

RFP for Coastal Facilities Feasibility Study

Wareham, MA



PROPOSAL FOR PROFESSIONAL SERVICES

August 31, 2023

HALVORSON
Tighe&Bond STUDIO

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COASTAL
engineering co.

31 August 2023

Derek Sullivan
Town Administrator
Memorial Town Hall
54 Marion Road
Wareham, MA 02571

**RE: Request for Proposals for Coastal Facilities Feasibility Study
Wareham, MA**

Dear Mr. Sullivan,

Halvorson | Tighe & Bond Studio (services provided by Tighe & Bond, Inc.) is delighted to submit our Part A – Non-Price (Technical) Proposal to assist the Town of Wareham in completing a Feasibility Study for coastal recreational facilities on the waterfront in downtown Wareham. We understand the development of coastal recreational facilities and access to the shoreline is a key component of revitalizing downtown Wareham. We are excited about the opportunity to work with the Town of Wareham to create a compelling and achievable vision to help it make its downtown a regional destination. In presenting our qualifications, we believe several aspects of our team make us an ideal consulting partner for the Town of Wareham.

WE HAVE BROAD TECHNICAL EXPERTISE

To analyze the existing conditions of the shoreline, develop design concepts, engage the community and permitting agencies, and synthesize input from the Town and various stakeholders into a feasible plan requires a team with strong technical expertise and extensive experience. **Halvorson | Tighe & Bond** has this expertise and experience and will be the prime consultant and point of contact for the Town. We will provide all landscape architecture, civil engineering, and waterfront engineering services with in-house staff, and **Coastal Engineering** will augment our team with bathymetric and topographic survey. Both firms have offices conveniently located near Wareham allowing us to provide responsive service to the Town – Tighe & Bond in Pocasset and Coastal Engineering in Sandwich.

WE HAVE A TRACK RECORD OF DELIVERING COMPLEX RIVERFRONT PROJECTS

The team of Halvorson | Tighe & Bond Studio and Tighe & Bond brings over 100 years of experience in urban and waterfront planning. Our professionals are nationally recognized as leaders in the design, planning, and engineering of memorable parks and open spaces, vibrant urban environments, and welcoming waterfronts.

WE CREATE A VISION WITH IMPLEMENTABLE STRATEGIES

We recognize the importance of creating design and development concepts that sustain a compelling vision through a process that achieves public support and results in a final plan that is fundable and implementable. Our experience has proven the maxim that “money follows good ideas.” At the forefront of our design and planning process is the fundamental idea that a Feasibility Study is more than just a concept - it is the roadmap for fully realized, completed projects. Based on our extensive built work, our strength lies in our ability to correlate designs with their respective costs and help clients establish priorities and budgets to achieve successful short- and long-term implementation plans.

We have read, understood, and will comply with the requirements and conditions of the RFP relative to performance of services. With regards to the minimum contractual terms and conditions provided in Exhibit D of the RFP, if selected, Tighe & Bond requests the opportunity to negotiate mutually acceptable and insurable terms and conditions, including modification to the Minimum General Terms and incorporating select terms of our attached Terms and Conditions, removing any conflicting terms to align with the Town’s agreement. We have also reviewed the insurance requirements and have attached a sample insurance certificate which includes industry-standard insurance for the services to be provided.

It would be our privilege to collaborate with the Town of Wareham on this exciting project. If you have any questions, please contact me at sean@halvorsondesign.com or (203) 240-5835.

Sincerely,

Tighe & Bond, Inc.



Sean Ragan, PLA, ASLA
Senior Landscape Architect
(203) 240-5834

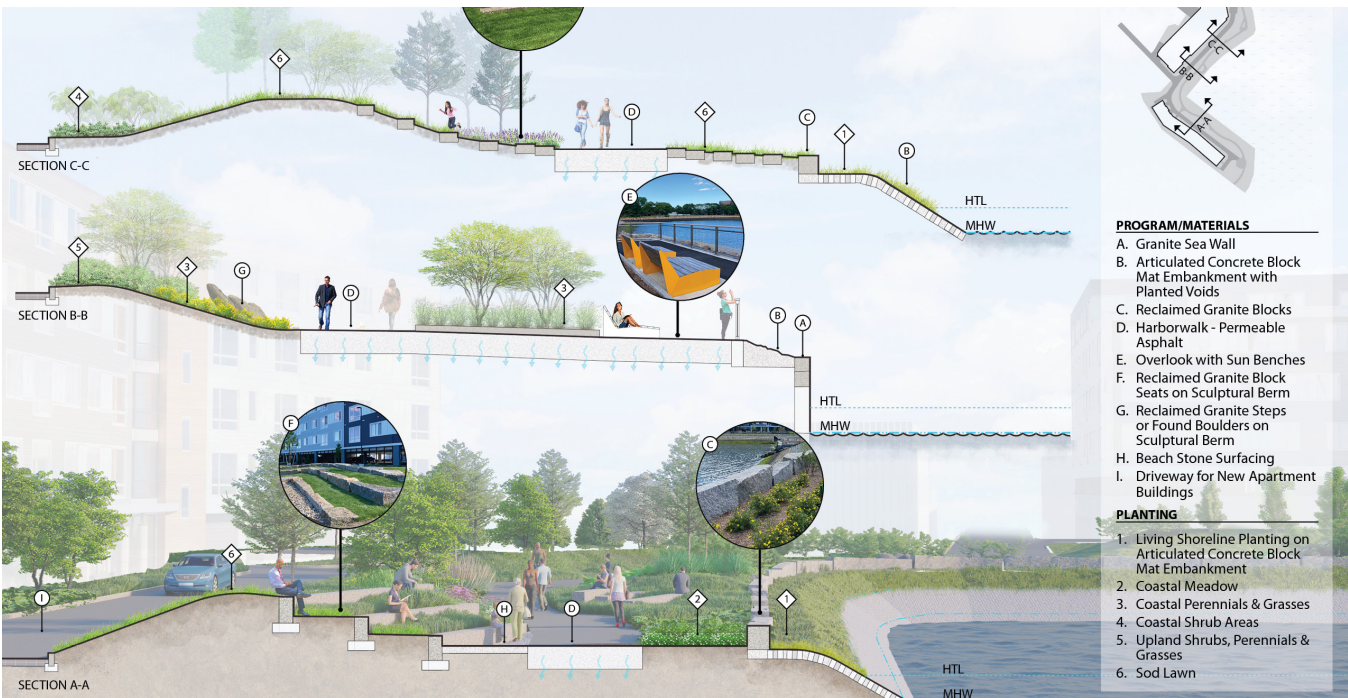


Robert Uhlig, FASLA, LEED AP BD&C
Vice President of Landscape Architecture & Urban Design
(978) 270-4876



The Park at Breakwater | Lynn, MA

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PRIMARY CONTACT

SEAN RAGAN, ASLA, PLA
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The Park at Breakwater | Lynn, MA

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Halvorson | Tighe & Bond Studio creates timeless, engaging landscapes that are rooted in fundamental design principles and inspired by the dynamics of nature. Working within a variety of scales and uses, we connect the natural and built environment through design that is adaptive, resilient, and responsive to its unique context.

Our goal is to foster connections: between ourselves and our clients, projects and their context, and most importantly, between individuals and the beauty, color, and ever-changing qualities of nature that shape our daily lives.

PEOPLE-FOCUSED LANDSCAPE DESIGN

YEARS IN BOSTON

40+

DESIGN AWARDS

100+

CLIPPERSHIP WHARF
EAST BOSTON

2020 EBC CLIMATE CHANGE
PROJECT OF THE YEAR

HANCOCK ADAMS
COMMON, QUINCY

2018 APA-MA PLANNING
PROJECT AWARD



HALVORSON | TIGHE & BOND STUDIO

Halvorson | Tighe & Bond Studio (Halvorson) provides professional landscape architecture, site planning and urban design services throughout the Northeast from our Boston studio, with the support of Tighe & Bond's twelve additional offices. Since 1980, Halvorson has helped municipalities, institutions, public agencies and private organizations realize their goals for exemplary landscapes and open spaces.

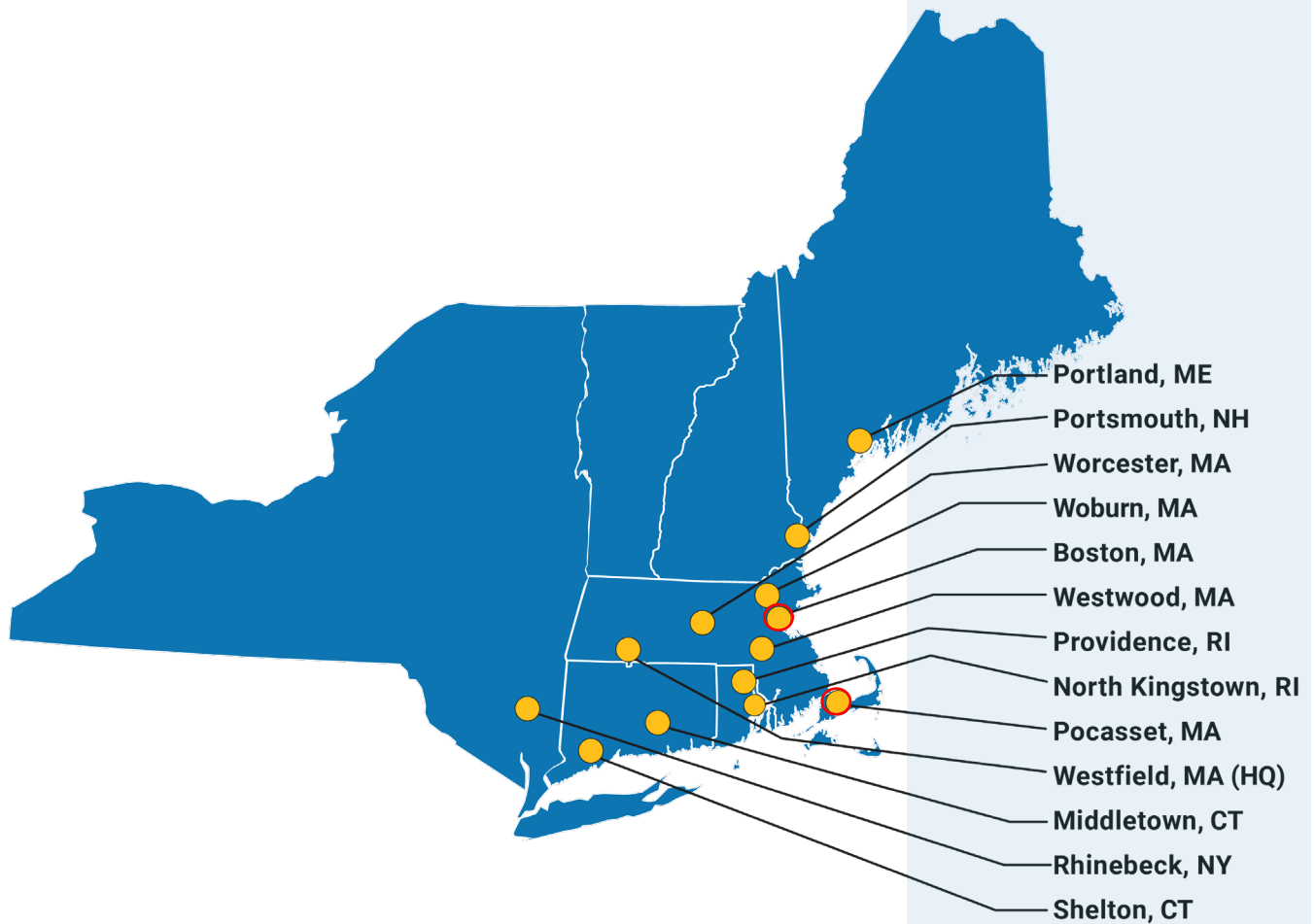
We have built our practice on a foundation of long-term client relationships, and our principals and staff are dedicated to listening and developing a comprehensive perspective before beginning design work. Our studio is known for design commissions that lead to fully-realized, lasting projects—a testament to our emphasis on flexible spaces, durable materials and community consensus. We believe the best solutions result from careful investigation and robust collaboration with all those involved in project planning, development, maintenance, and use.

Our emphasis on designs that lead to built work has resulted in a comprehensive and practical knowledge of construction requirements. We also offer expertise in several technical areas, including waterfront landscape design; tidal shoreline restoration; complete streets and multi-modal transportation; horticulture; historic landscape restoration and adaptation; and the selection and coordination of public art.

OUR FULL-SERVICE DESIGN APPROACH

Joining Tighe & Bond strengthens Halvorson's ability to create timeless, engaging landscapes that offer adaptive, resilient solutions and are responsive to the demanding challenges facing cities and communities. Our collective team of designers, planners, engineers, and scientists are innovative problem solvers. Vision, technical expertise, exceptional service and strong client relationships have always been at the forefront of our mission.

OUR LOCATIONS



With 13 offices across the Northeast, we are ready to provide responsive, high-quality professional services to efficiently meet your project goals, schedule, and budget.



FOUNDED

1911

TEAM MEMBERS

~500

ZWEIG GROUP

BEST FIRMS
TO WORK FOR

BANKER & TRADESMAN'S
BEST OF 2022

#1 IN ENGINEERING
& ENVIRONMENTAL
SERVICES

ENR NEW ENGLAND
TOP DESIGN FIRMS

#7

Firm Overview

For more than a century, Tighe & Bond has been a leading multi-disciplinary consulting firm in the Northeast, manifesting its clients' vision for a better built environment by providing full-service engineering, landscape design, site planning, and environmental services. Innovative thinking and exceptional service have always been at the core of our work.

In addition to our engineering and environmental expertise, Tighe & Bond's landscape design studio (Halvorson | Tighe & Bond Studio) offers a unique perspective creating more holistic solutions with an eye to unlocking each site's potential.

Our experienced professionals provide concept-to-completion expertise to comprehensively address the needs of our public and private clients. By focusing on bright ideas, green strategies, and clear solutions, the Tighe & Bond team develops creative, collaborative responses to complex challenges. We never stop evolving in order to keep pace with our ever-changing industry because moving forward is what we do.



SERVICES

Building Services: MEP,
Structural & Geotechnical
Engineering

Coastal & Waterfront
Solutions

Environmental Consulting
GIS/Asset Management

Landscape Architecture
& Urban Design

Site Planning & Design

Transportation
Engineering

Water & Wastewater
Engineering



Nashua Street Park | Boston, MA

Firm Information

OWNERSHIP & CORPORATE STRUCTURE

Tighe & Bond is a privately-held, employee-owned corporation incorporated in the Commonwealth of Massachusetts. The company is governed by a Board of Directors and 100 employees, including Senior Principal Owners, Principal Owners, Senior Associate Owners, and Associate Owners, own 70% of the company stock. The remaining 30% of the firm's stock is owned by the Employee Stock Ownership Program (ESOP).

CAPACITY, AVAILABILITY & FINANCIAL STABILITY

As an approximately 500 person firm generating over \$90 million in annual revenues, we have the appropriate staff and capacity to successfully execute this project. We have no 3rd party debt (i.e. no commercial loans) and a healthy backlog of project work that is typical for a multi-discipline consulting firm of our size. Tighe & Bond is confident that we have sufficient resources for this assignment, and we've selected a well-qualified project team that is immediately available.

CERTIFICATE OF INSURANCE

A sample Certificate of Insurance can be found in Appendix D.





Nashua Street Park | Boston, MA

Approach & Scope of Work

Project Understanding

To revitalize the Downtown, the Town of Wareham (the Town) and its Redevelopment Authority (WRA) would like to improve access to the Wareham River and develop attractive shoreline amenities. As a regional destination for coastal access, the Downtown would attract private capital for reinvestment and become a strengthened economic hub for the community. Improved access to the waterfront is an essential part of the growth and development of the Downtown.

Over the years, the Town has developed conceptual designs for improvements to the Downtown waterfront. The initial improvements proposed for this project include the following:

- A public access fishing pier;
- Kayak launch;
- A pedestrian pathway along the waterfront across Merchant's Way block with the long-term goal for it to extend to Tremont Nail Factory to the northwest and Besse Park to the southeast.

The Town recognizes that the railroad tracks present safety and access challenges for pedestrians wishing to access the shore. Additionally, the Massachusetts Department of Transportation Rail and Transit Division (MassDOT RR) is aware of these concerns and has approached the Town with an offer to install grade-level pedestrian crossings if the Town constructs fencing to direct pedestrians to the crossings.

We understand the goal of the Coastal Facilities Feasibility Study is to explore potential shoreline amenities and optimal locations for railroad crossings to maximize use and convenience from the downtown. To help facilitate the rail crossing locations, it is our understanding that an engineer from MassDOT RR will provide input on safety and design considerations for the crossings. We anticipate locating the proposed crossings will be an iterative process with MassDOT RR, the Town, and the Consultant Team.

GUIDING PRINCIPLES

Our team will apply the following guiding principles as we approach each aspect of the project:

1. Consider the Past, Present, and Future.

We will first seek to understand what influenced the earlier conceptual design and other conditions, priorities, and ideas that may have emerged since that plan. We will also assess the current use of the shoreline with respect to fishing and kayak launching, including how and where users are currently accessing the shoreline, the extent of use, and any feedback those users can provide on the project. Our experience is that user surveys are an effective means for uncovering insights and perspectives. We would also seek to use surveys in English and Portuguese to maximize participation from users from all groups, including two Environmental Justice neighborhoods near the downtown that would benefit from improved river access. Based on the understanding formed through on-site investigations and user surveys, we will also seek to anticipate future user needs.

2. Collaborate with Town and WRA Staff.

Collaboration with the Town and WRA staff will be essential to the success of this project. As a working partner with the Town, we will seek to complement the institutional knowledge held by the Town, and provide our opinions and ideas based on our multi-disciplinary design and engineering expertise in landscape architecture, urban design, land planning, coastal resiliency, stormwater management, community engagement, and permitting. Our collaboration will rely on a shared and iterative dialogue of ideas and considerations that will lead to the preferred and most compelling solutions.

3. Rely on a thorough analysis of the Project Area.

The final plan must consider the opportunities and constraints of the project area. The limited amount of site area between the railroad tracks and the Wareham River, the presence of both manmade and natural resources, and the river bathymetry, will have considerable impact on the type and layout of the proposed improvements. In addition, the location of the Downtown's nodes of activities, such as the Wareham Railroad Station, will impact where crossings are constructed. An assessment of the edge of the River and the anticipated effects of climate change will also be an essential consideration in developing a resilient and sustainable plan. Based on a thorough analysis of the site and river conditions, we will create a composite opportunities and constraints plan to guide the potential plan solutions.

