1. Meeting Materials

    Documents:

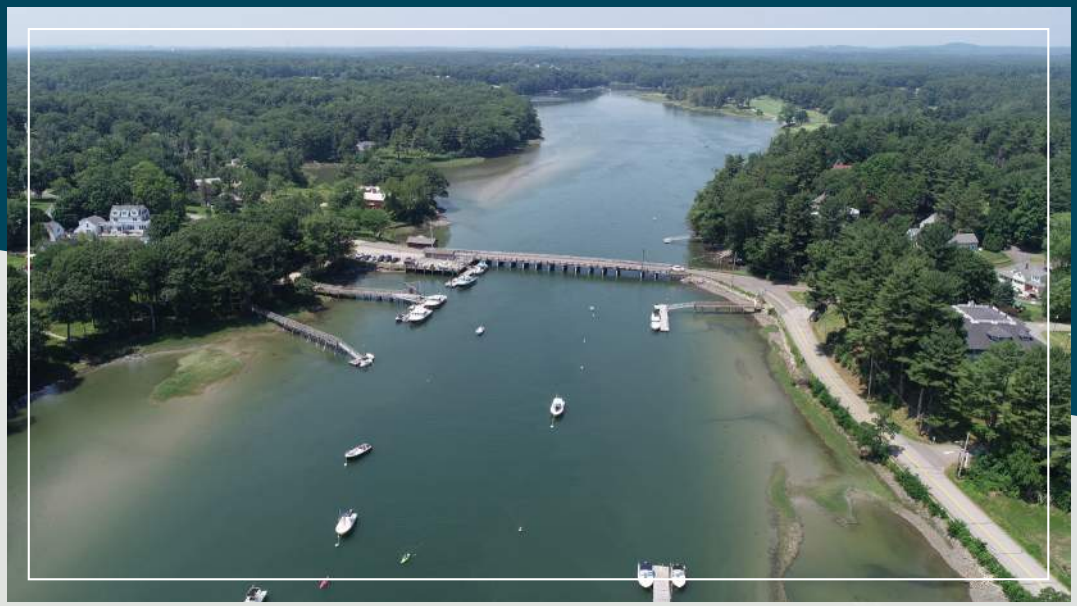
        GEI CONSULTANTS RFP RESPONSE PUBLIC PADDLE CRAFT DOCK AT GOODRICH PARK.PDF
        GP - YORK_PADDLE CRAFT DOCK.PDF
        SEBAGO TECHNICS RESPONSE_PUBLIC PADDLE CRAFT DOCK PROJECT (1).PDF
        VIEWSHED_YORKPADDLEDOCKPROPOSAL.PDF

GEI Consultants

RFP Response

Public Paddle Craft Dock at Goodrich Park

Prepared for:
Town of York, Maine
November 15, 2024



Submitted by:
GEI Consultants, Inc.
5 Milk Street, Portland, ME 04101
Contact: Daniel Bannon, P.E., CFM, BC.PE
207.347.2372
dbannon@geiconsultants.com

Contents

November 15, 2024

Mr. Dylan Smith
Planning Director
Town of York
186 York Street
York, ME 03909

Dear Mr. Smith:

RE: Request for Proposals, Public Paddle Craft Dock Project
Town of York, Maine

GEI Consultants, Inc. appreciates the opportunity to present our qualifications for engineering services for the design of a public paddle craft dock at Goodrich Park in the Town of York, ME. This proposal is being submitted in response to the Town's RFP dated September 17, 2024.

In 2020, GEI was retained by the Town of York to undertake a study of uses and capacity of the York Harbor and River. One of the recommendations made by GEI in that study was to develop a paddle craft dock at Goodrich Park as a way to improve public access to the York River, while also reducing landside congestion at some of the existing sites used for paddle craft launching, and reducing waterside congestion in the Harbor by promoting more paddle craft use of upstream portions of the River. The development of this new paddle craft dock may also shift some existing use away from sites such as Strawberry Island, which bring increased use density to the lower areas of the harbor. As part of this work, GEI has already assessed possible locations for docks at Goodrich Park, has visited the site multiple times to document existing conditions, and has a solid understanding of overall River and Harbor uses that may influence the design.

We understand that a stakeholder engagement process will be important to this project, as will a carefully considered context-sensitive design, to ensure that the proposed project reflects community needs, fits with the historical character and aesthetic of the site, is accessible for all, and is permittable within local, state, and federal constraints.

GEI will approach this project with our team of engineers, designers, environmental specialists, and landscape architects to identify and implement a solution that balances the challenges and constraints of this unique project. We will draw on our team's expertise in design of similar facilities for municipalities in Maine, as well as our recent work with the Town of York. We are confident that our approach, as outlined in this proposal, will allow the Town to achieve their goals for the project with great value and efficiency.

We would be happy to discuss our approach and capabilities further. If you have any questions, please feel free to contact Dan Bannon by email (dbannon@geiconsultants.com) or phone (207-347-2372). Thank you for your consideration of our proposal.

We note that no person acting for or employed by the Town of York is directly or indirectly related to the proposer or to any agreement which may be entered into to which the Proposal relates or in any portion of the profits here from.

Sincerely,

GEI CONSULTANTS, INC.

Daniel Bannon, P.E., CFM, BC.PE
Coastal Practice Leader

Travis Pryor, PLA, LEED AP
Senior Project Manager

1 Project Description & Scope of Service

Background

The Town of York is a coastal community with a year-round population of over 12,000. A popular resort community, the summer population increases by 3 to 4 times. The York River, a 13+ mile long river that flows from the Town's western border with Eliot to the Atlantic Ocean at the coast, is a tremendous resource both locally and regionally, resulting in its designation in 2022 as a federally designated Wild and Scenic River. The river supports a range of boating uses including commercial fishing, marinas, charters, and transient mooring in the Harbor, and predominantly recreational boating, fishing, and paddle craft use in upstream areas.

In 2020, GEI completed a study of uses and capacity of the York Harbor and River. While numerous issues were considered in that study, one that rose to be a high priority was improved access for paddle craft use of the river. Goodrich Park was identified as a potential site to develop a new paddle craft facility, which offers multiple advantages, including the large existing Town-owned property with designated upland parking and open space; the location on the river being approximately half way between two existing launch points used by paddle craft users (Scotland Bridge Road Launch upstream, and Strawberry Island downstream); and the location on the upstream portion of the river where use is more heavily weighted toward small recreational boats and paddle craft and away from downstream areas that are more densely used by commercial fishing vessels and larger sail and power boats. Environmental conditions at the site also appear to be suitable for permitting of a public paddle craft facility as proposed, subject to further investigation which will be undertaken as part of this scope of work.

The Town is currently seeking to have a professional engineering consultant develop plans and specifications through 100% final design, for the construction of the proposed paddle craft facility. The design will need to be developed for the following key design considerations:

- Design to be ADA compliant, including the dock itself, access paths and landings, and parking.
- The degree of tidal access and water depth required—i.e., full tide use or partial tide use only
- Optimal selection of location on site in consideration of tidal access needs, environmental conditions, regulatory constraints, and adjacency to existing upland facilities and access
- Capacity for paddle craft use
- Options for dockside or landside storage of paddle craft
- Design aesthetics to fit with the character and historical nature of the site
- Public/stakeholder input on uses and goals for the site

The above represents some but certainly not all considerations for the design. To develop a design that meets the Town's needs, it will be important to work with Town Staff, users, stakeholders, and the public to identify information that will influence the design.

We understand that the preparation and filing of regulatory permit applications is not part of the current scope. However, we acknowledge that a critical aspect to the feasibility of the project will be identifying a design that fits within relevant regulatory constraints. During the current scope, GEI proposes to undertake a regulatory review and hold a pre-application meeting with local, state, and federal agencies to review the project and gather input with the goal of avoiding potential impacts on the design when permitting takes place in the future.

GEI's scope of work is described in the following section.

Scope of Services

1 | General and Project Management

KICKOFF MEETING AND SITE WALK

- Hold a kickoff meeting with Town staff and key project stakeholders to review the project scope and schedule and gather initial input on design goals.
- Following the kickoff meeting, hold a site walk to view and photograph the project site and familiarize the Team with existing conditions at the potential locations for development of the proposed paddle craft dock.
- Prepare and circulate meeting minutes.

MONTHLY STATUS UPDATES

- For the project duration (assumed 4 months), provide the Town with updates on work activities completed and planned, status of schedule, and any support needs.

2 | Background Data Collection and Site Investigations

Review publications, standards, and web-based data for the project site including, but not necessarily limited to:

- Tidal datum information.
- FEMA Flood Mapping.
- Maine Climate Council recommendations for accommodation of sea level rise.
- York River current data.
- Plant and animal habitat mapping.
- Town of York Zoning.
- Existing Site conditions and development constraints.

SITE SURVEY

GEI will retain a professional land survey firm to complete a topographic and bathymetric survey of the proposed project area. The survey will include upland topographic survey data sufficient to generate 1' contour intervals for the project area and access to the site. The survey will also include detailed site information including but not necessarily limited to:

- Top of bank, toe of bank, highest annual tide elevation, MHHW, MLLW, BFE.
- Locations of existing access routes, paths, kayak storage areas, lawns, and other upland site features.
- Location, size, and species of all trees over 3" DBH within the identified limits of clearing (to be confirmed after a preferred design concept has been identified).

A boundary survey is not proposed as part of the current scope. It is assumed that the existing boundary plan for the Goodrich Park property that is recorded in the York County Registry of Deeds will be the basis for parcel boundaries. Boundary information will be tied to existing monuments identified on site by the surveyor.

VESSEL USE INFORMATION

Gather data from Town and past studies and observations and current Town and stakeholder input to establish the type and volume of use to be accommodated at the facility. It is anticipated that use will be limited to paddle craft only. Some considerations for design may include:

- Provision of and quantity of accessible launching floats
- Size of floating docks and amount of dock face available for temporary tie-up
- Paddle craft storage on floats

PUBLIC MEETING NO. 1

A public meeting will be held as part of a regularly scheduled Town committee or Selectboard meeting to introduce the project and notify the public of the planned activities and opportunities to provide input.

GEI will seek input from the Town as to the optimal forum for this public meeting that considers likely attendance by stakeholders.

PUBLIC MEETING NO. 2

A public meeting will be held as part of a regularly scheduled Town committee or selectboard meeting to present the design deliverables for approval by the Town.

3 | Concept Level Design (15% Design)

1. Review design concepts prepared during prior efforts completed in 2020.
2. Develop a Basis of Design Memo that documents design criteria.
3. Prepare up to three alternative concept design plans that consider client input and Basis of Design information.
4. Consider alternatives for floating dock and pier layouts on site.
5. Prepare a concept-level cost estimate.
6. Meet with Town staff and stakeholder group to review the concept design and gather feedback on design refinements and preference.
7. Prepare meeting notes documenting any comments received and proposed approach to addressing comments during preliminary design.
8. It is assumed that at the conclusion of Phase I the Town will confirm the preferred alternative, which will be the basis for further design development.

4 | Preliminary Design (15% - 60% Design)

1. Prepare preliminary design (60%) plans for the proposed project elements including:
    - Pile-supported pier.
    - Floating docks.
    - Gangway(s).

- Mooring and fendering systems.
- Pier abutment.
- Access stairs and paths.
- Upland site erosion control and stormwater features.
- Upland pedestrian features such as benches and gathering areas.
- Upland kayak storage.
- Approximate limits of site clearing/grading impacts.

2. Prepare a list of Technical Specifications.
3. Prepare a preliminary cost estimate.
4. Update the Basis of Design Memo to reflect the 60% level design development.
5. Submit Draft 60% Design Plans, Specification List, Estimate, and Basis of Design Memo for review.
6. Hold a Design Review Meeting to review the preliminary design and gather feedback.
7. Prepare meeting notes documenting any comments received during the meeting and proposed approach to addressing comments during final design.

5 | Regulatory Review

Preparation and filing of permit applications is beyond the current scope of services. In order to identify regulatory constraints to the proposed project and confirm the required permits, GEI proposes to perform the following permitting-related tasks:

- Complete a desktop review of existing resources, habitats, and features as mapped by state and federal agencies to identify existing environmental constraints.
- Hold a virtual pre-application meeting with regulatory agencies to review the project scope and gather feedback on regulatory requirements.
- Summarize the desktop review and pre-application meeting in a memo report.
- Prepare a Draft of NRPA Appendix B: MDEP Coastal Wetland Characterization: Intertidal & Shallow Subtidal FIeld Survey Checklist.

