs	Indicate size under Coastal Banks, inland Bank, Land Under the Ocean, and/or inland Land Under Waterbodies and Waterways, above			

	c. c/y dredged	d. c/y dredged
21. ☑ Land Subject to Coastal Storm Flowage	6276 a. square feet	6276 b. square feet

22.

☐ Restoration/Enhancement (For Approvals Only)

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 & d or B.17.c & d above, please entered the additional amount here.

a. square feet of BVW	b. square feet of Salt Marsh

23.

☐ Streams Crossing(s)

If the project involves Stream Crossings, please enter the number of new stream crossings/number of replacement stream crossings.

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 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.
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.
6. If this Order constitutes an Amended Order of Conditions, this Amended Order of Conditions does not exceed the issuance date of the original Final Order of Conditions.
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.
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 then two square feet or more than three square feet in size bearing the words,

" Massachusetts Department of Environmental Protection"
[or 'MassDEP"]
File Number :"006-2108"

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 Mass DEP.
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.
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.

NOTICE OF STORMWATER CONTROL AND MAINTENANCE REQUIREMENTS

19. The work associated with this Order(the "Project") is (1) ☐ is not (2)☑ subject to the Massachusetts Stormwater Standards. If the work is subject to 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 Pollutant Discharge Elimination System Construction General Permit as required by Stormwater Standard 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; *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 19(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 Pollutant 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 19(f) through 19(k) with respect to that BMP. Any failure of the proposed responsible party to implement the requirements of Conditions 19(f) through 19(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.

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:

SEE ATTACHED CONDITIONS.

D. Findings Under Municipal Wetlands Bylaw or Ordinance

1.Is a municipal wetlands bylaw or ordinance applicable? ☑ Yes ☐ No

2.The Conservation Commission hereby(check one that applies):

a. ☐ DENIES the proposed work which 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 or Conditions is issued. Which are necessary to comply with a municipal ordinance or bylaw:

b. ☑ APPROVES the proposed work, subject to the following additional conditions.

1. Municipal Ordinance or Bylaw: BOSTON WETLANDS ORDINANCE
2. Citation: BOSTON CITY CODE CH. 7-1.4

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:
SEE ATTACHED CONDITIONS.

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:
006-2108
MassDEP File #
200393
eDEP Transaction #
Boston
City/Town

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.

3/31/2026
1. 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.

5
2. Number of Signers

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.

Michael W Parker (Mar 27, 2026 14:57:34 EDT)	Michael W Parker
Signature	Printed Name
Anne Herbst (Mar 27, 2026 16:17:56 EDT)	Anne Herbst
Signature	Printed Name
Amy Linne (Mar 31, 2026 09:24:32 EDT)	Amy Linne
Signature	Printed Name
Stephen Estes-Smargiassi	Stephen Estes-Smargiassi
Signature	Printed Name
Michael Wilson (Mar 27, 2026 17:49:34 EDT)	Michael Wilson
Signature	Printed Name
Signature	Printed Name
Signature	Printed Name
Signature	Printed Name

☐ by hand delivery on

Date

☑ by certified mail, return receipt requested, on 3/31/2026

Date

E. Signatures

This Order is valid for three years from the date of issuance, unless otherwise specified pursuant to General Condition #4. If this is an Amended Order of Conditions, the Amended Order expires on the same date as the original Order of Conditions.

3/31/2026
1. Date of Original Order

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

5
2. Number of Signers

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.

Signatures:

Stephen Estes-Smargiassi

Michael W Parker

Michael Wilson

Anne Herbst

Amy Linne

☐ by hand delivery on

Date

☐ by certified mail, return receipt requested, on

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.

G. Recording Information

This Order of Conditions must be 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 subject to the Order. In the case of registered land, this Order shall also be noted on the Land Court Certificate of Title of the owner of the land

subject to the Order of Conditions. The recording information on this page shall be submitted to the Conservation Commission listed below.

BOSTON
Conservation Commission

Detach on dotted line, have stamped by the Registry of Deeds and submit to the Conservation Commission.

To:

BOSTON
Conservation Commission

Please be advised that the Order of Conditions for the Project at:

EIGHTH STREET — Project Location
006-2108 — MassDEP File Number

Has been recorded at the Registry of Deeds of:

County | Book | Page

for:

Property Owner WILLIAM EPPERSON

and has been noted in the chain of title of the affected property in:

Book | Page

In accordance with the Order of Conditions issued on:

Date

If recorded land, the instrument number identifying this transaction is:

Instrument Number

If registered land, the document number identifying this transaction is:

Document Number

Signature of Applicant

Rev. 4/1/2010

March 11, 2026
Attachment – Special Conditions
Boston Planning & Development Agency, Reinforcement of the bulkhead between Piers 4 and 5, repairs to adjacent concrete, and deck replacement, Eighth Street, Charlestown, MA
(LUO, Coastal Bank, Rocky Intertidal Shores, LSCSF, 25ft Waterfront,
100ft Buffer to Coastal Bank, 100ft Buffer to Rocky Intertidal Shores)
DEP File No. 006-2108 / BOS File No. 2026-011

1. GENERAL SPECIAL CONDITIONS

1. The term "Applicant" as used in this Order of Conditions refers to the applicant, owner, any successor in interest or successor in control of the property, or assigns referenced in the Notice of Intent, supporting documents and this Order of Conditions. The Boston Conservation Commission (hereinafter "the Commission") must be notified in writing within 30 days of all transfers of title of any portion of property that take place prior to the issuance of the Certificate of Compliance (hereinafter "COC").

3. The property that is the subject of this Order and upon which the project is located will be referred hereinafter as "the subject property" or the "project site".

4. The Commission reserves the right to impose additional conditions or require the submittal of additional information as necessary to protect the interests of the Massachusetts Wetlands Protection Act (hereinafter "the Act") and the Resource Area Values of the City of Boston Wetlands Protection Ordinance (hereinafter "the Ordinance").

5. It is the responsibility of the Applicant to complete all reviews required by any local, state, and federal agencies with jurisdiction over the activity that is the subject of this Order, and to procure all required permits or approvals. Any such permits or approvals shall be made available upon demand by the Commission or Commission Staff.

6. Any mitigation measures required by federal, state, or other local agencies that may impact wetland resource areas must be submitted by the Applicant to Commission Staff for review to determine what level of permitting or authorization will be necessary.

7. Any person performing work on the activity that is the subject of this Order is individually responsible for understanding and complying with the requirements of this Order, the Act, its implementing regulations at 310 CMR 10.00, and the Ordinance and its implementing regulations, as applicable.

8. The Applicant is hereby instructed to review these conditions with all contractors and workers involved in on-site operations prior to the commencement of work on this project. Any contractors and workers arriving after construction commences must also be apprised of these conditions.

9. A copy of the Order, including all referenced documents and plans, and all other subsequent approvals and directives issued by the Commission, must be available for inspection at the project site.

10. A member of the Commission or its agent may enter and inspect the subject property and the activities that are the subjects of this Order at all reasonable times, with or without probable cause or prior notice, and until a COC is issued, for the limited purpose of evaluating compliance with this Order, the Act, and the Ordinance.

11. The Applicant must inform the Commission of any violation of this Order and any other project related-spill or accident that may impact any wetland resource areas or 100-foot Buffer Zone (hereinafter "buffer zone") as soon as possible and at least by the end of the business day, and must take appropriate action to mitigate impacts from such a spill or accident. The Applicant or site supervisor must notify the City of any emergency by calling Commission Staff at 617-635-1988 from 9:00 AM - 5:00 PM, Monday - Friday and, at all other times, by calling the Mayor's Office's 24-hour Hotline at 617-635-4500. On the date of the issuance of this Order, the appropriate contact is Elena Itämeri, Conservation Agent: cc@boston.gov.

12. Anti-degradation provisions of the Massachusetts Surface Water Quality Standards protect all waters including wetlands. The Applicant's contractor must take all steps necessary to assure that the proposed activities will be conducted in a manner which will avoid violations of said standards.

13. No work permitted by this Order shall commence, including the clearing of trees and shrubs or disturbance of soils, except that minimal disturbance of shrubs and herbaceous plants absolutely necessary in order to place erosion or sedimentation control devices where required, prior to the Applicant's fulfilling all of the prior to the commencement of work requirements included herein and receiving authorization from Commission Staff.

14. All work shall be halted on the project site if the Commission, Commission Staff, or the Department determines that any of the work is not in compliance with this Order.

16. All project related correspondence and submittals to the Commission regarding this Order must indicate the DEP File number: 006-2108 and BOS File number: 2026-011.

2. LIMIT OF WORK & EROSION CONTROLS

1. Construction activity will be confined within the limits of work as represented on the final plans. There may be no staging of construction materials, storage of construction equipment, clearing or disturbance to land beyond the limit of work.

2. The Applicant shall ensure that the project site is thoroughly secured at all times during and post construction, in the interest of public health and safety. Prior to the commencement of work, the Applicant must submit a plan to Commission Staff detailing the measures that will be implemented to secure the project site.

3. If a chain link fence will constitute the limit of work, the lowest portion of the chain links shall be elevated at least 8 inches from the ground in order to allow unimpeded travel by wildlife.

5. All land-side areas disturbed during construction must be stabilized as soon as possible upon completion of construction. Loaming and seeding should occur within (5 - 30) days of final grading. Disturbed resource areas landward of the high water line and buffer zone mark should be secured by biodegradable erosion control mats while vegetation establishes. Barren areas should be stabilized with a temporary cover of rye or other grass if work on the project is interrupted for more than 30 days. If the season is not appropriate for plant growth, then exposed surfaces may be stabilized by straw, snow fence, or other U.S. Natural Resources Conservation Service - recommended methods.

Where a slope is steeper than 3:1, temporary stabilization shall be staked or otherwise affixed to the slope. The Applicant or their contractor will ensure a mature cover of vegetation is established on previously disturbed or exposed areas.

6. The Applicant's contractor will conduct construction sequencing such that areas cleared of ground vegetation and earth materials are exposed for a minimum of time before they are covered, seeded, or otherwise stabilized to prevent erosion.

8. Stockpiles of soils, aggregate, or any other unconsolidated construction materials permitted by this Order within the buffer zone or 100-year floodplain shall be covered with tarpaulins when not being worked with. Stockpiles in place for longer than twenty-four (24) hours shall be ringed with an entrenched hay bale barrier and covered by properly secured tarpaulins at the close of each workday. The areas of construction shall remain in a stable condition at the close of each construction day. Erosion controls shall be inspected daily, and maintained or reinforced if necessary. After any storm event, any accumulated silt adjacent to the barriers shall be removed.

9. All erosion and sedimentation controls 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 area. The Commission reserves the right to determine whether erosion and sediment control measures are no longer needed, at which time they shall be removed.

10. An adequate reserve of erosion control materials shall be on site at all times for emergency or routine replacement.

3. SPILL MANAGEMENT

1. There may be no discharge or spillage of fuel, oil, or any other pollutant from this project into adjacent wetland resource areas or buffer zones associated with those resource areas. Any equipment used in any wetland resource area or buffer zone that uses fuel, oil or hydraulic fluid must be inspected daily for leakage. Any equipment that requires repair must be repaired outside of any wetland resource area or buffer zone. Any equipment that uses fuel, oil and/or hydraulic fluid must be staffed at all times while operational within wetland resource areas or buffer zones. Equipment must not be re-fueled within any wetland resource areas. At the request of the Applicant, Commission Staff may authorize lay-down areas within the buffer zone or the 100-year floodplain with appropriate spill management controls in place where fixed equipment may be refueled or repaired. These areas will be approved *during the construction period only*.

2. Any remediation, removal, or stockpiling of hazardous material, within an area subject to protection under Act or Ordinance shall comply with the following provisions:

a. No hazardous material shall be introduced or discharged into or toward wetland resource areas.

b. Shall be conducted only when approved and directed by the Department, the U.S. Environmental Protection Agency (hereinafter "the EPA") or other applicable state or

federal agency under which remedial activities are directed and shall be conducted in the manner specified in the Notice of Intent and appropriate agency directives.

c. All hazardous materials, products and waste produced, stockpiled or removed must be handled, treated and disposed of in accordance with all local, state and federal laws regulating such materials and must be located outside of the buffer zone to wetland resource areas, unless specifically authorized by this Order and appropriate local, state, and federal licensing and permitting agencies.

d. No hazardous materials shall be introduced or discharged into the sanitary or sewage systems.

4. PRIOR TO COMMENCEMENT OF WORK

1. Prior to the commencement of work, the Applicant must submit final plans signed and stamped by a professional engineer, land surveyor, or landscape architect, as applicable, to Commission Staff. Commission Staff will determine if there have been significant revisions made to the plans referenced in this Order that may require further Commission review.

2. Prior to the commencement of work on any section of this project, the Applicant must notify the Commission and, at the request of the Commission, may arrange an on-site conference of representatives of the Commission, the contractor, the project engineer and the Applicant to ensure that all the conditions of this Order are understood. The Commission must be notified at least 48 hours in advance of the date upon which construction activities on the site are to proceed. All appropriate construction impact mitigation measures must be in place prior to initiation of work on the project site.

3. Prior to the commencement of work, the Applicant and/or their contractor must provide to the Commission written notification of the name, title, address and telephone numbers of the person or persons designated by the Applicant to be responsible for compliance with the Order on site. An emergency telephone number must be provided in the event that action is required during non-working hours.

4. Prior to the commencement of work, the project supervisor overseeing daily operations at the project site must read this Order and sign a copy of each page, indicating that each condition has been read and understood. These signed pages must be submitted to Commission Staff by the Applicant.

5. Prior to the commencement of work, the Applicant or their contractor must submit a final erosion and sediment control plan for review and approval by Commission Staff. Final plans showing the points of discharge, wheel wash stations, sedimentation tanks and basins, oil separating equipment and other engineering structures should be provided to the Commission with a certified engineer's stamp and signature. To satisfy this condition the Applicant may submit a Storm Water Pollution Prevention Plan (SWPPP) required under the NPDES Construction General Permit for Storm Water

Discharges for Construction Activities. The approved plan will be a condition of this Order by reference herein.

6. Prior to the commencement of work and site clearing, an erosion and sediment control barrier must be installed along the limit of activity between all work areas and wetland resource areas. Hay bales or straw bales should be double staked (where possible) with bales butted against each other. If straw wattles or filter sox are used, they should be anchored in place. If specified, geotextile siltation fence should be installed no further than twelve (12) inches from the down-gradient side of the barrier. These barriers must be inspected daily and after significant rain events (greater than 0.5 inches of precipitation) and maintained as necessary, including the removal of accumulated sediments. The contractor will ensure that additional erosion and sediment control materials are available for immediate installation to replace those that are damaged or degraded. Erosion control measures should be removed upon completion of work and after disturbed areas are stabilized. The geotextile fence will constitute a limit-of-work line, beyond which no work or clearing of vegetation may occur.

7. The Applicant's contractor must submit a construction materials and equipment staging plan 30 days prior to the commencement of work for Commission Staff review and approval. Project related staging areas will be subject to all conditions herein. Staging areas located outside the project footprint, as indicated on the approved project plan of record, and within wetland resource areas and the buffer zone may be subject to further Commission review.

8. Prior to the commencement of work, the Applicant and/or their contractor shall develop a spill management plan for any hazardous materials that may be employed during work in the resource area, buffer zone or over the water, and submit said plan to the Commission for Commission Staff review and approval. Specifically, the Applicant should prepare to effectively deal with spillage of fuel or hydraulic fluids from equipment and provide all appropriate notifications, including to the Commission. A quick-absorbent material, such as "Speedy Dry" or equivalent, must be stored in a dry readily available area at the work site, and on any project related vessels, for use in the event petroleum-based fluids are spilled or leaked. The contractor must have an oil sorbent boom at the project site and deploy the boom immediately upon observing any petroleum sheen on the watersheet. The spent material should be containerized and disposed of properly.

9. Prior to the commencement of work, the Applicant must submit for Commission Staff review and approval an Oil Spill Prevention, Control and Countermeasure Plan, which must specify the containment measures and notification protocol to be implemented should a fuel spill occur. The fuel tanks must also have a leak detection system. The plan should include the continued maintenance of emergency fuel booms at the facility.

12. All project generated discharges, including stormwater, authorized by a NPDES permit, will be subject to the terms of the NPDES permit which is incorporated herein by reference pursuant to 310 CMR 10.03 (4). The Applicant must submit the NPDES permit and authorization to the Commission prior to the commencement of work.

13. Prior to the commencement of work, the Applicant must submit to the Commission for its review and approval:

a. finished details and elevations for the Harborwalk;

b. a maintenance plan for all associated structures and amenities; and

c. plans stamped by a registered engineer depicting the proposed construction of any pile-supported segments of the Harborwalk. These submittals will be incorporated into this Order by reference herein.

14. Prior to the commencement of work, the Applicant must submit a construction and post-construction snow management plan for Commission Staff review and approval. Snow from landside areas may not be plowed or otherwise deposited into the waters of Boston Harbor or adjacent coastal beaches or banks. Snow must be stockpiled on paved surfaces that direct melted snow water to catch basins. Deicing material (e.g. sodium, potassium, and calcium chloride) and sand must be stored and contained in areas that will not allow for their migration into wetland resource areas. Prior to April 1st, all sand and salt from winter application must be removed from the site. The approved snow management plan will be a perpetual **maintenance** condition that will not expire upon issuance of a COC.

17. The Applicant or their contractor must keep a daily log summarizing all construction and demolition activities of this project on every day that such activity occurs, noting turbidity conditions, occurrence of fish kills, debris removal from resource areas and evaluations of measures employed to reduce turbidity and other impacts to the water and wetland resources. The condition of all drainage, erosion controls and sedimentation structures must be noted in the daily log, as well as the performance of maintenance activities on such structures. The contractor must provide Commission Staff with a draft construction inspection form prior to commencement of work on the project site. This log must be kept at the work area and made available upon demand by Commission Staff.

5. DURING CONSTRUCTION: GENERAL

1. There shall be no additional alterations of areas under the Commission's jurisdiction without the required review(s) and permit(s). This condition will not expire upon issuance of a COC.

2. The Applicant shall notify Commission Staff immediately if any damage is caused as a direct result of this project to any wetland resource area or buffer zone. It shall be the responsibility of the Applicant to submit to the Commission for its review and approval a repair or restoration plan depicting the remedial steps proposed to restore the wetland resource areas or buffer zone to its previous condition. Sedimentation of any resource area shall be considered fill of that wetland resource area.

3. If any unforeseen problems occur during construction which may affect the interests of the Act, the Resource Area Values of the Ordinance, or regulations promulgated thereunder, the Commission shall immediately be notified, and an immediate meeting shall be held between the Commission or

Commission Staff, the Applicant, and other concerned parties to determine the correct measures to be employed. The Applicant shall then act to correct the problems using the corrective measures agreed upon. Subsequent to resolution, the activity and resulting actions shall be documented in writing.

4. The Applicant must regularly remove and dispose of debris on all wetland resources areas on the project site. This is a perpetual **maintenance** condition that will not expire upon issuance of a COC.

5. The Applicant must maintain the project site free of trash and debris during any down time or hiatus in the project during the term of this Order.

6. The Applicant and/or their contractor must clean the work area at the end of each workday to prevent wind deposition of fugitive dust and accumulation of debris in the buffer zone or wetland resource areas. All stored excavate or fill must be contained with appropriate best management practices when not in use. Special attention should be given by the contractor to securing covers on stored excavate, fill, dumpsters and roll-off containers over the weekend or during down time.

7. Except when necessary for final fitting or precision cutting and during demolition, no timber or construction materials may be cut within the resource areas or buffer zone. All sawdust and debris must be collected and disposed of properly. Wood treated with creosote or cuprinol may not be placed in the waters of the Boston Harbor.

8. Disposal of all construction materials, demolition debris and excess fill must be done in accordance with applicable federal, state, and local laws. Proof of proper disposal must be provided in the form of copies of bills of lading, disposal receipts or manifests to Commission Staff upon request.

9. At no time during or after construction shall fill or other materials be placed, slump into or fall beyond the limit of grading as shown on the plan. The Applicant shall be responsible for inspecting and maintaining all slopes and shall immediately notify the Commission if slumping, erosion or encroachment occurs.