4. Engage the Community.

The community engagement effort intends to solicit feedback from the public and project stakeholders on the proposed plan concepts and, even more importantly, build support and enthusiasm for the implementation of the Project. We anticipate the engagement process will reveal many perspectives, and our approach must be flexible and adaptive to find consensus among various groups and stakeholders.

Our team has recently participated in several successful community engagement efforts, including Climate Ready South Boston, the Nashua New Hampshire Downtown Riverfront Plan, and the DCR Christian A. Herter Park Master Plan. Past engagement tools have included in-person meetings, surveys, presentations, workshops, and open houses. We understand the Town would like to engage the public through hybrid in-person and online meetings. We are experienced with this type of outreach and will proactively plan with the City to successfully execute the meetings.

Technical Approach

Meetings Summary

Meetings include preparation of an agenda and presentation materials, meeting attendance, and post meeting notes. Our scope includes the following meetings.

- Up to five (5) Steering Committee Meetings comprised of the Town's Project Manager and other key staff members. Meeting #1 will be attended in-person. The remaining meetings will be attended virtually via Zoom/MS Teams.
- Up to four (4) Board Meetings with the WRA and Select Board to be attended virtually via Zoom/MS Teams.
- Up to two (2) Public Meetings to be attended in-person in Wareham.

PHASE 1: ANALYSIS OF EXISTING CONDITIONS

Task 1.1 – Kickoff Meeting and Site Walk

a. Kickoff Meeting / Steering Committee Meeting #1

The process will begin with an in-person meeting with a Steering Committee of WRA and Town staff and stakeholders to gather information, uncover ideas and aspirations, establish objectives, discuss schedule and expectations, and verify the project approach. Based on our prior success with similar projects, we propose beginning the project with an in-person meeting and site walk with the Town to get to know one another and the site and develop a shared understanding of the project. During this task, we will:

- i. Review available resources, including the early design concept, site survey, GIS data, and other available Town materials.
- ii. Review the project objectives and aspirations.
- iii. Verify the Public Engagement Approach, meeting format, and intended outcomes.
- iv. Establish key project stakeholders.
- v. Develop a meeting agenda prior to the meeting and provide meeting notes summarizing the meeting discussion.

b. Site Walk

We will walk the site with the Steering Committee to develop a shared understanding of the characteristics of the site, assets, opportunities, and constraints.

Task 1.2 – Site Documentation

Based on the site observations and site photos taken during the Site Walk, we will document the project site, abutting areas, and the shoreline. We will utilize site photos to perform a limited visual assessment of the shoreline condition to identify areas of erosion or deterioration that could be a resiliency concern for future development.

TECHNICAL APPROACH

Task 1.3 – Bathymetric Survey / Limited Topography Survey

Services will include:

- Single Beam bathymetric survey within 200-feet of the project locus shoreline.
- Survey will extend 100-feet beyond the northern and southern limits of the project (approximately 2,000 linear feet).
- Survey the location of marsh, coastal beach, mean high water (MHW), and top of coastal bank (full delineation will be required prior to formal permitting).
- Provide wade/upland survey that will overlap with the topographic survey provided within the 2013 existing conditions survey plan. Note the upland survey information to be provided is limited to the site area immediately around the top of coastal bank and intended as a supplement to the Town's upland survey to verify existing conditions.

Survey deliverables will include:

- A combined upland and waterside survey plan (to top of coastal bank)
 - Contours at 2' intervals
 - Contours at MLW/MHW
 - Approximate wetland resource areas boundaries
 - Property boundary information is excluded from this deliverable.
- Horizontal data and MA State Plane (NAD83) inland coordinates, and vertical data referenced to NAVD88.
- Two benchmarks with horizontal and vertical control
- CAD file with survey data and surfaces

Task 1.4 – MassDOT Rail and Transit Division Meeting

This meeting is intended to begin an open dialogue on the considerations for locating pedestrian railroad crossings and design requirements for the proposed fencing. We assume meeting attendance will “virtually” via Zoom/MS Teams.

Task 1.5 – Site Analysis

- a. Base Map Development – We will prepare a composite base plan for the project area utilizing the site survey provided by the Town, available GIS mapping, field-observed wetland resources, and river bathymetry.
- b. Site Analysis – Using the base map information and our site observations, we will analyze through a series of diagrammatic plans the existing site conditions, including utilities, infrastructure, vegetation, vehicular and pedestrian circulation, topography, environmental conditions of the edge of the river, and other contextual factors relevant to planning.
- c. Opportunities and Constraints Plan – Based on a compilation of analyses, we will develop an annotated opportunities and constraints plan for the site area and its relationship to the surrounding context.

Task 1.6 – Board Meeting #1 (WRA and Select Board)

This workshop is intended to be a collaborative session to review the initial Site Opportunities and Constraints Plan and obtain feedback that will be the basis of Phase 2: Public Outreach.

Task 1.7 – Project Management and Coordination

Services include coordination with the Town Project Manager, Steering Committee, and Consultant Team.

Task 1.8 – Drone Photography (Optional Task)

As an Optional Task, we can perform drone photography of the site area and surrounding context that could be used as a basis for design visualizations. Our experience has proven that drone photography provides a tangible means for the public to understand the project, especially when overlaying proposed design concepts. We will perform the flights collecting both still imagery and 4K video footage using a DJI Phantom 4 pro UAV. Flight activities will be performed by an FAA Part 107 certified pilot.

Task 1.9 – Online User Surveys (Optional Task)

As an Optional Task, we can conduct online user surveys and host the results on a GIS platform with a link for the Town to post on the Town website and share with the community via email or social media. Our experience is that user surveys are an effective means for reaching a wide cross-section of the community to uncover user insights and perspectives. We will seek to learn how, when, and where the shoreline is most used, other user preferences, and considerations for the Project. We will provide surveys in English and Portuguese to maximize participation from users.

PHASE 2: PUBLIC OUTREACH

Phase 2 will be focused on developing design options for discussion and public outreach. We will begin our deeper dive into the site conceptual design by exploring potential program, spatial organization, and landscape character. We will rely on a collaborative process with the Town to evaluate and further develop ideas and concepts. Our consultant team will contribute our expertise in placemaking, coastal resiliency, and sustainability to lay out the site program to leverage opportunities and mitigate constraints. We will also draw ideas and inspiration from other projects successfully responding to similar conditions. Imagery from such projects (“Precedents”) and scale comparisons are an effective means for the design team and the Town to understand the project better and communicate the basis of our ideas and recommendations during public outreach.

The Draft Conceptual Plan will be a critical step before public outreach. The sequence will allow the Town and Consultant Team to explore initial ideas and concepts based on the opportunities and constraints of the site. Below is a detailed overview of the scope we envision for this phase.

Task 2.1 – Consultant Team Workshop

A visioning session with consultant team members contributing ideas and insights to explore and develop up to three (3) concept alternatives.

Task 2.2 – Design Concept Exploration and Graphics

We will further develop presentation materials for the concept plan alternatives and supporting sketches as well as image boards of precedent projects with comparable spaces and scale studies.

Task 2.3 – Steering Committee Meeting #2

In this collaborative session, we will present and discuss initial concept alternatives with the Town to shape the vision and receive direction for concept development.

Task 2.4 – Refinement of Concepts and Public Meeting Presentation Draft

Based on the Steering Committee's input, we will prepare the first draft of the presentation for Public Meeting #1.

Task 2.5 – Board Meeting #2

The focus of this meeting will be a review / dry run of the presentation for Public Meeting #1 for comments. Based on the feedback from the Board, we will incorporate and finalize the presentation.

Task 2.6 – Public Meeting #1 - 'Listen' Session

In a hybrid in-person and online meeting we will present to the public the site opportunities and constraints, precedent and scale studies, and initial concept design alternatives. This meeting will be an opportunity to listen to comments and ideas, which will ultimately shape the final Feasibility Study plan.

Task 2.7 – Project Management and Coordination

Services include coordination with the Town Project Manager, Steering Committee, and Consultant Team.

PHASE 3: DRAFT CONCEPTUAL PLAN

Task 3.1 – Steering Committee Meeting #3

We will meet with the Town to debrief and summarize the feedback from the public and discuss how to address comments in the conceptual plan.

Task 3.2 – Preferred Plan Development, Costing, and Supporting Graphics

Synthesize the feedback from the Steering Committee, the Board, , and the public to prepare one preferred concept design, an Opinion of Probable Construction Cost (OPCC), and up to three perspective rendering views conveying the design intent.

Task 3.3 – Board Meeting #3

Present the preferred concept design and OPCC to WRA staff and the Select Board.

Task 3.4 – Concept Refinements

Incorporate feedback from the WRA and Select Board into the concept plan and update the OPCC. The resulting concept plan will be used for pre-permitting agency review in Phase 4.

Task 3.5 – Project Management and Coordination

Services include coordination with the Town Project Manager, Steering Committee, and Consultant Team.

PHASE 4: ANALYSIS OF FEASIBILITY

Task 4.1 – Permitting Pathway Analysis

We will complete a review of necessary regulatory agencies that will have jurisdiction of this project. Based on the initial conceptual draft, resource areas within the project limits, and expected scope of the project we assume the following local, state, and federal agencies will have jurisdiction over the project.

- Town of Wareham
 - Conservation Commission
 - Zoning Board of Appeals
 - Wareham Planning Board
 - Wareham Conservation Department
 - Department of Natural Resources
 - Parks Department
 - Planning and Community Development
- Massachusetts Department of Transportation Rail and Transit Division
- Massachusetts Department of Environmental Protection
 - MassDEP Wetlands
 - MassDEP Chapter 91 Waterways
- Massachusetts Environmental Policy Act Office Natural (MEPA)
- Mass Division of Marine Fisheries
- Massachusetts Historical Commission/ BUAR
- Massachusetts Office of Coastal Zone Management
- US Army Corps of Engineers

Task 4.2 – Pre-Permitting Agency Conceptual Review Meetings

On behalf of the Town, we will prepare and facilitate up to two virtual meetings with regulatory agencies. Input obtained during these consultations will help guide the design and will help to minimize delays and potential challenges once the Project moves towards the design stage. This task includes coordination with each agency to schedule the meetings; preparation of meeting materials; facilitation of the meetings; and preparation and circulation of post meeting notes and action items. Meetings will be conducted “virtually” via Zoom/MS Teams.

Task 4.3 – Project Management and Coordination

Services include coordination with the Town Project Manager, Steering Committee, and Consultant Team.

PHASE 5: RECOMMENDED CONCEPTUAL PLAN

In this phase, we will synthesize the plan recommendations, incorporating feedback and discussions from the previous phases, into a final Feasibility Study plan. The overall intent is to create a compelling and implementable conceptual vision.

Task 5.1 – Steering Committee #4

Following the permitting meetings with municipal departments and state agencies, we will meet with the Town to debrief, summarize the findings, and discuss how to address them in the conceptual plan.

TECHNICAL APPROACH

Task 5.2 – Design Refinements

We will update and further develop the presentation materials, synthesizing feedback from Phase 4 and the Steering Committee.

Task 5.3 – Public Meeting #2 - ‘Share’ session

In a hybrid in-person and online format, we will present the Final Draft Conceptual Plan to the public.

Task 5.4 – Steering Committee #5

During this meeting we will review responses from the public meeting and discuss how to incorporate minor refinements into the design.

Task 5.5 – Board Meeting #4

This meeting will be for presentation of the Final Conceptual Plan.

Task 5.6 – Feasibility Study Plan Report

We will develop a final written report that documents the site analysis, plan recommendations, proposed visions, OPCC, and supporting imagery.

Task 5.7 – Project Management and Coordination

Services include coordination with the Town Project Manager, Steering Committee, and Consultant Team.

ASSUMPTIONS AND EXCLUSIONS

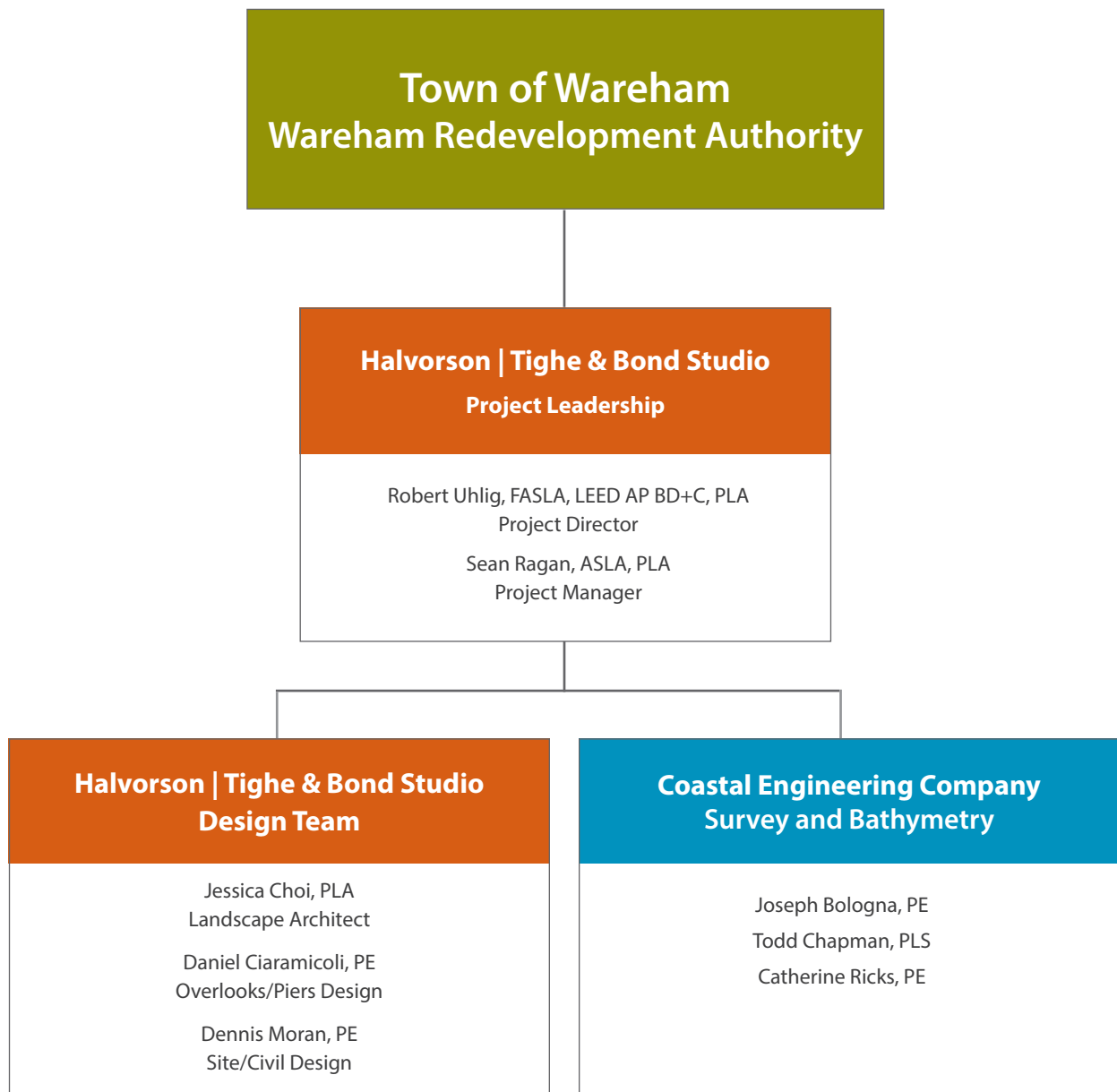
Our scope of services will be limited as described below:

- This proposal does not include the following tasks. However, we would be pleased to provide these efforts through an amendment as additional services if desired and requested by the Town:
 - Site Survey except as described in Task 1.5 above for Bathymetric Survey / Limited Topography Survey. The survey provided by the Town will be used as a base for this project in combination with obtained survey information as described, available GIS information, and other existing conditions analyses described herein.
 - Geotechnical investigations and recommendations.
 - Permitting through local, state, and federal agencies.
 - Design services beyond a conceptual level.
 - Preparation of construction documents.
 - Special promotional renderings not included herein.
 - Wildlife and/or rare species surveys.
 - Eelgrass survey
 - Wetlands delineation
 - Traffic management plan or studies
 - Sediment sampling
 - Invasive species mapping/inventory

Project Team

We have assembled a highly qualified team of in-house design and technical professionals to deliver an outstanding project. In addition, we have partnered with Coastal Engineering Company to bolster our team and provide survey and bathymetry services for this project. Having successfully collaborated on previous efforts, we are confident that we are working with the most experienced and talented team with a proven track record of successful projects.

Below, please find a detailed organizational chart of our proposed team, followed by short bios for each team member. Resumes can be found in Appendix B.



PROJECT TEAM



Robert R. Uhlig, FASLA, LEED AP BD + C, Project Director

Bob Uhlig brings more than 30 years of experience in urban design and institutional projects ranging from parks, waterfronts, and streetscapes to commercial, residential, and campus landscapes. He has served as Principal-in-Charge for many sophisticated multi-disciplinary projects that require solving site design and engineering challenges, and frequently involve the seamless integration of art, architecture, and natural systems. He has guided the design and implementation for many award-winning projects, including Quincy's Hancock Adams Common, recipient of the 2019 Preservation Mass and 2018 APA-MA Planning Award; the Lakewood Cemetery Garden Mausoleum in Minneapolis, winner of the 2014 ASLA Award of Excellence; and Atlantic Wharf in Boston, which received the 2012 ULI Global Award of Excellence for sustainable development. Recognized with the 2015 ASLA Honor Award for Research for "Below the Surface: Evaluating Urban Soil Performance over Time," Bob is deeply engaged in studying the relationship of soil chemistry and biology and their effect on the health of urban trees. In 2017, he was inducted into the American Society of Landscape Architects (ASLA) Council of Fellows in recognition of his work.



Sean Ragan, ASLA, PLA, Senior Landscape Architect, Project Manager

Sean Ragan is a Senior Landscape Architect with 16 years of experience creating vibrant and enduring landscapes. His approach to projects is shaped by his belief that design can be a catalyst for positive change in communities and the environment and his broad professional background in landscape architecture, real estate development, and construction management. Sean has experience in a diverse range of projects, including commercial and institutional design, multi-modal streetscapes, and campus masterplans.

He is currently the project manager for several noteworthy projects, including the Corbin District development (Phases 3+4), a transformational 7-acre redevelopment in downtown Darien, CT, and the Appalachian Mountain Club Baker Outdoor Center renovation project.

Sean currently serves as Vice President of the American Society of Landscape Architects Connecticut Chapter.