6 | Draft Final Design (60% - 90% Design)

90% DESIGN DEVELOPMENT

- Develop design plans, specifications, and cost estimate to a Draft Final 90% level of design detail.
- Update the Basis of Design Report to reflect the 90% level design development.
- Submit 90% design to Town for review.
- Hold a Design Review Meeting to review the 90% design and gather feedback. Provide a slideshow presentation documenting 90% design development and recommendations.
- Prepare meeting notes documenting any comments received from the Town and proposed approach to addressing comments during 100% design.

Assumptions

1. A scope for geotechnical investigation has not been included in the current project. It is anticipated that the project will include a pile-supported structure that is designed for pedestrian loading only. Data from nearby MaineDOT and Maine Turnpike Authority Bridge projects will be utilized for generalized subsurface conditions. If a site-specific geotechnical investigation is determined to be necessary, a separate proposal will be provided for these services.
2. No specialized environmental characterizations or studies have been included in the current scope of work. It is assumed that habitats and resources will be identified from resource agency mapping databases.
3. GEI has not included services for utilities, MEP, or Fire Protection Design. Any additional utility design services will be by others.
4. The scope of services includes engineering design through 90% Draft Final. We recommend this approach in order to minimize risk of rework due to any revisions or supplemental requirements needing to be incorporated to address comments that arise during regulatory review.
5. Bid Documents, Bidding, and construction phase services are not included in the current scope of work. Services will be provided as part of a future contract. GEI will provide a separate proposal at the completion of this scope of work.

2 Statement of Qualifications

About GEI

GEI Consultants, Inc. is a consulting engineering firm that delivers professional waterfront, geotechnical, and environmental engineering services. Founded in 1970 and headquartered in Massachusetts, our firm was built on a foundation of geotechnical engineering and has evolved into a leader in providing multi-disciplined engineering and technical services to a range of private and public sector clients domestically and abroad. With more than 1,500 staff and 57 offices across North America, GEI is consistently ranked among the top firms in Engineering News Record's (ENR) annual list of Top Design Firms.

At GEI, we help our clients minimize risk and solve complex challenges. As an employee-owned firm, we foster personal relationships with our clients and support our staff in a partnership model, which is underpinned by continuous learning and sharing of knowledge. We retain proven, recognized experts and attract the best young minds to deliver to our clients a refreshing blend of technical expertise, collaborative spirit, and innovation that is rare in our profession.

Local Presence

GEI will manage this project from our Portland, Maine office, where our proposed staff provide waterfront engineering and planning services throughout coastal Maine. We have extensive experience with regulatory permitting for Maine coastal projects.

We are recognized leaders in the Maine coastal community, working recently with the Maine Department of Marine Resources on the State's Living Shoreline Pilot Program, and with the Governor's Office for Policy Innovation & the Future (GOPIF) on multiple community resilience studies. We are active participants in the State of Maine Harbor Masters Association and keep up to date on the recommendations of the Maine Climate Council.

GEI has designed and permitted numerous coastal projects in Maine, and our staff maintains close working relationships with the Maine Department of Environmental Protection (Maine DEP) and U.S. Army Corps of Engineers (USACE). Our local staff in Portland have devoted much of their careers to waterfront projects on the coast of Maine and have decades of experience completing projects along the entire coastline, from Kittery to Eastport. Many of the staff on this project grew up in Maine and have a unique connection to the coast. While we are fortunate to work on projects across the country, we are particularly happy when we work on projects in Maine.

Key Elements of Expertise

Coastal and Waterfront Engineering

Coastal regions are very complex. GEI approaches coastal projects with a multidisciplinary team where science, engineering, and ecology experts collaborate to consider the unique constraints of each project. Our waterfront engineers and scientists provide a comprehensive range of coastal engineering services, including early site assessment, data collection, planning for municipal harbors and waterfront sites, topside and bathymetric survey, above and below water inspections, analysis and design of piers, wharves, dredging, marinas, ferry terminals, bulkheads, and seawalls, regulatory permitting, and construction phase services.

GEI's waterfront engineers specialize exclusively in harbor and waterfront projects. Each staff member has in-depth expertise in the field including design and permitting of waterfront structures. Our in-house engineering staff includes structural, geotechnical, environmental, and water resource engineers, ecologists, regulatory specialists, and engineer-divers. Our experience includes coastal vulnerability and adaptation studies for municipalities, revisions to FEMA Flood Insurance Rate Maps (FIRMs), Geographic Information System (GIS) mapping, harbor studies, and coastal adaptation projects for a changing climate. Our staff is experienced in ecological impacts of climate change in coastal environments and has worked extensively with Maine DEP on permitting projects in coastal and riverine environments.

Universal Design and Accessibility

Waterfront facilities and recreational trails must be designed for compliance with ADA regulations. As illustrated in several of our project examples, our engineers routinely incorporate ADA-compliant access into our projects and can offer innovative approaches to help clients navigate complex constraints and improve the functionality and accessibility of their waterfront assets.

Understanding of Maine Regulatory Climate

We see the regulatory process as having a significant impact on design approach and project schedule. It is critical that regulatory impacts are incorporated into the design, and GEI understands that need. Our staff have permitted numerous projects in coastal Maine and are well versed in federal and state regulatory requirements as well as local requirements.

In the area of development planning, we provide assistance with permit management, environmental and engineering constraint determination, survey and engineering management, stormwater runoff management, and impact evaluation. Our permit management expertise includes Maine Site Location of Development, Maine Natural Resources Protection Act (NRPA), Floodplain Development/Flood Hazard Areas, U.S. Army Corps of Engineers, and Stormwater. As part of permit management, we have prepared and implemented sediment sampling plans to assess environmental impacts prior to utility river crossings in multiple towns in Maine. We have also coordinated dredge spoil testing and analysis as part of dredge spoil disposal permitting.

State-of-the-Art Equipment and Resources

GEI is equipped to perform in-house drone surveys, GPS survey, GIS mapping, CAD, and engineering design using the latest software and technology. These tools allow us to complete our work with detail, accuracy, and efficiency. We have access to a subscription-based aerial photography service that provides up-to-date, high-resolution imagery several times each year. GEI also has certified engineer-divers, survey vessels, and hydrographic survey capabilities.

We have significant experience with recreational access structures in coastal marine environments, including paddle craft docks, piers, boardwalks, and pedestrian bridges. Our expertise in design & permitting of similar projects will allow us to serve the Town efficiently and effectively.

In 2020, GEI completed a study of uses and capacity of the York Harbor and River for the Town of York.

Key Differentiators

GEI specializes in the integration of ecology and coastal engineering, combining an in-depth understanding of physical, chemical, and biological factors and how they intersect and influence each other in both natural and built systems. We combine these factors with social and cultural elements to create project designs that are successful from a functional, ecological, and societal standpoint in both the short and long-term. GEI's team for this endeavor is one of a kind because every team member has in-depth experience in the subject matter. Our staff have worked together on many similar projects of varying scales, complexity, geographies, coastal settings, and riverine estuaries. Even better, we sit together in GEI's Portland office, and when we are not working you might find us enjoying time together sailing, boating, or recreating on the coast of Maine.

Our GEI Team is multidisciplinary, composed of planners, scientists, engineers, geologists, and ecologists, experienced in coastal and riverine vulnerability assessments. GEI has extensive experience in hydrologic and hydraulic analyses of coastal and riverine environments, waterfront adaptation and design, and planning services. We are regular invitees to speak at the State of Maine Harbor Masters Association trainings, we work directly with the Maine Department of Marine Resources on the State's Living Shorelines Pilot Program, and we keep up to date on the recommendations of the Maine Climate Council.

Relevant Project Experience

York Harbor Study

Location: York River, Maine
Client: Town of York

The York River is a mixed-use waterway that hosts many marine uses, including over 300 moorings, 83 docks, 2 federal anchorages, 7 working waterfront sites, 2 commercial marinas, a yacht club, and recreational fishing, paddle craft, and swimming. Rapidly increasing demands for use of the River and development along the shore have increased pressure on limited resources and traditional uses..

Project Facts

Service Dates:
07/2019 - 01/2020

Key Elements

- Drone Survey
- GIS Mapping
- Harbor Inventory
- Boat Demographic Study
- Capacity Assessment
- Public and Stakeholder Input Gathering
- Management Recommendations

The Town of York retained GEI in 2019 to undertake a capacity study of the York River and Harbor. The primary goals were to inventory and assess existing uses on the River and evaluate how those uses compare to capacity in order to identify areas of concern, needed infrastructure improvements, and opportunities for improved management.

GEI staff observed and documented uses and conditions by boat, from shore, and by drone. A Harbor Inventory was prepared that documented marine uses, infrastructure, environmental and historic resources, land use, and regulatory constraints. GIS maps were prepared for presentation of inventory data. River capacity was then evaluated on a range of spatial, facility, ecological, and social factors. Recommendations were developed to address the near- and long- term issues and goals for improved harbor management.

A selection of study recommendations includes: improved mooring field layouts, improving clear navigation channels, expanded dinghy facilities or consideration of a shared dinghy program, creation of new public access to better separate uses, improved paddle craft management, and others. Revisions to the Town's Harbor Ordinance were recommended to improve regulation of dock applications, improve protection for sensitive resources, and provide a more consistent regulatory framework.

Project Facts

Service Dates:
2018 - 2020

Key Elements

- Project Management
- Site Development
- Permitting & Regulatory Support
- Pier Improvements
- Construction Management
- ADA Passenger Access

Client Contact

TOM DANIEL, AICP
Director of Planning and Community Development
City of Salem, MA
978.619.5685
tdaniel@salem.com

Salem Waterfront Improvements

Location: Salem, Massachusetts
Client: City of Salem

GEI conducted field inspections, concept design development, permitting, final design with development of bid documents, bid phase support, and construction management and oversight for a program of improvements at three public waterfront facilities in the City of Salem.

GEI was tasked with development of three sites within Salem Harbor to improve ADA access and increase overall access to the waterfront. The project consisted of developing new waterfront access at Charlotte Forten Park; reconstruction and reconfiguration of the Congress Street Pier; and expansion of access at the National Park site by installing dinghy dockage.

The project consisted of overall project management for the projects, which were all bid as separate projects. The project was performed in-house by GEI personnel.

The major goal for the three sites was to provide access to the water for users of all abilities. Each site included designing a dockage system to meet different waterfront needs. The Charlotte Forten Park Paddle Craft Dock was designed to provide safe and accessible access to Salem Harbor. The Congress Street Pier included development of safe ADA access to the water by creating a new pier with ADA ramps and a dock system to support the new water taxi services. The National Park site included design and development of a dock system, which did not require anchorage of the docks into the harbor bottom, but supported by the adjacent seawall.

These docks were designed to incorporate a number of accessibility features including ADA-compliant gangways, low freeboard floating docks, and float-mounted accessibility hoists to facilitate vessel access for users requiring assistance with embarking and disembarking.

Project Facts

Service Dates:
2003 - Ongoing

Key Elements

- Recreational Waterfront
- Paddle Craft Launching
- Mixed-Use Facility Design
- ADA Compliance
- Permitting

Client Contact

SCOTT LAFLAMME
Town Manager
Town of Yarmouth, ME
207.846.9036
slaflamme@yarmouth.me.us

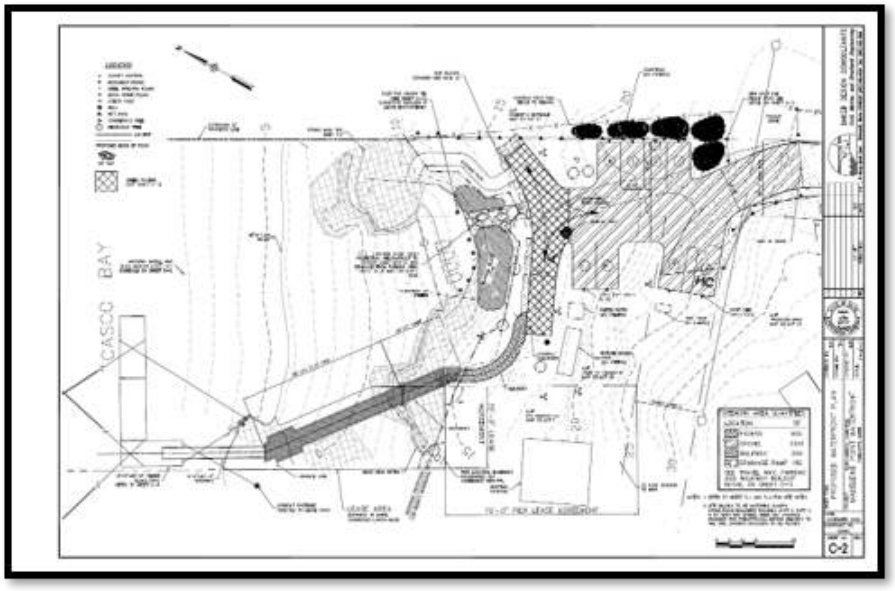
Madeleine Point Waterfront

Location: Yarmouth, Maine
Client: Town of Yarmouth

Working closely with the Town of Yarmouth's Harbor & Waterfront Committee, for over 20 years, GEI staff member Barney Baker has undertaken multiple phases of improvements to the Town-owned Madeleine Point waterfront site.