11. On-site discharge of untreated, decanted water from construction dewatering to resource areas is prohibited. If on-site discharge becomes necessary, the Applicant must submit a plan indicating dewatering methodology, water quality monitoring measures, and staging location of dewatering equipment for Commission Staff review and approval. Any approved dewatering must treat decanted water according to additional conditions deemed necessary by Commission Staff.

12. There shall be no crossing of wetland resource areas with equipment or any vehicles at any time during construction other than as described in the Notice of Intent and approved by this Order.

13. Trucks entering and leaving the project site must have their loads completely covered in compliance with M.G.L. Chapter 85 § 36. Vehicles that accumulate soil or any unconsolidated material on their tires due to exposed ground conditions at the project site must be thoroughly washed to avoid tracking of material onto the public way.

14. The contractor must have designated washout areas for concrete equipment that will be comprised of impermeable material and sized to contain project concrete wastes and wash water. Washout areas may not be located in the vicinity of storm drain inlets, stormwater conveyance, surface waters or wetlands.

15. All equipment and unconsolidated materials must be removed from areas subject to the 1% annual chance flood (100-year flood, Zone A) in advance of significant rainfall that will exceed the volume of a 2-year storm event.

16. All equipment and unconsolidated materials must be removed from the buffer zone and Land Subject to Coastal Storm Flowage (Special Flood Hazard Areas subject to inundation by the 1% annual chance flood) in advance of any forecasted flooding event.

6. DURING CONSTRUCTION: IN-WATER/WATERSIDE CONSTRUCTION

1. If at any time during the implementation of the project a fish kill or significant water quality problem occurs in the vicinity of the project, all site related activities impacting the water must cease until the source of the problem is identified and adequate mitigating measures employed to the satisfaction of the Commission.

2. The applicant should consider the use of Alkaline Copper Quaternary (ACQ)-treated timber piles in place of Chromated Copper Arsenate (CCA)-treated timber piles. This material employs preservative components that are listed in EPA's classification as "General Use" pesticides. This is a less toxic material than CCA and it performs similarly.

3. All practical best management practices must be implemented during in-water or waterside activities to minimize turbidity and other water quality impacts, including but not limited to a floating boom with an attached silt curtain to contain work areas. The silt curtain should be maintained in good operating condition, should rest on the mud line at all times, and should have adequate shore-line anchors, tie-downs or other mechanisms to ensure proper position and performance. Any visible plume of turbid water caused by project activity outside the area contained by the silt curtain will constitute inadequate performance and require immediate adjustment and/or repositioning of the curtain. Deployment of the curtain should occur in such a way that it will not interfere with water traffic. The boom may be removed when work directly requiring the use of a boom has been completed. The contractor must also have an oil sorbent boom at the project site and deploy the boom immediately upon observing any petroleum sheen on the watersheet.

4. All project-related materials must be contained from migration into wetland resource areas and all practical precautions must be used during any water-based work. The Applicant and/or their contractor will be responsible for the removal of any project-related debris, material, machinery or equipment lost, dumped, thrown into, or otherwise entering any wetland resource area, regardless of whether it is within or outside of the project limits. The proponent must seek Commission approval for any remedial action involving substantial impacts to wetland resource areas.

5. The contractor must have a boat available for the collection and removal of project related trash and debris within wetland resource areas and on the watersheet. The contractor will contain and collect all floating debris that results from the project and collect it along with solid waste including trash. The collected debris and trash will be placed into containers and periodically removed for proper disposal. The boat should also be used to check the boom.

6. All vessels working at this site must be maintained in seaworthy condition. Should any vessel or barge associated with the project sink the Commission must be informed immediately. The proposed work and placement of barges should be coordinated with vessels that navigate in the affected waterways. All vessels and floating equipment must be anchored or moored when not in use and have proper lighting per U.S. Coast Guard requirements. Barges must be anchored with spuds or tied off to a secure structure; under no circumstances should construction equipment on the barge be utilized for purposes of anchoring. Project related vessels may not rest upon tidal flats.

7. All deck gear and equipment stored on project-related vessels must be secured at the end of each workday and inspected for any leakage. All project-related vessels must have a spill kit containing sorbent materials on the vessel at all times. All material stored on project related vessels must be contained so as not to enter the resource area. Petroleum products and hydraulic fluids must be stored within leak-proof lockers secured to the deck of the vessel.

9. Excavation equipment may access the inter-tidal area only during periods of low tide and utilize rubber-tired vehicles.

13. PRIOR TO THE CERTIFICATE OF COMPLIANCE CONDITIONS

1. Upon completion of all work regulated by this Order and final soil stabilization, the Applicant shall submit a Request for a COC to the Commission. The request shall include detailed as-built plans depicting the post construction conditions of the project site, including any subsurface infrastructure, and a compliance statement. Both must be signed and stamped by a professional engineer, land surveyor, or landscape architect, as applicable, certifying that the work has been completed in accordance with the conditions of this Order and the final site plans referenced herein.

2. The Applicant must submit a refuse management plan prior to the opening of the facility to ensure that there is proper containment and disposal of related trash and debris. Storage areas outside of the existing structure should be indicated on the plan as well as enclosure and containment measures. If applicable, the Applicant must comply with all standards of the City of Boston Public Works Department Regulations regarding dumpsters (City of Boston Code, Ordinances, Title 14, section 264a.). Dumpsters must be constructed and maintained so as to be leak proof and must be equipped with a close fitting permanently attached cover which must remain fully closed except for loading and unloading. The dumpster enclosure must be adequately screened, to the discretion of the Commission, inspected daily and maintained free of loose debris and trash.

14. ADDITIONAL CONDITIONS: GENERAL

March 11, 2026
Attachment – Special Conditions
Boston Planning & Development Agency, Reinforcement of the bulkhead between Piers 4 and 5, repairs to adjacent concrete, and deck replacement, Eighth Street, Charlestown, MA
(LUO, Coastal Bank, Rocky Intertidal Shores, LSCSF, 25ft Waterfront, 100ft Buffer to Coastal Bank, 100ft Buffer to Rocky Intertidal Shores)
DEP File No. 006-2108 / BOS File No. 2026-011

1. There may be no dumping of leaves, grass clippings, brush, fill or other debris into wetland resource areas. No mulch shall be placed into wetland resource areas. This is a perpetual condition that will not expire upon issuance of a COC.

15. ADDITIONAL CONDITIONS: PREVENTION OF POLLUTION

1. Exterior trash receptacles must be secured to the ground and must be covered or designed to prevent pollution of adjacent resource areas by vandalism or wind-blown litter. Trash receptacles will be emptied as needed and at least daily from Memorial Day to Columbus Day, and as needed and at least daily during all other months. This is a perpetual **maintenance** condition that will not expire upon issuance of a COC.

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

September 4, 2026

Regulatory File No. NAE-2026-00833
Regulatory Division

Gigi Munden
Boston Planning & Development Agency
12 Channel St
Suite 901
Boston, MA 02210
Via email: gigi.munden@boston.gov

Dear Gigi Munden:

The U.S. Army Corps of Engineers (Corps) has reviewed your request to work in navigable waters associated the repairs and renovations at Flagship Wharf and Shipyard Park.

The project is located in Boston Harbor at 8th Street, Latitude 42.3727687 °N and Longitude -71.0521886 °W; in Charlestown Suffolk County Massachusetts. The proposed regulated activities associated with this project are detailed on the attached drawings titled “LOCUS, EXISITING PLAN, EXISITING CONDITIONS TYPICAL SECTION, PROPOSED CONDITION PLANS, PROPOSED CONDITIONS TYPICAL SECTION, PROPOSED CONDITION PLANS” on seven sheets, dated “04/23/2026 are described below.

The applicant proposes the following work in navigable waters:

Concrete Repair

Failing areas of concrete will be removed. Timber forms will be used to replace concrete as close to the existing area as possible. In locations with rebar having more than 20% section loss, rebar will also be added to further reinforce the concrete structures. Approximately 576 SF of repairs will be made in this area.

Pier 4 Bulkhead Repair

The existing bulkhead that runs between Pier 4 and Pier 5 will be reinforced with additional sheet piles driven within 18 inches of the existing bulkhead and wale system. Concrete infill will occupy the place between the two bulkheads, and a concrete cap will seal the two bulkheads together. A concrete façade will be installed on the outshore

face of the new steel sheet pile to provide corrosion protection. Additionally, fifteen batter piles will be used to add additional support to the bulkhead.

Pier 5 Bulkhead Repair

The existing bulkhead located inshore of Pier 5 will be reinforced with additional sheet piles driven within 18 inches of the existing bulkhead and wale system. Concrete infill will occupy the place between the two bulkheads, and a concrete cap will seal the two bulkheads together. A concrete façade will be installed on the outshore face of the new steel sheet pile to provide corrosion protection. Additionally, twelve battered piles will be used to add additional support to the bulkhead. These piles will be jacketed with UHMW sleeves to mitigate corrosion and potential impact damage.

Pile Jacketing

Some piles under the concrete deck that supports the harbor walk adjacent to Pier 5 structures are significantly deteriorating and in need of repair. In order to reinforce the piles, the existing reinforcement bars will be replaced and jacketed with concrete. Temporary formwork will be installed around the piles, and concrete will be poured into the forms.

Deck Replacement

The decking of the harborwalk adjacent to Pier 5 will be removed to install the new bulkhead and will be entirely replaced. Approximately 5700 square feet of decking will be removed and disposed of offsite. New decking will be installed.

The total impact associated with this project is shown on the table below:

Impacts

Aquatic Resource	Resource Type	Activity	Duration	Amount
Boston Harbor	Harbor	Pile Jacking	Permanent	1920 square feet
Boston Harbor	Harbor	Deck Replacement	Permanent	2825 square feet

Based on the information provided, the Corps has verified that the proposed actions are authorized under Nationwide Permit (NWP) NWP 3, Maintenance and NWP 33, Temporary Construction, Access, and Dewatering pursuant to authorities under Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. § 403).

You must ensure the proposed work is performed in accordance with the enclosed applicable terms and conditions. In addition, these Nationwide Permits are subject to the following special conditions.

1. The work authorized herein shall not be conducted during the time of year (TOY) restriction of January 15th to May 31st of any year in order to minimize adverse impacts to winter flounder spawning and juvenile development and other anadromous fish.

2. Soil erosion, sediment and turbidity controls shall be used and maintained in effective operating condition during construction. Activities capable of producing greater than minimal turbidity or sedimentation shall be done during periods of low-flow or no-flow, when the stream or tide is waterward of the work, or when controls are used to obtain dry work conditions. Work that produces greater than minimal turbidity or sedimentation should not be done during the TOY restrictions. Turbidity controls shall be installed in order to prevent debris from existing project site and diadromous fish impacts.

3. Replacement or maintenance of sloped stabilization structures and materials such as riprap shall not extend waterward of the existing toe of slope. Replaced vertical structures shall be located within the existing footprint where possible but limited to the area within 18 inches of existing structures in order to prevent adverse impacts to the aquatic environment.

4. Work that produces greater than minimal turbidity or sedimentation shall not occur between January 15th through May 31st of any year in or to protect diadromous fish.

5. Temporary structures, construction, access, and dewatering activities shall not be in place for greater than 2 years in order to prevent long term adverse impacts to these areas.

6. You are also required to complete and return the enclosed Compliance Certification form within 30 days of completing your project. Please email the completed documents to the representative identified in the last paragraph of this letter.

A change in location or project plans may require re-evaluation of your project. Proposed changes should be coordinated with this office prior to construction. Failure to comply with all terms and conditions of these NWP permits invalidate this authorization and could result in a violation of Section 301 of the Clean Water Act or

Section 10 of the Rivers and Harbors Act of 1899. You must also obtain all local, state, Tribal, and other Federal permits that apply to this project.

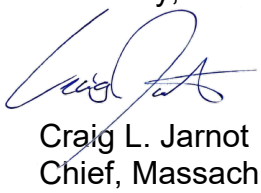
The Commonwealth of Massachusetts issued a conditioned WQC and CZM decision for your project (enclosed). You must comply with the conditions specified in the WQC and CZM decision for this NWP authorization to be valid.

The verification is valid until March 15, 2031, unless the NWP is modified, reissued, or revoked prior to that date. If the authorized work under the NWP has not been completed by that date and you have commenced or are under contract to commence this activity before March 15, 2031, you will have until March 15, 2032, to complete the activity under the enclosed terms and conditions of this NWP.

If you have any questions, please contact Crystal Gardner at 978-318-8332, or by email at crystal.i.gardner@uasce.army.mil.

In order to better serve you, please complete the Customer Service Survey located at: https://regulatory.ops.usace.army.mil/customer-service-survey/

Sincerely,

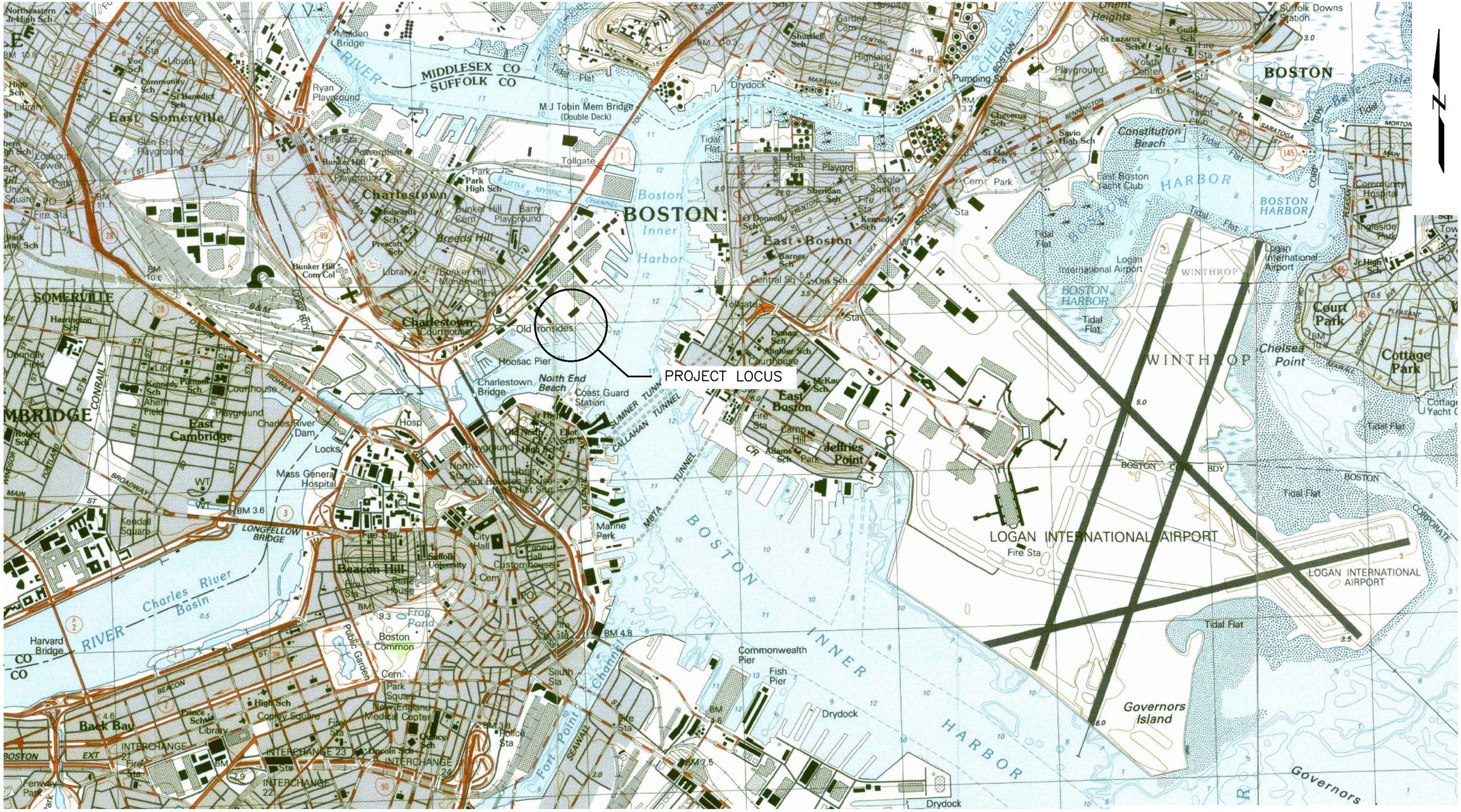


Craig L. Jarnot
Chief, Massachusetts Section
Regulatory Division

Enclosures:
Project Plans
Compliance Certification,
NW Permit Conditions

cc (w/enclosures):

Daniel Robbins, GEI Consultants, neregulatory@geiconsultants.com
U.S. EPA, Region 1; R1_CWA404_REG@epa.gov
Alexa Cacacie, NOAA NMFS; alexa.cacacie@noaa.gov
Sean Duffey, Coastal Zone Management, Boston, MA, sean.duffey@mass.gov
Patrice Bordonaro, Coastal Zone Management, Boston, MA,
patrice.bordonaro@mass.gov



GEI Consultants

NOTE:
USGS LOCUS MAP
VERTICAL DATUM: NAVD88

TITLE: LOCUS PLAN		IN: BOSTON HARBOR AT: CHARLESTOWN NAVY YARD COUNTY: SUFFOLK STATE: MA
PURPOSE: PIER 4 BULKHEAD REHABILITATION	APPLICATION BY: BOSTON PLANNING & DEV. AGENCY	SHEET 01 OF 07 DATE: 04/23/2026

File: B:\Working\BOSTON PLANNING & DEV AGENCY (AKA BRA)\2104361 Shipyard Park Waterfront Infrastructure\00_CAD\Design\Working\Pier 4 Bulkhead\USACOE & CH91\USACOE LOCUS PLAN.dwg

MATCHLINE SHEET 3

APPROXIMATE ALIGNMENT OF ABANDONED UNDERDECK UTILITIES (TYP)

EX. STEEL PIPE PILE (TYP)

EX. STEEL SHEETPILE BULKHEAD

EX. RIP RAP

EX. COURAGEOUS SAILING DOCKS

FEMA ZONE AE (EL. 10)

ROCKY INTERTIDAL

LIMIT OF CONSTRUCTION

LAND SUBJECT TO COASTAL STORM FLOWAGE

25' WATERFRONT AREA OFFSET

48.0'

MLW

2.3'

LIMIT OF COASTAL BANK; MHW & HTL UP AGAINST BULKHEAD

LIMIT OF LAND UNDER OCEAN

EX. STEEL H-PILES W/ CONC. JACKETS

EX. TIMBER PILES

100YR

8.8'

5.3'

3.1'

3.6'

5.0'

5.4'

10'-0"

140'-0"

250'-0"

10'-0"

200'-0"

12'-6"

7'-6"

F

E

D

C

B

A

11.0' (TYP)

6 SPACES @ 10'-8" = 64.0'

EX. CONC DECK & BEAMS

EX. TIMBER FENDER SYSTEM (TYP)

1 2 3 5 9 10 15 20

EX. GANGWAY (TYP)

100' ROCKY INTERTIDAL BUFFER ZONE

FEMA ZONE VE (EL. 11)

100' ROCKY INTERTIDAL BUFFER ZONE

FLOOD

EBB

EX. MBTA FERRY BARGE (TO REMAIN IN SERVICE WITHOUT DISRUPTION)

0 20 40

SCALE, FEET

GEI Consultants

100 YR FLOOD	+11.0
HTL	+7.00
MHW	+4.33
NAVD88	0.00
MLW	−5.17

TITLE: EXISTING CONDITIONS PLAN

PURPOSE: PIER 4 BULKHEAD REHABILITATION

APPLICATION BY: BOSTON PLANNING & DEV. AGENCY

IN: BOSTON HARBOR
AT: CHARLESTOWN NAVY YARD
COUNTY: SUFFOLK STATE: MA

SHEET 02 OF 07

DATE: 04/23/2026

File: B:\Working\BOSTON PLANNING & DEV AGENCY (AKA BRA)\2104361 Shipyard Park Waterfront Infrastructure\00_CAD\Design\Working\Pier 4 Bulkhead\USACOE & CH91\USACOE_Sht-02 Exist Cond Plan.d

MATCHLINE SHEET 2

25' WATERFRONT AREA OFFSET

LAND SUBJECT TO COASTAL STORM FLOWAGE

ROCKY INTERTIDAL

LIMIT OF COASTAL BANK; MHW & HTL UP AGAINST BULKHEAD

100YR

MLW

ROCKY INTERTIDAL

FEMA ZONE AE
(EL. 10)