Jessica Choi, PLA, Landscape Architect

Jessica joined Halvorson in 2022 after gaining valuable experience at a small landscape architecture firm in Cambridge, MA, where she contributed to a variety of local projects and participated in all stages of design. These included parks and playgrounds, schoolyards, and open spaces for commercial and multifamily developments. Prior to working at an office, she served as an Americorps VISTA, helping to build youth and school gardens throughout St. Louis and further expanding a network of shared, productive green spaces. This hands-on experience deepened her interest in community-driven design and its impact on the greater urban context.

With a background in architecture, Jessica was drawn to the dynamic, temporal, and community-building aspects of landscape. She is passionate about designing spaces that are accessible, inclusive, and ecologically resilient.



Dennis Moran, PE, Site/Civil Design

Dennis Moran is a Project Manager and professional engineer who provides design, engineering and permitting support for various site/civil projects throughout the Northeast. His experience ranges from initial site evaluations and comprehensive feasibility studies to site/civil design and in the field construction observation. Dennis provides site/civil engineering management to a range of land development, infrastructure, waterfront/coastal, and solid waste projects.



Daniel Ciaramicoli, PE, Overlooks/Piers Design

Daniel Ciaramicoli has more than ten years of experience specializing in the project management, design, inspection, and evaluation of waterfront facilities and structures, including revetments, seawalls, piers, wharves, seawalls, bulkheads, boat ramps, fender systems, floating docks, and passenger access systems. Other relevant experience includes oversight of contractor construction activities, overseeing geotechnical investigations, as well as leading facility inspection and assessment teams.



SUBCONSULTANT

Coastal Engineering Company

Coastal Engineering Company (CEC) is a leading provider of land surveying, civil, structural, and marine engineering, and environmental permitting services to Cape Cod, the Islands, and Southeastern Massachusetts.

Based on Cape Cod, a region of significant environmental exposure and sensitivity, they are exceptionally experienced in:

- Site development and land use planning
- Low Impact Development
- Marine and waterfront infrastructure
- Shorefront protection and coastal resiliency
- Building design for hurricane and flood prone regions
- Historic preservation
- I/A wastewater treatment and disposal
- Environmental permitting and regulatory reviews
- Construction contract administration



Northern Strand Community Path | Everett, MA

Project Experience

The following pages illustrate our extensive experience in the disciplines required for this project. In addition, we have included project writeups that showcase recent experience relevant to the proposed project in Appendix C.

PARK DESIGN | LANDSCAPE ARCHITECTURE

Society places great demands on its open spaces, whether they are parks, streetscapes, campuses or multi-modal transportation corridors. We want our open spaces to satisfy a wide range of needs—and be designed to facilitate those specific interests or demands—while still remaining flexible and programmable destinations able to host a variety of events.

Parks and other public spaces also must reflect the values of their neighborhood, protect vulnerable communities from the effects of rising heat and the impact of increased storm events, and serve both symbolic and interpretive functions by creating a sense of place through art, environmental graphics, or incorporation of natural landscape features or historic elements.

We apply our expertise—developed from over 40 years of urban design and landscape architecture experience for projects that range from small municipal parks to large waterfront developments—to utilize strategies and tactics that best suit the unique character and neighborhood goals for each project we undertake. We work to identify opportunities for pedestrian-scaled amenities within the landscape and to create a sense of place.

Many of Halvorson's public realm projects also incorporate art and/or interpretive elements. The integration of art elements often involves working with stakeholder groups, the community, and artist(s) to come up with features that speak to and resonate with the community. If done right, these elements can extend and provide meaning to the project.



PROJECT EXPERIENCE



WATERFRONT AND COASTAL ENGINEERING

Tighe & Bond's waterfront engineering services focus on the assessment, permitting, design, and construction of structures built along shorelines, waterways, ports and harbors. This also includes related work, such as dredging/beach nourishment projects as well as beach and port/harbor management plans, site evaluations, and feasibility studies.

The key to completing successful coastal and waterfront engineering services is an in-depth understanding of the aquatic environment. This includes the forces from waves, ice, currents and ships, as well as poor quality foundation soils. The performance of construction materials in this harsh environment is also a critical consideration. Tighe & Bond provides this specialized type of engineering using staff with advanced degrees, commercial diving certification, and training specifically in waterfront and ocean engineering. We regularly complete waterfront engineering projects that include:

- Piers & Wharves
- Bulkheads & Quay Walls
- Industrial Waterfronts
- Shipyards & Dry Docks
- Marine Security Facilities
- Marinas & Boatyards
- Offshore Structures
- Bridges
- Underwater Utilities
- Intakes & Outfalls
- Seawalls & Revetments
- Breakwaters & Wave Screens
- Beach Studies
- Dredging & Beach Nourishment
- Waterfront Parks
- Harborwalks & Riverwalks

In addition to our specialized technical training, we are very much "hands on," routinely providing marine structure inspection services above and underwater, which enhances our in-depth knowledge of deterioration in a marine environment to the benefit of our clients.

The devastating impacts of coastal and waterfront storm damage on infrastructure in recent years has increased demand for planning and engineering services to address the many challenges that lie ahead. Tighe & Bond has assisted communities with repairs to seawalls, piers, board walks and outfalls, increasing resiliency and preparing for the future.

With our knowledgeable landscape architects of Halvorson | Tighe & Bond Studio, we bring a multi-disciplinary approach and wealth of expertise related to the incorporation of gray/green solutions.

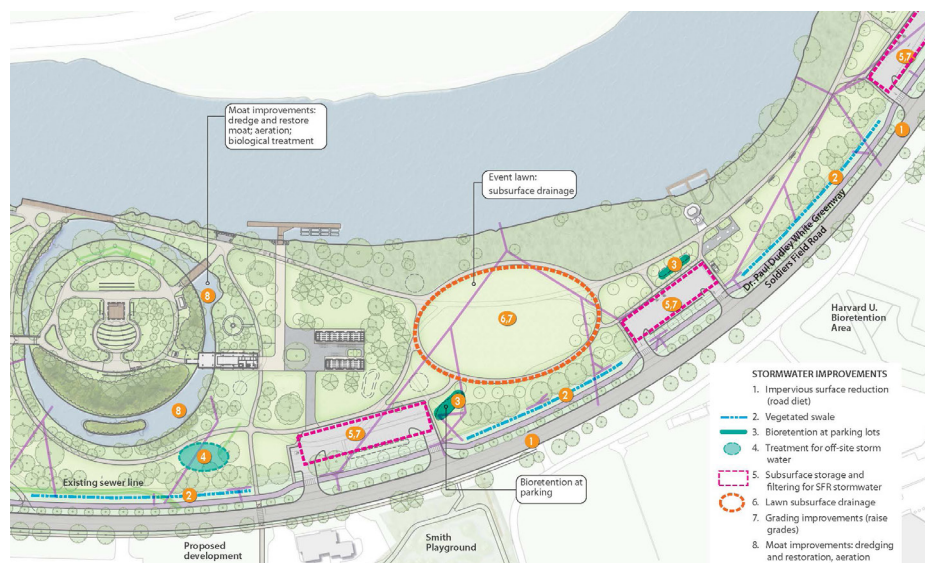
CIVIL/SITE ENGINEERING

Comprehensive site planning and design are essential to a project's successful outcome. Tighe & Bond's team of civil, geotech, and transportation engineers; planners; and wetlands scientists helps clients evaluate site development criteria based on each project's unique needs. This may include navigating the often complex site approval process; infrastructure, traffic, and parking improvements; construction of new buildings; and more.

We assist clients from the initial conceptual stages of a project through schematic design, design development, construction documents, bidding, and construction oversight. Applying Tighe & Bond's "Whole Asset Approach," our multidisciplinary team is equipped to manage even the most complex projects efficiently from start to finish. We provide master planning services, cost-effective design, and have regulatory experts on staff so that permitting is achieved as smoothly and swiftly as possible with federal, state, and local authorities.

Sustainable design strategies benefit our clients, communities, and environment. Tighe & Bond's multi-discipline approach allows our team to offer integrated solutions. Our services include:

- Site Development
- Multi-Use Trails and Path Design
- Roadway Improvements & Design
- Stormwater and Drainage Improvements
- Streetlights & Roadway Signage
- Complete Streets
- Transportation, Corridor & Parking Studies



Herter Park Master Plan is a recent example of our team's interdisciplinary collaboration, including landscape architecture, civil engineering, traffic calming, and multi-modal design.



COASTAL ENGINEERING COMPANY SERVICES

Hydrographic Surveying

For projects situated below mean high water - such as dredging, harbor improvements, bulkheads/piers/docks construction, and environmental monitoring - it is necessary to know the depth of the sea floor. Coastal Engineering utilizes single beam sonar technology and RTK GPS systems to collect hydrographic survey data (soundings). The soundings are then processed and used to calculate proposed dredge and post-dredge volumes and generate bathymetric contour plots. Coastal Engineering also conducts routine hydrographic surveys to monitor seafloor depth changes caused by erosion and littoral transport of sediment over time. Other types of hydrographic surveys conducted by Coastal Engineering include eel grass surveys and tide gauge monitoring.

Land Surveying

Coastal Engineering's Land Surveyors utilize state-of-the-art survey equipment to collect field data and then process the data using the latest computer software. Their survey equipment consists of Leica TS16 Imaging Robotic Survey Instruments, Leica TS06 Total Station Survey Instruments, and Leica GS16 GPS Units with Carlson Surveyor+ companions (with Carlson SurvCE firmware). They process the field data using Leica Infinity Software for GPS related services and Autodesk® Civil 3D 2016.

Coastal Engineering has a total staff of 40 persons. They routinely operate 2-3 survey field crews, and are capable of operating additional survey field crews when necessary to meet workload or project demands. Their civil engineering and land surveying department meet weekly to track project progress and to make sure that project commitments and deadlines are met. They have a lengthy history of delivering projects on time, a proud achievement we are sure our references will verify.

Minimum and Comparative Evaluation Criteria

Below please find tables which demonstrate how our team meets the minimum and comparative evaluative criteria described in the RFP.

Minimum Evaluative Criteria

No	Minimum Requirements	Yes	No
1	<p>The prospective Consultant (or team) shall have demonstrated experience in completing prior “coastal facility feasibility studies.” In lieu of such direct experience, the proposer may present completed experience of comparable types of work; e.g., urban renewal plans in coastal communities, detailed coastal facility studies. If the proposer does not have direct experience, it must demonstrate that it has related design experience and a thorough knowledge of the requirements needed for environmental approvals.</p> <p>Location in Proposal: Appendix C: Relevant Experience outlines our demonstrated experience in completing prior “coastal facility feasibility studies”, as well as parks, piers, docks, wharfs, and seawalls.</p>	✓	
2	<p>Proposals must be complete, accurate and responsive to the RFPQ's requirements.</p> <p>Location in Proposal: Halvorson Tighe & Bond Studio has provided a complete, accurate, and responsive submission in response to the Town of Wareham' and Wareham Redevelopment Authority's Request for Proposal.</p>	✓	
3	<p>Evidence of insurance coverage must be satisfactory, including general and professional liability and worker's compensation insurance.</p> <p>Location in Proposal: Appendix A: Required Forms and Certificate of Insurance.</p>	✓	

Comparative Evaluative Criteria

1. The prospective Consultant (or team) shall have demonstrated experience in completing prior “coastal facility feasibility studies” that have resulted in installation of these facilities. In lieu of such direct experience, the proposer may present completed experience of comparable types of work (e.g., detailed design studies). If the proposer does not have direct design experience, it must demonstrate that it has a thorough knowledge of the requirements needed for approval of coastal facilities.

✓ Highly Advantageous	<p>Has completed two or more coastal facility design plans in Massachusetts communities within the past fifteen years</p> <p>Halvorson Tighe & Bond Studio has completed numerous coastal facility design plans for Massachusetts communities within the last 15 years. More information on our team’s experience can be found in Appendix C: Relevant Experience, as well as in the Project Experience section of this proposal.</p>
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2. The proposal for services and proposed scope of work establishes the professional qualifications, experience, and capacity to successfully complete the project in a timely manner.

✓ Highly Advantageous	<p>The proposal communicates that the firm/team has the professional experience, staffing levels and an understanding of the demands of the project. The work and staffing plans and assignments are clear and demonstrate the capacity to undertake the project.</p> <p>Halvorson Tighe & Bond Studio has the professional experience, staffing levels, and understanding of the demands of the project. We have included Coastal Engineering Company on our team for Survey and Bathymetry and they bring experience and a long-standing relationship with the Town of Wareham. Information on our capacity to undertake this project can be found in the Firm Information section of this proposal under Capacity, Availability, and Financial Stability. Specific information on proposed staff can be found in the Project Team section of this proposal.</p>
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3. Quality of Work Products

✓ Highly Advantageous	<p>The firm/team presents samples of comparable work that are highly professional both in content and presentation, and which are effective in communicating the content for which they were developed.</p> <p>Halvorson Tighe & Bond Studio has put together samples of comparable work that are highly professional both in content and presentation, and are effective in communicating the content for which they were developed. More information on our comparable work can be found in Appendix C: Relevant Experience.</p>
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4. References

✓ Highly Advantageous	<p>References, without exception, indicate that the proposer’s performance was highly satisfactory and responsive to the client’s needs. There were no issues with timeliness; there was strong project management and internal and external working relationships.</p> <p>Halvorson Tighe & Bond Studio has compiled a list of references who we believe will indicate our performance was highly satisfactory and responsive the client’s needs. These can be found in the Reference section of this proposal. We invite you to contact our references to hear directly from your colleagues in the industry how Halvorson Tighe & Bond Studio has performed on projects of a similar size and scope.</p>
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References

HALVORSON | TIGHE & BOND STUDIO

Shawn Syde, PE

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City of New Bedford, MA
1105 Shawmut Avenue
New Bedford, MA 02746
P: 508.979.1550
E: Shawn.Syde@newbedford-ma.gov

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Director of Planning and Sustainability
City of Portsmouth, NH
1 Junkins Avenue
Portsmouth, NH 03801
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E: plbritz@cityofportsmouth.com

Shelley Norton

Deputy Director of Planning and Special Events
City of Lewiston, ME
27 Pine Street
Lewiston, ME 04240
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Wendy Brough

Town Administrator
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Oak Bluffs, MA 02557
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E: wbrough@oakbluffsma.gov

REFERENCES

COASTAL ENGINEERING COMPANY

Robert Luongo

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Town of Weymouth, MA
75 Middle Street
Weymouth, MA 02188
P: 781.340.5015
E: rluongo@weymouth.ma.us

Jay Norton

Town Of Wellfleet, MA DPW
220 West Main Street
Wellfleet, MA 02667
P: 508.349.0315
E: jay.norton@wellfleet-ma.gov

Theodore Keon

Director of Coastal Resources
Town of Chatham Department of Natural Resources
261 George Rider Road
Chatham, MA 02633
P: 508.945.5100
E: tkeon@chatham-ma.gov

Schedule

We acknowledge the term of service shall commence immediately upon execution of a contract and issuance of a notice to proceed from the Town and shall be continuous through completion, currently estimated to be on or before June 30, 2025. We have the appropriate staff and capacity to commence this project immediately upon notice to proceed. If selected, we will work with the Town to develop a more detailed project schedule, outlining the major milestones, deliverables, and phase durations.

APPENDIX A: REQUIRED FORMS AND CERTIFICATE OF INSURANCE



APPENDIX B: RESUMES



Harborwalk Park | Portsmouth, NH



ROBERT R. UHLIG, FASLA, LEED AP BD+C, PLA

VICE PRESIDENT OF LANDSCAPE ARCHITECTURE & URBAN DESIGN

Bob Uhlig brings more than 38 years of experience to the craft of listening and designing of vibrant, human scaled solutions focused on the seamless integration of art, architecture, and natural systems. He has served as Principal-in-Charge for many sophisticated projects involving site design, engineering and multi-disciplinary challenges and opportunities.

He has led the public engagement, design and implementation strategies for many award-winning projects, including Tuscan Village, 2023 ACEC Engineering Excellence Award, Quincy's Hancock Adams Common, recipient of the 2019 Preservation Mass and 2018 APA-MA Planning Award; Lakewood Cemetery Garden Mausoleum in Minneapolis, 2014 ASLA Award of Excellence; and Atlantic Wharf in Boston, 2012 ULI Global Award of Excellence for sustainable development; South Boston Maritime Park, 2006 ASLA Award of Honor

Recognized with the 2015 ASLA Honor Award for Research for "Below the Surface: Evaluating Urban Soil Performance over Time," Bob is deeply engaged in studying the relationship of soil chemistry and biology and their effect on the health of urban trees. He was a contributor to the ULI Boston/ New England publications on "The Urban Implications of Living with Water and Living with Heat" issued in 2014 and 2016 respectively.

In 2017, he was inducted into the American Society of Landscape Architects (ASLA) Council of Fellows in recognition of his mastery of design in significant works of landscape architectural design which have advanced the art, stewardship, science, and social responsibility of landscape architecture.