An initial phase of work included the development of a masterplan for the mixed-use facility. The process included a series of informational meetings to present the plan and to obtain feedback from stakeholders. The site improvements maintained existing beach activity (e.g. swimming and kayaking) and reduced onsite congestion by limiting onsite vehicles and adding offsite parking. A new pier and seasonal floats (on adjacent leased property) provide segregated space for dinghies and improve access to the adjacent mooring field for recreational boaters. The site improvements included onsite racks for dinghy storage, and an embankment ramp and stair to facilitate transfer of dinghies and paddle craft from the top of the coastal embankment down to the beach. Construction of the first phase of improvements was completed in 2010.

In 2021 to 2022, GEI staff worked with the Town to develop a program of improvements to the site to expand the capacity of the waterfront facilities and the upland. Improvements included an expanded dock system with improved mooring, and expanded upland parking on an abutting parcel that was newly acquired by the Town. Final design of these improvements is pending as of Fall 2024.



Project Facts

Service Dates:
2021- 2023

Key Elements

- ADA Accessibility
- New Boat Launch Siting on a Tidal River
- Parking and Circulation
- Context Sensitive Design Considering Surrounding Neighborhoods
- Environmental Regulations
- Budgeting & Implementation Action Planning
- Coordination with Maine Geological Services Water Level Monitoring Research
- Utility Coordination
- Funding Strategies
- Coastal Climate Resiliency

Client Contact

PAM LEDUC
Parks & Recreation
Department Director,
Town of Topsham
207.725.1726
pleduc@topshammaine.com

Topsham Waterfront Access Facilities Feasibility Study

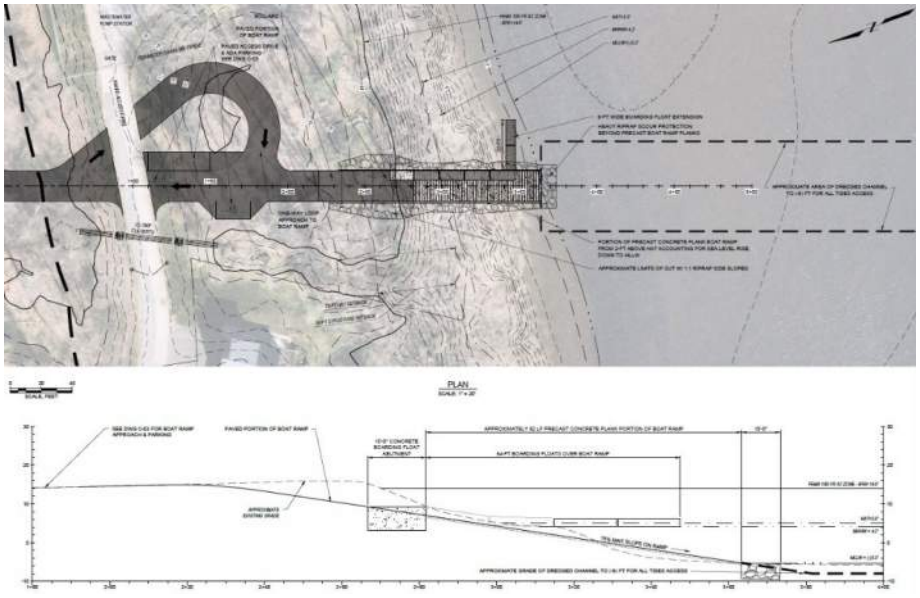
Location: Topsham, Maine
Client: Town of Topsham

GEI was retained by the Town of Topsham to provide consultant services for evaluation of the installation of a new tidal public boat launch on the Town / Sewer District properties between Foreside Road and the Androscoggin River. The evaluation was funded with Federal support from NOAA,as administered by the Maine Department of Marine Resources' Maine Coastal Program.

The evaluation explored the feasibility of constructing a full public boat launching facility, including a ramp, boarding floats, river dredging, upland approach, vehicular and pedestrian access, parking and ancillary supporting site amenities. The Town's Comprehensive Plan has identified public access to the Androscoggin River as a priority, as there is currently no boating access to and from the river in Topsham.

GEI facilitated a public input process with local stakeholders and Town representatives to discuss the project goals and review the preliminary design. The design was supported by on-site observations, coordination with the Topsham Sewer District and the Town of Topsham's Parks and Recreation Department and review of readily available site and environmental data. The design factored coastal riverine environmental risks and resiliency strategies, in consideration of the Maine Climate Council's parameters and recommendations for relative sea level rise projected to 2070. The project also coordinated with the Maine Geological Survey to integrate a new tidal gauge installation at the proposed facility.

Concept plans, implementation costs and a preliminary design basis report were completed under this feasibility study and the Town is now prioritizing an implementation strategy.



Broad Cove Waterfront

Location: Cumberland, Maine
Client: Town of Cumberland

In 2015 the Town of Cumberland acquired a 100+ acre parcel of waterfront property formerly part of the Payson family land, in order to crate a new public recreation facility with access to Casco Bay. The property included significant open space, shore frontage, a sand beach, and significant ecological and historical resources, as well as a 200-foot timber pier.

In 2015 an inspection was completed of the existing pier which resulted in a recommendation that the pier be demolished and reconstructed with a new ADA-compliant structure that would be more resilient to coastal forces and less impactful to environmental resources. The pier replacement was completed in 2018 with funding participation from the MaineDOT Small Harbor Improvement Program. The project included a new timber pier, ADA-compliant gangway, floating docks, float-mounted paddle craft storage racks, and a low-freeboard launching float with access ramp.

In 2022, the Town initiated design of an expansion to increase capacity for dinghies, recreational powerboats, and paddle craft. The work of this project is ongoing and will include an expanded floating dock system and installation of convenience features such as a tide board to warn users when conditions are shallow.

Project Facts

Service Dates:
2015 - Ongoing

Key Elements

- ADA Compliant Waterfront Access
- Paddle craft Storage and Launching
- Public Recreation Facility
- Redevelopment of a Historic Site

Client Contact

CHARLES RUMSEY
Chief, Cumberland Police Department
207.829.6391

**Services provided between 2015 and 2021 were performed by Baker Design Consultants (BDC) prior to acquisition by GEI. Current GEI staff Daniel Bannon and Barney Baker were the lead engineers involved in the project through BDC and have continued in those roles in the ongoing work through GEI.*

Project Team

GEI has assembled a team with demonstrated experience on similar projects, including coastal structure design, paddle craft facilities, accessibility, environmental permitting, and impacts of climate change.

- Most of our team members grew up, live, and work in Maine. They have a strong appreciation for the coast and understand the need for balance between the natural and built environment.
- Our team members have a proven track record of municipal waterfront projects in Maine and New England, and we look forward to applying our experience and success from geographic locations both within and outside of Maine.
- We enjoy a range of expertise in coastal and waterfront engineering, landscape architecture, and regulatory permitting.
- We have engineers and landscape architects who are licensed and certified in the State of Maine.

We will manage this project from our Portland, Maine office, where our proposed staff are recognized leaders in providing waterfront engineering services throughout coastal Maine. GEI's Portland office has over 20 staff and is fully supported by GEI's deep bench of staff across the country should the need arise. Our flat corporate structure enables us to share resources seamlessly across geographies to provide the most qualified staff on any project.

GEI maintains relationships with a large number of subconsultant firms to provide specialized support services as required by each project. For this project we anticipate that the following subconsultants may be required:

- Land survey to provide topographic and engineering survey, and if necessary boundary survey, for the project area

GEI will recommend a subconsultant team best suited to the project during scope negotiations.

Project Manager

Daniel Bannon, P.E., CFM, BC.PE
Portland, ME

Senior Technical Advisor

Barney Baker, P.E.
Portland, ME

Key Team Members

Waterfront Engineering Support

Alison Brady, E.I.
John Gareau, E.I.
Portland, ME

Landscape Architecture

Travis Pryor, PLA, LEED AP
Portland, ME

Regulatory Compliance

Lisa Vickers
Portland, ME

Wetland Science

Kristin Connell
Glastonbury, CT

Key Staff Profiles

GEI has assembled a highly skilled and dedicated team with a strong local presence and significant experience providing comprehensive engineering services in support of projects throughout coastal Maine. Below is a summary of our key staff's experience, roles, and responsibilities, followed by their resumes.

Project Manager

Daniel Bannon, P.E., CFM, BC.PE will lead and manage the work of the GEI team. Dan is a senior engineer specializing in projects involving waterfront structures, shore access, flood protection, living shoreline design, recreational and commercial boating facilities, waterfront planning and development, and bridges in coastal settings. He is very familiar with the Federal, State, and Local regulations that govern development in coastal high hazard areas and sensitive environmental habitats, with a primary focus on the Maine coast. He has experience with State and Federal grant programs, often assisting clients with obtaining project funding.

Senior Technical Advisor

Barney Baker, P.E. will serve as the Senior Technical Advisor for this project. In this role, Barney will provide consultancy and senior technical review of all design elements for this effort. Barney has more than 40 years of experience in the analysis, design, and construction of marine infrastructure projects. He will provide strong quality control and advisory oversight to ensure that the GEI team meets or exceeds the Town's expectations..

Landscape Architect

Travis Pryor, PLA, LEED AP will support the team as the landscape architect and resiliency planning lead. Travis utilizes his training in landscape architecture, community planning and environmental engineering towards the development of sustainable, resilient, and context sensitive projects for a wide variety of infrastructure and development projects. He has over 20 years of planning, design, and project management experience in land use planning, waterfront development, community revitalization, parks and recreation, bicycle and pedestrian systems, and infrastructure/utility projects for public, private, and institutional clients throughout the Northeast and beyond.

Regulatory Specialist

Lisa Vickers will provide the team with regulatory support. She has extensive experience in permitting with the USACE, Maine DEP, Maine Submerged Lands Program, Maine Shoreland Zoning, and the Maine Floodplain Management Program. In addition to having worked at the Maine Department of Environmental Protection, Lisa has worked extensively with local, state, and federal agencies to assist clients and design teams in developing projects to meet applicable regulations.

Wetlands Specialist

Kristin Connell will serve as Wetlands Specialist. has over a decade of experience completing and coordinating federal, state and local wetlands permitting across New England. Additionally, Kristin has field and leadership experience in wetland delineation, wildlife habitat assessment, and other field data collection.

Waterfront Engineering Support

John Gareau, E.I. and **Alison Brady, E.I.** will serve as support for waterfront design.

John joined GEI with experience in structural condition assessments, adaptive reuse projects, and structural retrofits. He has experience at all levels of project life cycles, including scope development, condition assessments, project management, design, permitting, and construction administration. He assists GEI with waterfront engineering projects including design of piers and bulkheads, regulatory assistance, and supporting field activities.

Alison is a recent graduate of Northeastern University, where she earned her bachelor's degree in Civil Engineering and completed structural and construction engineering internships. She assists GEI with civil and structural design elements of waterfront engineering projects, and provides support services through the regulatory process.

Resumes

Daniel J. Bannon, P.E., CFM, BC.PE

Project Manager
Portland, ME

Education

M.S., Structural Engineering, University of Maine

B.S., Civil Engineering, University of Maine

Experience in the industry

17 years

Experience with GEI

6 years

Registrations and Licenses

Professional Engineer:
ME No. 13033
FL No. 87648

ASCE Academy of Coastal, Ocean, Port, and Navigation Engineers, Board Certified Port Engineer (BC.PE)

ASPFM Certified Floodplain Manager

MaineDOT Local Project Administrator

Transportation Worker Identification Credential (TWIC)

Daniel Bannon is a Coastal Practice Leader in GEI's Portland, Maine office. He serves as a Project Manager and Senior Engineer specializing in projects involving waterfront structures, shore access, flood protection, recreational and commercial boating facilities, waterfront planning and development, and bridges in coastal settings.