A
04

MLW; LIMIT OF LAND UNDER OCEAN

LAND UNDER OCEAN

FEMA ZONE VE
(EL. 11)

BOSTON HARBOR

EBB

FLOOD

FEMA ZONE VE
(EL. 11)

0 20 40
SCALE, FEET

GEI Consultants

100 YR FLOOD	+11.0
HTL	+7.00
MHW	+4.33
NAVD88	0.00
MLW	−5.17

TITLE: EXISTING CONDITIONS PLAN

IN: BOSTON HARBOR
AT: CHARLESTOWN NAVY YARD
COUNTY: SUFFOLK STATE: MA

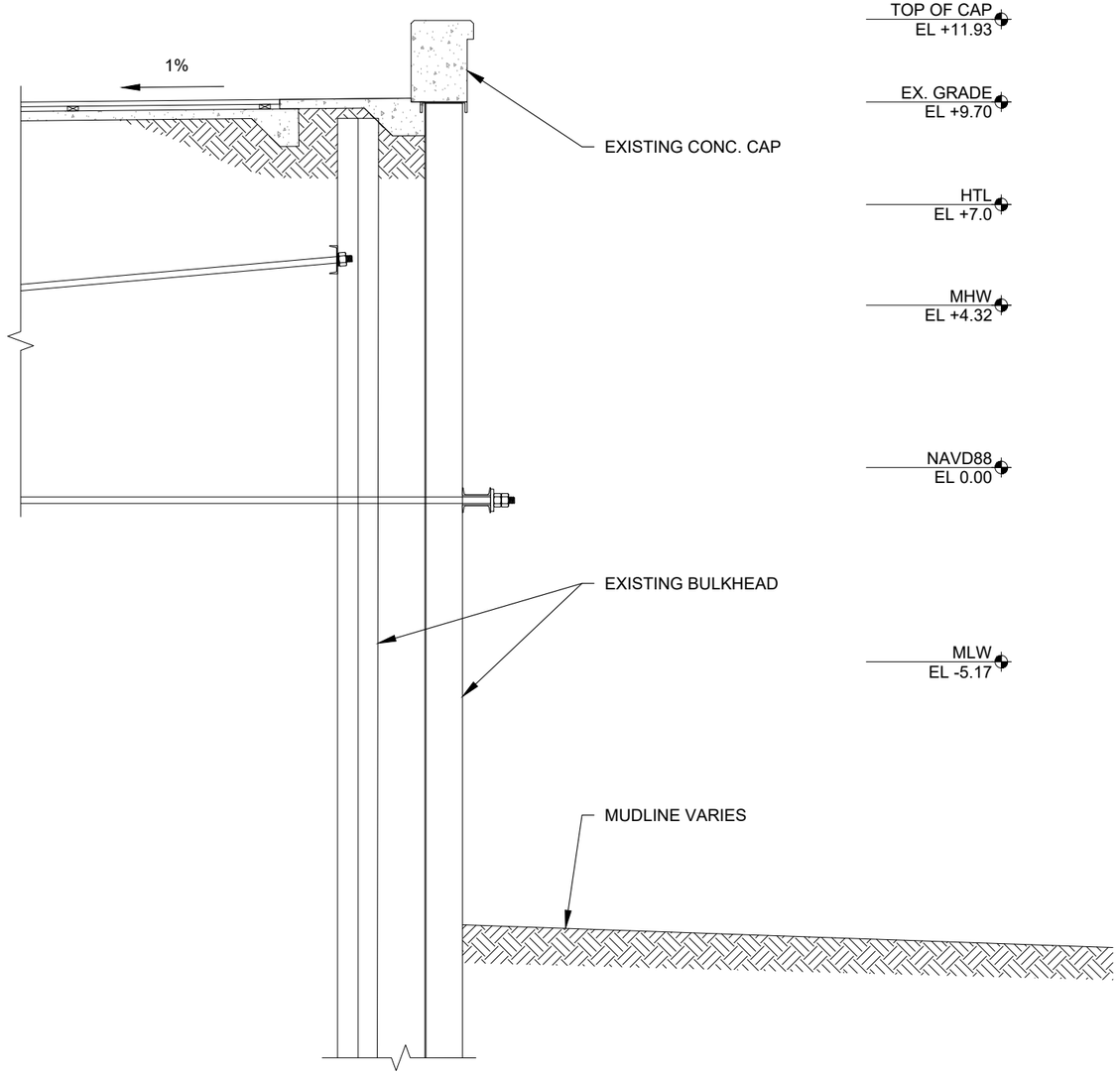
PURPOSE:
PIER 4 BULKHEAD REHABILITATION

APPLICATION BY:
BOSTON PLANNING & DEV. AGENCY

SHEET 03 OF 07

DATE: 04/23/2026

File: B:\Working\BOSTON PLANNING & DEV AGENCY (AKA BRA)\2104361 Shipyard Park Waterfront Infrastructure\00_CAD\Design\Working\Pier 4 Bulkhead\USACOE & CH91\USACOE_Sht-03 Exist Cond Plan.d



A TYPICAL SECTION
EXISTING BULKHEAD
SCALE: 1/4" = 1'-0"

0 4 8
SCALE, FEET

GEI Consultants

100 YR FLOOD +11.0
HTL +7.00
MHW +4.33
NAVD88 0.00
MLW −5.17

TITLE: EXISTING CONDITIONS TYPICAL SECTION

PURPOSE: PIER 4 BULKHEAD REHABILITATION

APPLICATION BY: BOSTON PLANNING & DEV. AGENCY

IN: BOSTON HARBOR
AT: CHARLESTOWN NAVY YARD
COUNTY: SUFFOLK STATE: MA

SHEET 04 OF 07

DATE: 04/23/2026

File: B:\Working\BOSTON PLANNING & DEV AGENCY (AKA BRA)\2104361 Shipyard Park Waterfront Infrastructure\00_CAD\Design\Working\Pier 4 Bulkhead\USACOE & CH91\USACOE_Sht-04 Exist Cond Sectio

MATCHLINE SHEET 6

APPROXIMATE ALIGNMENT OF ABANDONED UNDERDECK UTILITIES (TYP)

EX. STEEL SHEETPILE BULKHEAD

BULKHEAD REPAIR

EX. COURAGEOUS SAILING DOCKS

N 2961174.43
E 777197.60

0'-6"
12'-6"
10'-0"
10'-0"
12'-6"
7'-6"

F
E
D
C
B
A

LIMIT OF COASTAL BANK; MHW & HTL UP AGAINST BULKHEAD

LIMIT OF LAND UNDER OCEAN

CONCRETE REPAIR AREA

100YR

1
2
3
5
9
10
15
20

FEMA ZONE VE
(EL. 11)

FLOOD

EBB

EX. GANGWAY (TYP)

100' ROCKY INTERTIDAL BUFFER ZONE

100' ROCKY INTERTIDAL BUFFER ZONE

EX. MBTA FERRY BARGE (TO REMAIN IN SERVICE WITHOUT DISRUPTION)

0 20 40
SCALE, FEET

GEI Consultants

100 YR FLOOD	+11.0
HTL	+7.00
MHW	+4.33
NAVD88	0.00
MLW	−5.17

TITLE: PROPOSED CONDITIONS PLAN

PURPOSE: PIER 4 BULKHEAD REHABILITATION

APPLICATION BY: BOSTON PLANNING & DEV. AGENCY

IN: BOSTON HARBOR
AT: CHARLESTOWN NAVY YARD
COUNTY: SUFFOLK STATE: MA

SHEET 05 OF 07

DATE: 04/23/2026

File: B:\Working\BOSTON PLANNING & DEV AGENCY (AKA BRA)\2104361 Shipyard Park Waterfront Infrastructure\00_CAD\Design\Working\Pier 4 Bulkhead\USACOE & CH91\USACOE_Sht-05 Prop Cond Plan.d

File: B:\Working\BOSTON PLANNING & DEV AGENCY (AKA BRA)\2104361 Shipyard Park Waterfront Infrastructure\00_CAD\Design\Working\Pier 4 Bulkhead\USACOE & CH91\USACOE_Sht-06 Prop Cond Plan.d

MATCHLINE SHEET 5

LAND SUBJECT TO COASTAL STORM FLOWAGE

25' WATERFRONT AREA OFFSET

PROPOSED BULKHEAD

ROCKY INTERTIDAL

LIMIT OF DEMOLITION AND DECK REPLACEMENT

LIMIT OF COASTAL BANK; MHW & HTL UP AGAINST BULKHEAD

PILE TO BE REPAIRED (TYP)

ROCKY INTERTIDAL

MLW

MLW

MLW

FEMA ZONE AE
(EL. 10)

100YR

A
07

N 2961260.94
E 777308.17

MLW; LIMIT OF LAND UNDER OCEAN

LAND UNDER OCEAN

FEMA ZONE VE
(EL. 11)

BOSTON HARBOR

EBB

FLOOD

FEMA ZONE VE
(EL. 11)

0 20 40
SCALE, FEET

GEI Consultants

100 YR FLOOD	+11.0
HTL	+7.00
MHW	+4.33
NAVD88	0.00
MLW	−5.17

TITLE: PROPOSED CONDITIONS PLAN

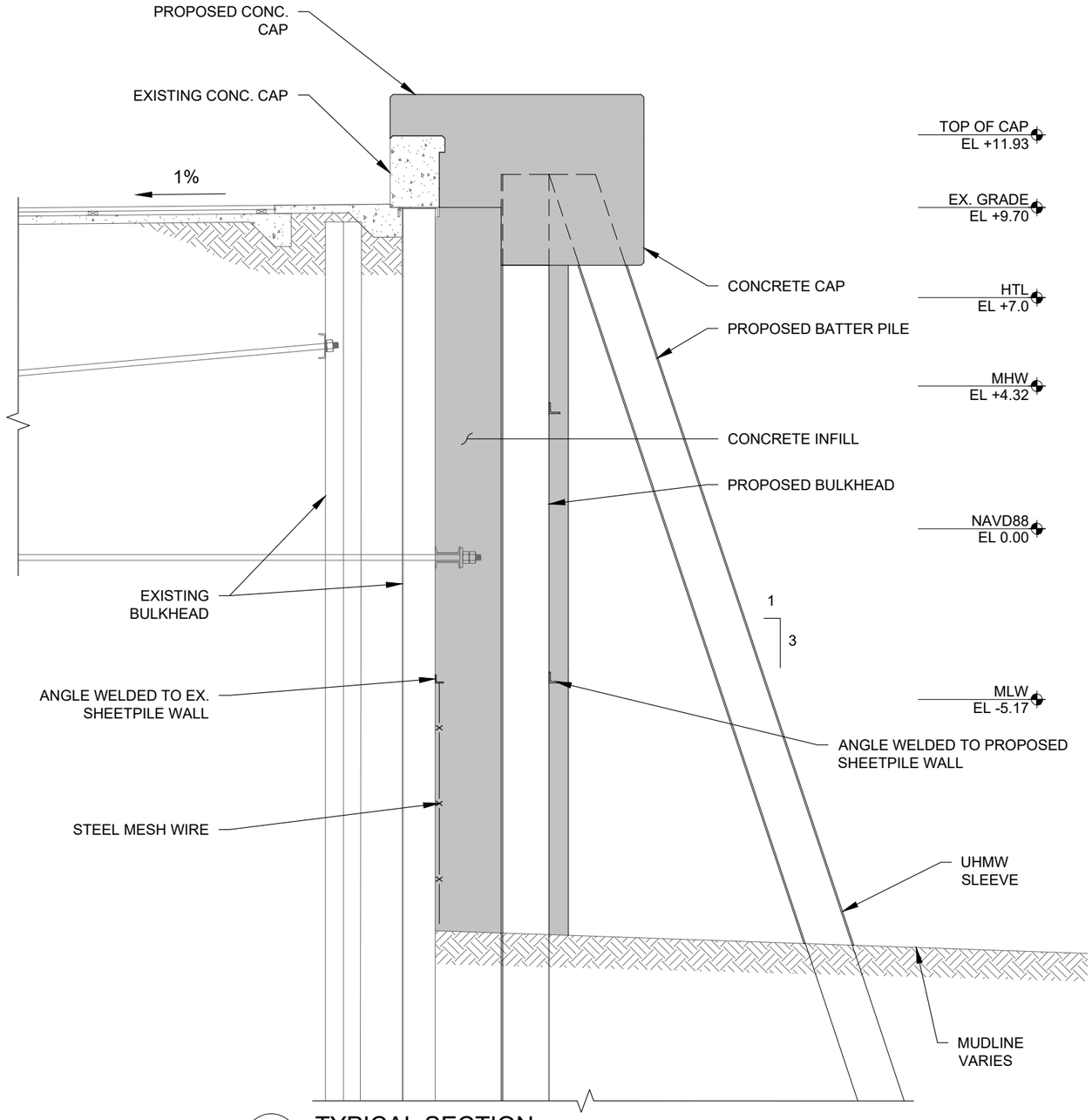
IN: BOSTON HARBOR
AT: CHARLESTOWN NAVY YARD
COUNTY: SUFFOLK STATE: MA

PURPOSE:
PIER 4 BULKHEAD REHABILITATION

APPLICATION BY:
BOSTON PLANNING & DEV. AGENCY

SHEET 06 OF 07

DATE: 04/23/2026



A TYPICAL SECTION
PROPOSED BULKHEAD

SCALE: 1/4" = 1'-0"

0 4 8
SCALE, FEET

GEI Consultants

100 YR FLOOD	+11.0
HTL	+7.00
MHW	+4.33
NAVD88	0.00
MLW	−5.17

TITLE: PROPOSED CONDITIONS TYPICAL SECTION

IN: BOSTON HARBOR
AT: CHARLESTOWN NAVY YARD
COUNTY: SUFFOLK STATE: MA

PURPOSE: PIER 4 BULKHEAD REHABILITATION

APPLICATION BY: BOSTON PLANNING & DEV. AGENCY

SHEET 07 OF 07

DATE: 04/23/2026

File: B:\Working\BOSTON PLANNING & DEV AGENCY (AKA BRA)\2104361 Shipyard Park Waterfront Infrastructure\00_CAD\Design\Working\Pier 4 Bulkhead\USACOE & CH91\USACOE_Sht-07 Prop Cond Sectio

3. Maintenance. (a) The repair, rehabilitation, or replacement of any previously authorized, currently serviceable structure or fill, or of any currently serviceable structure or fill authorized by 33 CFR 330.3, provided that the structure or fill is not to be put to uses differing from those uses specified or contemplated for it in the original permit or the most recently authorized modification. Minor deviations in the structure's configuration or filled area, including those due to changes in materials, construction techniques, requirements of other regulatory agencies, or current construction codes or safety standards that are necessary to make the repair, rehabilitation, or replacement are authorized. This NWP also authorizes the removal of previously authorized structures or fills. Any stream channel modification is limited to the minimum necessary for the repair, rehabilitation, or replacement of the structure or fill; such modifications, including the removal of material from the stream channel, must be immediately adjacent to the project. This NWP also authorizes the removal of accumulated sediment and debris within, and in the immediate vicinity of, the structure or fill. This NWP also authorizes the repair, rehabilitation, or replacement of those structures or fills destroyed or damaged by storms, floods, fire or other discrete events, provided the repair, rehabilitation, or replacement is commenced, or is under contract to commence, within two years of the date of their destruction or damage. In cases of catastrophic events, such as hurricanes or tornadoes, this two-year limit may be waived by the district engineer, provided the permittee can demonstrate funding, contract, or other similar delays. (b) This NWP also authorizes the removal of accumulated sediments and debris outside the immediate vicinity of existing structures (e.g., bridges, culverted road crossings, water intake structures, etc.). The removal of sediment is limited to the minimum necessary to restore the waterway in the vicinity of the structure to the approximate dimensions that existed when the structure was built, but cannot extend farther than 200 feet in any direction from the structure. This 200 foot limit does not apply to maintenance dredging to remove accumulated sediments blocking or restricting outfall and intake structures or to maintenance dredging to remove accumulated sediments from canals associated with outfall and intake structures. All dredged or excavated materials must be deposited and retained in an area that has no waters of the United States unless otherwise specifically approved by the district engineer under separate authorization. (c) This NWP also authorizes temporary structures, fills, and work, including the use of temporary mats, necessary to conduct the maintenance activity. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges of dredged or fill material, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. After conducting the maintenance activity, temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate. (d) This NWP does not authorize maintenance dredging for the primary purpose of navigation. This NWP does not authorize beach restoration. This NWP does not authorize new stream channelization or stream relocation projects.

Notification: For activities authorized by paragraph (b) of this NWP, the permittee must submit a pre-construction notification to the district engineer prior to commencing the activity (see general

condition 32). The pre-construction notification must include information regarding the original design capacities and configurations of the outfalls, intakes, small impoundments, and canals. (Authorities: Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act (Sections 10 and 404)) Note: This NWP authorizes the repair, rehabilitation, or replacement of any previously authorized structure or fill that does not qualify for the Clean Water Act Section 404(f) exemption for maintenance.

33. Temporary Construction, Access, and Dewatering. Temporary structures, work, and discharges of dredged or fill material, including cofferdams, necessary for construction activities or access fills or dewatering of construction sites, provided that the associated primary activity is authorized by the Corps of Engineers or the U.S. Coast Guard. This NWP also authorizes temporary structures, work, and discharges of dredged or fill material, including cofferdams, necessary for construction activities not otherwise subject to the Corps or U.S. Coast Guard permit requirements. Appropriate measures must be taken to maintain near normal downstream flows and to minimize flooding. Fill must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. The use of dredged material may be allowed if the district engineer determines that it will not cause more than minimal adverse environmental effects. Following completion of construction, temporary fill must be entirely removed to an area that has no waters of the United States, dredged material must be returned to its original location, and the affected areas must be restored to preconstruction elevations. The affected areas must also be revegetated, as appropriate. This permit does not authorize the use of cofferdams to dewater wetlands or other aquatic areas to change their use. Structures left in place after construction is completed require a separate section 10 permit if located in navigable waters of the United States. (See 33 CFR part 322.)

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if the activity is conducted in navigable waters of the United States (i.e., section 10 waters) (see general condition 32). The pre-construction notification must include a restoration plan showing how all temporary fills and structures will be removed and the area restored to pre-project conditions. (Authorities: Sections 10 and 404)

2026 Nationwide Permits General Conditions

1. Navigation
a) No activity may cause more than a minimal adverse effect on navigation.

b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.

c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his or her authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

NAE Note: *Compliance with this condition can be achieved by ensuring no unreasonable interference with navigation by the existence or use of any activity authorized by any Nationwide Permit (NWP), and no attempt made by a permittee to prevent the full and free use by the public of all navigable waters at or adjacent to any activity authorized by any NWP.*

2. Aquatic Life Movements
No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. All permanent and temporary crossings of waterbodies shall be suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species. If a bottomless culvert cannot be used, then the crossing should be designed and constructed to minimize adverse effects to aquatic life movements.

NAE Note: *Compliance with this condition may be achieved by ensuring that during in-stream work, the low flow channel/thalweg remains unobstructed during periods of low flow, except when it is necessary to perform the authorized work. Additionally, for work in tidal waters, in-stream controls should be installed in such a manner that do not obstruct fish passage.*

3. Spawning Areas
Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (*e.g.,* through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.

4. Migratory Bird Breeding Areas
Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.

5. Shellfish Beds
No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWPs 4 and 48, or is a shellfish seeding or habitat restoration activity authorized by NWP 27.

Maine Note: *Contact the Maine Department of Marine Resource (ME DMR) for further conservation measures if a proposed activity would result in excess turbidity (i.e., dredging) and is located within 100 feet of ME DMR shellfish areas. Reference material can be found at: https://dmr-maine.opendata.arcgis.com/datasets/mainedmr-molluscan-shellfish-2010/explore?location=43.733484%2C-69.767928%2C10.43 and https://mgs-maine.opendata.arcgis.com/datasets/maine-coastal-marine-geologic-environments/explore.*

6. Suitable Material
No activity may use unsuitable material (*e.g.,* trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see section 307 of the Clean Water Act).