EXPERIENCE

38 Years

SPECIALTIES

Landscape Architecture

Urban Design

Planning

Listening | Public Engagement

Resiliency | Waterfront Design

EDUCATION

Bachelor of Environmental Design
Landscape Architecture
North Carolina State University, 1984

LICENSES & REGISTRATIONS

Professional Landscape Architect
MA #981
NH #00142
CT #1194
RI #475
PA #3165
MN #48482
NC #1311

LEED Accredited Professional
Building Design + Construction

Certified Construction Specifier

PROFESSIONAL AFFILIATIONS

American Society of Landscape
Architects (ASLA)

Urban Land Institute (ULI)

Friends of the Mary Ellen Welch
Greenway, Board Vice President

REPRESENTATIVE PROJECTS

Senator Joseph Finnegan Park at Port Norfolk, Boston, MA

Clippership Wharf and Harborwalk, East Boston, MA

Breakwater North Harbor, Lynn, MA
254 Lynnway Residences + Lynn Harborwalk Site Design

North Mill Pond Greenway and Civic Open Space, Portsmouth, NH

MA DCR Ponkapoag Pond Master Plan & Fisherman's Cove Enhancements,
Canton/ Randolph, MA

East Beach Pier Activation Study, New Bedford, MA

Wharf District Resiliency Planning, Boston, MA
Wharf District Public Realm Visioning Master Plan, Boston, MA

Kittery Community Center Campus Master Plan, Kittery, ME

Newburyport Crossing Mixed Use Development, Newburyport, MA

Appalachian Mountain Club Baker Camp at Harriman State Park, NY

REPRESENTATIVE PROJECTS (CONTINUED)

Boston Parks & Recreation Department Titus Sparrow Park Renovation, Boston, MA

Nashua Downtown Riverfront Development MP Plan, Nashua, NH

Friends of Public Garden, Child Fountain and Arlington Street Gateway Renovations, Boston, MA

Arboretum Green Links, Boston, MA

Suffolk Downs Phase 1R Development, Revere, MA

Tuscan Village Master Planning of Public Realm, Streetscapes and Open Space, Salem, NH

The Wildflower Conceptual Master Plan for Inn and Mountain Biking, Lydon, VT

Nashua Downtown Riverfront Development MP Plan, Nashua, NH

Hancock Adams Common Park + Streetscape, Quincy, MA

Beacon Park Conceptual Design and Programming, Detroit, MI

Vaughan, Worth + Bridge | Civic Open Space Planning Studies, Portsmouth, NH

South Boston Maritime Park + Congress Street and Infrastructure
Boston, MA

Lower Atkinson Common Renovation, Newburyport, MA

Linden Square Mixed-Use Development, Wellesley, MA

Boston Architectural College | Sustainable Campus Initiative, Boston, MA
Green Alley + Vegetated Roof

Greensboro Center City Park + Streetscape Enhancements, Greensboro, NC

Statler Park + Fountain Restoration, Boston, MA

Riverside Park, Cambridge, MA

South Street Landing P3 Development, Providence, RI
Master Plan | Power Center Adaptive Reuse | River House Student Housing

Logan Airport Neptune Road Buffer Park + North Service Area Site Enhancements
East Boston, MA

Northwest Park at 3rd Avenue, Burlington, MA

University Park at MIT, Cambridge, MA

Boston World Trade Center | Multiple Projects, Seaport, Boston, MA
Eastport Park | Seaport Hotel | West Office Building Sitework

Seaport Blvd Streetscape + Design Guidelines / Master Plan, South Boston, MA

Battery Wharf Mixed-Use + Harborwalk, Boston, MA



SEAN RAGAN, ASLA, PLA

SENIOR LANDSCAPE ARCHITECT

Sean Ragan is a Senior Landscape Architect with 16 years of experience creating vibrant and enduring landscapes. His approach to projects is shaped by his belief that design can be a catalyst for positive change in communities and the environment and his broad professional background in landscape architecture, real estate development, and construction management. Sean has experience in a diverse range of projects, including commercial and institutional design, multi-modal streetscapes, and campus masterplans.

He is currently the project manager for several noteworthy projects, including the Corbin District development (Phases 3+4), a transformational 7-acre redevelopment in downtown Darien, CT, and the Appalachian Mountain Club Baker Outdoor Center renovation project.

Sean currently serves as Vice President of the American Society of Landscape Architects Connecticut Chapter.

EXPERIENCE

16 Years

SPECIALTIES

Landscape Architecture
Urban Design
Resiliency/Sustainability
Community Outreach

EDUCATION

Bachelor of Science
Landscape Architecture,
University of Connecticut

Bachelor of Arts
Urban & Community Studies,
University of Connecticut

LICENSES & REGISTRATIONS

Professional Landscape Architect
CT #1280
NY #3023

PROFESSIONAL AFFILIATIONS

American Society of
Landscape Architecture (ASLA)

REPRESENTATIVE PROJECTS

Downtown Riverfront Implementation, Nashua, NH

The Appalachian Mountain Club Baker Outdoor Center, Slootsburg, NY

Stop & Shop Headquarters Plaza, Quincy, MA

The Village at Grafton Woods Mixed Use Development, Grafton, MA

Riverside Mixed-Use Development, Newton, MA

Dunstan East Residential Development, Newton, MA

103 North Beacon Street Mixed-Use Development, Boston, MA

30 Leo Birmingham Parkway Mixed-Use Development, Boston, MA

Harvard Business School Baker Hall Courtyard, Boston, MA

Boston University Student Housing, Boston, MA

Harvard Law School Wasserstein Hall, Cambridge, MA

Illinois Science and Technology Park, Skokie, IL

South Maple Street Gateway, Westfield, MA

Plantsville Pump Station Planting Plan, Southington, CT

West Queen St Pump Station Planting Plan, Southington, CT

Child Guidance Center of Southern Connecticut, Stamford, CT

Corbin District Mixed-Use Development (Phase 3+4), Darien, CT

Darien Elementary Schools (Hindley, Holmes, & Royle), Darien, CT

781 Whalley Avenue Mixed-Use Development, New Haven, CT

Green Farms Academy, Westport, CT

PREVIOUS EXPERIENCE (WITH TOWERS | GOLDE)

Yale University | Multiple Projects, New Haven, CT

Adams Center for Musical Arts

Sterling Hall of Medicine Courtyard Renovation

Sterling Hall of Medicine Courtyard Playground

Sterling Power Plant Cogeneration

43 Hillhouse Avenue

Ingalls Rink Renovation

Economics Building

University of Connecticut | Multiple Projects, Storrs, CT

Northwest Science Quad Infrastructure

Peter J. Werth Residence Tower

Hilltop Residential Campus Site Improvements

Mansfield Hall Water Intrusion

University of Connecticut Health Center, Academic Building, Farmington, CT

Bucknell University, Lewisburg, PA

Campus Master Plan

Design Vocabulary Manual

Academic Quadrangle Renovation

Williams College, Williamstown, MA

Center for Economic Development Renovation

CDE Residence Hall

Division of Fisheries and Wildlife, Field Headquarters, Westborough, MA

Mohegan Sun Earth Tower Hotel, Uncasville, CT

Vela on the Park, Stamford, CT

777 Main Street Pocket Park, Hartford, CT

LEADERSHIP

2023 – Vice President, American Society of Landscape Architects, Connecticut Chapter

SPEAKING ENGAGEMENTS

2019 Connecticut Architecture Conference, “Designing with Time in the New England Landscape”, Uncasville, CT, Presenter

2017 Connecticut Architecture Conference, “Collaboration Beyond the Building: Structure + Site = Place”, Trumbull, CT, Presenter

2017 Landscape Design Study School, “Introduction to Urban Design”, New Haven, CT, Presenter



JESSICA CHOI, PLA LANDSCAPE ARCHITECT

Jessica joined Halvorson in 2022 after gaining valuable experience at a small landscape architecture firm in Cambridge, MA, where she contributed to a variety of local projects and participated in all stages of design. These included parks and playgrounds, schoolyards, and open spaces for commercial and multifamily developments. Prior to working at an office, she served as an Americorps VISTA, helping to build youth and school gardens throughout St. Louis and further expanding a network of shared, productive green spaces. This hands-on experience deepened her interest in community-driven design and its impact on the greater urban context.

With a background in architecture, Jessica was drawn to the dynamic, temporal, and community-building aspects of landscape. She is passionate about designing spaces that are accessible, inclusive, and ecologically resilient.

EXPERIENCE

8 Years

SPECIALTIES

Landscape Architecture

Urban Design

Community Outreach

EDUCATION

Bachelor of Science
Architecture
University of Maryland, College Park

Certificate
Landscapes & Ecological Systems
Boston Architectural College

LICENSES & REGISTRATIONS

Licensed Landscape Architect
MA #4412

REPRESENTATIVE PROJECTS

22-24 Pratt Street, Allston, Boston, MA

Suffolk Downs Phase 1, Revere, MA

619 Beachmont Plaza, Revere, MA

Boston College, Newton/Brighton, MA

Lyons Hall Loading Dock

Operations Center

Lewiston Riverfront Planning, Lewiston, ME

Quincy Pageant Field Planting, Quincy, MA

Salisbury Beach Broadway Mall, Salisbury, MA

PREVIOUS EXPERIENCE (WITH CBA LANDSCAPE ARCHITECTS, LLC)

Crawford Street Playground and Walnut Park, Boston, MA

Mace Tot Lot, Chelsea, MA

Phelps Schoolyard, Rockland, MA

Alma del Mar Schoolyard, New Bedford, MA

Carr Park Vision Plan, Medford, MA

Charlotte Forten Park, Salem, MA

Glen Brook Way Housing, Medway, MA

Bay State Commons Housing, Malden, MA

Thomas M. Menino YMCA, Hyde Park, MA

Henry Hansen Memorial Park, Somerville, MA

Gramstorff Park and Morris Playground, Everett, MA

Cremin Playground, Somerville, MA

Sidney Research Campus, Cambridgeport, MA



DENNIS MORAN, PE

PROJECT MANAGER

Dennis Moran is a Project Manager and professional engineer who provides design, engineering, and permitting support for various site/civil projects throughout the Northeast. His experience ranges from initial site evaluations and comprehensive feasibility studies to site/civil design and in the field construction observation. Dennis provides site/civil engineering management to a range of land development, infrastructure, waterfront/coastal, and solid waste projects.

SITE/CIVIL

EXPERIENCE

13 Years

SPECIALTIES

Renewable Energy with Energy
Storage

Landfills & Solid Waste

Site/Civil Design/Complex Permitting

Waterfront/Coastal Engineering

EDUCATION

Bachelor of Science

Civil Engineering

University of New Hampshire

OSHA 29 CFR 1926 Construction

Industry 30-Hour Training

OSHA 29 CFR Construction Safety

10-Hour Training

OSHA 29 CFR Confined Space Entry

Training

EPA Lead Contractor Training

LICENSES & REGISTRATIONS

Professional Engineer

MA #53931

NH #14422

RI #12548

VT #018.0134120

PROFESSIONAL AFFILIATIONS

Environmental Business Council

Ascending Professionals

SEAWALL REHABILITATION AND STAIRWAY PROJECT—QUINCY, MA

Onsite field engineer for the replacement of 26 stairways throughout the City and a half-mile of seawall replacement. Acted as an owner's agent for the City and coordinated between local residents, the City, and the contractor.

95 MECHANIC STREET SEAWALL—PORTSMOUTH, NH

Acted as the project manager for the reconstruction of a historic granite seawall in Portsmouth, NH. The new wall is a pile-supported, concrete stem wall that is veneered in historic, hand-cut granite sourced from the site.

WOLLASTON BEACH OUTFALL REPLACEMENT—QUINCY, MA

Provided the permitting and design for the replacement of a 60-inch diameter outfall in Quincy, MA. Included coordination with various landowners including the Massachusetts Department of Conservation and Recreation and complex permitting with MassDEP and ACOE.

QUINCY MARITIME CENTER—QUINCY, MA

Provided design, permitting, and bidding support for the replacement of a boat ramp and the installation of a 100' pile-supported pier. The project included permitting and coordination with ACOE, Mass DCR, MassDEP, and the City of Quincy.

HARD ROCK NEW ENGLAND—SPRINGFIELD, MA

Developed pre- and post- stormwater analyses to evaluate potential impacts posed by the project. Developed LEED information for project permit submissions.

SAWYER MILL DAMS REMOVAL—DOVER, NH

Acted as the owner's representative for the removal of two privately owned high-hazard historic dams on the Bellamy River in Dover, NH.

ENERGY AND RESOURCE CONSERVATION

SOLAR PROJECTS—VARIOUS LOCATIONS THROUGHOUT EAST COAST

Served as the Lead design engineer on numerous solar projects from rooftop projects, to traditional ground mount arrays, to utility-scale ballasted arrays on landfills and Superfund sites up to 65 MW. Project locations throughout the eastern United States. Conducted countless site feasibility studies and economic analyses for projects from 5 KW to 65MW. Work included initial

site assessments, glare studies, energy modeling, drafting permit and construction level drawing sets, preparation of Post-Closure Use Permit applications, electrical design and interconnection application with National Grid and Eversource, on-site construction observation, and record drawings.

ENERGY STORAGE PERMITTING AND CONSTRUCTION

Provided design services for a 3 MW/6 MWh energy storage system adjacent to a 6 MW solar array within the floodplain. System is elevated feet above the flood level to ensure that floodwater will not impact the components.

ANAEROBIC DIGESTION FEASIBILITY STUDIES—MASSACHUSETTS

Completed five comprehensive feasibility studies for anaerobic digesters at various locations in MA. Studies included the evaluation of the different feedstock materials including of food waste, sludge waste, and yard waste. The studies evaluated projects that would produce biogas from feedstock material that could then be used to generate electricity and heat. The feasibility studies included a detailed technical analysis, a feedstock characterization analysis, conceptual facility layout, utility interconnection to existing infrastructure, and a life-cycle economic analysis based on Public and Private Ownership models.

COMPREHENSIVE ENERGY EFFICIENCY EVALUATIONS—CONCORD, NH

Conducted holistic energy audits and preliminary renewable energy studies at two State-owned facilities - Cannon Mountain and the Concord, NH Health and Human Services Building. Work was completed for the NH Office of Energy and Planning. Developed a 3D energy model for 27 and 29 Hazen Drive to assist in evaluating the economic and technical feasibility of various energy efficiency projects.

HYDRO ELECTRIC TECHNOLOGY—HARTFORD, CT

Provided design services for a 250 KW “water to wire” hydropower generation system for the Metropolitan District Commission in Hartford, CT. The design included removing an existing pump that was out of service and replacing it with a 250 KW generation system. The design package included electrical interconnection coordination with the local electrical utility, Eversource.

WIND TURBINE FEASIBILITY STUDIES—GARDNER, WINCHENDON, MA

Provided technical and economic support for two wind turbine feasibility studies and business plans for the City of Gardner, MA and the Town of Winchendon, MA. Projects were funded by the Massachusetts Clean Energy Center.

SOLID WASTE

BONDI ISLAND LANDFILL—AGAWAM, MA

Designed the subcell 4A and 4B expansion of a lined landfill in Agawam, MA. The design included integration of the existing landfill gas and leachate collection systems, and considerations of a piggyback liner over the previously closed Cell 1 Landfill.

PEABODY ASH MONOFILL LANDFILL—PEABODY, MA

Lead design engineer of the Phase 2 and Phase 3 cell expansion for the metals recovery project at the Peabody Landfill. Developed subbase, base, and liner grades, leachate collection systems and phase operation plans. Provided contractors with necessary information for utility connections. Was the resident engineer for a portion of the construction of the expansion. Compiled and submitted the required permits and applications necessary for operations.



DANIEL CIARAMICOLI, PE

PROJECT MANAGER

Daniel Ciaramicoli has more than ten years of experience specializing in the project management, design, inspection, and evaluation of waterfront facilities and structures, including revetments, seawalls, piers, wharves, seawalls, bulkheads, boat ramps, fender systems, floating docks, and passenger access systems. Other relevant experience includes oversight of contractor construction activities, overseeing geotechnical investigations, as well as leading facility inspection and assessment teams.

MARINE / WATERFRONT ENGINEERING

EXPERIENCE

10 Years

SPECIALTIES

Piers and Wharfs

Mooring Analysis / Fender Design

Seawalls and Shoreline Protection

Marinas

Ferry Terminals

EDUCATION

Bachelor of Science

Civil Engineering

Wentworth Institute of Technology

LICENSES & REGISTRATIONS

Professional Engineer

MA #56956

ME #16322

RI #14583

OSHA 10 Hour Construction

Transportation Worker Identification
Credential (TWIC)

PADI – Open-Water Scuba Diving

PADI – Dry Suit Diver

FHWA – NHI Underwater Bridge
Inspection

FHWA – NHI Safety Inspection of In-
Service Bridges

PROFESSIONAL AFFILIATIONS

American Society of Civil Engineers
(ASCE) - Member

TOWN MARINA REHABILITATION—SCITUATE, MA

Served as Project Manager and Design Engineer for the construction phase of repairs and upgrades to two marinas in the Town of Scituate. Responsible for weekly construction meetings, approving payment applications, answering RFIs, approving submittals, and solving construction field issues. Marina upgrades included converting a floating dock system from a bottom moored system to a pile supported system, construction of a timber viewing pier, ADA accessibility upgrades to the marina, and seawall/revetment repairs.*

GUNROCK BEACH SEAWALL—HULL, MA

Served as Project Manager and Design Engineer for the inspection, design, and construction of a concrete seawall replacement and construction of a concrete beach access stairway in the Town of Hull. Responsible for inspection of the existing stone masonry wall, design of the concrete wall encasement and concrete beach access stairway, bidding services, construction meetings, approving payment applications, answering RFIs, approving submittals, and solving construction field issues.*

MACMILLAN WHARF FACILITY ASSESSMENT—PROVINCETOWN, MA

Served as Project Engineer/Diver participated in the above and underwater investigation and assessment of Provincetown's commercial waterfront facilities including assessment of steel piles, concrete deck and pile caps, passenger vessel berthing barge, float system, fender system, and mooring fixtures. Effort included underwater steel thickness measurements, underwater photographs, and the preparation of underwater inspection report to present findings.*

TOWN WHARF REPLACEMENT—PLYMOUTH, MA

Served as Project Manager for the construction phase of the demolition and reconstruction of the Town Wharf in the Town of Plymouth. Responsible for weekly construction meetings, approving payment applications, answering RFIs, approving submittals, and solving construction field issues. The proposed work included demolition of an existing timber pile supported wharf, repair of undermined seawall, and construction of a timber pile supported, concrete decked wharf with an ADA compliant sidewalk and railing.*

ROUND COVE BOAT RAMP REPLACEMENT—HARWICH, MA

Served as Project Manager and Design Engineer for the design and construction of a concrete seawall and boat ramp replacement. Responsible for structural analysis and design of concrete seawall and boat ramp,

creation of construction drawings and specifications, and running pre-bid meeting and site walk.*

ALLEN HARBOR YACHT CLUB—HARWICH, MA

Served as Project Manager and Design Engineer for the facility inspection of the existing marina, and concept design of a new marina replacement. Responsible for inspection of the existing marina, design and cost estimating of marina repairs, preparation of multiple marina replacement alternatives, comparing marina construction materials, and presenting concept designs to the club members.*

PLYMOUTH TOWN PIER STRUCTURAL REHABILITATION—PLYMOUTH, MA

Served as Project Engineer / Diver, leading an engineering team in the performance of a facility inspection and assessment of the Frazier State Pier and Plymouth Plantation Park shoreline protection. The project included full inspection and report documenting the condition of the existing timber pier and armorstone revetment both above and below water. In addition, 13 design alternatives were developed consisting of recommend repairs to shoreline protection, ADA compliant passenger access systems, dredging, site utilities, and redesign / layout of the facility to provide possible solutions for safer vessel berthing. The final report and recommendation incorporated life cycle costs reviews and recommendation of the most effective alternative for the property.*

CITY OF NORWALK, CALF PASTURE RECREATIONAL FISHING PIER—NORWALK, CT

Served as resident engineer during construction phase of the project that included construction of a 400 foot long timber pier, over 400 feet of concrete seawall, rehab of a 230 foot jetty. Responsible for verifying construction compliance with contract documents, submittal review and approval, and monitoring of concrete pours in the field.*

NEW BEDFORD STATE PIER EMERGENCY REPAIRS AND RECONSTRUCTION, MA DCR—NEW BEDFORD, MA

Served as Project Engineer, performed the design and resident engineering for emergency repairs following a facility inspection. The goal of the repairs was to restore the pier deck load capacity which was reduced due to deterioration of the pier structure. Repairs included sistering existing timber piles with steel piles, replacement of timber bracing, replacement of timber fender piles, and deck/pile cap repairs.*

DOWNING'S LANDING WATERFRONT ACCESS IMPROVEMENTS—ALTON, NH

Served as Structural Design Engineer for the design of a steel sheet pile bulkhead and passenger access system including a pile supported cantilevered platform, aluminum gangway, and a floating dock system braced by arms attached to the bulkhead. Responsible for the entire design process from initial site visit through concept and preliminary design, to final design and bid documents.