Dan is experienced in all aspects of project development including field inspections, concept planning, life-cycle analysis, project management, design, permitting, and construction administration. He is very familiar with the Federal, State, and Local regulations that govern development in coastal high hazard areas and sensitive environmental habitats, with a primary focus on the Maine coast.

An experienced structural engineer, Dan has expertise in design of concrete, steel, aluminum, timber, and FRP composite structures and foundations in a range of applications.

Dan is also familiar with several of the funding programs available for waterfront planning, design, and construction. He has experience with State and Federal grant programs, often assisting clients with obtaining project funding.

Project Experience

York Harbor/River Study, Town of York, ME. Capacity assessment and usage study of the York Harbor and River. Work included inventory of waterside features including moorings, docks, boat launches, commercial marinas, and working waterfront sites; review of land use and zoning in shoreland areas; review of environmental resources along the River Corridor; GIS mapping of the inventory; study of boat demographics; characterization of River segments by uses and development trends; and field assessment with landside and waterside observations and drone based surveys. Concepts for harbor improvements were developed to increase mooring capacity and improve channel conditions and recommendations were presented for improved waterway management.

Gulf of Maine Research Institute Bulkhead Reconstruction, Portland, ME. Reconstruction of a +/-400' sheet pile bulkhead on Wright's Wharf. New sheet pile will be installed slightly outshore of the existing bulkhead to minimize construction time and upland site impacts. The bulkhead is being designed for improved resilience to flood risks and sea level rise, and for extended lifespan through the use of coatings, sacrificial steel thickness, and passive cathodic protection.

Wells Harbor Dredging, Town of Wells, ME. Design and permitting of maintenance dredging of Town anchorage areas adjacent to the Wells Harbor Federal Navigation Project and beneficial reuse of dredged sand as beach nourishment. Design and permitting of municipal mooring field improvements.

Daniel J. Bannon, P.E., CFM, BC.PE Project Manager

Seawall Reconstruction, Kennebunkport, ME. Rapid design and permitting of reconstruction of a section of concrete seawall that collapsed during the January 10 and 13, 2024 coastal storm events in Maine.

Masterplan for Former Ferry Terminal, Town of Bar Harbor, ME. Development of a Master Site Plan for development of the former Ferry Terminal into a municipal marina to support recreational and commercial uses. Elements of design included: all-tide boat launch, marina layout, upland parking and circulation, pedestrian access, and open spaces. A plan for project phasing was developed that included assessment of timelines, regulatory requirements, and funding opportunities for a variety of facility improvements.

Downeast Institute Waterfront Improvements, Beals, ME. Design of a program of improvements to the DEI waterfront research facility on Great Wass Island. Work included drone survey, site assessment for wind and wave exposure, design of a boat launch, floating dock improvements, and wave attenuation systems consisting of fixed wave screens or concrete attenuator floats.

Simpson's Point Boat Launch & Shore Access, Town of Brunswick, ME. Design of reconstruction and improvements to an existing public boat launch on Middle Bay, and a pedestrian access trail on an adjacent Town-owned parcel to provide public access to shore.

Mariner's Wharf, Town of Long Island, ME. Planning, design, permitting, and construction administration for pier repair and upgrades. Improvements included upgrade and extension of timber wave screens, expansion of the floating dock system, reconfiguration of the Island Rescue Vessel berth, addition of a new 80-foot ADA compliant gangway, and improved upland facility access.

Living Shoreline Pilot Project, Towns of Brunswick and Yarmouth, ME. Project manager for a pilot study that is investigating the use of low-cost living shoreline treatments for shoreline stabilization in Maine. The pilot study involves installations on three sites on Casco Bay, two on Maquoit Bay in Brunswick, and one on Lane's Island in Yarmouth. The pilot treatments use a combination of bagged oyster shell, coir mesh, marine baskets, downed logs, and plantings to stabilize bluff and marsh face erosion at the three sites. Installation was completed in spring 2020, and a three-year monitoring program is planned.

Municipal Harbor Improvements, City of Salem, MA. Prepared final designs and specifications and provided construction administration and oversight for the construction of three separate municipal piers as part of an upgrade to the City of Salem's public waterfront facilities. Piers ranged in size from a pile-supported timber structure that was designed for ADA compliance and increased berth capacity, to a small seasonal facility at a town park for hand-carry access to the South River.

Snow Marine Park Boat Ramp and Masterplan, City of Rockland, ME. Lead a consulting team to prepare a masterplan for 14-acre, city-owned waterfront park. The plan included improvements to the boat launch, expanded parking, recreational trails, and layout of sports fields on the upland property. As a separate task, a replacement design was prepared for the facility boat ramp that provides public access to Rockland Harbor. The ramp is used by vessels up to 50-tons. A replacement ramp was designed that incorporated two 20-ft wide ramp lanes constructed with heavy duty precast concrete planks, a concrete ramp abutment, and center floats.

Ocean Street Footbridge Replacement, Town of Ogunquit, ME. Design, permitting, and construction administration for the replacement of the 310' long timber footbridge that crosses the Ogunquit River to access Footbridge Beach. The replacement bridge improved access, ADA compliance, flood resilience, and provided bumpouts for scenic viewing and fishing. The bridge is located in sensitive coastal habitat that supports nesting by piping plovers and other protected plant and animal species. Permits were obtained from Maine DEP, USCG, and local agencies. The project was completed ahead of schedule and under budget.

Private Residential Piers, Various Locations, ME. Project management, design, permitting, and construction administration for numerous private residential pier projects located throughout the Maine coast. Projects range from seasonal hand-carry docks, to large permanent piers incorporating multiple berths and ferry service access.

Barney J. Baker, P.E.

Senior Technical Advisor

Portland, ME

Education

B.S., (Hon), Civil Engineering, University of Edinburgh, Scotland

Experience in the industry

42 years

Experience with GEI

3 years

Registrations and Licenses

Professional Engineer, ME No. 5737

Professional Engineer, VA No. 0402061146

USCG Captain License -25 ton w/sail (inactive pending seatime)

Professional Affiliations

American Society of Civil Engineers

Friends of Casco Bay

Island Institute

Maine Island Trails

Propeller Club

Portland Waterfront Alliance

Structural Engineering Association of ME

Barney Baker specializes in waterfront facilities, coastal protection, and public access projects. His career has evolved to include expertise in the design and supervision of port facilities, marinas, piers, boat launches, beach access, seawalls, coastal slope stabilization, dune nourishment, bridges, dam rehabilitation, and fish passage structures.

His clients include state and federal agencies, public utilities, municipalities, educational institutions, and private clients. In addition to engineering design and construction phase services, this work often includes concept planning and facilitation for cost-effective design, master plan development to address long-term programming, grant writing to support project funding, and permit preparation to ensure local, state, and federal regulatory compliance. Barney's marine qualifications are enhanced by offshore cruising and racing on his own sailboats that have taken him to ports in Europe, North America, and the Caribbean.

Project Experience

Ocean Street Footbridge Replacement, Ogunquit, ME. Principal Engineer for the replacement of the 310-foot-long timber footbridge that crosses the Ogunquit River to access Footbridge Beach. Served as the project manager, engineer of record, and client manager for the project and oversaw all activities related to design development, permitting, and preparation of construction documents. The replacement bridge improved access, ADA compliance, flood resilience, and provided bumpouts for scenic viewing and fishing. The bridge is located in sensitive coastal habitat that supports nesting by piping plovers and other protected plant and animal species. Permits were obtained from Maine DEP, USCG, and local agencies. The project was completed ahead of schedule and under budget.

Boathouse Pedestrian Bridge, Kennebunkport, ME. Provided structural engineering and permitting services for the construction of a new pedestrian bridge crossing a tidal inlet of the Kennebunk River. The bridge links downtown locations heavily trafficked by pedestrians visiting shops, restaurants, and the waterfront.

River Point Bridge Design/Build, Falmouth, ME. Project Manager for the design/build replacement of a municipal pedestrian bridge over an active rail line. The existing three-span timber bridge was replaced with a 105-foot by 10-foot single span steel truss supported on timber friction piles. The Team balanced numerous complex regulatory, design, and construction requirements to provide a cost-effective, low-maintenance, long-lasting solution.

Fort Popham Waterfront Improvements, Department of Agriculture, Conservation & Forestry, Town of Phippsburg, ME. This historic site has multiple, federal, state agency, and local stakeholders. The project includes an ADA-compliant rehabilitation of the existing pier, site improvements to address pedestrian access, vehicle circulation and parking, dredging to improve water depths, and a flood protection berm that uses spoils material. State and federal grant programs (MeSHIP, LWCF and ARP funds) have been tapped to make the project possible.

Barney J. Baker, P.E. Senior Technical Advisor

is supported by State and Federal grant funding. A phased construction program is implemented to maintain waterfront access for the fishermen during construction.

GOPIF Resiliency Assessment, Towns of Harpswell, West Bath and Phippsburg, ME. The work included a resiliency assessment to address the impact of climate change and sea level rise for one site in each community. A combination of resiliency measures were recommended. The project is sponsored by a grant from the Maine Governor's Office of Policy Innovation and the Future (GOPIF).

Town Landing Resiliency Study, Falmouth, ME. Falmouth Town Landing is a historical waterfront access that currently serve the largest mooring field in Maine. It is increasing overtopped by wave action in storms of increasing frequency and intensity. The project sponsored by the Maine Coastal Program identified resiliency improvements and adaptation strategies for the pier, float system and parking area to address future climate change and sea level rise.

Safe Harbor Great Island Marina Mooring System, Harpswell, ME. Marina mooring system design for a full-service boat yard and marina facility in the upper reaches of Harpswell Sound. In coordination with the float system supplier, the mooring tackle and blocks were accepted for long term maintenance, marina berth efficiency, tidal response, storm surge, wind/wave conditions and future sea level rise.

Mitchell Field Waterfront Development, Town of Harpswell, ME. A multi-phase project that converts an abandoned US Navy Oil Terminal Pier into a municipal waterfront landing. The Navy removed all oil tanks in 2005 and transferred the property to the Town. Initial phases of the work demolished and recycled the deteriorated elements of the port facility. A current project utilizes the original navy causeway to provide a Town landing that includes a boat launch, floats, upland parking, and support amenities.

Town Landing, Yarmouth ME. Planning, design and permitting for a new mooring plan that includes pony docks to increase the number and density of mooring holders in the Royal River Basin within the Federal Navigation project.

Mackworth Island Causeway Rehabilitation, Maine Bureau of General Services/ Baxter School for the Deaf, Falmouth, ME. Planning, design, permitting, and coordination of funding sources for marine causeway repairs necessary to maintain the only roadway link to educational facilities on the island. Identified elements of the project that were eligible for federal FEMA and state MEMA funding and additional improvements necessary to prevent further destabilization of the slope section. Phase I repairs added stone armor to approximately 350 feet of the marine slope and reinforced the flow-through bridge abutments.

Wells Beach Seawall, Lafayette Oceanfront Resort, Wells Beach, ME. Permitting and design for a rehabilitation program to protect resort property. The work included development of a more robust and resilient coastal defense system in a highly regulated environment that included subsurface cut-off wall, remedial action, and adaptive repairs to blend beach access improvements with measures to address structural seawall deterioration and beach scour.

Coastal Protection of Existing Infrastructure, Prouts Neck Association, Scarborough ME. Many projects have been undertaken to protect existing waterfront facilities and residences together with associated access routes. The work has included planning, permitting, and construction supervision for a blend of projects that include dune nourishment, beach grass planting, seawall strengthening and flood control measures in a fragile coastal environment.

University of New England Waterfront Program, Biddeford, ME. Planning for a new pier to support the Marine Science curriculum evolved from feasibility studies in 2008 to a design parameter that included mission, size, location, and configuration. In 2023, permitting and design is underway for a versatile waterfront facility to serve students, faculty, a growing fleet of specialized boats and programs that comprise one of the premier marine science programs in the country

Public Wharf Condition and Resiliency Assessment, Monhegan Island Plantation. A 2019 study sponsored by the Maine Coastal Program identified this critical transportation and safety link to the island community to be vulnerable to current and future flooding associated with climate change. The project investigated the operation and structural integrity of the historic granite pier to support a program of resiliency measures that include raising the structure to reduce overtopping and improving surface resistance to erosion in conjunction with operational improvements to segregate pier use, traffic flow and material handling.