7. Water Supply Intakes
No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.

8. Adverse Effects from Impoundments
If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.

9. Management of Water Flows
To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization, storm water management activities, and temporary and permanent road crossings, except as provided below. The activity must be constructed to withstand expected high flows, including tidal flows. The activity must not restrict or impede the passage of normal or high flows including tidal flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (*e.g.,* stream restoration or relocation activities).

10. Fills Within 100-year Floodplains
The activity must comply with applicable FEMA-approved state or local floodplain management requirements.

Massachusetts Note: *For activities located within the Commonwealth of Massachusetts, activities may be required to comply with the Bordering Lands Subject to Flooding provisions of the Commonwealth's Wetland Protection Act. Applicants should contact Massachusetts Department of Environmental Protection to determine whether this provision applies to their proposed activity/ies.*

11. Equipment
Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

If mats are used to minimize soil disturbance, the affected areas must be returned to pre-construction elevations, and revegetated as appropriate. In circumstances where the use of mats has caused significant soil compaction efforts using techniques (*e.g.,* soil reaeration techniques) to break up the compaction should be employed to return the soil to a pre-construction state prior to returning to pre-construction elevations.

NAE Notes: *(1) Compliance with this condition may be achieved through the implementation of best management practices outline in NAE's "Construction Mat Best Management Practices" document available at https://www.nae.usace.army.mil/Missions/Regulatory/State-General-Permits/Permit-Resources/.*

(2) Compliance with this condition may be achieved by ensuring that construction equipment such as barges in tidal waters always provide adequate clearance above the substrate to avoid impacts to SAS during all tides.

(3) Compliance with this condition may be achieved by ensuring that construction equipment that would cross or access streams utilizes temporary bridges, spans, construction mats, culverts, or cofferdams to minimize disturbance to the waterway.

12. Soil Erosion and Sediment Controls
Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow, or during low tides.

NAE Note: *Compliance with this condition may be achieved by ensuring that all discharge points back into waters of the U.S., including wetlands use appropriate energy dissipaters and erosion and sedimentation control BMPs. Controls that are biodegradable can be left in place, but should be removed if they are not biodegradable.*

Temporary controls should be removed upon completion of work, but not before all exposed soil and other fills and any work waterward of the OHWM are permanently stabilized. Once permanently stabilized, temporary controls should be removed as soon as possible. Sediment and debris collected by these controls should be removed and placed at an upland location and in a manner that will prevent its later erosion into a waterway or wetland.

Massachusetts Note: *In Massachusetts, compliance with this condition may be achieved by ensuring, as applicable, that all activities are compliant with the State of Massachusetts' Stormwater Management Standards at 314 CMR 9.06(6)(a)-(f) and the State of Massachusetts' Stormwater Handbook.*

13. Removal of Temporary Structures and Fills
Temporary structures must be removed to the maximum extent practicable, after their use has been discontinued. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

NAE Note: *Compliance with this general condition may be achieved by underlying temporary fills with geotextile fabric which may help to facilitate the restoration to pre-construction elevations.*

14. Proper Maintenance
Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety and compliance with applicable NWP general conditions, as well as any activity-specific conditions added by the district engineer to an NWP authorization.

NAE Note: *Compliance with this general condition may be achieved by the complete removal, cutting, and/or driving to three feet below the substrate of* d*erelict, degraded, or abandoned piles and sheet piles located in navigable waters of the U.S., except for those inside existing work footprints for piers to prevent interference with navigation. Existing creosote piles that are affected by project activities may be completely removed if practicable. In areas of fine-grained substrates, piles may be removed by the direct, vibratory or clamshell pull method to minimize sedimentation, and turbidity impacts and prevent interference with navigation from cut piles. Removed piles should be disposed of in an upland location landward of MHW or OHW and not in wetlands, tidal wetlands, their substrate, or mudflats.*

15. Single and Complete Project
The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

16. Wild and Scenic Rivers
a) No NWP activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, unless the

appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status.

b) If a proposed NWP activity will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, the permittee must submit a pre-construction notification (see general condition 32). The district engineer will coordinate the PCN with the Federal agency with direct management responsibility for that river. Permittees shall not begin the NWP activity until notified by the district engineer that the Federal agency with direct management responsibility for that river has determined in writing that the proposed NWP activity will not adversely affect the Wild and Scenic River designation or study status.

c) Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency responsible for the designated Wild and Scenic River or Study River (*e.g.*, National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service). Information on these rivers is also available at: http://www.rivers.gov/.

NAE Note: *See also: Regional Condition C, Additional PCN Requirement (Wild and Scenic Rivers).*

17. Tribal Rights
No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

18. Endangered Species
a) No activity is authorized under any NWP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify designated critical habitat or critical habitat proposed for such designation. No activity is authorized under any NWP which "may affect" a listed species or critical habitat, unless ESA section 7 consultation addressing the consequences of the proposed activity on listed species or critical habitat has been completed. See 50 CFR 402.02 for the definition of "effects of the action" for the purposes of ESA section 7 consultation.

b) Federal agencies should follow their own procedures for complying with the requirements of the ESA (see 33 CFR 330.4(f)(1)). If pre-construction notification is required for the proposed activity, the federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation has not been submitted, additional ESA section 7 consultation may be necessary for the activity and the respective Federal agency would be responsible for fulfilling its obligation under section 7 of the ESA.

c) Non-federal permittees must submit a pre-construction notification to the district engineer if any listed species (or species proposed for listing) or designated critical habitat (or critical habitat proposed such designation) might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat or critical habitat proposed for such designation, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect federally-listed endangered or threatened species (or species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation), the pre-construction notification must include the name(s) of the endangered or threatened species (or species proposed for listing) that might be affected by the proposed activity or that utilize the designated critical habitat (or critical habitat proposed for such designation) that might be affected by the proposed activity. The district engineer will determine whether the proposed activity "may affect" or will have "no effect" to listed species and designated critical habitat and will notify the non-federal applicant of the Corps' determination within 45 days of receipt of a complete pre-construction notification. For activities where the non-federal applicant has identified listed species (or species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation) that might be affected or is in the vicinity of the activity, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification that the proposed activity will have "no effect" on listed species (or species proposed for listing or designated critical habitat (or critical habitat proposed for such designation), or until ESA section 7 consultation or conference has been completed. If the non-federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

d) As a result of formal or informal consultation or conference with the FWS or NMFS the district engineer may add species-specific permit conditions to the NWPs.

e) Authorization of an activity by an NWP does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (*e.g.*, an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the FWS or the NMFS, the Endangered Species Act prohibits any person subject to the jurisdiction of the United States to take a listed species, where "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The word "harm" in the definition of "take" means an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.

f) If the non-federal permittee has a valid ESA section 10(a)(1)(B) incidental take permit with an approved Habitat Conservation Plan for a project or a group of projects that includes the proposed NWP activity, the non-federal permittee should provide a copy of that ESA section 10(a)(1)(B) permit with the PCN required by paragraph (c) of this

general condition. The district engineer will coordinate with the agency that issued the ESA section 10(a)(1)(B) permit to determine whether the proposed NWP activity and the associated incidental take were considered in the internal ESA section 7 consultation conducted for the ESA section 10(a)(1)(B) permit. If that coordination results in concurrence from the agency that the proposed NWP activity and the associated incidental take were considered in the internal ESA section 7 consultation for the ESA section 10(a)(1)(B) permit, the district engineer does not need to conduct a separate ESA section 7 consultation for the proposed NWP activity. The district engineer will notify the non-federal applicant within 45 days of receipt of a complete pre-construction notification whether the ESA section 10(a)(1)(B) permit covers the proposed NWP activity or whether additional ESA section 7 consultation is required.

g) Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the FWS and NMFS or their web pages at http://www.fws.gov/ or http:// www.fws.gov/ipac and http://www.nmfs.noaa.gov/pr/species/esa/ respectively.

NAE Note: *For information on how to comply with General Condition 18, please visit our website at https://www.nae.usace.army.mil/missions/regulatory/endangered-species-act/.*

Maine Note: *Federal agencies should refer to "Multiple Federal Agency & Lead Federal Agency Best Practices" when a Corps permit is required, which can be found on the Corps' webpage at: www.nae.usace.army.mil/Missions/Regulatory/State-General-Permits/Maine-General-Permit. (This is a pending document and will be published on our website when completed.)*

19. Migratory Birds and Bald and Golden Eagles

The permittee is responsible for ensuring that an action authorized by an NWP complies with the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. The permittee is responsible for contacting appropriate local office of the U.S. Fish and Wildlife Service to determine what measures, if any, are necessary or appropriate to reduce adverse effects to migratory birds or eagles, including whether "incidental take" permits are necessary and available under the Migratory Bird Treaty Act or Bald and Golden Eagle Protection Act for a particular activity.

20. Historic Properties

a) No activity is authorized under any NWP which may have the potential to cause effects to properties listed, or eligible for listing, in the National Register of Historic Places until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

b) Federal permittees should follow their own procedures for complying with the requirements of section 106 of the National Historic Preservation Act (see 33 CFR 330.4(g)(1)). If pre-construction notification is required for the proposed NWP activity, the federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district

engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation is not submitted, then additional consultation under section 106 may be necessary. The respective Federal agency is responsible for fulfilling its obligation to comply with section 106.

c) Non-federal permittees must submit a pre-construction notification to the district engineer if the NWP activity might have the potential to cause effects to any historic properties listed on, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties might have the potential to be affected by the proposed NWP activity or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of, or potential for, the presence of historic properties can be sought from the State Historic Preservation Officer, Tribal Historic Preservation Officer, or designated tribal representative, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). When reviewing pre-construction notifications, district engineers will comply with the current procedures for addressing the requirements of section 106 of the National Historic Preservation Act. The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts commensurate with potential impacts, which may include background research, consultation, oral history interviews, sample field investigation, and/or field survey. Based on the information submitted in the PCN and these identification efforts, the district engineer shall determine whether the proposed NWP activity has the potential to cause effects on historic properties. Section 106 consultation is not required when the district engineer determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR 800.3(a)). Section 106 consultation is required when the district engineer determines that the activity has the potential to cause effects on historic properties. The district engineer will conduct consultation with consulting parties identified under 36 CFR 800.2(c) when he or she makes any of the following effect determinations for the purposes of section 106 of the NHPA: no historic properties affected, no adverse effect, or adverse effect.

d) Where the non-federal applicant has identified historic properties on which the proposed NWP activity might have the potential to cause effects and so notified the Corps, the non-federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects on historic properties or that NHPA section 106 consultation has been completed. For non-federal permittees, the district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA section 106 consultation is required. If NHPA section 106 consultation is required, the district engineer will notify the non-federal applicant that he or she cannot begin the activity until section 106 consultation is completed. If the non-federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

e) Prospective permittees should be aware that section 110k of the NHPA (54 U.S.C. 306113) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

NAE Note: *The following link to the Corps' website provides SHPO and THPO contact information and additional procedures to expedite Corps regulatory review regarding the NHPA. Please contact the appropriate SHPO and/or THPO based on the geographic location of the regulated activity: https://www.nae.usace.army.mil/Missions/Regulatory/Historic-and-Tribal-Resources/.*

21. Discovery of Previously Unknown Remains and Artifacts
Permittees that discover any previously unknown historic, cultural or archaeological remains and artifacts while accomplishing the activity authorized by an NWP, they must immediately notify the district engineer of what they have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The district engineer will initiate the Federal, tribal, and state coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

22. Designated Critical Resource Waters
Critical resource waters include, NOAA-managed marine sanctuaries and marine monuments, and National Estuarine Research Reserves. The district engineer may designate, after notice and opportunity for public comment, additional waters officially designated by a state as having particular environmental or ecological significance, such as outstanding national resource waters or state natural heritage sites. The district engineer may also designate additional critical resource waters after notice and opportunity for public comment.

a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, 50, 51, 52, 57, and 58 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, 38, and 54, notification is required in accordance with general condition 32, for any activity proposed by permittees in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after she or he determines that the impacts to the critical resource waters will be no more than minimal.

23. Mitigation

The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal:

a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (*i.e.*, on site).

b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating for resource losses) will be required to the extent necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal.

c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse environmental effects of the proposed activity are no more than minimal, and provides an activity-specific waiver of this requirement. For wetland losses of 1/10-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in only minimal adverse environmental effects.

d) Compensatory mitigation at a minimum one-for-one ratio will be required for all losses of stream bed that exceed 3/100-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse environmental effects of the proposed activity are no more than minimal, and provides an activity-specific waiver of this requirement. This compensatory mitigation requirement may be satisfied through the restoration or enhancement of riparian areas next to streams in accordance with paragraph (e) of this general condition. For losses of stream bed of 3/100-acre or less that require pre-construction notification, the district engineer may determine on a case-by case basis that compensatory mitigation is required to ensure that the activity results in only minimal adverse environmental effects. Compensatory mitigation for losses of streams should be provided, if practicable, through stream rehabilitation, enhancement, or preservation, since streams are difficult-to-replace resources (see 33 CFR 332.3(e)(3)).

e) Compensatory mitigation plans for NWP activities in or near streams or other open waters will normally include a requirement for the restoration or enhancement, maintenance, and legal protection (*e.g.*, conservation easements) of riparian areas next to open waters. In some cases, the restoration or maintenance/protection of riparian areas may be the only compensatory mitigation required. If restoring riparian areas involves planting vegetation, only native species should be planted. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. If it is not possible to restore or maintain/protect a riparian area on both sides of a stream, or if the waterbody is a lake or coastal waters, then restoring or maintaining/protecting a riparian area along a single bank or shoreline may be sufficient. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (*e.g.*, riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of minimization or compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

f) Compensatory mitigation projects provided to offset losses of aquatic resources must comply with the applicable provisions of 33 CFR part 332.

1) The prospective permittee is responsible for proposing an appropriate compensatory mitigation option if compensatory mitigation is necessary to ensure that the activity results in no more than minimal adverse environmental effects. For the NWPs, the preferred mechanism for providing compensatory mitigation is mitigation bank credits or in-lieu fee program credits (see 33 CFR 332.3(b)(2) and (3)). However, if an appropriate number and type of mitigation bank or in-lieu credits are not available at the time the PCN is submitted to the district engineer, the district engineer may approve the use of permittee-responsible mitigation.

2) The amount of compensatory mitigation required by the district engineer must be sufficient to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects (see 33 CFR 330.1(e)(3)). (See also 33 CFR 332.3(f).)

3) Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, aquatic resource restoration should be the first compensatory mitigation option considered for permittee-responsible mitigation.

4) If permittee-responsible mitigation is the proposed option, the prospective permittee is responsible for submitting a mitigation plan. A conceptual or detailed mitigation plan may be used by the district engineer to make the decision on the

NWP verification request, but a final mitigation plan that addresses the applicable requirements of 33 CFR 332.4(c)(2) through (14) must be approved by the district engineer before the permittee begins work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation (see 33 CFR 332.3(k)(3)). If permittee-responsible mitigation is the proposed option, and the proposed compensatory mitigation site is located on land in which another Federal agency holds an easement, the district engineer will coordinate with that Federal agency to determine if proposed compensatory mitigation project is compatible with the terms of the easement.

5) If mitigation bank or in-lieu fee program credits are the proposed option, the mitigation plan needs to address only the baseline conditions at the impact site and the number of credits to be provided (see 33 CFR 332.4(c)(1)(ii)).

6) Compensatory mitigation requirements (*e.g.*, resource type and amount to be provided as compensatory mitigation, site protection, ecological performance standards, monitoring requirements) may be addressed through conditions added to the NWP authorization, instead of components of a compensatory mitigation plan (see 33 CFR 332.4(c)(1)(ii)).

g) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2-acre, it cannot be used to authorize any NWP activity resulting in the loss of greater than 1/2-acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that an NWP activity already meeting the established acreage limits also satisfies the no more than minimal impact requirement for the NWPs.

h) Permittees may propose the use of mitigation banks, in-lieu fee programs, or permittee-responsible mitigation. When developing a compensatory mitigation proposal, the permittee must consider appropriate and practicable options consistent with the framework at 33 CFR 332.3(b). For activities resulting in the loss of marine or estuarine resources, permittee-responsible mitigation may be environmentally preferable if there are no mitigation banks or in-lieu fee programs in the area that have marine or estuarine credits available for sale or transfer to the permittee. For permittee-responsible mitigation, the special conditions of the NWP verification must clearly indicate the party or parties responsible for the implementation and performance of the compensatory mitigation project, and, if required, its long-term management.

i) Where certain functions and services of waters of the United States are permanently adversely affected by a regulated activity, such as discharges of dredged or fill material into waters of the United States that will convert a forested or

scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse environmental effects of the activity to the no more than minimal level.

NAE Note: *Applicants are encouraged to utilize the Regulatory In-lieu Fee and Bank Information Tracking System (RIBITS) in order to determine which in-lieu fee programs and/or mitigation banks have a sufficient amount of appropriate and available credits which they may propose to use to offset their proposed activity's unavoidable impacts to waters of the U.S., including wetlands. RIBITS is available at https://ribits.ops.usace.army.mil/ords/f?p=107:2::::::. See also: Regional Condition I, Compensatory Mitigation.*

24. Safety of Impoundment Structures
To ensure that all impoundment structures are safely designed, the district engineer may require non-federal applicants to demonstrate that the structures comply with established state or Federal dam safety criteria or have been designed by qualified persons. The district engineer may also require documentation that the design has been independently reviewed by similarly qualified persons, and appropriate modifications made to ensure safety.

25. Water Quality
a) Where the certifying authority (state, authorized tribe, or EPA, as appropriate) has not previously certified compliance of an NWP with CWA section 401, a CWA section 401 water quality certification for the proposed activity which may result in any discharge from a point source into waters of the United States must be obtained or waived (see 33 CFR 330.4(c)). If the permittee cannot comply with all of the conditions of a water quality certification previously issued by certifying authority for the issuance of the NWP, then the permittee must obtain a water quality certification or waiver for the proposed activity which may result in any discharge from a point source into waters of the United States in order for the activity to be authorized by an NWP.

b) If the NWP activity requires pre-construction notification and the certifying authority has not previously certified compliance of an NWP with CWA section 401, the proposed activity which may result in any discharge from a point source into waters of the United States is not authorized by an NWP until water quality certification is obtained or waived. If the certifying authority issues a water quality certification for the proposed discharge into waters of the United States, the permittee must submit a copy of the certification to the district engineer. The discharge into waters of the United States is not authorized by an NWP until the district engineer has notified the permittee that the water quality certification requirement has been satisfied (*i.e.,* by the issuance of a water quality certification or a waiver and completion of the Section 401(a)(2) process).

c) The district engineer or certifying authority may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

NAE Note: *For information concerning how to apply to EPA for a Water Quality Certification for activities located within Tribal lands or within lands of exclusive Federal jurisdiction, please see: https://www.epa.gov/cwa-401/resources-when-epa-acts-certifying-authority-under-section-401 and/or contact: R1CWA401@epa.gov.*

Connecticut Note: *For information concerning how to apply to CTDEEP for a Water Quality Certification, please see: https://portal.ct.gov/deep/permits-and-licenses/factsheets-inland-water/401-water-quality-certification-fact-sheet.*

Maine Note: *For information concerning how to apply to LUPC or MEDEP for a Water Quality Certification, please see: https://www.maine.gov/dep/water/wd/wqc/.*

Massachusetts Note: *For information concerning how to apply to MassDEP for a Water Quality Certification, please see: https://www.mass.gov/lists/wetlands-permitting-forms.*

New Hampshire Note: *For information concerning how to apply to NHDES for a Water Quality Certification, please see: https://www.des.nh.gov/water/rivers-and-lakes/water-quality-certification.*

Rhode Island Note: *For information concerning how to apply to RIDEM for a Water Quality Certification, please see: https://dem.ri.gov/sites/g/files/xkgbur861/files/2025-06/wqcheck.pdf.*

Vermont Note: *For information concerning how to apply to VTDEC for a Water Quality Certification, please see: https://dec.vermont.gov/act250/watershed/business-support/water-quality-certification-section-401.*

26. Coastal Zone Management

In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330.4(d)). If the permittee cannot comply with all conditions of a coastal zone management consistency concurrence previously issued by the state, then the permittee must obtain an individual coastal zone management consistency concurrence in order for the activity to be authorized by an NWP. The district engineer or a state may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

NAE Note: *If an individual state coastal zone management consistency concurrence is required, applicants should submit a consistency certification to the state (see 15 CFR 930.31(d)) at the same time as the PCN is submitted to the Corps, or shortly thereafter.*

Connecticut Note: *For information concerning how to apply to CTDEEP for a coastal zone management consistency certification, please see: https://portal.ct.gov/deep/coastal-resources/coastal-permitting/coastal-consistency.*

Maine Note: *For information concerning how to apply to the Maine Office of Community Affairs for a coastal zone management consistency certification, please see: https://www.maine.gov/dmr/programs/maine-coastal-program/federal-consistency-review.*

Massachusetts Note: *For information concerning how to apply to Mass CZM for a coastal zone management consistency certification, please see: https://www.mass.gov/federal-consistency-review-program.*

New Hampshire Note: *For information concerning how to apply to NHDES for a coastal zone management consistency certification, please see: https://www.des.nh.gov/water/coastal-waters/federal-consistency.*

Rhode Island Note: *For information concerning how to apply to CRMC for projects within the coastal zone, please see: https://www.crmc.ri.gov/applicationforms.html and https://www.crmc.ri.gov/regulations/fed_consistency.pdf.*

27. Regional and Case-by-Case Conditions
The activity must comply with any regional conditions that may have been added by the division engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its CWA section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

28. Use of Multiple Nationwide Permits
The use of more than one NWP for a single and complete project is authorized, subject to the following restrictions:

a) The total acreage of loss of waters of the United States for a single and complete project cannot exceed the acreage limit of the NWP with the highest specified acreage limit when multiple NWPs are used to authorize an activity.

b) If only one of the NWPs used to authorize the single and complete project has a specified acreage limit, the acreage loss of waters of the United States for that single and complete project cannot exceed that specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14 (which has an acreage limit of 1/3-acre in tidal waters), with associated bank stabilization authorized by NWP 13 (which does not have a specified acreage limit), the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre.

c) If two or more of the NWPs used to authorize the single and complete project have specified acreage limits, the acreage loss of waters of the United States authorized by each of those NWPs cannot exceed the specified acreage limits of each of those NWPs. For example, if a commercial development is constructed under NWP 39 (which has a 1/2-acre limit), and the single and complete project

includes the filling of a ditch authorized by NWP 46 (which has a 1-acre limit), the maximum acreage loss of waters of the United States for the construction of the commercial development under NWP 39 cannot exceed 1/2-acre, and the total acreage loss of waters of United States caused by the combination of the NWP 39 and 46 activities cannot exceed 1 acre.