CASCO BAY LINES, PIER REHABILITATION AND EXTENSION—PORTLAND, ME

Served as Structural Design Engineer for the inspection, preliminary design, and final design of the rehabilitation and expansion of the existing timber pier. Responsible for condition inspection of the existing facility, structural analysis of the existing pier, creation of four different pier expansion alternatives in a conceptual design report, and analysis and design of the preferred alternative with final construction documents.*

*with previous firm



John A. Bologna, P.E.

President / Chief Executive Officer

Years of Experience: 43 years of experience, including 35 years with Coastal Engineering Co., Inc.

John A. Bologna, P.E., is CEO and President of Coastal Engineering Co., Inc. as well as the Department Head for the firm's structural and coastal engineering divisions. As Principal-In-Charge, he has served as the lead design professional on many large-scale commercial and municipal projects that required multiple levels of coordination with staff, regulatory agencies, and other design professionals. He has directed the design of engineering projects for residential, commercial, institutional and industrial construction projects, including multi-family dwellings, schools, churches, mercantile centers, community centers, historic preservation projects, office buildings, power utility, industrial and marine structures with a specialization in coastal engineering structures. Mr. Bologna has a wide range of experience and a particular interest in early American historic building restoration and marine coastal construction projects. He has in-depth knowledge of building codes, project permitting and public bidding requirements. Mr. Bologna has served on several professional technical committees, including the BBRS Coastal Zone Sub-Group and the Task Force for Hurricane Resistant Construction. He has served as an adjunct professor in Construction Technology at Cape Cod Community College, and is a frequent presenter at construction industry training workshops. He currently serves on the College's Education Foundation Board of Directors and also donates his time to a number of charitable organizations. Mr. Bologna is recognized at the Barnstable Superior Court as an expert witness and has provided professional testimony on a number of construction arbitration causes.

Educational Background

- Rice University, Houston, Texas, Bachelor of Science in Civil Engineering
- Rice University, Houston, Texas, Master of Civil Engineering
- Cape Cod Community College – Adjunct Professor in Construction Technology

Continuing Education

- ASCE Continuing Education Programs
- MIT Seismic Design Lecture Series
- AISC Steel Structural Design Seminar
- ACI Seminars on Building Code Requirements
- Historic Structures Restoration and Renovation Seminar
- BSCE Soil/Structure Interaction Seminar
- ACOE Coastal Construction Seminar
- ASBA Coastal Engineering Conference
- ACEC Engineering Business Leadership and Project Management Training

Registrations and Professional Affiliations

- Registered Professional Engineer – Massachusetts Registration No. 33776
- Registered Professional Engineer – Connecticut Registration No. PEN 0022498
- Massachusetts Society of Professional Engineers – Member
- American Society of Civil Engineers – Member

Registration and Professional Affiliations (continued)

- American Shore and Beach Preservation Association
- American Wood Council – Member
- American Institute of Steel Construction – Member
- American Concrete Institute – Member
- Structural Engineering Institute – Member
- National Trust for Historic Preservation – Member
- National Home Builders Association – Associate Member
- Home Builders and Remodelers Association of Cape Cod – Associate Member
- Cape Cod Community College Educational Foundation – Board of Directors Member

Awards and Honors

- J.M. Rockwell Scholarship, Rice University
- Texas Society of Professional Engineers Scholarship, Rice University
- Kappa Mu Epsilon, Mathematics Honor Society – Member
- Chi Epsilon, Civil Engineering Honor Society – Member
- Home Builders Association of Cape Cod, Associate of the Year Award – 2003 & 2008
- Home Builders Association of Cape Cod, Special Recognition Award – 2004
- Provincetown Preservation Award, Eastern School House, Binder-Boland Associates – 1998
- Falmouth Design Award, Plymouth Savings Bank, Noah Greenberg, Architect – 2002
- Falmouth Preservation Award, Fenno House, WHOI, Noah Greenberg, Architect – 2002
- American Registry of Outstanding Professionals – 2007
- Massachusetts Home Builders & Remodelers Association – Legend of Industry Award – 2013
- BRICC Award, Best Engineering Project – 2016, 2014, 2012

Publications and Professional Presentations

- Engineering New Record - Rare Inclined Elevator Is Nearly Complete at Pilgrim Monument, 2020
- Civil + Structural Engineer - Monumental Technology, 2020
- Civil Engineering - Inclined Elevator Improves Access To Historical Monument, 2020
- Cape & Plymouth Business - STEM and Building a Future Generation of Engineers, 2019
- Home Builders Association of Cape Cod – Presentation on New Code Requirements for Wood Frame Structure Design in Hurricane-prone Areas, 2018
- Charlestown Waterfront Coalition – Presentation on Flood Zones Overview and Allowed Mitigation Strategies, 2018
- Cape & Plymouth Business - Sellers' Due Diligence: The Importance of Permit Closeout, 2018
- Cape Housing Institute – Presentation on Zoning and Site Selection, 2017
- Home Builders Association of Cape Cod – Engineering Angles Presentation, 2017
- Cape & Plymouth Business – Is Zoning Doing What Was Intended for Cape Cod Housing, 2017
- SEAMASS - Presentation on ASCE 24-10 Code Requirements for Construction in Flood-Prone Regions, 2016
- Cape & Plymouth Business – Tact, Push, and Principle, 2016
- Journal of Light Construction, How Does Wood Work with Steel in a Composite Beam, 2010



Todd M. Chapman, P.L.S.

Land Survey Division Manager

Years of Experience: Over 36 years of experience

Todd Chapman, P.L.S. is very experienced in all aspects of land surveying, including cadastral and topographical surveys, boundary retracement, ALTA/NSPS Land Title Survey plans, FEMA elevation certificates, construction surveys, “as-built” surveys, GNSS control networks, geodetic control surveys, tunnelling surveys, MASSDOT right of way retracement and mapping surveys, photogrammetric control surveys for aerial mapping and deformation monitoring surveys. In addition, Mr. Chapman’s experience includes deed and plan research and preparing subdivision plans, Approval Not Required plans, Land Court petition plans, certified plot plans, and condominium plans for recording at Registries of Deeds and/or for filing with the Massachusetts Land Court.

In his capacity as Survey Division Manager, Todd is responsible for overseeing the day-to-day operations of the Survey Division including client contact, supervising staff, scheduling, and overseeing office and field work.

Mr. Chapman is a member of the Massachusetts Association of Land Surveyors and Civil Engineers, the National Society of Professional Surveyors and has provided expert testimony in the Massachusetts Land Court.

Educational Background

University of New Brunswick, Fredericton, New Brunswick, Canada
Surveying Engineering

Wentworth Institute of Technology, Boston, MA
Electrical Engineering

Registrations and Professional Affiliations

- Registered Professional Land Surveyor – Massachusetts License No. 46322
- OSHA 10 hr. safety training



Catherine C. Ricks, P.E.

Project Manager

Years of Experience: Over 18 years of experience.

Catherine Ricks has extensive experience in coastal protection and restoration projects including: channel dredging, marsh creation, earthen terraces, offshore borrow area design, and beach and dune nourishment design. She has experience working with dredge contractors to design the restoration and nourishment project while considering constructability assets including equipment access, dredge slurry, pipeline access, dredge size, and sediment containment.

Ms. Ricks has experience with obtaining permits from municipalities, state agencies, and the U.S. Army Corps of Engineers (USACE). Additional experience includes utilizing geotechnical data and analysis, developing and reviewing plans and specifications, and preparing bid packages, project schedules, and cost estimates. She has attended and presented project design and goals for design team, landowner, construction industry, dredging contractors, and public comment meetings. The projects she has worked on have been funded by multiple private and government funding sources, each having specific requirements.

Prior to joining Coastal Engineering Company, Ms. Ricks worked for the Engineering Division of the Louisiana Coastal Protection and Restoration Authority in Baton Rouge. She assisted in designing multi-million dollar coastal restoration projects within the Louisiana coastal zone and handled projects under multiple funding sources throughout the construction process.

Education

- Lehigh University
Bachelor of Science, Civil and Environmental Engineering
- Old Dominion University
Candidate for Coastal Engineering Certification

Certifications and Professional Affiliations

- Licensed Professional Civil Engineer, Massachusetts License #51711
- American Shore & Beach Preservation Association (ASBPA)

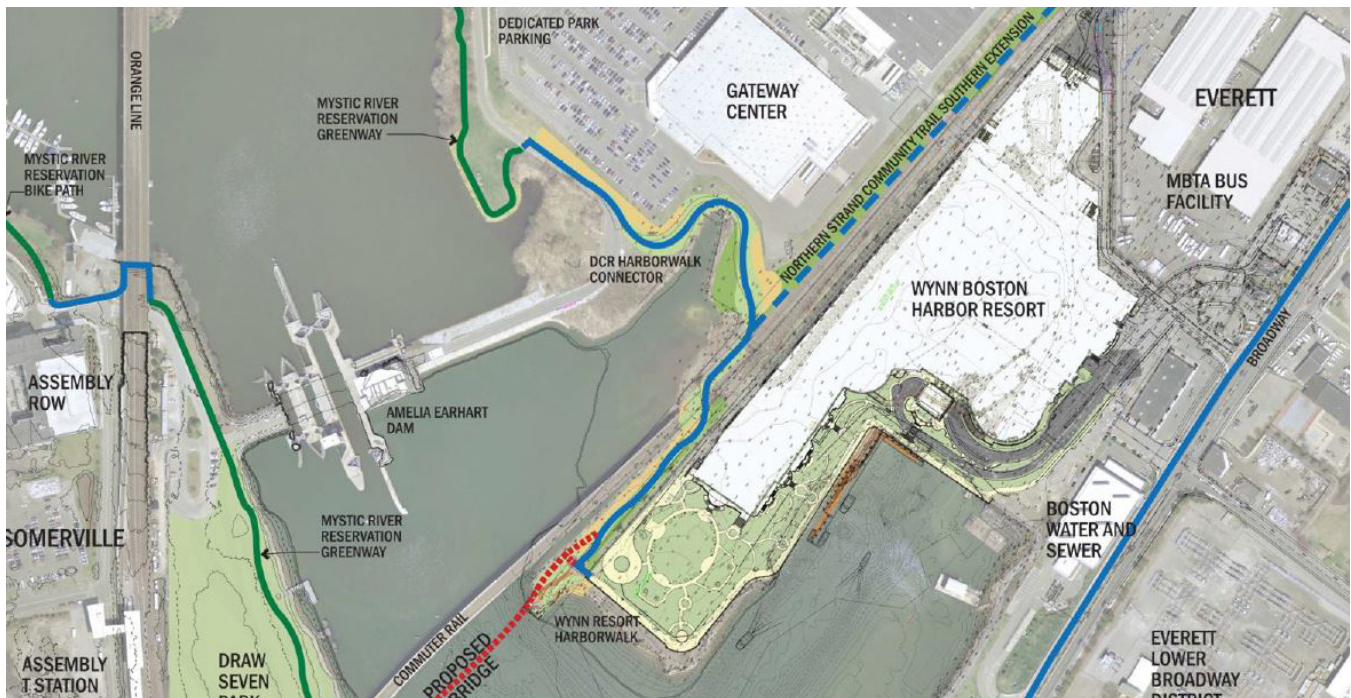
APPENDIX C: RELEVANT EXPERIENCE



Milton Landing Town Park Dock | Marlborough, NY

NORTHERN STRAND COMMUNITY PATH

Everett, MA



OWNER

City of Everett

The Northern Strand Community Trail is a popular multi-modal path connecting the communities of Everett, Malden, and Revere with a goal to eventually reach Nahant Beach via Saugus and Lynn.

Halvorson Tighe & Bond Studio collaborated with Howard Stein Hudson and the City of Everett to extend the southern terminus to connect residents and commuters to the Gateway Shopping Center, Encore Boston Harbor, and destinations beyond. This extension offers a safe, comfortable option for pedestrians and bicyclists to access local amenities and other recreational spaces along the Mystic River.

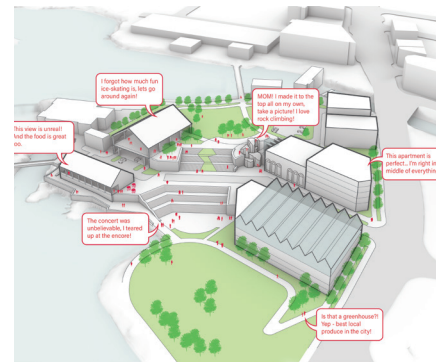
The recently completed $\frac{3}{4}$ -mile section features a paved multi-use path, meadow plantings, retaining walls, a scenic overlook, and boardwalks, limiting impacts while passing through sensitive resource areas as well as land owned by DCR, MBTA, and private property.



NORTHERN STRAND COMMUNITY PATH

RIVERFRONT ISLAND MASTER PLAN UPDATE

Lewiston, ME



OWNER

City of Lewiston, ME

Lewiston's pre-existing Riverfront Island Master Plan (RIMP, 2010) envisioned the revitalization of the historic mills area on the banks of the Androscoggin River as a destination vibrant with new housing, open space, and commercial uses. The City of Lewiston hired the Halvorson | Tighe & Bond team in 2021 to update this master plan and provide more specific urban design recommendations in five areas: New Riverwalk and improved multi-modal downtown connections, redevelopment for Island Point - a former industrial land fronting on the scenic Great Falls, urban infill and redevelopment strategy for vacant and underutilized land, revitalization of the waterfront Simard-Payne Park as a cultural and community destination, and revitalization of the historic canals.

The Halvorson | Tighe & Bond team studied existing opportunities and challenges to create viable options for the layout of the new Riverwalk, further enhancing links to the downtown with proposed multi-use paths and on-road bike connectivity improvements. For the revitalization of the waterfront park, Halvorson proposed a new community pavilion, destination playground, and footbridges to link to adjacent future residential uses. Halvorson envisioned revealing the potential of the historic canals with a pilot project, featuring a canal-side promenade as well as steps to the water for kayaking or winter skating. A market and regulatory analysis performed by consultants informed the recommendations on desirable land uses for redevelopment area, and included specific suggestions on zoning language revisions that would help encourage desirable uses and development types. The RIMP Update planning process benefited from ongoing collaboration with the City's team and robust public engagement that included in-person workshops and an interactive web platform.

Riverfront Island Master Plan Update

INITIATIVE DESIGN ADVANCEMENT

1

Riverwalk & Downtown Connections

2

Island Point Redevelopment

3

Urban Infill and Redevelopment

4

Simard-Payne Park Revitalization

5

Canal Revitalization

Lengthen and integrate Riverwalk

Create a publicly beneficial vision for Island Point

Build upon success of Simard-Payne Park

Strengthen connections from Lisbon St to Riverfront

Enliven a district with live work play infill development

Integrate future cultural opportunities

Prioritize pedestrian experience along canals

Create safe connections at important intersections

Explore connection to regional open space networks

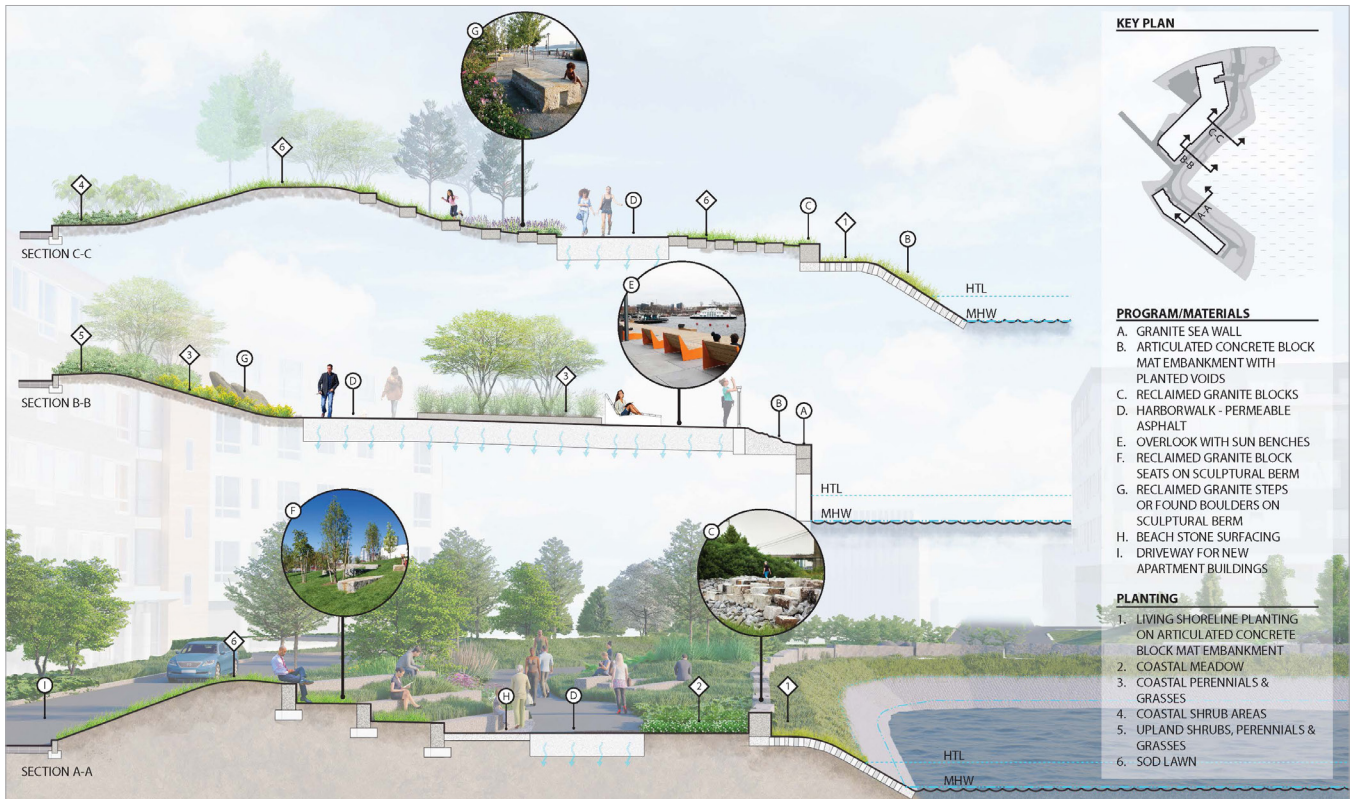


WAYFINDING AND PARK SIGNAGE EXAMPLE

ARTFUL COMMUNAL SEATING EXAMPLES

THE PARK AT BREAKWATER

Lynn, MA



CLIENTS

Lynn Redevelopment, LLC in association with Massachusetts Department of Conservation & Recreation (DCR)

As part of the Breakwater residential development, Halvorson | Tighe & Bond Studio is collaborating with Lynn Redevelopment, LLC and the Massachusetts Department of Conservation & Recreation (DCR) to create a resilient new waterfront park and playground overlooking Lynn Harbor.