Travis J. Pryor, PLA, LEED AP

Landscape Architect

Portland, ME

Education

B.L.A, Landscape Architecture
Virginia Polytechnic Institute & State University

Experience in the industry

23 years

Experience with GEI

3 years

Registrations and Licenses

Licensed Landscape Architect
ME No. 3290

USGBC LEED Accredited Professional

MaineDOT Local Project Administrator

Training and Certifications

10-Hour OSHA

Exterior Computer Lighting Calculations

MaineDOT Construction Documentation

Professional Affiliations

Maine Association of Planners

Maine Island Trail Association

Travis Pryor is a Senior Project Manager and Professional Landscape Architect in GEI's Portland, Maine office. Travis utilizes his training in landscape architecture, community planning and environmental engineering towards the development of sustainable, resilient and context sensitive project outcomes for of a wide variety of infrastructure and development projects. He is also an accredited professional under the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED).

Travis has over 20 years of design and project management experience in land use planning, waterfront development, community revitalization, parks and recreation, bicycle and pedestrian systems, and infrastructure/utility projects for public, private and institutional clients in the northeast and throughout the United States. He has been involved in all phases of project development, from master planning through public participation, design development, permitting, funding assistance and construction.

Project Experience

Downtown Waterfront Master Plan, Town of Bucksport, ME. Project management for planning and design development of coastal resiliency improvements for a public walkway and adjacent public parking, pier, marina and park space at the Downtown Waterfront along the Penobscot River. The master plan includes coordination with MaineDOT's Route 1 Bridge to Verona Island and adjacent Main Street roadway and drainage facilities, as well as coordination with public, private and utility stakeholders with property and / or facilities along the waterfront. The project has financial support from MaineDMR SHPG.

Simpsons Point Boat Launch and Beach Access, Town of Brunswick, ME. Project management for design and permitting of public boat launch and pedestrian beach access improvements. Town assistance with bid and construction administration. The project has financial support from MaineDOT SHIP and MaineDACF BFF. Developed in accordance with MaineDOT LPA requirements.

Mitchell Field Boat Launch, Town of Harpswell, ME. Technical design and in-house-review for design and permitting of public boat launch and adjacent upland vehicular and pedestrian site access improvements. The project has financial support from MaineDOT SHIP. Developed in accordance with MaineDOT LPA requirements.

Pott's Point Town Landing Rehabilitation, Town of Harpswell, ME. Construction administration assistance of public boat launch and adjacent upland vehicular and pedestrian site access improvements. The project has financial support from MaineDOT SHIP. Developed in accordance with MaineDOT LPA requirements.

Tide Mill Landing Improvements, Town of Harpswell, ME. Project management for design, permitting, bid and construction administration of public boat launch, and vehicular and pedestrian site access improvements. The project has financial support from MaineDACF BFF.

Travis J. Pryor, PLA, LEED AP Landscape Architect

Former Ferry Terminal Master Plan, Town of Bar Harbor, ME. Project management for planning and design development of the former MaineDOT ferry terminal property including upland parking, pedestrian and vehicular access, coastal boat launch, pier and floating dock system improvements. The improvements were coordinated with MaineDOT Route 3 roadway and drainage facilities, as well as the active Ferry Service on a portion of the property. The project has financial support from MaineDMR SHPG.

Cape Porpoise Pier Rehabilitation, Town of Kennebunkport, ME. Technical design assistance and in-house-review for design and permitting of public working waterfront facilities and adjacent upland vehicular and pedestrian site access improvements. The project has been bid and is currently under construction. The project has financial support from MaineDOT SHIP as well as US EDA and FEMA. Developed in accordance with MaineDOT LPA requirements.

Pre-Disaster Mitigation Boat Launch, Town of Machias, ME. Technical design assistance and in-house-review for design of a public boat launch in Downtown Machias along the Machias River. The project has financial support from MaineDOT SHIP.

Pre-Disaster Mitigation Seawall / Trail, Ransom Consulting, Machias, ME. Technical design assistance and in-house-review for design of a seawall flood protection and trail system in Downtown Machias. Design includes coordination with MaineDOT's concurrent U.S. Route 1 Machias River Dike improvements project. The project has financial support for FEMA PDM.

Head of Tide Park Upstream Boat Launch, Town of Topsham, ME. Project management for design, permitting, bid and construction administration of public boat launch, and vehicular and pedestrian site access improvements. The project has financial support from MaineDACF BFF.

Topsham Water Access Facilities Feasibility Study, Town of Topsham, ME. Project management for planning and design development of public boat launch, and vehicular and pedestrian site access improvements. Coordination with the Topsham Sewer District's property and facilities. The project has financial support from MaineDACF BFF.

Cistern Bridge, Town of Yarmouth, ME. Project management for design and permitting of pedestrian walkway improvements for a segment of trail along the Royal River within Royal River Park.

Geospatial Vulnerability Assessment of Coastal Hazards, Southern Maine Planning and Development Commission, Ten Municipal Project Regions, Southern ME. Supported GIS-based sea level rise vulnerability assessment for 10 municipalities in Southern Maine.

Hampton Beach New Pier Feasibility Study, Hampton Beach Area Commission, Hampton, NH. Project management for a planning level assessment that studied the feasibility of constructing a new public pier to improve accessible access and recreational opportunities to and over the water.

Hampton Beach Accessibility Feasibility Study, New Hampshire Department of Natural and Cultural Resources; Division of State Parks, Hampton, NH. Project management for a planning level assessment that studied accessibility improvements for all Hampton Beach State Park facilities. Reported findings of existing conditions and recommendations for compliant, proactive and or universally accessible improvements.

Lisa Vickers

Regulatory Specialist

Portland, ME

Lisa Vickers is a senior coastal professional in GEI's Portland, ME office. She has more than 17 years of regulatory experience with a focus area on coastal infrastructure to include waterfront access structures, shoreline stabilization, living shorelines, and sand dune restoration for residential, commercial, and government entities. She has extensive experience in permitting with the U.S. Army Corps of Engineers (USACE), Maine Department of Environmental Protection (DEP), Maine Submerged Lands Program, Maine Shoreland Zoning, and the Maine Floodplain Management Program. In addition to having worked at the Maine Department of Environmental Protection, Lisa has worked extensively with local, state, and federal agencies to assist clients and design teams in developing projects to meet applicable regulations.

Education

M.S., Biological Sciences, University of Southern Maine

B.A., Biological Sciences, Clemson University

Experience in the industry

20 years

Experience with GEI

Less than 1 year

Training and Certifications

Certified Maine Department of Environmental Protection Third-Party Inspector

American Red Cross First Aid/ CPR/AED

Professional Affiliations

Committee Member, Board of Appeals, City of South Portland (2021 – present)

Project Experience

Yarmouth Town Landing Commercial Pier, Town of Yarmouth, ME. Regulatory specialist providing review and support for permit applications to the Maine DEP, USACE, Submerged Lands, and Shoreland Zoning. The project includes the modification of a commercial fishing pier to support local fishermen and aquaculture operations.

Maine Maritime Museum Deering Pier Improvements, American Cruise Lines, Bath, ME. Regulatory specialist providing historical review of existing permits and review and support for permit applications to the Maine DEP and USACE. The project includes the addition of steel monopiles with donut fenders to provide docking for cruise ship vessels.

Sand Dune Damage Repair Assessment, Town of Ogunquit, ME. Regulatory specialist working closely with the Town and conducting early outreach with state and federal regulatory agencies, MEMA/FEMA as a potential funding agency, and local contractors who could potentially source the dune restoration sand material. This initial assessment approach will identify actionable opportunities to move forward with design development, permitting, bidding, and construction of the project.

Bennett's Cove Barge Landing Assessment, Town of Chebeague Island, ME. Regulatory specialist providing review of existing conditions at Bennett's Cove and evaluation of the feasibility of maintaining a barge landing for solid waste removal and transportation of large vehicles located off Bennett's Cove Road. Scope to include identification of regulatory and constructability constraints that exist at the current location and conducting outreach with state and federal regulatory agencies.

Previous Project Experience

Drakes Island Beach Shoreline Stabilization, Wells, ME. Permitting and regulatory agency review coordination for the restoration of a coastal sand dune on Drakes Island Beach. Project design elements include cobble lifts, coir logs, dredge sand, and native plants.

Cliff Island Wharf Replacement, Portland, ME. Project Manager for the replacement of a wharf for an island-based community organization.

Kristin Connell

Wetlands Specialist

Glastonbury, CT

Education

M.A., Biology, Central Connecticut State University

B.S., Animal Science and Biological Science, The University of Vermont

Graduate Certificate, Soil Science, The University of Massachusetts

Experience in the industry

19 years

Experience with GEI

Less than 1 year

Professional Affiliations

Connecticut Association of Wetland Scientists

Kristin Connell is a Senior Project Manager - Natural Resources in GEI's Glastonbury, CT office. She has over a decade of experience completing and coordinating federal, state and local wetlands permitting across New England. Additionally, Kristin has field and leadership experience in wetland delineation, wildlife habitat assessment, and other field data collection.

Project Experience

Watson Road Dam, Hinsdale, MA. Completed wetland delineation, bathymetric survey, and permitting efforts associated with the partial removal of a privately owned dam to address structural deficiencies in response to a Dam Safety Order. Project restored flow and hydrologic and habitat connectivity, benefitting fisheries and other aquatic organisms as well as reducing liability associated with dam failure. Permitting effort included MEPA EENF, Ecological Restoration Notice of Intent, USACE Section 404, and Chapter 253. Hosted virtual site walk for regulatory officials and interested parties.

Natural Resource Assessment, Westerly, RI. Served as wetland delineator, habitat assessor, and peer reviewer at a former mill site proposed for demolition and reuse as a public park.

Private Land, Bennington County, VT. Served as wetland delineator on a portion of a Class I wetland, dam and outlet channel at a historic mill site. Prepared associated permits to support dam repairs.

Confidential Client, Southern CT. Served as the project manager to coordinate engineering and contractor services to meet state and federal permitting needs for several large coastal dredging projects. Certain efforts required coordination of biological assessments, essential fish habitat assessments, and compliance with the migratory bird treaty act.

Congress Street Flood Mitigation Project, Bridgeport, CT. Managed coastal resource permitting and related construction oversight for coastal resiliency and future protection of the power grid for environmental justice populations. Maintained clear communication with regulators, the client, and contractors to continue forward progress and maintain project timelines.

Southbridge Reservoir Dam No. 5, Southbridge, MA. Assisted in the completion of local, state, and federal permit applications. Conducted initial condition assessment and installation of hand driven wells to collect hydrologic data for wetland mitigation design. Oversaw wetland construction activities, completed post-construction wetland mitigation monitoring and reporting.

Hatchet Pond Dam, Southbridge, MA. Conducted wetland delineation and permitting efforts for low levels outlet repair. Permitting included Notice of Intent, USACE Section 404, Chapter 91, and Chapter 253.

Eversource Transmission Upgrades, Statewide, MA. Completed wetland delineations along right of ways and access roadways. Observed installation of temporary roadways and completed erosion and sedimentation inspections. Provided oversight for the installation of a permanent water crossing as well as post-construction wetland monitoring and associated reporting.

John Gareau, E.I.

Waterfront Engineering Support

Portland, ME

Education

B.S., Civil Engineering, Florida Atlantic University

Experience in the industry

3 years

Experience with GEI

2 years

Registrations and Licenses

Engineering Intern, FL No. 1100025296

MaineDOT Local Project Administrator

SSI Open-Water Diver

FAA Part 107 Drone Pilot

Professional Affiliations

American Society of Civil Engineers (ASCE)

John Gareau is a staff professional in GEI's Portland, ME office. He joined GEI with experience in structural condition assessments of buildings and parking decks, adaptive reuse projects, and structural retrofits. John has experience at all levels of project life cycles, including scope development, condition assessments, project management, design, permitting, and construction administration. He is proficient in AutoCAD, Mathcad, RISA 3D, RAM Elements, WoodWorks, and Enercalc. He is also a certified open-water diver and an FAA Part 107 licensed drone pilot.

Project Experience

University of New England Marine Science Pier, Biddeford, ME. Developed structural model for proposed pier on the Saco River. Performed structural analysis of pier considering wave, current, wind, vessel berthing, vehicle, and equipment loads. Designed and detailed structural elements including concrete abutment, concrete filled steel pipe piles, and precast concrete pile caps and deck planks.