29. Transfer of Nationwide Permit Verifications

If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature:

"When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

_____

(Transferee)

_____

(Date)

30. Compliance Certification

Each permittee who receives an NWP verification letter from the Corps must provide a signed certification documenting completion of the authorized activity and implementation of any required compensatory mitigation. The successful completion of any required permittee-responsible mitigation, including the achievement of ecological performance standards, will be addressed separately by the district engineer. The Corps will provide the permittee the certification document with the NWP verification letter. The certification document will include:

a) A statement that the authorized activity was done in accordance with the NWP authorization, including any general, regional, or activity-specific conditions;

b) A statement that the implementation of any required compensatory mitigation was completed in accordance with the permit conditions. If credits from a mitigation bank or in-lieu fee program are used to satisfy the compensatory mitigation requirements, the certification must include the documentation required by 33 CFR 332.3(l)(3) to confirm that the permittee secured the appropriate number and resource type of credits; and

c) The signature of the permittee certifying the completion of the activity and mitigation.

The completed certification document must be submitted to the district engineer within 30 days of completion of the authorized activity or the implementation of any required compensatory mitigation, whichever occurs later.

31. Activities Affecting Structures or Works Built by the United States
If an NWP activity also requires review by, or permission from, the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers (USACE) federally authorized Civil Works project (a "USACE project"), the prospective permittee must submit a pre-construction notification. See paragraph (b)(10) of general condition 32. An activity that requires section 408 permission and/or review is not authorized by an NWP until the appropriate Corps office issues the section 408 permission or completes its review to alter, occupy, or use the USACE project, and the district engineer issues a written NWP verification.

NAE Note: *Refer to the New England District's Section 408 Program webpage that can be found at: https://www.nae.usace.army.mil/Missions/Section-408/. See also: Regional Condition B, Additional PCN Requirement (Federal Projects).*

32. Pre-Construction Notification
a) Timing. Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, if the PCN is determined to be incomplete, notify the prospective permittee within that 30 day period to request the additional information necessary to make the PCN complete. The request must specify the information needed to make the PCN complete. As a general rule, district engineers will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either:

1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or

2) 45 calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 18 that listed species (or species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation) might be affected or are in the vicinity of the activity, or to notify the Corps pursuant to general condition 20 that the activity might have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that there is "no effect" on listed species or "no potential

to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or section 106 of the National Historic Preservation Act (see 33 CFR 330.4(g)) has been completed. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee may not begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

b) Contents of the Pre-Construction Notification: The PCN must be in writing and include the following information:

1) Name, address and telephone numbers of the prospective permittee;

2) Location of the proposed activity;

3) Identify the specific NWP or NWP(s) the prospective permittee wants to use to authorize the proposed activity;

4) (i) A description of the proposed activity; the activity's purpose; direct and indirect adverse environmental effects the activity would cause, including the anticipated amount of loss of wetlands, other special aquatic sites, and other waters expected to result from the NWP activity, in acres, linear feet, or other appropriate unit of measure; a description of any proposed mitigation measures intended to reduce the adverse environmental effects caused by the proposed activity; and any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity, including other separate and distant crossings for linear projects that require Department of the Army authorization but do not require pre-construction notification. The description of the proposed activity and any proposed mitigation measures should be sufficiently detailed to allow the district engineer to determine that the adverse environmental effects of the activity will be no more than minimal and to determine the need for compensatory mitigation or other mitigation measures.

(ii) For linear projects where one or more single and complete crossings require pre-construction notification, the PCN must include the quantity of anticipated losses of wetlands, other special aquatic sites, and other waters for each single and complete crossing of those wetlands, other special aquatic sites, and other waters (including those single and complete crossings authorized by an NWP but do not require PCNs). This information will be used by the district engineer to evaluate the cumulative adverse environmental effects of the proposed linear project, and does not change those non-PCN NWP activities into NWP PCNs.

(iii) Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the activity and when provided results in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed activity (*e.g.,* a conceptual plan), but do not need to be detailed engineering plans);

5) The PCN must include a delineation of waters, wetlands, and other special aquatic sites on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many wetlands, other special aquatic sites, and other waters. Furthermore, the 45-day period will not start until the delineation has been submitted to or completed by the Corps, as appropriate. For NWP 27 activities that require PCNs because of other general conditions or regional conditions imposed by division engineers, see Note 2 of that NWP;

NAE Note: *To comply with the above GC 32(5), the following methodologies should be utilized:*

(a) Wetlands should be delineated in accordance with the Corps Wetlands Delineation Manual and the most recent Northcentral/Northeast Regional Supplement. Wetland delineation and jurisdiction information can be found at: www.nae.usace.army.mil/missions/regulatory/jurisdiction-and-wetlands and https://www.usace.army.mil/Media/Announcements/Article/4262089/1-august-2025-us-army-corps-of-engineers-enhances-aquatic-resource-delineation/*.*

(b) Refer to the "Best Practices for Jurisdictional Determinations and Wetland Delineations," which can be found on the Corps webpage at: https://www.nae.usace.army.mil/missions/regulatory/state-general-permits/maine-general-permit/. (This is a pending document and will be published on our website when completed.)

(c) The ordinary high water mark should be delineated (on both sides) when streams, rivers, non-tidal open waters are present on the project site. Ordinary high water mark guidance can be found in RGL 05-05 (https://usace.contentdm.oclc.org/utils/getfile/collection/p16021coll9/id/1253). For complex, atypical, or problematic sites see: https://www.erdc.usace.army.mil/Media/Fact-Sheets/Fact-Sheet-Article-View/Article/486085/ordinary-high-water-mark-ohwm-research-development-and-training/.

(d) Vegetated shallows should be delineated when present on the project site. Vegetated shallow survey guidance and maps can be found on the Corps webpage at: https://www.nae.usace.army.mil/Missions/Regulatory/Jurisdiction-and-Wetlands/.

(e) All Essential Fish Habitat should be delineated when present on the project site. EFH survey guidance can be found in the current EFH programmatic, which can be found on the Corps webpage at https://www.nae.usace.army.mil/Missions/Regulatory/Essential-Fish-Habitat/.

6) If the proposed activity will result in the loss of greater than 1/10-acre of wetlands or 3/100-acre of stream bed and a PCN is required, the prospective permittee must submit a statement describing how the compensatory mitigation requirement will be satisfied, or explaining why the adverse environmental effects are no more than minimal and why compensatory mitigation should not be required. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

7) For non-federal permittees, if any listed species (or species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation) might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat (or critical habitat proposed for such designation), the PCN must include the name(s) of those endangered or threatened species (or species proposed for listing) that might be affected by the proposed activity or utilize the designated critical habitat (or critical habitat proposed for such designation) that might be affected by the proposed activity. For NWP activities that require pre-construction notification, federal permittees must provide documentation demonstrating compliance with the Endangered Species Act;

8) For non-federal permittees, if the NWP activity might have the potential to cause effects to a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, the PCN must state which historic property might have the potential to be affected by the proposed activity or include a vicinity map indicating the location of the historic property. For NWP activities that require pre-construction notification, federal permittees must provide documentation demonstrating compliance with section 106 of the National Historic Preservation Act;

9) For an activity that will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a “study river” for possible inclusion in the system while the river is in an official study status, the PCN must identify the Wild and Scenic River or the “study river” (see general condition 16); and

10) For an NWP activity that requires permission from, or review by, the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers federally authorized civil works project, the pre-construction notification must include a statement confirming that the project proponent has submitted a written request for section 408 permission from, or review by, the Corps office having jurisdiction over that USACE project.

c) Form of Pre-Construction Notification: The nationwide permit pre-construction notification form (Form ENG 6082) should be used for NWP PCNs. A letter containing the required information may also be used. Applicants may provide electronic files of PCNs and supporting materials if the district engineer has established tools and procedures for electronic submittals.

d) Agency Coordination:

(1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the activity's adverse environmental effects so that they are no more than minimal.

(2) Agency coordination is required for:

(i) all NWP activities that require pre-construction notification and result in the loss of greater than 1/2-acre of waters of the United States;

(ii) NWP 13 activities in excess of 500 linear feet, fills greater than one cubic yard per running foot, or involve discharges of dredged or fill material into special aquatic sites; and

(iii) NWP 54 activities in excess of 500 linear feet, or that extend into the waterbody more than 30 feet from the mean low water line in tidal waters or the ordinary high water mark in the Great Lakes.

Maine Note: *The Corps will additionally coordinate with the State of Maine on all activities that require a waiver.*

(3) When agency coordination is required, the district engineer will immediately provide (*e.g.,* via email, facsimile transmission, overnight mail, or other expeditious manner) a copy of the complete PCN to the appropriate Federal or state offices (FWS, state natural resource or water quality agency, EPA, and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will have 10 calendar days from the date the material is transmitted to notify the district engineer via telephone, facsimile transmission, or email that they intend to provide substantive, site-specific comments. The comments must explain why the agency believes the adverse environmental effects will be more than minimal. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame concerning the proposed activity's compliance with the terms and conditions of the NWPs, including the need for mitigation to ensure that the net adverse environmental effects of the proposed activity are no more than minimal. The district engineer will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

(4) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.

(5) Applicants are encouraged to provide the Corps with either electronic files or multiple copies of pre-construction notifications to expedite agency coordination.

The U.S. Army Corps of Engineers (Corps) New England District Regulatory Division issues the following Regional Conditions (RCs) to ensure that activities authorized by the 2026 Nationwide Permits (NWPs) in the New England states of Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont will not cause more than minimal adverse environmental impacts, both individually and cumulatively. Before the New England District will verify an activity under one or more NWPs, the activity must be demonstrated to comply with the applicable NWP terms and all applicable NWP General Conditions (GCs) and RCs. Prior to commencement of a "non-notifying" activity (i.e., activities authorized by NWPs which do not require submission of a pre-construction notification [PCN]), the proponent (i.e., the person and/or the entity performing the work) is responsible for ensuring the activity meets all applicable:

- Terms of the NWP
- GCs
- RCs
- State Water Quality Certification, if applicable
- State Coastal Zone Consistency, if applicable

PCN Summary Table. The following activities may require a PCN regardless of the terms of the applicable NWP. Please read the applicable RCs to determine if a PCN is required.

Applicable to All New England States	
Exceedance of loss thresholds within streams, tidal/non-tidal wetlands, tidal submerged aquatic vegetation, mudflats, and intertidal areas	See RC A
Located within, or within the vicinity of a Federal Project	See RC B
Located within, or within the vicinity of a Wild and Scenic River	See RC C
Involving discharges of temporary fill material	See RC D
Involving slip lining	See RC E
Involving stream crossings	See RC F
Located within Essential Fish Habitat	See RC J
Applicable to Specific New England States	
Activities within Time-of-Year Restrictions	See RCs N, O, S, U, V, W
Located within the Saint John and Saint Croix River basins (Maine)	See RC P
Authorized by NWP 48, Commercial Shellfish Mariculture Activities and within the State of Maine > 5 acres	See RC Q
Located within Important or Rare Resources within the State of Maine	See RC R
Discharges of fill >10 cubic yards in Lake Champlain and Lake Memphremagog and/or their adjacent wetlands (Vermont)	See RC X

Regional Conditions

The following RCs apply to all applicable NWPs in **all New England States** (unless otherwise specified):

A. Additional PCN Requirement (Specific Resources): A PCN is required for any proposed activities that would result in the loss of waters of the U.S. that exceed the listed thresholds to the following aquatic resources if a PCN is not already required by the NWP.

Aquatic Resource	**Threshold**
Non-tidal Wetlands	4,356 square feet (1/10-acre)
Tidal and Non-Tidal Stream	200 linear feet or 3/100-acre (whichever is less)
Tidal Wetland	500 square feet
Tidal Submerged Aquatic Vegetation (SAV)	25 square feet
Mudflat	1,000 square feet
Intertidal	1,000 square feet

B. Additional PCN Requirement (Federal Projects): A PCN is required for any proposed activities that would involve the temporary or permanent occupation of, or alteration of, a federal project (including, but not limited to, a levee, dike, floodwall, channel, anchorage, breakwater, seawall, bulkhead, jetty, wharf, pier, or other work built or maintained but not necessarily owned by the United States). This includes all structures and work in, over, or under a Corps' federal navigation project (FNP) or in the FNP's buffer zone. The buffer zone is an area that extends from the horizontal limits of the FNP to a distance three times the FNP's authorized depth.

The activity may also require review and approval by the Corps pursuant to 33 USC 408 (Section 408 Permission). The applicant may reach out to the points of contact listed here: https://www.nae.usace.army.mil/Missions/Section-408/ and https://www.nan.usace.army.mil/Missions/Regulatory/Section-408/ (for activities located within the Lake Champlain watershed) and consult the National Channel Framework mapper: https://experience.arcgis.com/experience/b413139f18c046009ebcf62abea941dd/page/Map/. For activities which require a Section 408 permission, verification under an NWP will not be issued prior to the decision the Section 408 permission requires. Any structure or work constructed in an FNP, or its buffer zone shall be subject to removal at the owner's expense prior to any future Corps dredging or hydrographic surveys.

Applicants should contact the Corps Real Estate Division (https://www.nae.usace.army.mil/Missions/Real-Estate-Division/) at (978) 318-8585 for work that would occur on or would potentially affect a Corps property (or properties) and/or Corps-controlled easements. Work may not commence on Corps properties and/or Corps-controlled easements until they have received any required

Corps real estate documents demonstrating site-specific permission to perform work.

A PCN is not required if an applicant has previously obtained a Section 408 permission for their proposed activities, or a determination from the Corps that a Section 408 permission is not required for their proposed activities, and the proposed activities qualify for a non-notifying NWP.

C. Additional PCN Requirement (Wild and Scenic Rivers): A PCN is required under NWP GC 16, Wild and Scenic Rivers, and for: 1) any proposed activities that would be located in and within 1/4-mile up- or downstream of a Wild and Scenic River (WSR) segment, or in tributaries within 1/4-mile of a WSR segment; 2) any proposed activities that would be located in wetlands within 1/4-mile of a WSR segment; and 3) any proposed activities that have the potential to alter free-flowing characteristics in a WSR segment. Applicants should utilize http://www.rivers.gov/ for the most up-to-date WSR designations.

   Note: Applicants may coordinate with the Federal agency that has direct management responsibility of the WSR segment or tributary their proposed activity would be within 1/4-mile of prior to submitting a PCN to the Corps. This regional condition does not require a PCN to be submitted if that Federal agency determines that the proposed activity would not adversely affect the subject WSR.

D. Additional PCN Requirement (Temporary Fills): A PCN is required for any proposed activities that would involve the discharge of temporary fill (33 CFR 323.2(e) and (f)) greater than 1/10-acre to be left in place in non-tidal wetlands for more than one growing season. The growing season is generally defined as April 1 to September 30 (See the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region* for more information about determining growing season. https://www.nae.usace.army.mil/Missions/Regulatory/Jurisdiction-and-Wetlands/Wetland-Delineation-Manual/).

   Note 1: The Corps will determine on a case-by-case basis, after evaluating site-specific and activity-specific circumstances whether temporary construction mats proposed for use are considered as temporary fill.

   Note 2: For linear projects, crossing a single waterbody more than one time at separate and distant locations, or multiple waterbodies at separate and distant locations, each crossing is considered a single and complete project for purposes of NWP authorization (33 CFR 330.2(i)). Therefore, each crossing of a water of the U.S., including wetlands could have up to 1/10-acre of temporary fill without requiring the submittal of a PCN. *Applicants should be aware that the definition of what constitutes a single and complete project per state regulations may differ from the Corps' definition. Applicants should consult with the state in order to determine state requirements. *

E. Additional PCN Requirement (Slip Lining): A PCN is required for any proposed activity that involves slip lining a stream crossing that is not currently meeting the stream crossing BMPs found in Regional Condition F (e.g., slip lining and invert-lining).

F. Additional PCN Requirement (Stream Crossing Standards): A PCN is required for any proposed stream crossing activities that cannot comply with the below "Stream Crossing Best Management Practices (BMPs)" unless the district engineer provides the applicant written verification removing the below requirements.

1. The width of the crossing shall be greater than or equal to 1.2 times the bank full width.
2. The crossing shall be embedded greater than or equal to 2 feet and/or at least 25 percent of the conveyance's height.
3. The crossing shall be constructed with a natural bottom substrate, as applicable.
4. The crossing shall match the gradient (i.e., slope) of the natural stream channel profile.
5. The crossing shall meet an openness ratio of greater than 0.82 feet.

Regardless of whether a proposed crossing can implement the above BMPs, the applicant should first coordinate with the appropriate state office to obtain required or recommended alternate stream crossing BMPs, prior to submitting a PCN to the Corps. If a stream crossing is designed to meet the standards required or recommended by the appropriate state agency for which the proposed activity is located within, those standards can serve in-lieu of these BMPs and submittal of a PCN is not required.

Note: Below are links to the stream crossing standards/guidelines for those New England states that have published such standards/guidelines. Applicants are highly encouraged to contact their state for additional information regarding those requirements and/or recommendations, as state requirements may be more stringent than the above listed BMPs.

Connecticut: CTDEEP Inland Fisheries Division Habitat Conservation and Enhancement Program's Stream Crossing Guidelines (https://portal.ct.gov/-/media/DEEP/fishing/restoration/StreamCrossingGuidelinespdf.pdf)

Maine: Maine Interagency Stream Crossing Guidelines: (https://www.nae.usace.army.mil/Missions/Regulatory/State-General-Permits/Maine-General-Permit/) and CoastWise (https://www.maine.gov/dmr/sites/maine.gov.dmr/files/inline-files/CoastWiseManualJuly2023_updated.pdf)

Massachusetts: Massachusetts River and Stream Crossing Standards as implemented through 314 CMR 9.06(2)(b).