The park features a meandering harborwalk with naturalistic planting, sculptural landforms, and site features constructed from reclaimed portions of the former granite seawall. Three scenic overlooks and a children's playground complement the restful strolling experience offered by the park.

A new playspace, themed as an oversized "crab trap," features a variety of obstacles and climbing elements. Halvorson developed options for DCR input to refine the design and select the colors and materials for the play equipment, resilient surfacing, benches, and fencing.

Striving for sustainability on multiple levels, the site design features environmentally friendly materials such as permeable paving, LED lighting, and a native plant palette. The resilient waterfront design also includes topography shaped to allow flood retreat and tree planting at elevations above the flood level.



LEGEND

- DECIDUOUS TREE
- EVERGREEN TREE
- ORNAMENTAL TREE
- UPLAND WOODY/ORNAMENTAL SHRUB PLANTING AREA
- COASTAL SHRUB PLANTING AREA
- COASTAL PERENNIAL/ORNAMENTAL GRASS PLANTING AREA
- LAWN AREA
- SPECIAL PAVING AREA
- ORNAMENTAL RECLAIMED STONE GROUNDCOVER
- CONCRETE BLOCK EMBANKMENT
- SITE FEATURE WALLS (RECLAIMED GRANITE BLOCKS)
- LANDSCAPE SITE FEATURE (RECLAIMED STONE BOULDER)
- LANDSCAPE SITE FEATURE (RECLAIMED GRANITE BLOCK)
- BENCH SEATING

MILTON LANDING TOWN PARK DOCK

MARLBOROUGH, NY

OWNER

Town of Marlborough



SERVICES

Above and Underwater Assessment

Structural Analysis and Design

Ocean and Structural Engineering

Vessel Mooring and

Berthing Analysis

Tighe & Bond provided engineering services for a unique project that converted a former oil terminal into a multi-use town park dock. After the pier was no longer in service, it suffered damage from major storm events, winter river ice, and a vessel collision leaving several timber piles broken.

Tighe & Bond conducted a detailed assessment of the dock conditions, analysis and design, and ocean and structural engineering for the dock, and shared opinions of probable cost of the improvements. Services continued through permitting, final design, bidding, and construction.

Tighe & Bond's dock repair design included ADA accessibility and multifunction access, including recreational boating and fishing. The pier not only enhances public access to the Hudson River but also provides docking and passenger transfer for vessels including the historic 1,500-passenger steamship SS Columbia. The SS Columbia docking is especially challenging due to the extreme deck overhangs and unusual shape.

EAST CHOP DRIVE SHORELINE REHABILITATION

OAK BLUFFS, MA

OWNER

Town of Oak Bluffs



SERVICES

Shoreline Protection

Pedestrian Access to the
Waterfront

Community Outreach Efforts

Wave Study

Grant Administration

Constructability Cost/Benefit
Analysis

East Chop Drive runs along the northeast shoreline of East Chop Bluff (the Bluff), located in Oak Bluffs, MA. The roadway sits atop a 30-foot to 50-foot-high sand slope that is protected at the toe by a failing timber bulkhead and stone revetment. Approximately half a mile of East Chop Drive has been closed for almost 10 years due to deterioration of the slope and shoreline protection that supports the roadway. The Town has received grant funding from the FEMA Pre-Disaster Mitigation Program, as well as the State of Massachusetts Executive Office of Energy and Environmental Affairs (EEA), to reconstruct the slope and shoreline protection structures.

Tighe & Bond is serving as the prime engineer with a team including Woods Hole Group, Coastal Engineering, and Blakelee Arpaia Chapman. The scope of work includes topographic and bathymetric survey, subsurface investigation, wave climatology study, basis of design report, constructability review, regulatory approval revisions, preliminary design, final design, bid phase services, construction administration, community outreach, and grant administration of the project. The project was permitted by a separate consultant prior to Tighe & Bond taking over the project. Several changes to the project and oversights during the permitting process have required that the permitting documents be revised.

To date the the survey, subsurface investigation, and wave climatology study have been completed. Tighe & Bond has submitted the Basis of Design report to the Town. The community outreach effort has begun with a presentation to the neighborhood association and an online survey to solicit feedback from the community. The design is scheduled for completion at the end of 2023 with construction beginning in early 2024 and ending in mid 2025.

HARBORWALK PARK IMPROVEMENTS

PORTSMOUTH, NH

OWNER

City of Portsmouth



SERVICES

Site Assessment

Site/Civil & Coastal Engineering

Structural & Geotechnical
Engineering

Permitting

Public Outreach

Construction Administration

Federal Highway Administration
(FHWA)

A historic seaport and popular summer tourist destination, the City of Portsmouth was once one of the nation's busiest ports and shipbuilding cities. As part of its revitalization, the City sought improved public access to its historic harbor, along with enhanced storm surge resistance and coastal resiliency. Prior to this upgrade, Portsmouth had limited downtown public access and in-demand views of its lovely harbor and vertical-lift Memorial Bridge. The solution was an elegant, but functional, engineering design that transformed a parking area into a vibrant attraction now known as Harborwalk Park.

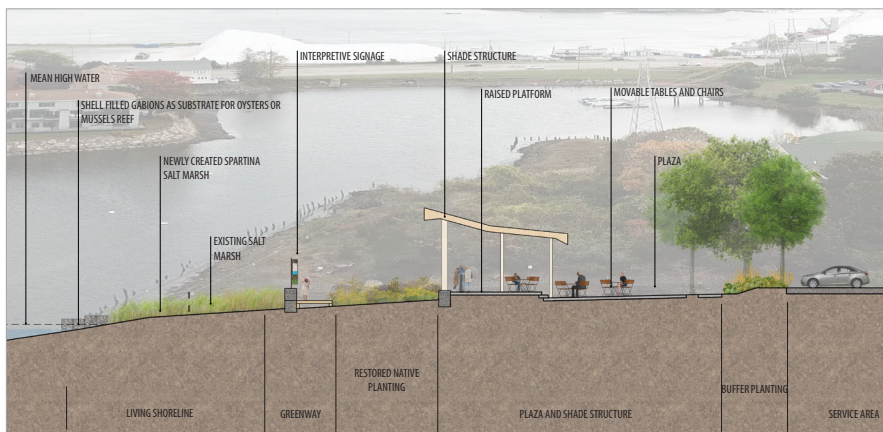
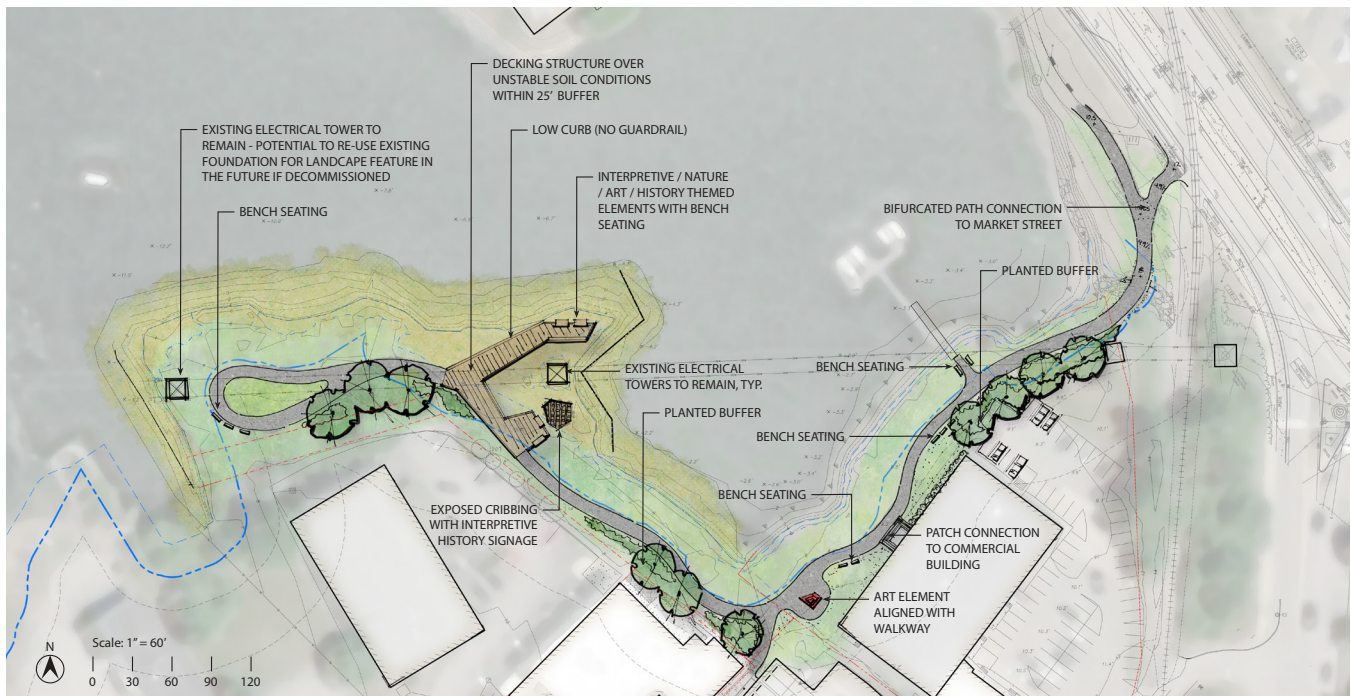
This new visitor destination with fabulous harbor views includes a unique overlook pier designed for longevity and storm surge resistance. The 2,400 SF pier extends more than 72 feet out into the Piscataqua River to offer a closer vantage point of the river's daily activity, and a much fuller view of the harbor. Lighting and benches complete the structure that provides the community with passive recreational use.

Tighe & Bond's civil and coastal engineering role included site assessment, permitting, design and construction phase services. The first phase of the project included granite seawall repairs and replacement, as well as landside park construction. Phase 2 included a timber pier overlook structure with innovative design and custom features. Specific tasks included:

- Site and seawall assessments
- Design of supplemental helical anchor tiebacks
- All necessary local, state and federal permits, including the National Environmental Policy Act (NEPA) and New Hampshire Department Of Transportation (NH DOT) Section 106 historical approval

NORTH MILL POND TRAIL + GREENWAY

Portsmouth, NH



OWNER

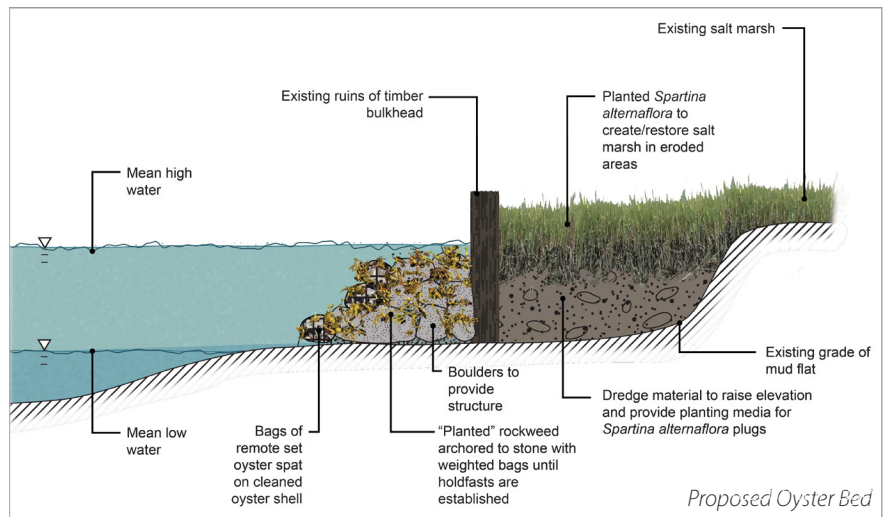
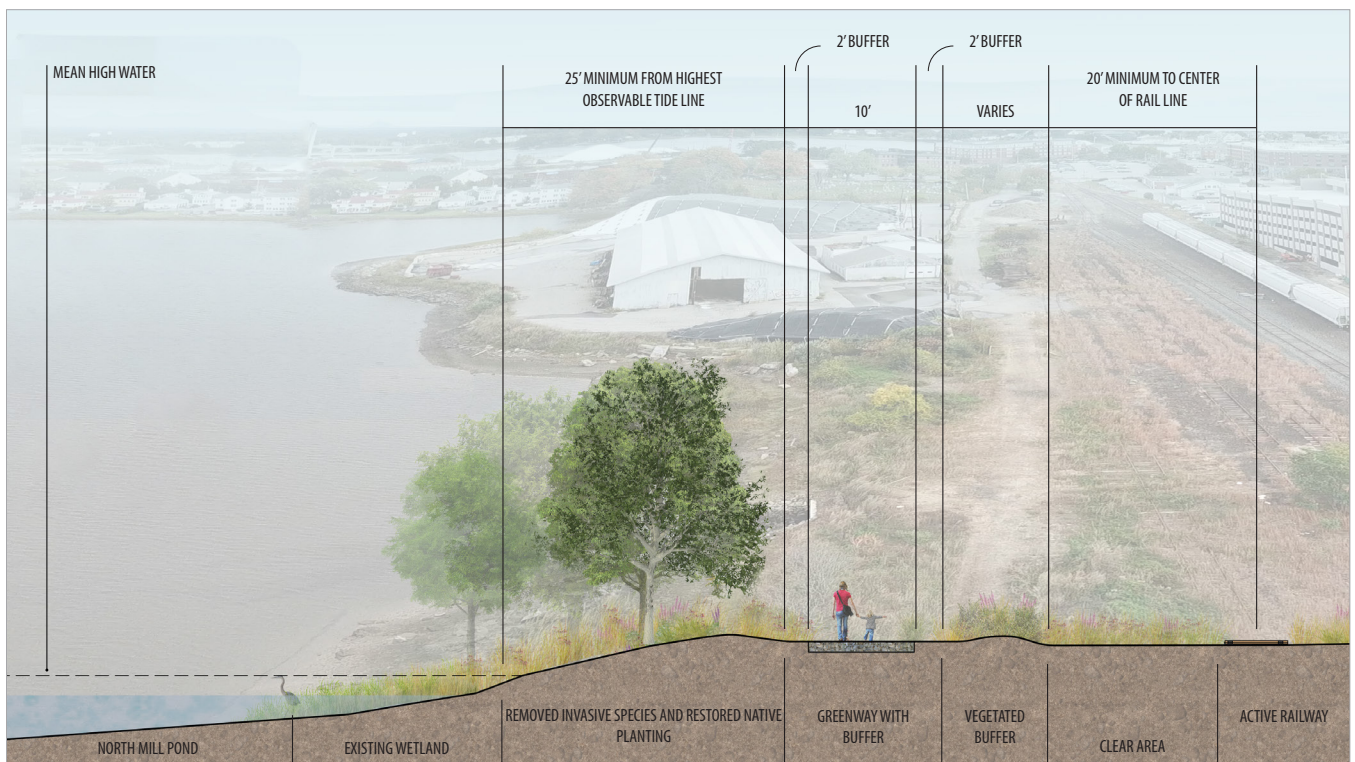
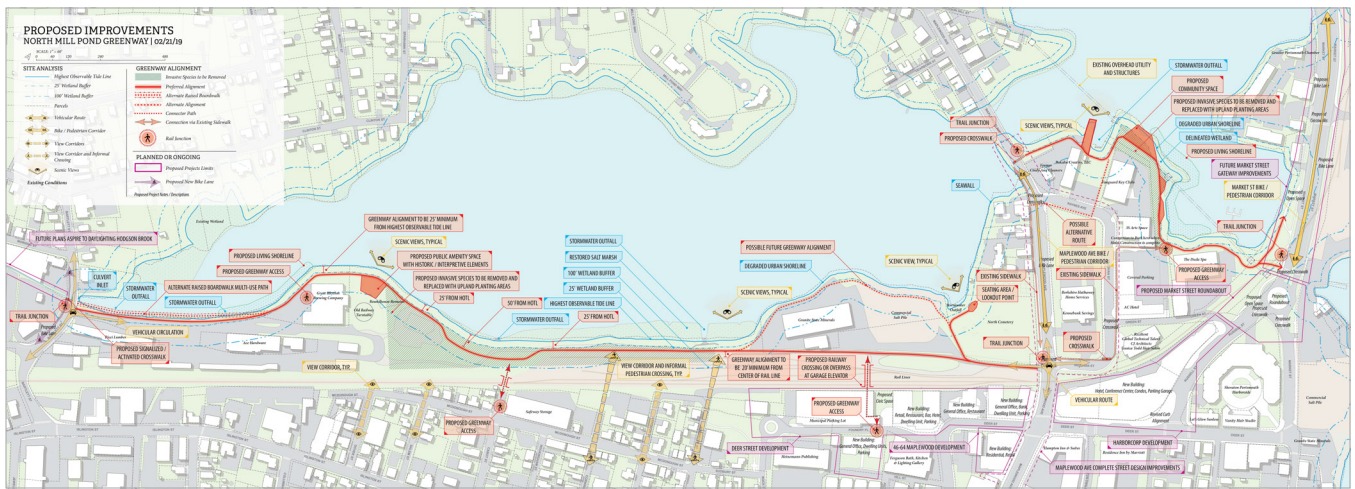
City of Portsmouth

Halvorson | Tighe & Bond Studio is collaborating with the City of Portsmouth and DeRosa Environmental to design a linear greenway and community park along the southeast shoreline of North Mill Pond.

The proposed mile-long greenway is driven by a public process to engage the community, property owners and abutters, with an ultimate goal of connecting downtown Portsmouth with adjacent neighborhoods and planned transportation, complete streets, bike and greenway improvements.

Designed to enhance the natural assets of North Mill Pond, the greenway will serve as a valuable open space and habitat that provides an ecologically healthy, socially vibrant, and educational destination for residents and visitors alike. It will feature scenic lookouts and seating, interpretive signage, bank enhancements, a living shoreline, and potentially a raised boardwalk overlooking the water.