Masterplan for Former Ferry Terminal, Town of Bar Harbor, ME. Assisted in developing a Master Site Plan for development of the former Ferry Terminal into a municipal marina to support recreational and commercial uses. Design elements included an all-tide boat launch, marina layout with concrete wave attenuator floats, upland parking and circulation, pedestrian access, and open waterfront and green spaces. The Master Site Plan provided a conceptual phased approach for development considering regulatory and funding constraints.

Stockton Springs Breakwater Study, Stockton Springs, ME. Assisted with the development of a study on the feasibility for breakwater options to protect the Town of Stockton Springs' public waterfront. Developed conceptual designs and cost estimates for a rubble mound breakwater, timber wave screen, steel sheet pile wave screen, and floating concrete wave attenuators.

Gulf of Maine Research Institute Bulkhead Reconstruction, Portland, ME. Structural design and detailing of an over-sheeted bulkhead structure on Wright's Wharf. The design included a new steel sheet pile bulkhead wall with a concrete cap anchored with new steel tie backs and a new steel sheet pile deadman anchorage system.

Public Wharf Condition and Resiliency Assessment, Monhegan Island, ME. Assisted in the development of a study investigating the condition and vulnerability of the stacked granite public wharf on Monhegan Island. The study included a flood risk assessment considering forecasted sea level rise scenarios and provided conceptual plans for raising the elevation of the wharf with an integrated concrete structure to make the wharf more resilient and reduce its risk of overtopping during severe weather events.

Frye Island Ferry Landing Structural Repairs, Raymond, ME. Repair design for structural repairs to the mainland ferry landing on Sebago Lake. The design included repairs to the vehicle rated, wood-framed ferry landing structure and repairs to the steel hinge plate connecting the ferry landing to the ferry deck.

Mackworth Island January 2024 Storms Assessment, Falmouth, ME. Performed automated and manual drone flights to document erosion along the island's causeway and shoreline from January 2024 coastal storms. Developed photogrammetry model to assess and compare erosion to previous conditions.

Alison Brady, E.I.

Waterfront Engineering Support

Portland, ME

Education

B.S., Civil Engineering, Northeastern University

Experience in the industry

1 year

Experience with GEI

1 year

Registrations and Licenses

Engineering Intern, ME
No. EI8275

Alison Brady is a staff professional in GEI's Portland, ME office. She has worked in both the public and private sector. As a co-op at a municipality in Massachusetts, she gained experience with road reconstruction projects, stream sampling, surveying, public utility management and design, and construction administration. As a co-op at a structural engineering firm in Boston, Alison worked on remodeling projects and new building construction.

Project Experience

Deep Water Access Study, Greater Portland Council of Governments, Freeport, ME. Conducted a feasibility study for sites for the development of a public deep-water access boat launch. Drafted a memo communicating the findings of the study.

Town Landing Commercial Pier Improvements, Town of Yarmouth, ME. Drafted a site characterization and concept design report for improvements to a commercial pier. Produced concept design plans. Designed a pier extension and a hoist connection to an existing concrete crib-supported pier.

Cape Porpoise Pier Rehabilitation, Town of Kennebunkport, ME. Produced meeting minutes to document project progress. Coordinated preconstruction meetings with the contractor, electrical utility representative, and fuel supplier.

Gulf of Maine Research Institute Bulkhead Reconstruction, Portland, ME. Assisted with the design of a stormwater drainage system and drawing set production, conducted site visits, and drafted local, state, and federal permit applications for the replacement of a steel sheet pile bulkhead.

Ponce's Landing, Town of Long Island, ME. Assisted with drawing set and project specification production for a timber pier replacement project.

Ogunquit Coastal Resilience Project, Southern Maine Planning & Development Commission, Ogunquit, ME. Documented existing site conditions. Presented information on sea level rise to the client and community members. Attended a site walk with the client and community members to gather public input.

Hampton Beach Accessibility Feasibility Study, New Hampshire Department of Natural & Cultural Resources, Hampton, NH. Attended site walk with clients and community members, looking at existing accessible amenities. Discussed observations and ideas for improvement with the client and community members. Presented an overview of events and programs put on at Hampton Beach to the client.

Wall Cap Repair & Dune Nourishment, Scarborough, ME. Assisted with the production of drawing sets, created cost and quantity estimate, drafted local permit applications, and met with clients and a scientist from Woods Hole Oceanographic Institute to discuss project scope and best practices for dune grass planting.

North Haven Thorofare Waterfront, Town of North Haven, North Haven, ME. Drafted a report, maps, and tables communicating flood risk and adaptation recommendations.

UNE Living Shoreline, University of New England, Biddeford, ME. Created figures showing concept-level living shoreline options.

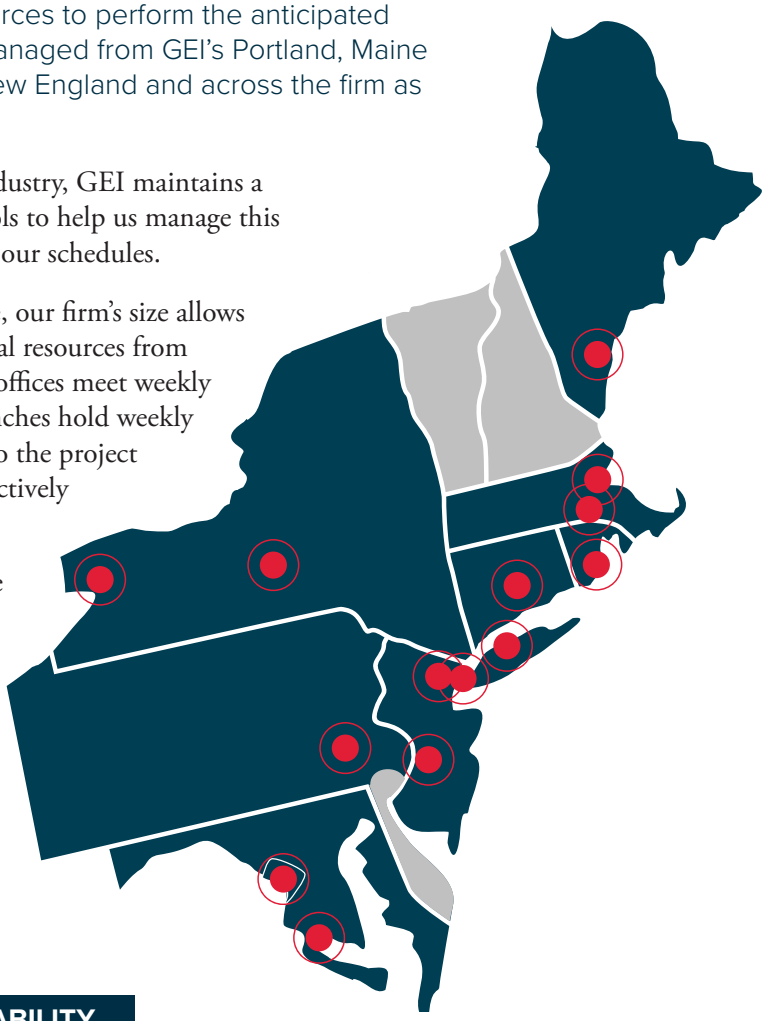
Depth And Breadth Of Capacity

GEI has the expertise and the physical resources to perform the anticipated services. All aspects of this project will be managed from GEI's Portland, Maine office and supported by additional staff in New England and across the firm as needed.

Like many firms in the consulting engineering industry, GEI maintains a significant workload. However, we have many tools to help us manage this workload and allow this project to fit readily into our schedules.

When demands of many projects are high at once, our firm's size allows us to keep projects on track by accessing additional resources from across the company to meet project needs. GEI's offices meet weekly to discuss upcoming projects, and individual branches hold weekly scheduling meetings to enable timely adherence to the project deliverable schedules and allow us to respond effectively and efficiently to any potential scope changes.

At the start of the project, GEI will work with the Town to develop a schedule that identifies goals, work activities, and milestones so that there is a mutual understanding of the project timeline. We will then track progress and update the schedule as needed, and communicate change as it happens.



Capacity of Project Team

NAME	AVAILABILITY
Daniel Bannon, P.E., CFM, BC.PE	10%
Barney Baker, P.E.	10%
Travis Pryor, PLA, LEED AP	15%
Lisa Vickers	15%
Kristin Connell	10%
John Gareau, E.I.	40%
Alison Brady, E.I.	40%

3 Project Task & Schedule Matrix

Project Task & Schedule Matrix

In accordance with the RFP, it is anticipated that the work of this project will be completed in a timeframe of approximately 6 months, with services beginning in March 2025. An outline of the proposed schedule is provided in the Gantt Chart below.

Town of York Paddle Craft Dock Project
Schedule / Sequencing

TASK	MONTHS					
	1	2	3	4	5	6
1. General and Project Management						
2. Background Data Collection and Site Investigations						
3. Concept Level Design (15% Design)						
4. Preliminary Design (15% - 60% Design)						
5. Regulatory Review						
6. Final Design (60% - 90% Design)						

4 Cost Proposal

Project Cost

GEI has developed a technical approach and prepared a budget to implement the tasks outlined in this proposal. We propose to provide the services on a lump sum basis for a fee of $50,000. This budget will not be exceeded without written approval from the Town. The estimated budget is based on assumptions about the scope and availability of information as outlined in this proposal. In the event changes to the scope of work are necessitated by the need for additional investigation, direction from Town, or other factors, we may need to work with the Town to amend the work scope and budget. A breakdown of estimated hours per task is provided in the table below.

We look forward to working with the Town of York to develop a Standard Professional Services Agreement (i.e., contract) to begin the work.

TASK	DESCRIPTION	ESTIMATED LABOR HOURS
1	General and Project Management	32
2	Background Data Collection and Site Investigations	34
3	Concept Level Design (15% Design)	58
4	Preliminary Design (15% - 60% Design)	80
5	Regulatory Review	22
6	Final Design (60% - 90% Design)	70
	Total	**296**

Appendix A Example of Work

*Note: Services provided between 2015 and 2021 were performed by Baker Design Consultants (BDC) prior to acquisition by GEI. Current GEI staff Daniel Bannon and Barney Baker were the lead engineers involved in the project through BDC and have continued in those roles in the ongoing work through GEI.

BROAD COVE PIER REPLACEMENT

BROAD COVE RESERVE, CUMBERLAND, MAINE
BDC PROJECT NO. 15-05
MAINE DOT WIN: 023809.00

USGS LOCATION MAP

INDEX OF SHEETS

TAX MAP #R1

PROPERTY INFORMATION

OWNER: TOWN OF CUMBERLAND, MAINE

ADDRESS: 179 FORESIDE ROAD
CUMBERLAND, MAINE 04021

MAP/LOT: R1-02

ZONING: LOW DENSITY RESIDENTIAL (LDR); SHORELAND OVERLAY

SETBACKS: NO CHANGE

BAKER DESIGN CONSULTANTS
Civil, Marine, and Structural Engineering
7 Spruce Road • Freeport • Maine • 04032 • 207-846-9724 • info@bakerdesignconsultants.com

NO.	DATE	INT.
1	6.5.18	BJB
	BID SET SUBMISSION	

BARNEY J. BAKER No. 5737 LICENSED PROFESSIONAL ENGINEER STATE OF MAINE

DESIGNED BY: DJB
DRAWN BY: JJC
CHECKED BY: BJB
SCALE: AS SHOWN

SHEET TITLE: COVERSHEET

PROJECT: BROAD COVE PIER REPLACEMENT
BROAD COVE RESERVE
CUMBERLAND, MAINE

DATE AUG 2015

CONTRACT NO. 15-05

SHEET NO. G-1

REV. 1

x:\15\15-05 payson pier, cumberland\cad\15-05 payson pier condition survey general.dwg 6/12/2018