(https://www.mass.gov/doc/massachusetts-river-and-stream-crossing-standards/download)

New Hampshire: New Hampshire RSA 482-A (https://www.gc.nh.gov/rsa/html/L/482-A/482-A-mrg.htm)

Rhode Island: Regardless of whether a proposed crossing can meet the above BMP's, all wetland and watercourse crossings in Rhode Island are evaluated on a site-by-site basis that account for on-site environmental characteristics by the state. For freshwater crossings, please contact them using the following link: https://dem.ri.gov/environmental-protection-bureau/customer-and-technical-assistance/pre-application-meetings. If a proposed crossing is within the coastal zone and under the jurisdiction of CRMC, please contact them using the following link: https://www.crmc.ri.gov/contact.html.

Vermont: *Vermont Stream Alteration Rule and General Permit* available at https://dec.vermont.gov/watershed/rivers/river-management#rules.

G. Aquaculture: Applicants proposing new aquaculture operations or modifications of existing aquaculture operations are required to coordinate with the appropriate U.S. Coast Guard (USCG) Sector for siting review, Navigation Risk Assessment (NRA), and navigation risk mitigation needs.

1. Coordination with the USCG can be completed by contacting via email:

   Sector Northern New England: (Maine, New Hampshire, Vermont, and Northeastern New York, Lake Champlain) D01-SMB-SecNNE-Waterways@uscg.mil

   Sector Boston: (New Hampshire border southward to Plymouth, Massachusetts) D01-SMB-SECBOSWaterways@uscg.mil

   Sector Southeastern New England: (Rhode Island and Southeastern Massachusetts, Cape Cod, and Islands) SENEWWM@uscg.mil

   Sector Long Island Sound: (New York to Connecticut border at Port Chester, Connecticut to Rhode Island border at Watch Hill) SECLISSPWMarineEvent@uscg.mil

   Sector New York: (Sandy Hook, New Jersey north through Port of New York/New Jersey, Hudson River to Whitehall, NY (south of Lake Champlain) D01-SMB-SecNY-Waterways@uscg.mil

   The applicant shall provide the following information to facilitate completion of the NRA: applicant name/company affiliation, license/lease type (commercial, research, shellfish, kelp, new or modified), nautical chart, detailed drawing with

dimensions, time of year, potential lighting/marking, types/materials of structures in water, planned anchoring, cultivation techniques (number of weekly/monthly visits, vessel tending/type), and any other significant information.

If the applicant receives a medium or high-risk assessment, they shall coordinate with the Corps and apply safety risk mitigations. The USCG will refer the project to the Corps unless the Corps makes the determination that it may proceed.

Any safety lights and signals prescribed by the USCG, through regulations or otherwise, must be installed and maintained at the permittee's expense. For required permitting, the applicant shall contact USCG First District Private Aid Program Manager through D01-SMB-D01PrivateAtoN@uscg.mil. Only actual AtoNs are permitted; floats, balls, markers, mooring balls and 'highflier flags' are not considered Aids to Navigation (AtoN). See: http://www.usharbormaster.com.

Applicants shall notify NOAA's National Ocean Service (NOS) Nautical Data Branch Office of Coast Survey to initiate chart and Coast Pilot corrections. See: https://nauticalcharts.noaa.gov/. Applicants must also notify NOAA on removal. See Note 2.

2. For marine safety information during construction or other significant periods, applicants may use the First District's Marine Safety Information form and email to: D01-SMB-LNM@uscg.mil.

Note 1: If a PCN is required, applicants shall include documentation of all required coordination with their PCN.

Note 2: For nautical chart and coast pilot updates, activities owners should use the status report form at https://nauticalcharts.noaa.gov/charts/docs/charts-updates/USACE+Permit+Status+Report.pdf. For aquaculture activities owners should use: https://nauticalcharts.noaa.gov/charts/docs/charts-updates/Artificial+Reef+Aquaculture+Status+Report.pdf to notify the Office of Coast Survey of the project completion. The form should be emailed to ocs.ndb@noaa.gov and should include a copy of as-built drawings.

H. Hydrology: Permanent wetland crossings shall be constructed in such a manner as to prevent excessive ponding or drying on either side of the authorized crossing after completion of the work. Measures shall be taken to maintain the existing hydrology. Such measures may include road cross drains such as culverts that are appropriately sized and placed at intervals to maintain the existing hydrology of the contiguous wetland.

I. Compensatory Mitigation: In addition to the requirements of NWP GC 23, Mitigation, compensatory mitigation requirements for unavoidable impacts to waters of the U.S. will be evaluated in accordance with the latest version of the *New England District Compensatory Mitigation Standard Operating Procedures* (https://www.nae.usace.army.mil/Missions/Regulatory/Mitigation/).

J. Essential Fish Habitat: Essential Fish Habitat (EFH) is defined as those waters and substrates necessary to fish for spawning, breeding, feeding or growth to maturity (16 U.S.C. 1802).

The following NWPs have been determined to result in no more than minimal adverse effects, provided the permittee complies with all terms and conditions of the NWP as applicable to the activity, including all activity thresholds and activity-specific Conservation Recommendations (CRs) identified in the current EFH and Fish and Wildlife Coordination Act (FWCA) Programmatic Consultation (https://www.nae.usace.army.mil/Missions/Regulatory/Essential-Fish-Habitat/). The National Marine Fisheries Service (NMFS) has granted General Concurrence (50 CFR 600.920(g)) for the below listed NWPs, and these activities do not require activity-specific EFH consultation.

Nationwide Permit	Authorized Activities with General Concurrence
NWPs: 1, 4, 5, 6, 9, 10, 11, 15, 16, 19, 20, 27, 28, 32, 35, & 41	All authorized activities
NWP 3	Parts (a) and (c) (i.e., non-notifying)
NWP 12	Section 404 only activities that do not result in the loss of greater than 1/10-acre and is not a new pipeline greater than 250 miles (i.e., non-notifying)
NWP 13	Activities less than 500 linear feet in length with a discharge of less than one (1) cubic yard per running foot below the ordinary high water mark or high tide line, and no discharges into special aquatic sites (i.e., non-notifying)
NWP 14	Activities less than 1/10-acre with no discharges into special aquatic sites (i.e., non-notifying)
NWP 18	Activities that discharge less than ten (10) cubic yards of fill material below the plane of the ordinary high water mark or high tide line with no discharges into special aquatic sites (i.e., non-notifying)
NWP 22	Activities associated with vessels that are not listed or eligible for listing on the National Register of Historic Places and not located within special aquatic sites (i.e., non-notifying)
NWP 23	Activities not identified as notifying within Regulatory Guidance Letter 05-07 (i.e., non-notifying)
NWP 33	Section 404 only activities (i.e., non-notifying)
NWP 36	Activities that discharge less than 50 cubic yards of fill material and are less than 20 feet wide (i.e., non-notifying)

NWP 43	Activities that do not involve the expansion or construction of a new stormwater management facility (i.e., non-notifying)
NWP 48	Activities that are not the installation of a new operation and do not directly affect greater than 1/2-acre of submerged aquatic vegetation (i.e., non-notifying)
NWPs: 51 & 60	Activities that do not result in the loss of greater than 1/10-acre (i.e., non-notifying)
NWP 54	Maintenance activities (i.e., non-notifying)
NWPs: 57 & 58	Section 404 only activities that do not result in the loss of greater than 1/10-acre (i.e., non-notifying)

For non-federal applicants whose proposed activities would be located within EFH and that do not require a PCN per the language of the NWP or per any other general or regional condition (i.e., non-notifying), the applicant shall review the current EFH and FWCA Programmatic Consultation (https://www.nae.usace.army.mil/Missions/Regulatory/Essential-Fish-Habitat/) to ensure their proposed activity complies with all applicable CRs.

1. A PCN is required for any proposed project that would exceed the activity thresholds that are included within the current EFH and FWCA Programmatic Consultation. Any proposed project that exceeds an activity threshold requires preliminary coordination/project-specific consultation.

2. For all activities that do not exceed the activity-based thresholds included within the current EFH and FWCA Programmatic Consultation, the project proponent shall implement the activity-specific applicable CRs. If the applicable CRs cannot be implemented, a PCN must be submitted to the Corps, and work may not commence until the Corps verifies the project under the applicable NWP(s).

Federal applicants should follow their own procedures for compliance with the Magnuson-Stevens Fishery Conservation and Management Act and Fish and Wildlife Coordination Act.

Note 1: For activities proposed for authorization by an NWP that requires the submittal of a PCN, applicants are encouraged to review the current EFH and FWCA Programmatic Consultation and design their proposed activities with the activity-based thresholds and incorporate applicable CRs.

Note 2: Applicants can utilize the NMFS EFH mapper to determine if their proposed activities are located within EFH: https://www.habitat.noaa.gov/apps/efhmapper/. Applicants can also utilize the current EFH and FWCA Programmatic Consultation (https://www.nae.usace.army.mil/Missions/Regulatory/Essential-Fish-Habitat/) for guidance on non-tidal waterbodies with diadromous fish.

K. Invasive Species: The introduction, spread, or the increased risk of invasion of invasive plant or animal species on the project site, into new or disturbed areas, or into areas adjacent to the project site caused by the site work shall be avoided. Native, non-invasive vegetation must be used unless otherwise authorized by the Corps, and shall not contain any species listed in Appendix K ("Invasive and Other Unacceptable Plant Species") of the current *New England District Compensatory Mitigation Standard Operating Procedures* located at: https://www.nae.usace.army.mil/Missions/Regulatory/Mitigation/. Equipment shall be thoroughly cleaned before and after project construction to prevent the spread of invasive species. This includes, but is not limited to, tire treads and construction mats. Information about how to avoid the spread of invasive species can be found at: https://www.nae.usace.army.mil/Missions/Regulatory/Invasive-Species.

L. NWP Documentation On-Site: The permittee shall ensure that a copy of their verification letter (for notifying NWPs only) and applicable NWP with all applicable GCs and RCs are at the worksite whenever work is being performed, and that all personnel performing work are fully aware of its terms and conditions.

M. Abandonment: If the permittee decides to abandon the activity authorized by an NWP, unless such abandonment is merely the transfer of property to another party, the permittee may be required to restore the area to the satisfaction of the Corps.

State-Specific Regional Conditions

The following RCs apply to all applicable NWPs in the **State of Connecticut**:

N. Regional Condition N is reserved for the state of Connecticut.

The following RCs apply to all applicable NWPs in the **State of Maine**:

O. Regional Condition O is reserved for the state of Maine.
P. Regional Condition P is reserved for the state of Maine.
Q. Regional Condition Q is reserved for the state of Maine.
R. Regional Condition R is reserved for the state of Maine.

The following RCs apply to all applicable NWPs in the **Commonwealth of Massachusetts**:

S. Additional PCN Requirement (Time-of-Year Windows and Restrictions): A PCN is required for any proposed activity located in waters of the U.S. (excluding wetlands) that does not comply with the following time-of-year (TOY) restrictions, unless the Massachusetts Division of Marine Fisheries (MA DMF) provides alternate TOY restrictions. The TOY restrictions stated in Appendix B of the MA DMF Technical Report TR-47* can apply instead if they are provided for a specific waterbody where the activity is proposed. Additionally, if MA DMF provides project-specific TOY restrictions those may also apply in lieu of the TOY restrictions listed below.

	TOY Work Restriction	TOY Work Window
Non-Tidal Waters	October 1 to June 30	July 1 to September 30
Tidal Waters and Diadromous Fish Migratory Habitat**	January 15 to November 15	November 16 to January 14

*Massachusetts Department of Marine Fisheries (MA DMF) Technical Report, TR-47, available at: https://www.nae.usace.army.mil/Missions/Regulatory/State-General-Permits/Massachusetts-General-Permit/

**Information regarding diadromous fish migratory habitat can be obtained from the following GIS website maintained by the Commonwealth of Massachusetts: https://www.mass.gov/info-details/massgis-data-diadromous-fish.

For proposed activities that require a PCN, applicants should first coordinate with the MA DMF to obtain TOY windows and/or restrictions for their activity. Applicants should include documentation of this coordination when submitting their PCN.

Any proposed activity located in waters of the U.S. (excluding wetlands) shall be completed entirely "in-the-dry" or be isolated from active flows/the water column using temporary measures (i.e., cofferdams, sandbags, flume pipes, etc.) to the maximum extent practicable. The term "in-the-dry" means work that is done under dry conditions, e.g., work behind cofferdams or when the stream or tide is waterward of the work.

T. Underwater Archaeological Resources: Under Massachusetts General Law Ch. 6, s.'s 179-180, and Ch. 91, s. 63, the Board of Underwater Archaeological Resources (BUAR) has statutory jurisdiction within state waters and is the sole trustee of the Commonwealth's underwater heritage, charged within the responsibility of encouraging the discovery and reporting, as well as the preservation and protection of underwater archaeological resources. Underwater archaeological resources located within the waters of the Commonwealth of Massachusetts are property of the Commonwealth, which holds title to these resources and retains regulatory authority over their use. Under Massachusetts General Law, no person, organization or corporation may "remove, displace, damage, or destroy" any underwater archaeological resources located within the Commonwealth's submerged lands except through consultation with the BUAR and in conformity with the permits it issues. https://www.mass.gov/orgs/board-of-underwater-archaeological-resources.

The following RCs apply to all applicable NWPs in the **State of New Hampshire**:

U. Regional Condition U is reserved for the state of New Hampshire.

The following Regional Conditions apply to all applicable NWPs in the **State of Rhode Island**:

V. Regional Condition V is reserved for the state of Rhode Island.

The following Regional Conditions apply to all applicable NWPs in the **State of Vermont**:

W. Regional Condition W is reserved for the state of Vermont.
X. Regional Condition X is reserved for the state of Vermont.

US Army Corps of Engineers ®
New England District

COMPLIANCE CERTIFICATION FORM

(Minimum Notice: Permittee must sign and return notification within one month of the completion of work.)

Permit Number: NAE-2026-00833

Project Manager: Crystal Gardner

Name of Permittee: Boston Planning & Development Agency

Permit Issuance Date: September 2026

Please sign this certification and return it to our office upon completion of the activity.

Please sign this certification and return it to our office upon completion of the activity. You must submit this after the mitigation is complete, but not after the mitigation monitoring, which requires separate submittals.

E-MAIL TO: cenae-r-ma@usace.army.mil; or crystal.i.gardner@usace.army.mil

MAIL TO: Massachusetts Section
Regulatory Division
U.S. Army Corps of Engineers, New England District
696 Virginia Road
Concord, MA 01742-2751

Please note that your permitted activity is subject to a compliance inspection by an U.S. Army Corps of Engineers representative. If you fail to comply with this permit you are subject to permit suspension, modification, or revocation.

I hereby certify that the work authorized by the above referenced permit was completed in accordance with the terms and conditions of the above referenced permit, and any required mitigation was completed in accordance with the permit conditions.

Signature of Permittee

Date

Printed Name

Date of Work Completion

( )
Telephone Number

( )
Telephone Number

The Commonwealth of Massachusetts
Executive Office of Energy and Environmental Affairs
Office of Coastal Zone Management
100 Cambridge Street, Suite 900, Boston, MA 02114
www.Mass.gov/CZM | (617) 626-1200

Maura T. Healey, *Governor* | Kimberley Driscoll, *Lieutenant Governor* | Rebecca L. Tepper, *Secretary* | Alison Brizius, *Director*

December 18, 2025

Ms. Tammy Turley
U.S. Army Corps of Engineers New England District
Regulatory Division
696 Virginia Road
Concord, MA 01742-2751

RE: Nationwide Permits Reissuance for Proposed Implementation in Massachusetts, Maine, Rhode Island, Connecticut, Vermont, and New Hampshire

Dear Ms. Turley,

The Massachusetts Office of Coastal Zone Management (CZM) has reviewed the proposed adoption of the Nationwide Permits (NWPs) for the U.S. Army Corps of Engineers (USACE) Section 10 and Section 404 authorizations and issues this conditional concurrence.

NWPs are issued by USACE to authorize categories of activities under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899 that have no more than minimal individual and cumulative adverse environmental effects. The NWPs are proposed to replace the Massachusetts General Permits (MA GPs) currently used to authorize Section 10 and/or Section 404 activities. Under Section 307 of the Coastal Zone Management Act (CZMA), 15 CFR § 930.31, USACE filed for federal consistency certification with CZM on June 18, 2025, initiating a 60-day federal consistency review. To align with the reasonable period of time allotted for the review and issuance of the Section 401 Water Quality Certificate (401 WQC) by the Massachusetts Department of Environmental Protection (MassDEP), CZM requested, and USACE accepted an extension of the CZM federal consistency review period, resulting in a decision due date of December 18, 2025. Throughout the review process, CZM met regularly with USACE and MassDEP to discuss the NWPs and conformance with state regulation and policy.

In conducting its federal consistency review of the NWPs, CZM considered the text of the NWPs, the nature and extent of differences between the NWPs and the current MA GPs, and CZM's experience with review of projects authorized pursuant to the most recent and prior versions of the MA GPs. The current MA GPs took effect in June 2023 and established review thresholds and conditions that project proponents must abide by to comply with USACE authorization, MassDEP 401 WQC regulations, and the Massachusetts Coastal Program Enforceable Policies.

CZM concurred that projects eligible for Self-Verification under the MA GPs are consistent with the Massachusetts Coastal Program Enforceable Policies, but review of projects requiring PCN under the MA GPs is needed to ensure consistency with the Massachusetts Coastal Program Enforceable Policies. Based on review of the text of the NWPs, a comparison of the NWPs to the MA GPs, and our experience in reviewing applications for projects eligible for PCN under the MA GPs, CZM has determined that the terms of certain NWPs will allow some projects to proceed in Massachusetts with lower levels of review than is currently required under the MA GPs. Further, some projects eligible for authorization under the NWPs may be inconsistent with one or more Massachusetts Coastal Program Enforceable Policies. As a result, CZM has determined that the conditions provided in this conditional concurrence are necessary to ensure that projects authorized by USACE under the NWPs are consistent with the Massachusetts Coastal Program Enforceable Policies.

I. CZM Conditional Concurrence with NWPs

CZM concurs with the NWPs on the following conditions:

- **A.** Any Section 10 and/or Section 404 applicant (including any person eligible for non-reporting status) proposing work subject to any listed NWP that exceeds any review threshold set out in section II shall notify CZM pursuant to section III.
- **B.** CZM will review each notification to determine whether individual review is warranted and reserves the right to take individual review of any project exceeding these thresholds where such project is inconsistent with one or more of the Massachusetts Coastal Program Enforceable Policies, such that individual review is warranted.

These conditions apply to any application for work, regardless of whether that work is eligible for non-reporting status under the relevant NWP(s).

II. Review Thresholds

Proponents applying for authorization under the NWPs for projects in the Massachusetts coastal zone that exceed the following thresholds must submit the information provided in section III to CZM in order for CZM to determine if the project warrants federal consistency review**.**

A. Thresholds Applicable to all NWPs

1. **NWP PCN Requirements:** Any project in the coastal zone that triggers the submission of a PCN under the NWPs.
2. **Salt Marsh or Tidal Vegetated Shallows:** Any project wholly or partially located in saltmarsh or tidal vegetated shallows.
3. **Tide Gates:** Any project proposing a new tide gate.

B. Thresholds Applicable to Specific NWPs

1. **NWP 3 (Maintenance)**
   a. The combined permanent and temporary impacts extending beyond the original footprint are ≥5,000 square feet in tidal waters.

b. The combined permanent and temporary impacts extending beyond the original footprint are ≥1,000 square feet in mudflats and/or natural rocky habitat.
c. The removal of sediment outside the immediate vicinity of existing structures (e.g., bridges, culverted road crossings, water intake structures, etc.) that is ≥200 linear feet.

2. **NWP 4 (Fish and Wildlife Harvesting, Enhancement, Attraction)**
   a. Any project that includes artificial reefs or new, or expansions of, impoundments and semi-impoundments of waters of the U.S. for the culture or holding of motile species such as lobster with an impounded area >½ acre.

3. **NWP 5 (Scientific Measurement Devices)**
   a. Any aspect of the project will be located in mudflats.
   b. The combined permanent and temporary impacts are ≥5,000 square feet in tidal waters.
   c. The combined permanent and temporary impacts are ≥1,000 square feet in mudflats and/or natural rocky habitat.