A one-acre community park with flexible seating and interpretive elements will create a welcoming new public amenity and educational destination.



NORTH MILL POND TRAIL + GREENWAY

BEACH ROAD SEAWALL RECONSTRUCTION & HARBOR WALK

TISBURY, MA

OWNER

Town of Tisbury



SERVICES

Design Development

Coastal & Structural Engineering

Public Access

Grant Writing

The Beach Road seawall provides vital wave protection for the main road and direct emergency access route between Tisbury and Oak Bluffs on Martha's Vineyard. The 2,000-foot-long seawall has experienced deterioration with subsequent erosion of the roadbed. This study focused on reconstruction of the seawall to enhance coastal resiliency, while also improving public access to the water by advancing elements of the Vineyard Haven Harbor Walk Master Plan.

Tighe & Bond conducted site assessments, including underwater ones, to evaluate area resources, constraints and opportunities, while advancing design concepts. Softer approaches including a living reef wave attenuator and beneficial dredged sand reuse with eelgrass restoration were developed, in addition to traditional seawall and stone revetment alternatives. Through concept level discussions with state and federal regulators the alternatives were narrowed to seawall reconstruction designs within the existing seawall and revetment footprint. The project is currently seeking grant funding for regulatory permitting and final design.

EAST CHOP

Town of Oak Bluffs, MA

Coastal Engineering Co. worked with Tighe & Bond to provide professional engineering, land surveying, and construction observation services for repair of approximately 1,200 linear feet of the engineered coastal bank and revetment at the East Chop Bluff, a valuable open space that protects the inland area from storm damage, provides wildlife habitat, and affords scenic views of Nantucket Sound.

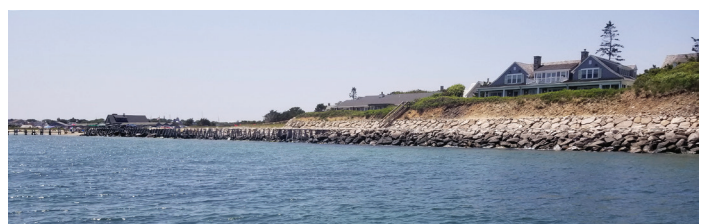
Over the past decade the engineered coastal bank area has experienced increased erosion that has undermined the paved roadway, East Chop Drive, to the point of imminent failure. Any significant storm event could result in catastrophic failure and collapse of the bank. The continued erosion, destabilization and undermining of East Chop Drive has made the roadway extremely unsafe and has resulted in the roadway's closure.

Raising the elevation of the reconstructed revetment above the existing 100-year flood elevation is critical to the longterm viability of the existing coastal bank and public roadway. To ensure a sustainable repair, the revetment will extend both landward and seaward beyond the existing revetment with an overall revetment footprint increase of 65%, providing an adequate base for raising the existing revetment footprint and increasing the revetment approximately 8'- 12' in height, to +20' NGVD29 (5.7' above the 100-year flood elevation).

The completed project will re-open East Chop Drive to homeowners, residents and tourists, including pedestrians, cyclists and automobiles, and the southern construction access ramp will be converted into an ADA/MAAB public access ramp providing safe access to the top of the revetment and allow pedestrian access to popular fishing and swimming spots.

SERVICES

- Bathymetric survey
- Topographic survey
- On-site engineering observation



PAPPAS COMMERCE CENTER - RESERVED CHANNEL REHABILITATION

South Boston, MA

On behalf of Pappas Enterprises, Jay Cashman, Inc. engaged the services of Coastal Engineering Co. to investigate, design, and permit extensive improvements at the site of the Pappas Commerce Center located along the Reserved Channel in South Boston, an industrial park which the owners were rehabilitating as a mixed-use "urban lifestyle center". The project involved the design and construction of a pedestrian walkway with guardrail and handrail, stormwater drainage, utilities and road improvements, as well as replacement of the sheet pile bulkhead with about 1700 linear feet of rock revetment. A small park with two public viewing/fishing piers and a 150KW wind turbine were planned as part of an effort to obtain LEED certification.

SERVICES

- Consultation, planning, and coordination with MassPort, Water and Sewer Commission, and Boston Redevelopment Authority
- Work with Marine Fisheries on an equal mitigation value plan
- Prepare and File Notice of Intent (NOI), Ch912, ACOE, ENF
- Design of a new rock revetment, drainage improvements, and wind turbine foundation
- Final plans and specifications for construction
- Construction phase services



WEYMOUTH BEACH CONNECTION

City of Weymouth, MA

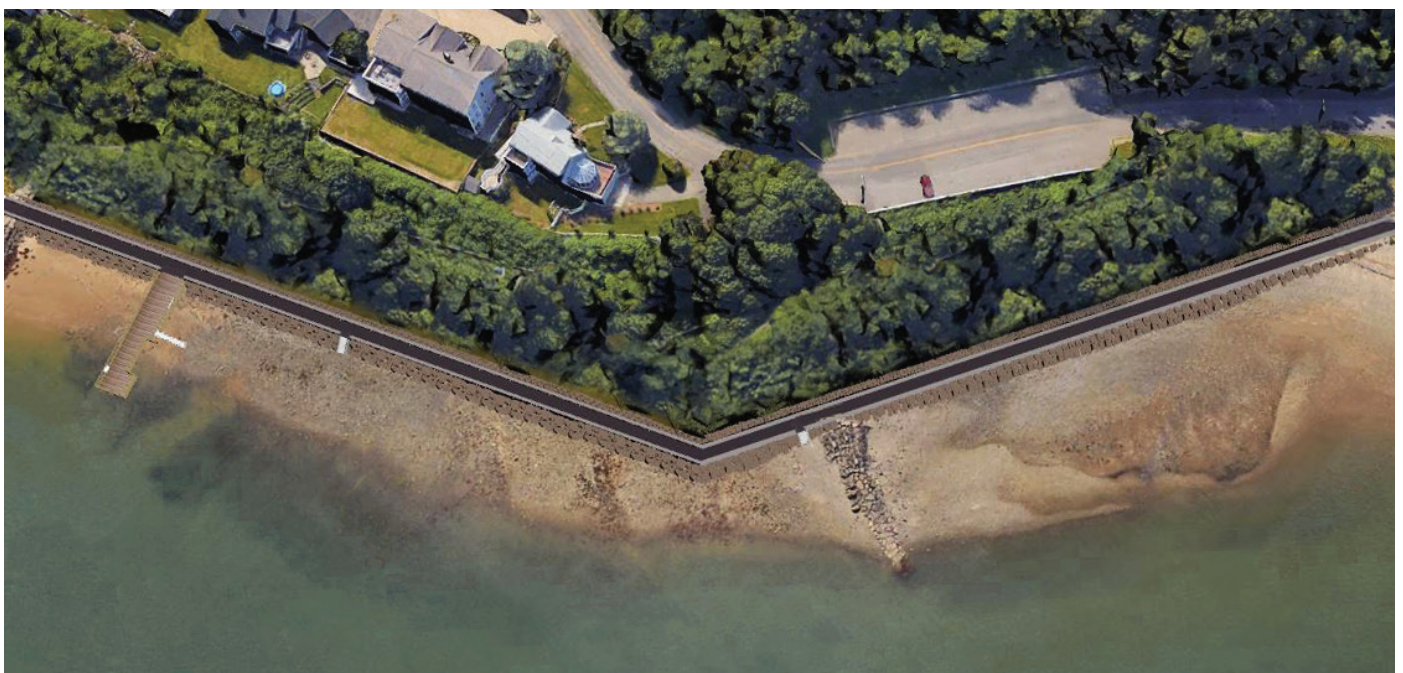
Situated along the Weymouth Fore River, Wessagusset Beach and George Lane Beach are separated by 2,000 feet of rocky coastline that is inaccessible and abuts a steep, heavily vegetated coastal bank. The new boardwalk construction project, financed by the Seaport Economic Council Program grant, aims to increase accessible open space at Weymouth's beaches while enhancing opportunities for passive recreation along the town's waterfront. Other project considerations include parking, erosion, stability of existing revetment/shorefront structures, storm drainage, and interpretive signage at the site.

Coastal Engineering is currently designing a new waterfront connecting link between the two beaches. The project consists of approximately 1,000 linear feet of an eight-foot-wide boardwalk, reconstruction of the existing rock revetment, 1,000 linear feet of beach mats, new sidewalk from the upper parking area, additional handicap accessible parking at the entrance of the boardwalk, as well as replacement of existing concrete access stairway with a new pre-cast concrete stairway.

Coastal Engineering is also working with Kyle Zick Landscape Architecture and the Town of Weymouth to enhance and restore the vegetation on the coastal bank of the site. The majority of the bank is comprised of invasive species that destabilize the slope. The design team is developing a vegetation management and maintenance plan that will enhance the area not only for slope stability, but for wildlife habitat and aesthetics purposes.

SERVICES

- Existing conditions site survey
- Engineering feasibility assessment and design study
- Vegetation management and maintenance plan
- Permit plans and permit and license filings, including NOI
- Final plans, specifications, and cost estimates
- Construction bid documents and construction contract administration



CHARLESTOWN WATERFRONT COALITION CLIMATE CHANGE FORUMS

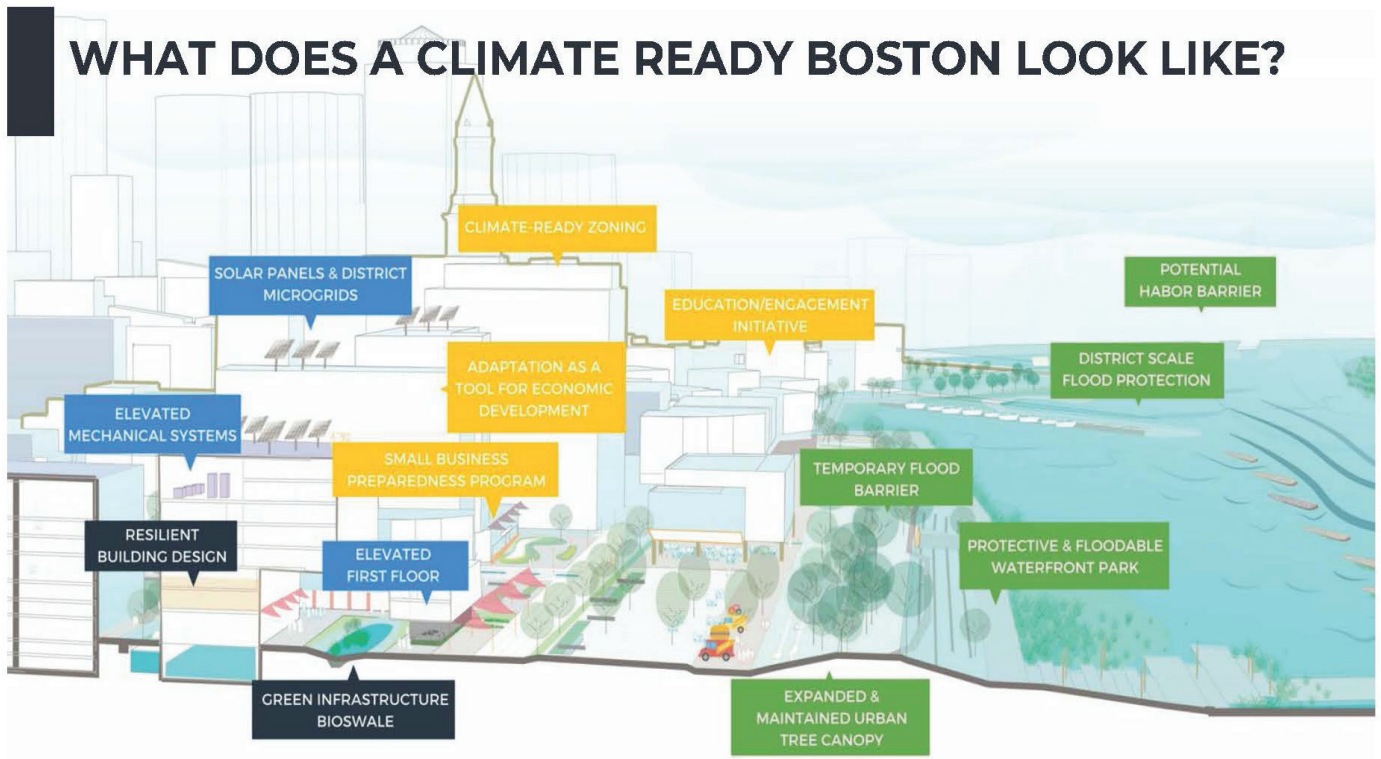
Town of Charlestown, MA

Coastal Engineering Co. in association with Offshoots, Inc. conducted a series of public forums on potential future climate impacts and available flood mitigation strategies for the Navy Yard in Charlestown, MA. Based upon flood zone analysis, regional precedents for climate change resiliency adaptations, and applicable federal, state, and local regulations, the design team illustrated which improvements at the site, neighborhood, and regional scale could increase resiliency and decrease the risk of flooding. Design implications for retrofit projects specific to Navy Yard were a special topic of discussion.

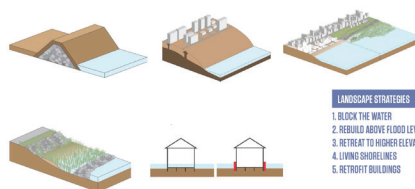
SERVICES

- Analysis of climate change context and Navy Yard susceptibilities
- Develop recommendations for flood mitigation strategies
- Prepare a presentation that incorporates the findings and recommendations
- Public forums to present findings

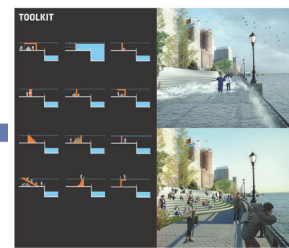
WHAT DOES A CLIMATE READY BOSTON LOOK LIKE?



Adapted **Buildings**; Resilient **Infrastructure**; Prepared **Communities**; Protected **Shorelines**



LANDSCAPE STRATEGIES
1. BLOCK THE WATER
2. REBUILD ABOVE FLOOD LEVEL
3. RETREAT TO HIGHER ELEVATION
4. LIVELY SHORELINES
5. RETROFIT BUILDINGS

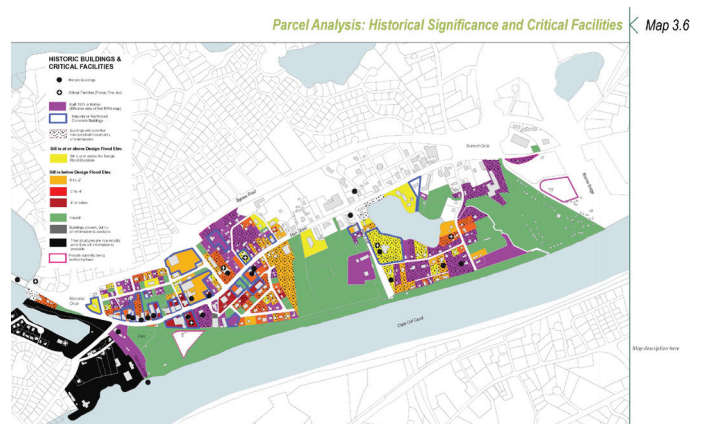
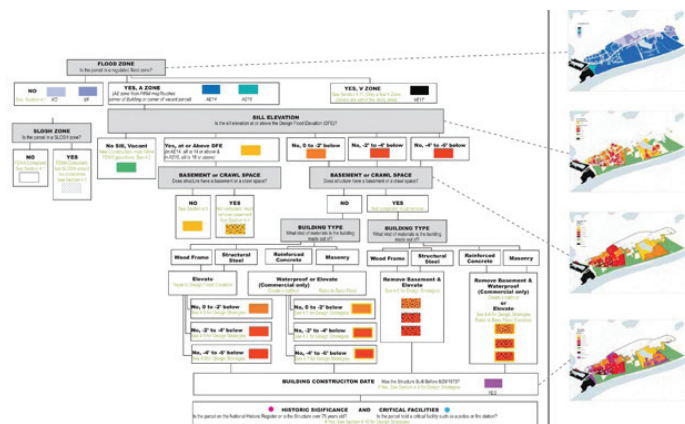


1. BLOCK THE WATER
The Big U
The Big U wraps the coast of Manhattan from West Side Drive to East 40th Street, creating a ribbon of protective landscapes that deliver neighborhoods from storms and sea level rise while providing locally-needed cultural, recreational, and socioeconomic benefits.

Town of Bourne, MA

SERVICES

-
- FLOOD ZONE TYPE**
- X1: Areas with Flood Data Information Not Included
 - AE1B
 - AE1C
 - AE1D
 - X
 - AO
- Map showing Flood Zone Type (X1, AE1B, AE1C, AE1D, X, AO) and landmarks (Memorial Park, Chapman Canal).

[illegible]

APPENDIX D: TERMS AND CONDITIONS



"CLIENT" is defined in the acceptance line of the accompanying proposal letter or the name the proposal is issued to; Tighe & Bond, Inc. is hereby referenced as "CONSULTANT"; "PROJECT" is defined in the accompanying proposal letter

1. SCHEDULE OF PAYMENTS

1.1 Invoices will generally be submitted once a month for services performed during the previous month. Payment will be due within 30 days of invoice date. Monthly payments to CONSULTANT shall be made on the basis of invoices submitted by CONSULTANT and approved by CLIENT. If requested by CLIENT, monthly invoices may be supplemented with such supporting data as reasonably requested to substantiate them.

1.2 In the event of a disagreement as to billing, the CLIENT shall pay the agreed portion.

1.3 Interest will be added to accounts in arrears at the rate of one and one-half (1.5) percent per month (18 percent per annum) or the maximum rate allowed by law, whichever is less, of the outstanding balance. In the event counsel is retained to obtain payment of an outstanding balance, CLIENT will reimburse CONSULTANT for all reasonable attorney's fees and court costs.

1.4 If CLIENT fails to make payment in full within 30 days of the date due for any undisputed billing, CONSULTANT may, after giving seven days' written notice to CLIENT, suspend services and retain work product until paid in full, including interest. In the event of suspension of services, CONSULTANT will have no liability to CLIENT for delays or damages caused by such suspension.

2. SUCCESSORS AND ASSIGNS

2.1 CLIENT and CONSULTANT each binds itself, its partners, successors, assigns and legal representatives to the other parties to this Agreement and to the partners, successors, assigns and legal representatives of such other parties with respect to all covenants of this Agreement. CONSULTANT shall not assign, sublet or transfer its interest in this Agreement without the written consent of CLIENT, which consent shall not be unreasonably withheld.