GENERAL NOTES

1. THE CONTRACTOR SHALL BE GOVERNED BY THE CONSTRUCTION SAFETY RULES AS ADOPTED BY THE STATE BOARD OF CONSTRUCTION SAFETY AUGUSTA MAINE
2. THE PROJECT IS SUBJECT TO THE SAFETY AND HEALTH REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA) AS PROMULGATED BY THE US DEPARTMENT OF LABOR
3. ALL NON PAVED AREAS DISTURBED DURING CONSTRUCTION SHALL BE LOAMED, SEEDED, FERTILIZED AND MULCHED UNLESS OTHERWISE DIRECTED BY THE TOWN OR THEIR REPRESENTATIVE.
4. THE CONTRACTOR SHALL COMPLY WITH FEDERAL, STATE AND LOCAL REGULATORY REQUIREMENTS.
5. TOPSOIL STRIPPED IN AREAS OF CONSTRUCTION THAT IS SUITABLE FOR REUSE AS LOAM SHALL BE STOCKPILED AT A LOCATION TO BE DESIGNATED BY THE TOWN. UNSUITABLE SOIL SHALL BE SEPARATED, REMOVED AND DISPOSED OF AT AN APPROVED DISPOSAL LOCATION OFFSITE

UTILITY NOTES

1. NO DISRUPTION TO THE EXISTING UTILITIES ADJACENT THE PROJECT SITE SHALL BE ALLOWED DURING DEMOLITION OR CONSTRUCTION ACTIVITIES.
2. ANY TEMPORARY ELECTRIC SERVICE, IF REQUIRED DURING THE DURATION OF CONSTRUCTION IS THE RESPONSIBILITY OF THE CONTRACTOR
3. THE CONTRACTOR SHALL NOT MAKE ANY OPENING OR EXCAVATION WITHIN THE PROJECT AREA UNTIL CONTACT HAS BEEN MADE WITH DIG SAFE AND ALL UTILITIES TO LOCATE ANY EXISTING POWER, TELEPHONE CABLE TV, WATER OR OTHER UNDERGROUND SERVICES
4. THE UTILITY LOCATIONS SHOWN ON THE DRAWINGS ARE APPROXIMATE AND ARE PROVIDED AS A GUIDE TO THE CONTRACTOR. NO GUARANTEE IS MADE THAT UTILITIES WILL BE ENCOUNTERED WHERE SHOWN OR THAT ALL UTILITIES ARE SHOWN. THE CONTRACTOR SHALL VERIFY ALL LOCATIONS IN THE FIELD AND BE RESPONSIBLE FOR REPAIR OF UTILITIES DISTURBED DURING CONSTRUCTION.

DEMOLITION NOTES

1. DEMOLITION MATERIALS NOT SELECTED FOR RETAINAGE BY THE OWNER TO BE DISPOSED OF AT AN APPROVED FACILITY. ANY TREATED LUMBER SHALL BE DISPOSED OF IN COMPLIANCE WITH MAINE DEP REQUIREMENTS.

CONSTRUCTION SEQUENCE & COORDINATION

1. ALL CONSTRUCTION ACTIVITIES TO BE UNDERTAKEN FROM BARGE NO DISTURBANCE TO UPLAND SITE BEYOND THAT REQUIRED FOR CONSTRUCTION OF NEW PIER ABUTMENT AND APPROACH RAMP SHALL BE ALLOWED.
2. THE CONTRACTOR SHALL WORK WITH THE TOWN TO DESIGNATE A LAYDOWN AREA IN THE UPPER PARKING AREA ONSITE FOR PARKING AND MATERIAL DELIVERY, AND WILL COORDINATE ACCESS BETWEEN THE LAYDOWN AREA AND THE WATERFRONT WITH THE TOWN.

EROSION CONTROL NOTES

1. APPLICATION OF TEMPORARY AND PERMANENT EROSION CONTROL MEASURES FOR THE PROJECT SHALL BE IN ACCORDANCE WITH PROCEDURES AND SPECIFICATIONS OF THE CURRENT MAINE EROSION AND SEDIMENT CONTROL HANDBOOK FOR CONSTRUCTION; BEST MANAGEMENT PRACTICES.
2. SILTATION FENCE SHALL BE INSTALLED BEFORE ANY EXCAVATION TAKES PLACE
3. INSTALL EROSION CONTROL MESH ON ALL PROPOSED SLOPES 2:1 OR STEEPER, UNLESS SHOWN OR NOTED OTHERWISE.
4. ALL EROSION CONTROL MEASURES SEEDING AND MULCHING SHALL BE INSPECTED WEEKLY, AFTER RAINSTORMS AND DURING RUNOFF EVENTS. ALL MEASURES SHALL BE REPAIRED OR REPLACED WHEN NO LONGER SERVICEABLE DUE TO SEDIMENT ACCUMULATION OR DAMAGE.
5. SEEDED AND MULCHED AREAS SHALL BE MAINTAINED UNTIL FINAL ACCEPTANCE OF THE WORK
6. TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED UPON COMPLETION OF GRADING OPERATIONS AND ESTABLISHMENT OF ACCEPTABLE GROUND COVER.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING EROSION CONTROL MEASURES DURING CONSTRUCTION.

SURVEY & DATUM NOTES

1. BASE SURVEY, TOPOGRAPHY, SITE DATUM CONTROL AND PROJECT BENCHMARKS ARE FROM A FIELD SURVEY WITH DOCUMENTING PLAN BY LITTLE RIVER LAND SURVEYING DATED 10/19/15
2. ALL TOPOGRAPHIC INFORMATION PROVIDED IS REFERENCED TO NAVD88 VERTICAL DATUM UNLESS OTHERWISE NOTED.
3. BASE FLOOD/TIDAL INFORMATION TAKEN FROM MEDEP, FEMA, AND NOAA PUBLISHED DATA REFER TO THE TABLE BELOW

PROJECT ELEVATIONS (BY DATUM)

ELEVATION	CHART (ft)	NGVD29 (ft)	NAVD88 (ft)	Notes
FEMA Base Flood	22.3	17.7	17.0	Prelim FEMA Zone VE
FEMA Base Flood	19.5	15.0	14.3	Effective FEMA Zone V2
Highest Annual Tide	11.9	7.4	6.7	2013 MEDEP Predictions
MHHW	9.9	5.4	4.7	BASED ON TIDAL SM 'PORTLAND'
MHW	9.5	5.0	4.2	
NAVD88	5.3		0.0	
NGVD29	4.5	0.0		
MLW	0.3	-4.2	-4.9	
MLLW	0.0	-4.5	-5.3	

REFERENCE DOCUMENTS

1. BOUNDARY SURVEY PLAN OF SPEARS HILL SUBDIVISION, 179 FORESIDE ROAD, CUMBERLAND, MAINE" BY TITCOMB ASSOCIATES, DATED AUGUST 28, 2014 AND REVISED THROUGH DECEMBER 11 2014.
2. COPIES OF REGULATORY PERMITS ARE PROVIDED IN THE PROJECT MANUAL.
3. SUBSURFACE INFORMATION PROVIDED IN THESE PLANS IS BASED ON A SUBSURFACE INVESTIGATION CONSISTING OF 11 PILE PROBES DRIVEN TO REFUSAL. PROBE RESULTS ARE PROVIDED ON SHEET G-2

SCOPE OF WORK SUMMARY

1. DEMOLITION AND DISPOSAL OFFSITE OF EXISTING PIER STRUCTURE INCLUDING REMOVAL OF CRIBS TO 2' BELOW EXISTING GROUND AND DISPOSAL OF CRIB BALLAST MATERIAL.
2. CONSTRUCTION OF NEW TIMBER PIER INCLUDING CONCRETE ABUTMENT, GRANITE CRIB AND PILE SUPPORTED BENTS.
3. INSTALLATION OF SEASONAL GANGWAY, FLOATS, AND RESTRAINT SYSTEM

DESIGN CRITERIA

1. PIER DESIGN LOADS
   - DEAD LOADS - SELF WEIGHT OF COMPONENTS & ATTACHMENTS
   - LIVE LOAD - 100 PSF
   - WAVE HEIGHT - 3 FT
   - DESIGN WIND SPEED - 100 MPH
2. ALL HANDRAIL AND POSTS SHALL BE CONSTRUCTED TO WITHSTAND A 200 LB LOAD APPLIED IN ANY DIRECTION OR 50 LB/FT APPLIED ALONG RAIL LENGTH
3. GANGWAY
   - NOMINAL SIZE 60'-0" X 5'-0"
   - MINIMUM CLEAR DISTANCE BETWEEN HANDRAILS 3'-6"
   - GANGWAY SHALL BE CONSTRUCTED OF MARINE GRADE ALUMINUM
   - HANDRAILS, APRONS AND TRANSITION PLATES SHALL MEET ADA AND OSHA ACCESSIBILITY REQUIREMENTS
   - GANGWAY SHALL BE DESIGNED TO SAFELY SUPPORT
     i. 60 PSF LIVE LOAD WITH SPAN/360 DEFLECTION LIMIT
     ii. 75 PSF LIVE LOAD WITH NO DEFLECTION LIMIT
   - GANGWAY SHALL BE PROVIDED WITH INTEGRAL WATER LINE WITH HOSE B/B CONNECTIONS TOP AND BOTTOM.
   - GANGWAY SHALL BE PROVIDED WITH DETACHABLE CHAIN ACROSS TOP TO DETER ACCESS WHEN RAISED AND STORED ON THE PIER

STRUCTURAL NOTES

STEEL PILES

1. STEEL PIPE PILES SHALL BE 10-3/4 INCH DIAMETER, MINIMUM 3/8 INCH THICK WALL, STEEL PIPE PILES IN ACCORDANCE WITH ASTM A252 GRADE 3
2. ALL PILES SHALL BE SEAMLESS.
3. AN OPEN CUTTING SHOE IS REQUIRED
4. STEEL PIPE PILES SHALL BE TREATED WITH FUSION BONDED EPOXY (COLOR: BROWN) TO A DEPTH OF AT LEAST 13-FT BELOW GRADE. REPAIR ANY COATING DAMAGED IN THE FIELD.
5. THE CONTRACTOR SHALL TAKE STEPS TO PROTECT PILE COATING FROM DAMAGE DURING HANDLING AND DRIVING OPERATIONS.
6. ALL PILES SHALL BE FILLED WITH MDOT CLASS A CONCRETE AFTER INSTALLATION IS COMPLETE.

CAST-IN-PLACE CONCRETE

1. MIX DESIGN
   a. MDOT CLASS A F_c = 4,000 PSI
2. MINIMUM COVER TO REINFORCEMENT = 3"
3. REINFORCING STEEL
   a. ASTM A615 GRADE 60, F_y = 60,000 PSI
4. COAT EXPOSED CONCRETE SURFACES WITH SIKAGARD 670W CLEAR OR EQUIV. PROTECTIVE COATING.

MISCELLANEOUS METALS AND FASTENERS

1. REFER TO FASTENER SCHEDULE
2. ALL METAL ITEMS TO BE A36 STEEL, HOT DIP GALVANIZED AFTER FABRICATION UNLESS OTHERWISE NOTED
3. ALL FASTENERS SHALL BE HOT DIPPED GALVANIZED OR STAINLESS STEEL
4. ALL BOLTS SHALL CONFORM TO ASTM A-307. MINIMUM SIZE SHALL BE ¾" DIA UNLESS OTHERWISE NOTED. ALL BOLTS TO BE HEAVY HEX UNLESS OTHERWISE NOTED
5. ANCHOR BOLTS SHALL CONFORM TO ASTM F-1554 AND SHALL BE GRADE 36.