4. **NWP 6 (Survey Activities)**
   a. The combined permanent and temporary impacts are ≥5,000 square feet in tidal waters.
   b. The combined permanent and temporary impacts are ≥1,000 square feet in mudflats and/or natural rocky habitat.
   c. Exploratory trenching in tidal waters. "Exploratory trenching" means mechanical land or underwater clearing of the upper soil profile to expose bedrock or substrate for the purpose of mapping or sampling the exposed material.

5. **NWP 7 (Outfall Structures and Associated Intake Structures)**
   a. Any project applying for authorization under NWP 7.

6. **NWP 8 (Oil and Gas Structures on the Outer Continental Shelf)**
   a. Any project applying for authorization under NWP 8.

7. **NWP 10 (Mooring Buoys)**
   a. Any aspect of the project will be located in mudflats or natural rocky habitat.

8. **NWP 12 (Oil or Natural Gas Pipeline Activities)**
   a. The combined permanent and temporary impacts are ≥5,000 square feet in tidal waters.
   b. The combined permanent and temporary impacts are ≥1,000 square feet in mudflats and/or natural rocky habitat.

c. The project involves unconfined work or silt-producing activities in streams with diadromous fish.

9. **NWP 13 (Bank Stabilization)**
   a. The combined permanent and temporary impacts are ≥5,000 square feet in tidal waters.
   b. The combined permanent and temporary impacts are ≥1,000 square feet in mudflats and/or natural rocky habitat.
   c. Activities in tidal waters that are ≥200 linear feet.
   d. Any project including stream channelization or relocation activities.
   e. Any project including breakwaters, groins, or jetties.

10. **NWP 14 (Linear Transportation Projects)**
    a. Any aspect of the project will be located in tidal waters.
    b. The combined permanent and temporary impacts are ≥1,000 square feet in mudflats and/or natural rocky habitat.

11. **NWP 17 (Hydropower Projects)**
    a. Any project applying for authorization under NWP 17.

12. **NWP 18 (Minor Discharges)**
    a. Any discharge associated with beach nourishment.

13. **NWP 19 (Minor Dredging)**
    a. Any dredging considered to be improvement dredging per the Massachusetts 401 Water Quality Certification Regulations at 310 CMR 9.02.

14. **NWP 20 (Response Operations for Oil or Hazardous Substances)**
    a. Any aspect of the project will be located in mudflats or natural rocky habitat.
    b. Temporary impacts are ≥1,000 square feet in tidal waters for spill response training exercises.

15. **NWP 23 (Categorical Exclusions)**
    a. Any project applying for authorization under NWP 23.

16. **NWP 27 (Aquatic Ecosystem Restoration, Enhancement, and Establishment Activities)**
    a. In tidal waters excluding tidal vegetated shallows, the combined permanent and temporary impacts are ≥5,000 square feet.
    b. Eelgrass (vegetated shallows) planting and transplanting ≥100 square feet in tidal waters.

c. Runneling projects with the purpose of restoring saltmarsh by removing excess water that ponds on the saltmarsh surface.
d. The project proposes permanent water impoundments, dam removal, or fish ladders.
e. The conversion of: (a) a stream or natural wetlands to another aquatic habitat type (e.g., stream to wetland or vice versa, wetland to pond, etc.) or uplands, (b) one wetland type to another.
f. Any project that includes activities associated with stream channelization, relocation, or artificial reefs.

17. NWP 31 (Maintenance of Existing Flood Control Facilities)

a. Any project applying for authorization under NWP 31.

18. NWP 32 (Completed Enforcement Actions)

a. The combined permanent and temporary impacts are ≥5,000 square feet in tidal waters.
b. The combined permanent and temporary impacts are ≥1,000 square feet in mudflats and/or natural rocky habitat.

19. NWP 33 (Temporary Construction, Access, and Dewatering)

a. The combined permanent and temporary impacts are ≥5,000 square feet in tidal waters.
b. The combined permanent and temporary impacts are ≥1,000 square feet in mudflats and/or natural rocky habitat.

20. NWP 34 (Cranberry Production Activities)

a. Any project applying for authorization under NWP 34.

21. NWP 35 Maintenance Dredging of Existing Basins

a. Any project applying for authorization under NWP 35.

22. NWP 36 (Boat Ramps)

a. The combined permanent and temporary impacts are ≥5,000 square feet in tidal waters.
b. The combined permanent and temporary impacts are ≥1,000 square feet in mudflats and/or natural rocky habitat.

23. NWP 37 (Emergency Watershed Protection and Rehabilitation)

a. Any project applying for authorization under NWP 37, except in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur.

24. NWP 45 Repair of Uplands Damaged by Discrete Events

a. Any project applying for authorization under NWP 45.

25. NWP 48 (Commercial Shellfish Mariculture Activities)

a. Discharges of fill material associated with aquaculture ≥5,000 square feet
b. Research, educational, commercial-viability, or experimental aquaculture gear activities ≥1,000 square feet.
c. Activities in water depths ≥10 feet mean low lower water (MLLW).
d. In tidal waters, expansions of existing lease sites that exceed 2 acres for the entire site (e.g., a 1-acre lease site increasing to a 2-acre lease site does not require notification to CZM).
e. The project includes new, or expansions of, impoundments and semi-impoundments of tidal and non-tidal waters for the culture or holding of motile species such as lobster with an impounded area >½ acre.
f. The project includes the cultivation of a nonindigenous species, unless that species has been previously cultivated in the waterbody.
g. The project includes the cultivation of an aquatic nuisance species.
h. The project includes stockpiles, staging areas, or the deposition of shell material back into tidal and non-tidal waters as waste.

26. NWP 54 (Living Shorelines)

a. The combined permanent and temporary impacts extending beyond the original footprint are ≥5,000 square feet in tidal waters.
b. The combined permanent and temporary impacts extending beyond the original footprint ≥1,000 square feet in mudflats and/or natural rocky habitat.
c. The activity is ≥1,000 linear feet along the bank (≥2,000 linear feet along both banks).
d. The activity is ≥30 feet channelward of mean low water in tidal waters
e. The project includes upland reclamation activities.
f. The project includes stream channelization or relocation activities.
g. The project includes breakwaters, groins, jetties, or artificial reefs.

27. NWP 55 (Seaweed Mariculture Activities)

a. Any project applying for authorization under NWP 55.

28. NWP 57 (Electric Utility Line and Telecommunications Activities)

a. The combined permanent and temporary impacts are ≥5,000 square feet in tidal waters.
b. The combined permanent and temporary impacts are ≥1,000 square feet in mudflats and/or natural rocky habitat.

29. NWP 58 (Utility Line Activities for Water and Other Substances)

a. The combined permanent and temporary impacts are ≥5,000 square feet in tidal waters.
b. The combined permanent and temporary impacts are ≥1,000 square feet in mudflats and/or natural rocky habitat.

30. NWP A. Activities to Improve Passage of Fish and Other Aquatic Organisms

a. Any project applying for authorization under NWP A.

III. Notification for Projects Exceeding a Threshold

A Section 10 and/or Section 404 applicant proposing work that exceeds any threshold set out in this conditional concurrence must notify CZM of their proposed project as provided in this section.

Notification shall be provided via email to the CZM Federal Consistency General Inbox (czm.fedcon@mass.gov). Notification to CZM may be made at any time but shall be made no later than the date when the applicant submits to USACE for Section 10/404 approval. CZM will determine whether the notification is complete within 7 days and will provide a response within 14 days after a determination that the notification is complete, or such other time as CZM may agree with the applicant. The response will indicate that: (i) federal consistency review is not required; (ii) federal consistency review is required; or (iii) that additional consultation is required to determine whether federal consistency review will be required. Where additional consultation is required, CZM will work with the applicant to reach a final resolution within a reasonable time. A CZM determination that federal consistency review is not required (or completion of federal consistency review, as applicable) is required prior to the start of work.

Projects that require notification to CZM shall include at least the following information:

1. A description of the proposed project, including resource area delineations, preferably illustrated with map(s) and site plan(s) depicting both existing and proposed conditions, and an analysis and quantification of the temporary and permanent impacts of the project on the resource areas.
2. A copy of the Section 10/404 application.
3. The Massachusetts Environmental Policy Act (MEPA) number, if applicable.
4. A copy of the Section 401 permit or permit application, if applicable.
5. A copy of the Chapter 91 Waterways license or application, if applicable. Additionally, any previous authorizations for the project or structures on the project site should be provided.
6. A description of the proposed activities associated with the project, the coastal effects, and any information relied upon by the applicant to develop project design and permit applications. Maps, diagrams, and technical data may be submitted when a written description alone will not adequately describe the proposed project.
7. A copy of the latest design plans developed for the project.
8. Any other information that CZM may require to determine if federal consistency review is required.

CZM will determine whether the proposed work requires federal consistency review on the basis of the information provided and any other information that CZM determines is relevant. In the event that CZM initiates federal consistency review for a project, it will notify the proponent by email at the address used for the submission.

If USACE does not agree with these conditions, then pursuant to 15 CFR 930.4, the conditional concurrence automatically becomes an objection. In the event of an objection, USACE may consider using the dispute resolution mechanisms described in 15 CFR 930.44.

Thank you for your cooperation with CZM.

Sincerely,



Alison Brizius

Director

cc: Christine Jacek, USACE
Katelyn Rainville, USACE
Roberta Budnick, USACE
Tyler Soleau, CZM
Sean Duffey, CZM
Lisa Rhodes, MassDEP
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Read Porter, EEA
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Commonwealth of Massachusetts
Executive Office of Energy and Environmental Affairs
Department of Environmental Protection
Address: 100 Cambridge Street, Suite 900, Boston MA 02114 | **Phone**: 617-292-5500

Maura T. Healey	**Kim Driscoll**	**Rebecca Tepper**	**Bonnie Heiple**
Governor	Lieutenant Governor	Secretary	Commissioner

December 17, 2025

Tammy Turley (via email: tammy.r.turley@usace.army.mil)
Chief, Regulatory Division
U.S. Army Corps of Engineers New England District
696 Virginia Road Concord, Massachusetts 01742-2751

Re: **Section 401 WATER QUALITY GENERAL CERTIFICATION**
Department of the Army
Nationwide Permits for Massachusetts
Effective: **Upon issuance of the 2026 NWPs**
Expires: **Upon expiration of the 2026 NWPs**

Dear Ms. Turley,

The Massachusetts Department of Environmental Protection (MassDEP) has reviewed your June 18, 2025 request for the Commonwealth of Massachusetts to issue a Section 401 Water Quality Certification (WQC) of the Department of the Army Nationwide Permits (NWPs), herein termed the "General NWP Certification." In accordance with the provisions of Section 401 of the Federal Clean Water Act, 33 U.S.C. § 1341, the Massachusetts Clean Waters Act, M.G.L. c. 21, §§ 26-53, and the Massachusetts 401 WQC regulations at 314 CMR 9.00, the Department has determined there is reasonable assurance the activities covered by the NWPs **that are certified herein** will be conducted in a manner which will comply with the Massachusetts Surface Water Quality Standards (314 CMR 4.00) and other applicable water quality-related requirements of state law, if carried out in accordance with this General NWP Certification and the provisions of the NWPs, including the Regional Conditions imposed by the USACE New England District.

I. Coverage of the General NWP Certification

This WQC conditionally certifies all activities authorized by USACE in NWPs 1, 3-7, 9-20, 22-23, 27-29, 31-46, 48, 51-55, 57-59, and A so long as the activity is described in 314 CMR 9.03 and is not an activity described in 314 CMR 9.04, and so long as the activity meets all other requirements, terms and conditions of 314 CMR 9.03 and of this WQC. Additionally, emergency activities authorized by one or more of these NWPs are certified if they meet the requirements of 314 CMR 9.12. Applicants must review this General NWP Certification and the current version of 314 CMR 9.03 and 314 CMR

9.04 as of the date of this letter (provided in the Appendix) prior to determining certification status. All other activities that are not described in 314 CMR 9.03 or are described in 314 CMR 9.04, unless they are authorized under 314 CMR 9.12, require an individual WQC application and issuance of an individual WQC from MassDEP.

Project proponents should note that most tidal impacts authorized by NWPs are likely not certified pursuant to this WQC and will require an individual application.

II. Clarifications for Evaluating Applicability of this General NWP Certification

1. **All NWPs** - Extent of MassDEP jurisdiction:

   MassDEP has jurisdiction under CWA § 401 and 40 C.F.R. Part 121 to evaluate water-quality related impacts from the activity subject to the NWPs on all Waters of the Commonwealth. Waters of the Commonwealth are defined at 314 CMR 9.02 to include all rivers, streams, lakes, ponds, springs, impoundments, estuaries, wetlands, coastal waters and ground waters. Surface Waters are defined at 314 CMR 9.02 to include all Waters of the Commonwealth other than ground waters. Bordering vegetated wetlands are also defined in 314 CMR 9.02. "Land Under Water," as used in 314 CMR 9.00, includes the bottom of, or land under, the surface of the ocean or any estuary, creek, river, stream, pond, or lake. All impacts to Land Under Water including creek, river, and stream impacts are quantified as square feet in Massachusetts. Where thresholds of applicability are determined in 314 CMR 9.03 or 9.04 according to specified Surface Water (including wetland) types, those shall be based on the applicable Surface Waters affected by the activity, not solely the federally jurisdictional subset of those waters.
   In consideration of whether a proposed activity qualifies for coverage under this WQC, "activity" means the proposed project, scheme or plan of action resulting in the discharge of dredged or fill material authorized by the NWP. In determining thresholds for and conducting evaluations of applications, the entirety of the activity, including likely future expansions, shall be considered and not separate phases or segments thereof. The definition of "Single and Complete Project" in 314 CMR 9.02 does not differentiate between linear and non-linear projects; therefore, a linear project considered multiple projects by the USACE will likely be considered one activity by MassDEP. The activity includes temporary and permanent, direct and indirect, and cumulative impacts from the construction and ongoing operation of a project. The calculation of square footage shall include the total of the applicable areas proposed to be lost from the impacts of the activity, without reduction for replication or restoration.

2. **All NWPs** - Salt Marsh and Outstanding Resource Waters: Activities with a discharge of dredged or fill material in a salt marsh (except for Ecological Restoration projects per 314 CMR 9.03(8)), and activities with dredging or a discharge of dredged or fill

material in an Outstanding Resource Water, require an individual WQC application. *See* 914 CMR 9.04(2) and (8).

3. **All NWPs** - Dredging: Dredging as defined in 314 CMR 9.02 includes the removal or repositioning of sediment or other material from below the mean high tide line for coastal waters and below the high water mark for inland waters (not including wetlands). Dredging of 100 cubic yards or greater will trigger an individual WQC application as identified in 314 CMR 9.04(12). Dredging less than 100 cubic yards does not require an individual application, as identified in 314 CMR 9.03(3) provided all of the requirements of this WQC are met, including all of the requirements of 314 CMR 9.03.

4. **NWP 27 -- Aquatic Habitat Restoration, Enhancement and Establishment and NWP A -- Activities to Improve Passage of Fish and Other Aquatic Organisms**: Activities that comply with the provisions of 314 CMR 9.03(8) are certified under this WQC. Note that only Ecological Restoration projects that meet the eligibility criteria pursuant to 310 CMR 10.13, comply with requirements of 310 CMR 10.11 and 10.12, and receive a Restoration Order of Conditions (OOC) pursuant to 310 CMR 10.14 are certified under this WQC. Projects that involve dredging or dredged material disposal as described in 314 CMR 9.04(12) require an individual WQC application. Ecological Restoration Limited projects that receive an OOC under the provisions of 310 CMR 10.24(8) or 10.53(4) are not certified under this WQC and require an individual WQC application.

5. **NWP 40 – Agricultural Activities, and NWP 48 – Commercial Shellfish Mariculture Activities**: Agriculture and aquaculture activities described in 314 CMR 9.03(4) (*i.e.*, normal maintenance or improvement of land in agricultural or aquacultural use) do not require an individual WQC pursuant to 314 CMR 9.04(4) because, in accordance with 314 CMR 9.03(4), the provisions of 314 CMR 9.04 do not apply. However, activities described in 314 CMR 9.04(10) (*i.e.*, agricultural limited projects per 310 CMR 10.53(5), which include but are not limited to projects for the support of existing agricultural production such as the construction or expansion of new ponds or reservoirs) and other agriculture and aquaculture activities that do not meet the respective definitions in 310 CMR 10.04 of normal maintenance or improvement of land in agricultural or aquacultural use must apply for an individual WQC provided the activities result in the discharge of dredged or fill material, or the dredging of 100 cubic yards or more.

6. **Activities Exempt from M.G.L. c. 131, § 40 (WPA):** In accordance with 314 CMR 9.04(4), these activities are not certified by this WQC unless otherwise described in these conditions, and proponents of such activities must apply for an individual WQC pursuant to 314 CMR 9.00. Included in this category of exempt projects is utility maintenance, including any associated construction mats.

III. NWP-Specific Conditions

The activities authorized by this WQC are subject to the following NWP-Specific Conditions:

1. **NWP 5 Scientific Measurement Devices, NWP 6 Survey Activities**: Activities certified by this General NWP Certification shall be temporary in nature and necessary for planning and design purposes such as the installation of monitoring wells, exploratory borings, sediment sampling, and surveying. Pursuant to 314 CMR 9.03(6) and 314 CMR 9.09(1)(d), this condition is necessary to ensure that practicable steps have been taken which will avoid and minimize impacts to wetlands and waters.

2. **NWP 10 Mooring Buoys**: Pursuant to 310 CMR 9.07(2) of the Waterways (Chapter 91) Regulations, mooring activities must be authorized by a valid Annual Permit for Moorings, Floats and Rafts (Section 10A permit) issued by the municipal harbormaster or other municipal official. Pursuant to 310 CMR 9.07(2) and 314 CMR 9.09(1)(d), this condition is necessary to ensure that practicable steps have been taken which will avoid and minimize impacts to wetlands and waters.

3. **Activities Addressing an Emergency Situation, Including But Not Limited To Those Authorized Under NWPs 3, 31, and 37**: Activities addressing emergency situations that meet the requirements of 314 CMR 9.12 are certified under the General NWP Certification. 314 CMR 9.12 supersedes 314 CMR 9.03 and 314 CMR 9.04 such that there are no activity type, location, or impact thresholds that prevent the abatement of an emergency following compliance with 314 CMR 9.12. Pursuant to 310 CMR 10.06, 314 CMR 9.09(1)(d) and 9.12, this condition is necessary to ensure that practicable steps have been taken which will avoid and minimize impacts to wetlands and waters and maintain water quality.

IV. General Conditions

The activities authorized by this WQC are subject to the following general conditions:

1. Each activity described in 314 CMR 9.03 must comply with the respective requirements in 314 CMR 9.03 for that activity. Pursuant to 310 CMR 10.00, 314 CMR 9.03, 9.06(2), and 9.09(1)(d), this condition is necessary to ensure that practicable steps have been taken which will avoid and minimize impacts to wetlands and waters and maintain water quality.

2. This General NWP Certification shall be valid until such time as the Department of the Army NWPs expire or are modified, suspended, revoked, or reissued. Pursuant to 33 U.S.C. 1341 of the federal Clean Water Act, this condition is necessary to comply with federal law. In the event that MassDEP promulgates a revision to 314

CMR 9.00 that modifies the criteria referenced herein, MassDEP will seek agreement with the USACE pursuant to 40 C.F.R. § 121.10 to modify this General NWP Certification to align with the revised regulation.

3. The Department reserves the right to amend, modify, suspend, revoke, or reissue this WQC if the NWPs are amended, modified, suspended, revoked, or reissued. The activities authorized by this WQC shall be conducted in a manner that assures compliance with the anti-degradation provisions of the Massachusetts Surface Water Quality Standards at 314 CMR 4.00. Pursuant to 314 CMR 9.06(2), 9.09(1)(d) and 314 CMR 4.00, this condition is necessary to ensure that practicable steps have been taken which will avoid and minimize impacts to wetlands and waters and that activities will not violate surface water quality standards.

4. This WQC does not derogate from any present or future property rights or other rights or powers of the Commonwealth of Massachusetts and does not convey property rights in real estate or material, or any exclusive privileges, and is further subject to any and all public and private rights and to any federal, state, or local laws and regulations pertinent to the property or activity affected hereby. Pursuant to 314 CMR 9.09(1)(d), this condition is necessary to ensure that practicable steps have been taken which will avoid and minimize impacts to wetlands and waters and to comply with state law.