2.2 This Agreement represents the entire and integrated Agreement between CLIENT and CONSULTANT and supersedes all prior negotiations, representations or Agreements, whether written or oral. This Agreement may be amended only by written instrument signed by both CLIENT and CONSULTANT. References to this agreement include these Terms & Conditions, any accompanying proposal or description of services, as well as any other documents referenced or incorporated therein. In the event one or more provisions of any of the foregoing documents conflict with the provisions of these Terms & Conditions, the provisions of these Terms & Conditions shall control.

2.3 Nothing contained in this Agreement shall create a contractual relationship or cause of action in favor of a third party against CLIENT or against CONSULTANT.

3. STANDARD OF CARE

3.1 In providing services, CONSULTANT will use that degree of care and skill ordinarily exercised under similar circumstances by individuals providing such services in the same or similar locality for similar projects.

4. TERMINATION

4.1 This Agreement may be terminated by either party upon seven days' written notice in the event of substantial failure by the other party to perform in accordance with the terms hereof through no fault of the terminating party. In addition, CLIENT may terminate this Agreement for its convenience at any time by giving written notice to CONSULTANT. In the event of any termination, CLIENT will pay CONSULTANT for all services rendered and reimbursable expenses incurred under the Agreement to the date of termination and all services and expenses related to the orderly termination of this Agreement.

5. RECORD RETENTION

5.1 CONSULTANT will retain pertinent records relating to the services performed for the time required by law, during which period the records will be made available upon reasonable request and upon reimbursement for any applicable retrieval/copying charges.

5.2 Samples - All soil, rock and water samples will be discarded 30 days after submission of CONSULTANT's report, unless mutually agreed otherwise or unless CONSULTANT's customary practice is to retain for a longer period of time for the specific type of services which CONSULTANT has agreed to perform. Upon request and mutual agreement regarding applicable charges, CONSULTANT will ship, deliver and/or store samples for CLIENT.

6. OWNERSHIP OF DOCUMENTS

6.1 All reports, drawings, specifications, computer files, field data, notes, and other documents, whether in paper or electronic format or otherwise ("documents"), are instruments of service and shall remain the property of CONSULTANT, which shall retain all common law, statutory and other reserved rights including, without limitation, the copyright thereto. CLIENT acknowledges CONSULTANT's documents, including electronic files, as the work papers of CONSULTANT and CONSULTANT's instruments of professional services. Nevertheless, the final documents prepared under this Agreement shall become the property of CLIENT upon completion of the services and payment in full of all monies due to CONSULTANT. Under no circumstances shall the transfer of ownership of CONSULTANT's documents, electronic files or other instruments of services be deemed a sale by CONSULTANT and CONSULTANT makes no warranties, either express or implied, of merchantability and fitness for any particular purpose. In no case shall ownership of documents include CONSULTANT's logo, signature, professional stamps, templates, base plans, specifications or design details. CLIENT's payment to CONSULTANT of the compensation set forth in the Agreement shall be a condition precedent to the CLIENT's right to use documents prepared by CONSULTANT. It is understood that CLIENT may be required to make copies of documents available to the public under the Freedom of Information Act or the Massachusetts Public Records Law prior to receipt of payment by CONSULTANT.

6.2 Documents provided by CONSULTANT are not intended or represented to be suitable for reuse by CLIENT or others on any extension or modification of this PROJECT or for any other projects or sites. Reuse of documents by CLIENT or others on extensions or modifications of this project or on other sites or use by others on this PROJECT, without CONSULTANT's written permission and mutual agreement as to scope of use and as to compensation, if applicable, shall be at the user's sole risk, without liability on CONSULTANT's part.

6.3 Electronic Documents - CONSULTANT cannot guarantee the authenticity, integrity or completeness of data files supplied in electronic writeable format. If CONSULTANT provides documents in writeable electronic format for CLIENT's

convenience, CLIENT agrees to waive any and all claims against CONSULTANT resulting in any way from the unauthorized use, alteration, misuse or reuse of the electronic documents.

6.4 Electronic Data Bases – In the event that CONSULTANT prepares electronic data bases, geographical information system (GIS) deliverables, or similar electronic documents, it is acknowledged by CLIENT and CONSULTANT that such PROJECT deliverables will be used and perhaps modified by CLIENT and that CONSULTANT's obligations are limited to the deliverables and not to any subsequent modifications thereof. Once CLIENT accepts the delivery of maps, databases, or similar documents developed by CONSULTANT, ownership is passed to CLIENT. CONSULTANT will retain the right to use the developed data and will archive the data for a period of three years from the date of PROJECT completion.

7. INSURANCE

7.1 CONSULTANT will retain Workmen's Compensation Insurance, Professional Liability Insurance with respect to liabilities arising from negligent errors and omissions, Commercial General Liability Insurance, Excess Liability, Unmanned Aircraft, Cyber Liability, and Automobile Liability during this PROJECT. CONSULTANT will furnish certificates at CLIENT's request.

7.2 Risk Allocation - To the fullest extent permitted by law, and notwithstanding any other provision of this Agreement, the total liability, in the aggregate, of the CONSULTANT to the CLIENT and anyone claiming by or through the CLIENT, for any and all claims, losses, costs or damage, of any nature whatsoever, the liability of CONSULTANT to all claimants with respect to this PROJECT will be limited to an aggregate sum not to exceed five times CONSULTANT's compensation for consulting services. It is intended that this limitation apply to any and all liability or cause of action however alleged or arising, unless otherwise prohibited by law, provided, however, that this limitation of liability shall not apply to any loss or damage arising out of CONSULTANT's gross negligence, fraud, willful misconduct or illegal or unlawful acts.

7.3 Damages – Notwithstanding any other provision of this Agreement, and to the fullest extent permitted by law, neither CLIENT nor CONSULTANT, their respective officers, directors, partners, employees, contractors or subconsultants shall be liable to the other or shall make any claim for any incidental, indirect or consequential damages arising out of or connected in any way to the PROJECT or to this Agreement. This mutual waiver of certain damages shall include, but is not limited to, loss of use, loss of profit, loss of business, loss of income, loss of reputation and any other consequential damages that may be incurred from any cause of action including negligence, strict liability, breach of contract and breach of strict or implied warranty. Both CLIENT and CONSULTANT shall require similar waivers of consequential damages protecting all the entities or persons named herein in all contracts and subcontracts with others involved in this PROJECT.

7.4 CLIENT agrees that any and all limitations of CONSULTANT's liability or waivers of damages by CLIENT to CONSULTANT shall include and extend to those individuals and entities CONSULTANT retains for performance of the services under this Agreement, including but not limited to CONSULTANT's officers, partners, and employees and their heirs and assigns, as well as CONSULTANT's subconsultants and their officers, employees, and heirs and assigns.

8. DISPUTE RESOLUTION

8.1 In the event of a disagreement arising out of or relating to this Agreement or the services provided hereunder, CLIENT and CONSULTANT agree to attempt to resolve any such

disagreement through direct negotiations between senior, authorized representatives of each party. If any disagreement is not resolved by such direct negotiations, CLIENT and CONSULTANT further agree to consider using mutually acceptable non-binding mediation service in order to resolve any disagreement prior to proceeding to litigation.

9. SITE ACCESS

9.1 Right of Entry - Unless otherwise agreed, CLIENT will furnish right-of-entry on the land for CONSULTANT to make any surveys, borings, explorations, tests or similar field investigations. CONSULTANT will take reasonable precautions to limit damage to the land from use of equipment, but the cost for restoration of any damage that may result from such field investigations is not included in the agreed compensation for CONSULTANT. If restoration of the land is required greater than those included in the scope of work, upon mutual agreement this may be accomplished as a reimbursable additional service at cost plus ten percent.

9.2 Damage to Underground Structures - Reasonable care will be exercised in locating underground structures in the vicinity of proposed subsurface explorations. This may include contact with the local agency coordinating subsurface utility information and/or a review of plans provided by CLIENT or CLIENT representatives for the site to be investigated. CONSULTANT shall be entitled to rely upon any information or plans prepared or made available by others. In the absence of physically confirmed underground structure locations, CLIENT agrees to accept the risk of damage and costs associated with repair and restoration of damage resulting from the exploration work.

10. OIL AND HAZARDOUS MATERIALS

10.1 If, at any time, evidence of the existence or possible existence of asbestos, oil, or other hazardous materials or substances is discovered, outside of any agreed scope of work or greater than those anticipated in any agreed scope of work, CONSULTANT reserves the right to renegotiate the fees for CONSULTANT's services and CONSULTANT's continued involvement in the PROJECT. CONSULTANT will notify CLIENT as soon as practical if evidence of the existence or possible existence of such hazardous materials or substances is discovered.

10.2 The discovery of the existence or possible existence of hazardous materials or substances, outside or greater than any proposed in the agreed scope of work, may make it necessary for CONSULTANT to take accelerated action to protect human health and safety, and/or the environment. CLIENT agrees to compensate CONSULTANT for the cost of any and all measures that in its professional opinion are appropriate to preserve and/or protect the health and safety of the public, the environment, and/or CONSULTANT's personnel. To the full extent permitted by law, CLIENT waives any claims against CONSULTANT arising out of or in any way connected with the existence or possible existence of such hazardous materials substances at the site.

11. SITE INVESTIGATIONS

11.1 In soils, groundwater, soil gas, indoor air, or other investigations, conditions may vary between successive test points and sample intervals and for locations at or between where observations, exploration, and investigations have been made. Because of the variability of conditions and the inherent uncertainties in such evaluations, explorations, or investigations, changed or unanticipated conditions may occur that may affect overall PROJECT costs and/or execution. These variable conditions and related impacts on cost and PROJECT execution are not the responsibility of CONSULTANT.

11.2 CLIENT recognizes that special risks occur whenever engineering or related disciplines are applied to provide information regarding subsurface conditions. Even an agreed sampling and testing program, implemented with appropriate equipment and personnel with the assistance of a trained professional performing in accordance with the applicable professional standard of care, may provide data or information which differs significantly from that discovered or encountered subsequently. Environmental, geological, and geotechnical conditions, that CONSULTANT may infer to exist between sampling points may differ significantly from those discovered or encountered subsequently. The passage of time also should be considered, and CLIENT recognizes that due to natural occurrences or direct, or indirect human intervention at or near the site, actual conditions may quickly change. CONSULTANT shall not be responsible for the identification of emerging contaminants for which no current regulatory provisions exist nor shall CONSULTANT be held liable for not identifying or discussing these compounds even if those compounds are detected at a later date. CLIENT realizes that these risks cannot be eliminated. The services included in this agreement are those agreed to, or selected, consistent with CLIENT's risk preferences and other considerations including cost and schedule.

11.3 By authorizing CONSULTANT to proceed with the site investigation services, CLIENT confirms that CONSULTANT has not created nor contributed to the presence of any existing hazardous substances or conditions at or near the site. CLIENT recognizes that there is an inherent risk in drilling, borings, punching or driving probes, excavating trenches or implementing other methods of subsurface exploration at or near a site contaminated by hazardous materials. Further, CLIENT recognizes that these are inherent even through the exercise of the Standard of Care. CLIENT accepts the risk and hold CONSULTANT and each of CONSULTANT's subcontractors, consultants, officers, directors, and employees harmless against and all claims for damages, costs, or expenses direct or consequential, in connection with a release of hazardous substances, except to the extent that such claims, damages, or losses are adjudicated to have resulted from CONSULTANT's gross negligence or willful misconduct in the performance of the services.

12. FEDERAL AND STATE REGULATORY AGENCY AUDITS

12.1 For certain services rendered by CONSULTANT, documents filed with federal and state regulatory agencies may be audited after the date of filing. In the event that CLIENT's PROJECT is selected for an audit, CLIENT agrees to compensate CONSULTANT for time spent preparing for and complying with an agency request for information or interviews in conjunction with such audit. CLIENT will be notified at the time of any such request by an agency, and CONSULTANT will invoice CLIENT based on its standard billing rates in effect at the time of the audit.

13. CLIENT'S RESPONSIBILITIES

13.1 Unless otherwise stated in the Agreement, CLIENT will obtain, arrange, and pay for all notices, permits, and licenses required by local, state, or federal authorities; and CLIENT will make available the land, easements, rights-of-way, and access necessary for CONSULTANT's services or PROJECT implementation.

13.2 CLIENT will examine CONSULTANT's studies, reports, sketches, drawings, specifications, proposals, and other documents and communicate promptly to CONSULTANT in the event of disagreement regarding the contents of any of the foregoing. CLIENT, at its own cost, will obtain advice of an attorney, insurance counselor, accountant, auditor, bond and financial advisors, and other consultants as CLIENT deems

appropriate; and render in writing decisions required by CLIENT in a timely manner.

14. OPINIONS OF COST, FINANCIAL ANALYSES, ECONOMIC FEASIBILITY PROJECTIONS, AND SCHEDULES

14.1 CONSULTANT has no control over cost or price of labor and materials required to implement CLIENT's PROJECT, unknown or latent conditions of existing equipment or structures that may affect operation or maintenance costs, competitive bidding procedures and market conditions, time or quality of performance by operating personnel or third parties, and other economic and operational factors that may materially affect the ultimate PROJECT cost or schedule. Therefore, CONSULTANT makes no warranty, expressed or implied, that CLIENT's actual PROJECT costs, financial aspects, economic feasibility, or schedules will not vary from any opinions, analyses, projections, or estimates which may be provided by CONSULTANT. If CLIENT wishes additional information as to any element of PROJECT cost, feasibility, or schedule, CLIENT at its own cost will employ an independent cost estimator, contractor, or other appropriate advisor.

15. CONSTRUCTION PHASE PROVISIONS

The following provisions shall be applicable should the CONSULTANT be retained to provide Construction Phase Services in connection with the PROJECT:

15.1 CLIENT and Contractor - The presence of CONSULTANT's personnel at a construction site, whether as onsite representatives or otherwise, does not make CONSULTANT or CONSULTANT's personnel in any way responsible for the obligations, duties, and responsibilities of the CLIENT and/or the construction contractors or other entities, and does not relieve the construction contractors or any other entity of their respective obligations, duties, and responsibilities, including, but not limited to, all construction methods, means, techniques, sequences, and procedures necessary for coordinating and completing all portions of the construction work in accordance with the construction contract documents and for providing and/or enforcing all health and safety precautions required for such construction work.

15.2 Contractor Control - CONSULTANT and CONSULTANT's personnel have no authority or obligation to monitor, to inspect, to supervise, or to exercise any control over any construction contractor or other entity or their employees in connection with their work or the health and safety precautions for the construction work and have no duty for inspecting, noting, observing, correcting, or reporting on health or safety deficiencies of the construction contractor(s) or other entity or any other persons at the site except CONSULTANT's own personnel.

15.3 On-site Responsibility - The presence of CONSULTANT's personnel at a construction site is for the purpose of providing to CLIENT an increased degree of confidence that the completed construction work will conform generally to the construction documents and that the design concept as reflected in the construction documents generally has been implemented and preserved by the construction contractor(s). CONSULTANT neither guarantees the performance of the construction contractor(s) nor assumes responsibility for construction contractor's failure to perform work in accordance with the construction documents.

15.4 Payment Recommendations - Recommendations by CONSULTANT to CLIENT for periodic construction progress payments to the construction contractor(s) are based on CONSULTANT's knowledge, information, and belief from selective observation that the work has progressed to the point indicated. Such recommendations do not represent that continuous or detailed examinations have been made by

CONSULTANT to ascertain that the construction contractor(s) have completed the work in exact accordance with the construction documents; that the final work will be acceptable in all respects; that CONSULTANT has made an examination to ascertain how or for what purpose the construction contractor(s) have used the moneys paid; that title to any of the work, materials, or equipment has passed to CLIENT free and clear of liens, claims, security interests, or encumbrances; or that there are no other matters at issue between CLIENT and the construction contractors that affect the amount that should be paid.

15.5 Record Drawings - Record drawings, if required as part of CONSULTANT's agreed scope of work, will be prepared, in part, on the basis of information compiled and furnished by others, and may not always represent the exact location, type of various components, or exact manner in which the PROJECT was finally constructed. CONSULTANT is not responsible for any errors or omissions in the information from others that are incorporated into the record drawings.

16. DESIGN WITHOUT CONSTRUCTION PHASE SERVICES

The following provisions shall be applicable should the CONSULTANT be retained to provide design services but not be retained to provide Construction Phase Services in connection with the PROJECT:

16.1 It is understood and agreed that the CONSULTANT's Scope of Services under this proposal does not include project observation or review of the Contractor's performance or any other construction phase services, and that such services will be provided by the CLIENT or others. The CLIENT assumes all responsibility for interpretation of the Contract Documents and for construction observation, and the CLIENT waives any claims against the CONSULTANT that may be in any way connected thereto from modifications, clarifications, interpretations, adjustments or changes made to the Contract Documents to reflect changed field or other conditions, except for claims arising from the sole negligence or willful misconduct of the CONSULTANT.

17. SCHEDULE

17.1 The CLIENT agrees that the CONSULTANT is not responsible for damages arising directly or indirectly from any delays for causes beyond the CONSULTANT's reasonable control. For purposes of this Agreement, such causes include, but are not limited to, strikes or other labor disputes; severe weather disruptions or other natural disasters, pandemics, or acts of God; fires, riots, war or other emergencies; failure of any government agency to act in timely manner; failure of performance by the CLIENT or the CLIENT's contractors or consultants.

17.2 The CONSULTANT's schedule includes reasonable allowances for review and approval times required by the CLIENT, performance of services by the CLIENT's consultants, and review and approval times required by public authorities having jurisdiction over the PROJECT. This schedule shall be equitably adjusted as the PROJECT progresses, allowing for changes in scope, character or size of the PROJECT requested by the Client, or for delays or other causes beyond the Consultant's reasonable control.

18. MISCELLANEOUS TERMS

18.1 GOVERNING LAW - The CLIENT and the CONSULTANT agree that this Agreement and any legal actions concerning its validity, interpretation and performance shall be governed by the laws of the jurisdiction where the PROJECT is located, without regard to any conflict of laws provisions, which may apply the laws of other jurisdictions.

18.2 CORPORATE PROTECTION - Notwithstanding anything to the contrary contained herein, the CLIENT agrees that as the CLIENT's sole and exclusive remedy, any claim, demand or suit shall be directed and/or asserted only against the CONSULTANT, a Massachusetts corporation, and not against any of the CONSULTANT's individual employees, officers or directors.

18.3 TITLES - The section headings used in this Agreement are intended principally for convenience and shall not be used in interpreting this Agreement or in determining any of the rights or obligations of the parties to this Agreement.

18.4 Upon execution, these terms as incorporated into the accompanying acceptance letter, along with the enclosures, represent the final intent of the parties. Any modification, rescission, or waivers of these terms shall only be effective and binding if agreed to in writing by the parties.

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