5. MassDEP reserves the right to inspect any project or activity conducted, permitted, or otherwise authorized by this WQC and their impacts on Waters of the Commonwealth, as defined at 314 CMR 4.02, at any time to monitor compliance with the Massachusetts Surface Water Quality Standards, 314 CMR 4.00, the regulations at 314 CMR 9.00, and this WQC. Pursuant to 314 CMR 4.00, 314 CMR 9.09(1)(d), and 9.11, this condition is necessary to ensure that practicable steps have been taken which will avoid and minimize impacts to wetlands and waters, to maintain water quality, and to comply with state law.

6. The permittee is responsible for compliance with the terms and conditions of this WQC. Failure to comply with the terms and conditions of this WQC is grounds for enforcement by MassDEP including, without limitation, the assessment of civil, administrative, or criminal penalties pursuant to M.G.L. c. 21, §§ 42 and 44, M.G.L c. 21, § 16A, 310 CMR 5.00, M.G.L. c. 131, § 40, 310 CMR 10.08, and 314 CMR 9.11 or other possible actions/penalties as authorized by the General Laws of the Commonwealth. Pursuant to M.G.L. c. 21, §§ 42 and 44, M.G.L c. 21, § 16A, 310 CMR 5.00, M.G.L. c. 131, § 40, 310 CMR 10.08, and 314 CMR 9.09(1)(d) and 9.11, this condition is necessary to ensure that practicable steps have been taken which will avoid and minimize impacts to wetlands and waters, to maintain water quality, and to comply with state law.

7. Stormwater discharges to Waters of the Commonwealth, including wetlands during the construction period must comply with the requirements of 314 CMR 9.06(6) and must not cause a violation of the Massachusetts Surface Water Quality Standards, 314 CMR 4.00. If applicable, the permittee shall file a Stormwater Pollution Prevention Plan (SWPPP) required by the EPA National Pollution Discharge Elimination System (NPDES) Construction General Permit (CGP)[1] and provide MassDEP a copy of the filed SWPPP. Pursuant to 314 CMR 4.00, 314 CMR 9.06(6) and 9.09(1)(d), this condition is necessary to minimize turbidity and sediment caused by construction activities and to ensure that water quality is not degraded, and that biology of the waters are not negatively impacted by potential discharges.

8. Any activity authorized by this WQC shall not result in any increase in turbidity to Surface Waters including wetlands either during normal or significant rainfall events. Excessive turbidity in wetlands or flowing water within, or in the vicinity of the project site shall be presumed to have unacceptable adverse impacts on Surface Waters including wetlands. Pursuant to 314 CMR 9.06 and 9.09(1)(d), this condition is necessary to minimize turbidity and sediment caused by construction activities and to ensure that water quality is not degraded, and that biology of the waters are not negatively impacted by potential discharges.

9. Refueling, washing, or other maintenance of vehicles and construction equipment, and storage of hazardous materials shall not take place within Surface Waters including wetlands. Pursuant to 314 CMR 9.06 and 9.09(1)(d), this condition is necessary to minimize turbidity and sediment caused by construction activities and to ensure that water quality is not degraded, and that biology of the waters is not negatively impacted by potential discharges.

10. Any fill used in Surface Waters, including wetlands shall comply with all relevant provisions of the WPA, the Wetlands Protection Regulations, 310 CMR 10.00, M.G.L. c. 21E, and the regulations promulgated pursuant thereto at 310 CMR 40.0000. Without limitation, fill shall not contain any trash, refuse, rubbish, or debris, including, but not limited to lumber, plaster, construction materials, wire, lath, paper, cardboard, pipe, tires, ashes, metal, plastic, motor vehicles, or parts of any of the foregoing, hazardous waste, hazardous materials, or oil. Pursuant to M.G.L. c. 21E, M.G.L. c. 131, § 40, 310 CMR 10.00, 314 CMR 9.06(2) and 9.09(1)(d), and 310 CMR 40.0000, this condition is necessary to ensure that practicable steps have been taken which will avoid and minimize impacts to wetlands and waters, to maintain water quality, and to ensure compliance with state law.

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[1] - The CGP is applicable to construction activities that disturb one acre or more, or if they disturb less than one acre but the land is a part of a larger common plan of development that disturbs one or more acres of land total.

11. The activities authorized herein shall not commence until the permittee has obtained final approval pursuant to Section 404 of the Federal Clean Water Act from the Army Corps of Engineers, as applicable. Pursuant to 33 U.S.C. 1341, 314 CMR 9.06(2) and 9.09(1)(d) and (e), this condition is necessary to ensure that practicable steps have been taken which will avoid and minimize impacts to wetlands and waters, to maintain water quality, and to ensure compliance with state and federal law.

12. Upon final stabilization of disturbed surfaces, all temporary erosion controls shall be removed and disposed of in a legal manner and shall not be disposed of in Surface Waters including wetlands. Pursuant to 314 CMR 9.06 and 9.09(1)(d), this condition is necessary to minimize turbidity and sediment caused by construction activities and to ensure that water quality is not degraded, and that biology of the waters are not negatively impacted by potential discharges.

13. This WQC does not relax, vary, or waive requirements under the Surface Water Discharge/NPDES Municipal Separate Storm Sewer System (MS4) General Permit and the EPA-issued NPDES Construction General Permit. In the event of a conflict between requirements of this WQC and the referenced general permits, the permittee shall follow the more stringent requirement. Pursuant to 33 U.S.C. 1342, M.G.L. c. 21, §§ 26-53, 314 CMR 9.06(2) and 9.09(1)(d), this condition is necessary to ensure that practicable steps have been taken which will avoid and minimize impacts to wetlands and waters, to maintain water quality, and to ensure compliance with state and federal law.

14. This WQC does not relieve the permittee of the obligation to comply with all other applicable state and federal law. Any changes made to the permittee's project or activity must be reevaluated for eligibility under this WQC. Pursuant to 310 CMR 9.06(2) and 9.09(1)(d), this condition is necessary to ensure that practicable steps have been taken which will avoid and minimize impacts to wetlands and waters, to maintain water quality, and to ensure compliance with state and federal law.

15. The permittee shall comply with General Conditions 1-32 of the NWPs and the Regional Conditions (which include any State-specific Conditions). Pursuant to 310 CMR 9.06(2), this condition is necessary to ensure that practicable steps have been taken which will avoid and minimize impacts to wetlands and waters, to maintain water quality, and to ensure compliance with federal law.

Notification of Appeal Rights

The following persons shall have a right to request an adjudicatory hearing concerning this certification:

1. Any person aggrieved by the decision who has submitted written comments during the public comment period;

2. Any ten (10) persons of the Commonwealth pursuant to M.G.L. c. 30A where a group member has submitted written comments during the public comment period; and

3. Any governmental body or private organization with a mandate to protect the environment, which has submitted written comments during the public comment period.

Any person aggrieved, any ten persons of the Commonwealth, or a governmental body or private organization with a mandate to protect the environment may appeal without having submitted written comments during the public comment period only when the claim is based on new substantive issues arising from material changes to the scope or impact of the activities proposed for coverage and not apparent at the time of public notice. To request an adjudicatory hearing pursuant to M.G.L. c. 30A, § 10, and 310 CMR 1.01, a Notice of Claim must be made in writing, provided that the request is made by certified mail or hand delivery to the Department, with the appropriate filing fee specified within 310 CMR 4.06, along with a Department Fee Transmittal Form, within 21 days from the date of issuance of this WQC and addressed to:

Case Administrator
Department of Environmental Protection
100 Cambridge Street, Suite 900
Boston, MA 02114.

A copy of the request shall at the same time be sent by certified mail or hand delivery to the issuing office of the Wetlands and Waterways Program at:

Department of Environmental Protection
100 Cambridge Street, Suite 900
Boston, MA 02114.

A Notice of Claim for Adjudicatory Hearing shall comply with the Department's Rules for Adjudicatory Proceedings, 310 CMR 1.01(6), and shall contain the following information pursuant to 314 CMR 9.10(3):

a. the 401 Certification Transmittal Number and DEP Wetland Protection Act File Number;
b. the complete name of the applicant and address of the project;
c. the complete name, address, and fax and telephone numbers of the party filing the request and, if represented by counselor other representative, the name, fax and telephone numbers, and address of the attorney;
d. if claiming to be a party aggrieved, the specific facts that demonstrate that the party satisfies the definition of “aggrieved person” found at 314 CMR 9.02;

e. a clear and concise statement that an adjudicatory hearing is being requested; and
f. a clear and concise statement of (1) the facts which are grounds for the proceedings, (2) the objections to the Certification, including specifically the manner in which it is alleged to be inconsistent with the Department's Water Quality Certification Regulations, 314 CMR 9.00, and (3) the relief sought through the adjudicatory hearing, including specifically the changes desired in the final written Certification.

The hearing request along with a DEP Fee Transmittal Form and a valid check or money order payable to the Commonwealth of Massachusetts in the amount of one hundred dollars ($100) must be mailed to:

Commonwealth of Massachusetts
Department of Environmental Protection
Commonwealth Master Lockbox
P.O. Box 4062
Boston, MA 02211

The request will be dismissed if the filing fee is not paid, unless the appellant is exempt or granted a waiver. The filing fee is not required if the appellant is a city or town (or municipal agency), county, or district of the Commonwealth of Massachusetts, or a municipal housing authority. The Department may waive the adjudicatory hearing filing fee pursuant to 310 CMR 4.06(2) for a person who shows that paying the fee will create an undue financial hardship. A person seeking a waiver must file an affidavit setting forth the facts believed to support the claim of undue financial hardship together with the hearing request as provided above.

If you have questions on this decision, please contact Lisa Rhodes at Lisa.Rhodes@mass.gov.

Sincerely,



Tim Jones, Director
Division of Wetlands and Waterways

Appendix – 314 CMR 9.03 and 9.04

Cc Sean Duffy, MA Office of Coastal Zone Management (sean.duffey@mass.gov)
CC EPA, Nate Marganson (margason.nathan@epa.gov)

Appendix

Sections 9.03 and 9.04

Excerpted from 314 CMR 9.00: *401 Water Quality Certification for Discharge of Dredged or Fill Material, Dredging, and Dredged Material Disposal in Waters of the United States Within the Commonwealth*

9.03: Activities Not Requiring an Application

The Department certifies the activities identified in 314 CMR 9.03(1) through (8) and therefore they do not require an individual 401 Water Quality Certification application provided the specified conditions are met. For activities meeting these specified conditions, the Final Order of Conditions or final Restoration Order of Conditions issued pursuant to 310 CMR 10.00: Wetlands Protection, as applicable, serves as the Water Quality Certification for the project.

(1) Less than 5000 Sq. Ft. with an Order of Conditions. Activities conducted in compliance with the Wetlands Protection Act and receiving a Final Order of Conditions which meets all applicable performance standards under 310 CMR 10.00: Wetlands Protection provided that:

(a) the Final Order of Conditions permits work that results in the loss of up to 5,000 square feet cumulatively of bordering and isolated vegetated wetlands and land under water. Both bordering and isolated vegetated wetlands must be delineated on the plans contained in the Notice of Intent and described on a form prescribed by the Department; and

(b) the Final Order of Conditions includes conditions requiring at least 1:1 replacement of bordering vegetated wetlands under 310 CMR 10.55(4)(b);

(c) if applicable, the activity conforms to the stream crossing provisions of 310 CMR 10.24(10) and 10.53(8); and

(d) the proposed work is not subject to 314 CMR 9.04.

(2) Beach Nourishment. Beach nourishment activities with a Final Order of Conditions issued under M.G.L. c. 131, § 40.

(3) Dredging Less than 100 C.Y. Dredging and dredged material disposal of less than 100 cubic yards, provided that a Final Order of Conditions has been issued and the proposed work is not subject to 314 CMR 9.04 and the work is not subject to an individual 404 permit by the Corps of Engineers. Dredged sediment generated from such activities shall be managed in accordance with the provisions of 314 CMR 9.07(9) through (11) and may be

used for beach nourishment activities or reuse within the shoreline under a Final Order of Conditions issued under M.G.L. c. 131, § 40.

(4) Agriculture or Aquaculture Exempt under M.G.L. c. 131, § 40 (the Wetlands Protection Act). Normal maintenance and improvement of land in agricultural or aquacultural use that is exempt from the Wetlands Protection Act, as defined and performed in accordance with 310 CMR 10.04: Definitions: Agriculture including the alternatives analysis, as applicable, performed by the USDA Natural Resources Conservation Service (formerly Soil Conservation Service) or 310 CMR 10.04: Definitions: Agriculture. The provisions of 314 CMR 9.04 do not apply.

(5) Less than 5000 Sq. Ft. of Isolated Vegetated Wetlands. Any activity in an area not subject to jurisdiction of the Wetlands Protection Act which is subject to 33 U.S.C. 1251 (i.e., isolated vegetated wetlands) which will result in the loss of up to 5000 square feet cumulatively of bordering and isolated vegetated wetlands and land under water, provided there is no discharge of dredged or fill material to any Rare Species Habitat or to any Outstanding Resource Water.

(6) Planning and Design Activities. Activities that are temporary in nature, have negligible impacts, and are necessary for planning and design purposes such as the installation of monitoring wells, exploratory borings, sediment sampling, and surveying. The applicant shall notify the Department and conservation commission at least ten days prior to commencing the activity. Notification is not required if a valid, unexpired Final Negative Determination of Applicability has been issued for the work as described 310 CMR 10.05(3)(b). Notification shall include a description of the activity, the location of the proposed activity and measures to be taken to avoid or minimize impacts. The site shall be substantially restored to its condition prior to the activity.

The Department will notify the persons to whom an Order of Conditions is issued not later than ten business days of its receipt by the Department that based on the information available to the Department the criteria of 314 CMR 9.03 have not been met. If the impacts to resource areas, as defined in the Massachusetts Wetland Protection Act and the Federal Clean Water Act, or the project size increases from the description filed with the Notice of Intent, or there are any inaccuracies therein, the applicant must notify the Department in writing and request a determination that the criteria of 314 CMR 9.03 have been met before the activity begins.

(7) Test Projects. A Test Project authorized by and conducted in accordance with a final Order of Conditions provided that the project: does not require an individual Section 404 permit from the U.S. Army Corps of Engineers; is not located in Outstanding Resource Waters; and does not exceed any of the impact thresholds set forth in 314 CMR 9.03(1), (3), and (5).

The Department will notify the persons to whom an Order of Conditions is issued not later than ten business days of its receipt by the Department if, based on the information available to the Department, the project is not exempt from the requirement to submit an

individual 401 Water Quality Certification application pursuant to 314 CMR 9.03(7). If the applicant discovers that the project or its impacts on Resource Areas and waters of the United States within the Commonwealth differ from the project and impacts presented in the Notice of Intent, the applicant shall notify the Department in writing within 72 hours of such discovery and request a written determination from the Department as to whether the project is exempt from the requirement to submit an individual 401 Water Quality Certification pursuant to 314 CMR 9.03(7). In that event, the applicant shall not commence the project until s/he obtains a written determination from the Department that the project is exempt from the requirement to obtain an individual 401 Water Quality Certification pursuant to 314 CMR 9.03(7) or an individual 401 Water Quality Certification authorizing the project.

(8) Ecological Restoration Project. Discharge of dredged or fill material in association with an Ecological Restoration Project provided that the discharge of dredged or fill material is in compliance with a valid final Restoration Order of Conditions issued pursuant to 310 CMR 10.11: Actions Required Before Submitting a Notice of Intent for an Ecological Restoration Project through 310 CMR 10.14: Restoration Order of Conditions followed by a Certificate of Compliance, unless the project involves dredging or dredged material disposal as described in 314 CMR 9.04(12). Ecological Restoration Projects that include the activities described in 314 CMR 9.04(12) require a 401 Water Quality Certification application pursuant to 314 CMR 9.04.

9.04: Activities Requiring an Application

The activities identified in 314 CMR 9.04(1) through (13) require a 401 Water Quality Certification application and are subject to the Criteria for Evaluation of Applications for the Discharge of Dredged or Fill Material in 314 CMR 9.06 and/or 9.07:

(1) More than 5000 Sq. Ft. Any activity in an area subject to 310 CMR 10.00: Wetlands Protection which is also subject to 33 U.S.C. 1251, et seq. and will result in the loss of more than 5000 square feet cumulatively of bordering and isolated vegetated wetlands and land under water, except for an Ecological Restoration Project not requiring a Water Quality Certification application pursuant to 314 CMR 9.03(8).

(2) Outstanding Resource Waters. Dredging in, or any activity resulting in any discharge of dredged or fill material to any Outstanding Resource Water.

(3) Real Estate Subdivision - Any discharge of dredged or fill material associated with the creation of a real estate subdivision, unless there is a valid, unexpired Final Order of Conditions, followed by a Certificate of Compliance, and a recorded deed restriction providing notice to subsequent purchasers limiting the amount of fill for the single and complete project to less than 5000 square feet cumulatively of bordering and/or isolated vegetated wetlands and land under water and the discharge is not to an Outstanding Resource Water. Real estate subdivisions include divisions where approval is required and where approval is not required under the Subdivision Control Law, M.G.L. c. 41, §§ 81K through 81GG. Discharges of dredged or fill material to create the real estate subdivision

include but are not limited to discharges resulting from the construction of roads, drainage, sidewalks, sewer systems, buildings, septic systems, wells, and accessory structures.

(4) Activities Exempt under M.G.L. c. 131, § 40. Any activity not subject to M.G.L. c. 131, § 40 and which is subject to 33 U.S.C. 1251 and will result in any discharge of dredged or fill material to bordering vegetated wetlands or land under water.

(5) Routine Maintenance. Routine maintenance of existing channels, such as mosquito control projects or road drainage maintenance, that will result in the annual loss of more than 5000 square feet cumulatively of bordering and isolated vegetated wetland and land under water will be evaluated under the criteria of 314 CMR 9.06. A single application may be submitted and a single certification may be issued for repeated routine maintenance activities on an annual or multi-year basis not to exceed five years.

(6) More than 5000 Sq. Ft. of Isolated Vegetated Wetlands. Any activity in an area not subject to jurisdiction of M.G.L. c. 131, § 40 but which is subject to 33 U.S.C. 1251 (i.e., isolated vegetated wetlands) and which will result in the loss of more than 5000 square feet cumulatively of bordering and isolated vegetated wetlands and land under water.

(7) Rare Species Habitat in Isolated Vegetated Wetlands. Any activity resulting in the discharge of dredged or fill material to an isolated vegetated wetland that has been identified as Rare Species Habitat.

(8) Salt Marsh. Any activity resulting in the discharge of dredged or fill material in any salt marsh, except for an Ecological Restoration Project not requiring a Water Quality Certification application pursuant to 314 CMR 9.03(8).

(9) Individual 404 Permit. Any activity subject to an individual Section 404 permit by the Corps of Engineers, except for an Ecological Restoration Project not requiring a Water Quality Certification application pursuant to 314 CMR 9.03(8).

(10) Agricultural Limited Project. Agricultural work, not exempt under M.G.L. c. 131, § 40, referenced in and performed in accordance with 310 CMR 10.53(5). Provided the activity does not result in any discharge of dredged or fill material to an Outstanding Resource Water, such work will be presumed to meet the criteria of 314 CMR 9.06 where a comparable alternatives analysis is performed or approved by the USDA Natural Resources Conservation Service and included in the Notice of Intent.

(11) Discretionary Authority. Any activity where the Department invokes discretionary authority to require an application based on cumulative effects of multiphased activities, cumulative effects of dredging, or from the discharge of dredged or fill material to bordering or isolated vegetated wetlands or land under water, or other impacts which may jeopardize water quality. The Department will issue a written notice of and statement of reasons for its determination to invoke this discretionary authority not later than ten business days after its receipt of an Order of Conditions.

(12) Dredging 100 Cubic Yards or More. Any dredging or dredged material re-use or disposal of 100 cubic yards or greater.

(13) Any activity not listed in 314 CMR 9.03 or 9.04 is an activity requiring an application subject to the requirements of 314 CMR 9.05 and 9.06 through 9.13 as applicable.