TIMBER STRUCTURAL MEMBERS

1. REFER TO TIMBER SCHEDULE.
2. ALL EXPOSED EDGES SHALL BE PLANED OR SANDED TO PROVIDE SMOOTH SURFACE FREE OF ROUGH EDGES OR DEFECTS
3. ALL EXPOSED FASTENERS SHALL BE COUNTERSUNK ON WALKING SURFACE AND PEDESTRIAN HANDRAIL.
4. ALL TIMBER JOISTS, BEAMS AND PILE CAPS TO BE CAPPED WITH ICE AND WATER SHIELD BY GRACE CONSTRUCTION PRODUCTS OR APPROVED EQUAL PRIOR TO PLACEMENT OF DECK

GLUE-LAMINATED TIMBER GIRDERS

1. ALL EXPOSED SURFACES OF GLULAM MEMBERS SHALL BE TREATED BY THE MANUFACTURER WITH THOMPSON'S WATERSEAL WATERPROOFING WOOD PROTECTOR OR EQUIVALENT
2. ANY UNTREATED SURFACES EXPOSED BY CUTTING, DRILLING, SANDING, OR NOTCHING OF GLULAM MEMBERS IN THE FIELD SHALL BE TREATED WITH THOMPSON'S WATERSEAL WATERPROOFING WOOD PROTECTOR OR EQUIVALENT.
3. CAMBER FOR ALL GLULAM GIRDERS SHALL BE BASED ON A RADIUS OF 2000-FT

TIMBER SCHEDULE

Timber Size	Location	% Moisture at Treatment	Treatment Type	Treatment pcf	Grading to SPIB	Surface Finishing
Pier						
6.75 x 28.875 24F-V3 SP	Glulam Girders	KD, 16% Prior to Gluing	Penta	0.6 Prior to Gluing	Architectural Grade Unadilla Laminated Products (207) 846-5580	
6.75 x 28.875 24F-V3 SP	End Beam	KD, 16% Prior to Gluing	Penta	0.6 Prior to Gluing	Architectural Grade Unadilla Laminated Products (207) 846-5580	
4 x 10	Cross Beams	25%	CCA	1.0	No. 1	S4S
3 x 8	Deck Nailers	25%	CCA	1.0	No. 1	S4S
10 x 12	Overlook Edge Beam	25%	CCA	1.0	No. 1	S4S
3 x 8	Deck Planking	19%	ACQ	0.6	No. 1	S4S
4 x 4	Diagonal Bracing	25%	CCA	1.0	No. 1	S4S
8 x 8	Gallows Upright	19%	ACQ	0.6	No. 1	S4S
8 x 8	Gallows Beam	19%	ACQ	0.6	No. 1	S4S
6 x 6	Knee Brace	19%	ACQ	0.6	No. 1	S4S
Handrail						
2 x 4	Backer Supports	19%	ACQ	0.6	No. 1	S4S
4 x 4	Posts	19%	ACQ	0.6	No. 1	S4S
5/4 x 6	Top rail	Composite lumber				
5/4 x 6	Midrail, Lowrail	19%	ACQ	0.6	No. 1	S4S

PILE SCHEDULE

Elevations based on NAVD88 Datum

PILE Reference	Material	Type	Cutoff Elev	Mudline Elev	Ledge Elevation	Overburden	End Condition	Pile Tip Elevation*	Calculated Length FT	Min. Pile Order Length
2 A	STEEL PIPE PILE, ASTM A252, GRADE 3, SEAMLESS 10.75" OD, 0.375" THK, CONCRETE FILLED	Support	10.33	2.3	-2.0	4.3	SOCKETED 4-FT	-6.0	16	21
2 B		Support	10.33	2.3	-0.6	2.9	SOCKETED 4-FT	-4.6	15	20
3 A		Support	11.67	1.0	-6.8	7.8	SOCKETED 4-FT	-10.8	23	28
3 B		Support	11.67	1.0	-13.3	14.3	SOCKETED 4-FT	-17.3	29	34
4 A		Support	11.67	-1.3	-30.1	28.8	DRIVEN TO LEDGE	-30.1	42	47
4 B		Support	11.67	-1.3	-28.3	27.0	DRIVEN TO LEDGE	-28.3	40	45
5 A		Support	11.67	-3.7	-27.1	23.5	DRIVEN TO LEDGE	-27.1	39	44
5 B		Support	11.67	-3.7	-33.1	29.4	DRIVEN TO LEDGE	-33.1	45	50
5 C		Support	11.67	-3.7	-39.0	35.4	DRIVEN TO LEDGE	-39.0	51	56
6.1 A		Guide	20.00	-5.7	-36.0	30.3	DRIVEN TO LEDGE	-36.0	56	61
6.1 B		Batter	17.00	-5.7	-36.0	30.3	DRIVEN TO LEDGE	-36.0	53	58
6.1 C		Batter	17.00	-5.7	-36.0	30.3	DRIVEN TO LEDGE	-36.0	53	58
6.2 A		Guide	20.00	-5.7	-36.0	30.3	DRIVEN TO LEDGE	-36.0	56	61
6.2 B		Batter	17.00	-5.7	-36.0	30.3	DRIVEN TO LEDGE	-36.0	53	58
6.2 C		Batter	17.00	-5.7	-36.0	30.3	DRIVEN TO LEDGE	-36.0	53	58
							STEEL PIPE PILE		Total Length	698
									No of Piles	15

FASTENER SCHEDULE

Location	Diameter in	Fastener Type	No./ Connection	Finish	Length in
Pier Superstructure					
Decking to Girder/Deck Nailer	5/16"	GRK-RSS	2	316 Stainless	6"
Deck Nailer to Cross Beam	5/16"	GRK-RSS	2	316 Stainless	6"
Cross Beam to Support Bracket	3/4"	Heavy Hex	2	Hot-Dipped Galvanized	6"
Cross Beam Bracket to Glulam	3/4"	Timber Bolt	4	Hot-Dipped Galvanized	8"
Diagonal Bracing to Glulam	3/4"	Timber Bolt	2	Hot-Dipped Galvanized	12"
Brace Blocking to Glulam	3/4"	Lag Bolt	4	Hot-Dipped Galvanized	8"
Overlook Extension Bracket to Glulam	3/4"	Heavy Hex	6	Hot-Dipped Galvanized	10"
Overlook Extension Bracket to Edge Beam	3/4"	Timber Bolt	4	Hot-Dipped Galvanized	12"
Girder Seat Bracket to Glulam	3/4"	Heavy Hex	4	Hot-Dipped Galvanized	10"
Girder Seat Bracket to Pile Cap	3/4"	ASTM F1554	4	Hot-Dipped Galvanized	14"
End Beam to Gallows Upright	3/4"	Timber Bolt	3	Hot-Dipped Galvanized	16"
End Beam to Connection Bracket	3/4"	Timber Bolt	3	Hot-Dipped Galvanized	8"
Gallows Upright to Glulam and Bracket	3/4"	Timber Bolt	3	Hot-Dipped Galvanized	16"
Gallows Beam to Upright	1"	Drift Pin	1	Hot-Dipped Galvanized	20"
Knee Brace to Beam and Upright	3/4"	Timber Bolt	1	Hot-Dipped Galvanized	12"
Handrails					
Timber Handrail Post to Beam	5/8"	Timber Bolt	2	Hot-Dipped Galvanized	12"
Timber Handrail to Post	#10	GRK-R4	2	316 Stainless	3-1/8"
Top Rail Backer to Post	5/16"	GRK-RSS	2	316 Stainless	6"
Top Rail to Top Rail Backer	#8	GRK-R4	2 Full Rows @.18" o.c.	316 Stainless	2-1/2"

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NO.	DATE	INT.
1	6.5.18	BJB
	BID SET SUBMISSION	

BARNEY J. BAKER No. 5737 LICENSED PROFESSIONAL ENGINEER STATE OF MAINE

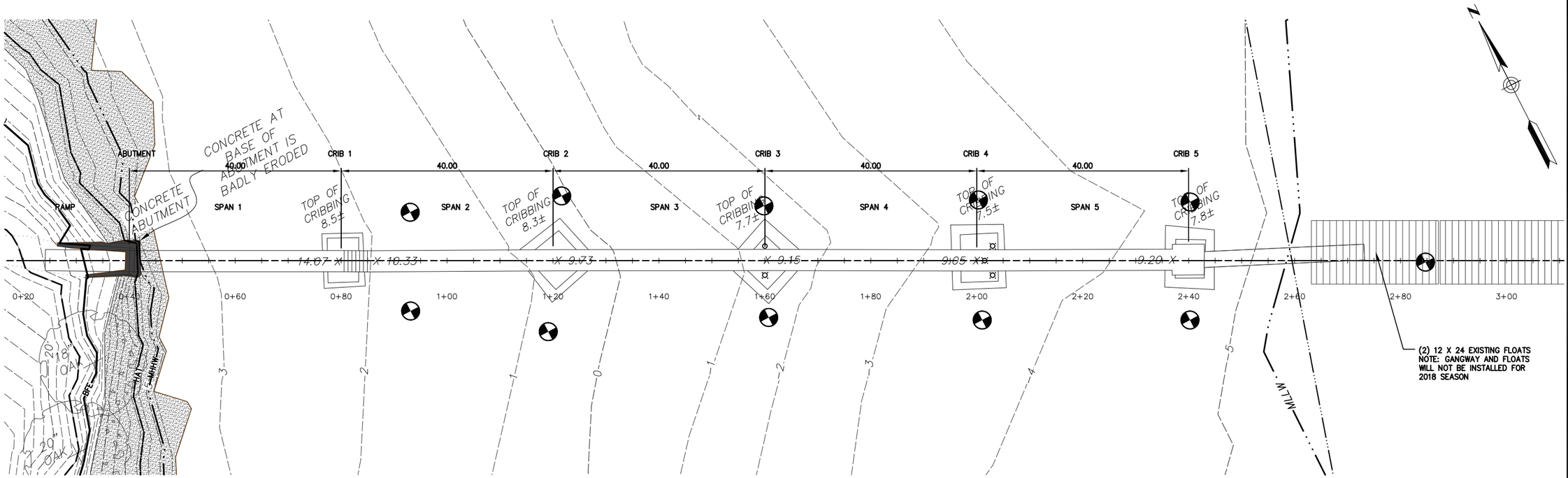
DESIGNED BY: DJB
DRAWN BY: JJC
CHECKED BY: BJB
SCALE: AS SHOWN

SHEET TITLE: NOTES & SCHEDULES

PROJECT: BROAD COVE PIER REPLACEMENT
BROAD COVE RESERVE
CUMBERLAND, MAINE

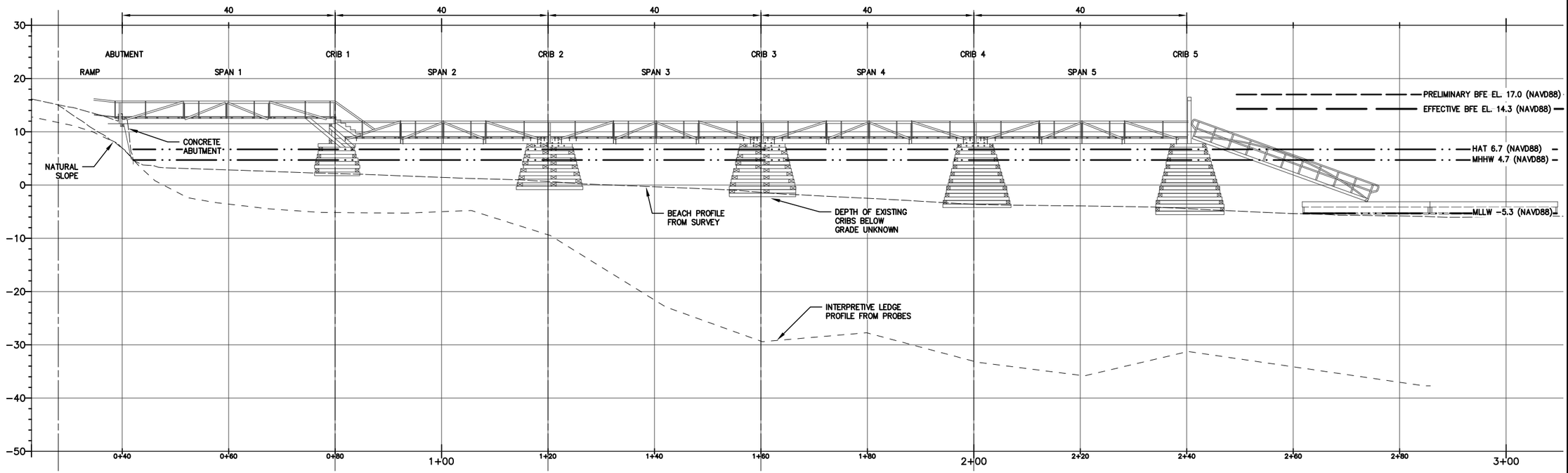
DATE AUG 2015
CONTRACT NO. 15-05
SHEET NO. G-2
REV. 1

x:\15\15-05 payson pier, cumberland\cad\15-05 payson pier condition survey general.dwg 6/12/2018



PLAN

0 5 10 15 30



ELEVATION

0 5 10 15 30

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NO.	DATE	INT.
1	6.5.18	BJB
	BID SET SUBMISSION	

STATE OF MAINE
BARNEY J. BAKER
No. 5737
LICENSED PROFESSIONAL ENGINEER

DESIGNED BY: DJB
DRAWN BY: JJC
CHECKED BY: BJB
SCALE: AS SHOWN

SHEET TITLE: EXISTING PIER PLAN & ELEVATION

PROJECT: BROAD COVE PIER REPLACEMENT
BROAD COVE RESERVE
CUMBERLAND, MAINE

DATE
AUG 2015

CONTRACT NO.
15-05

SHEET NO. C-1

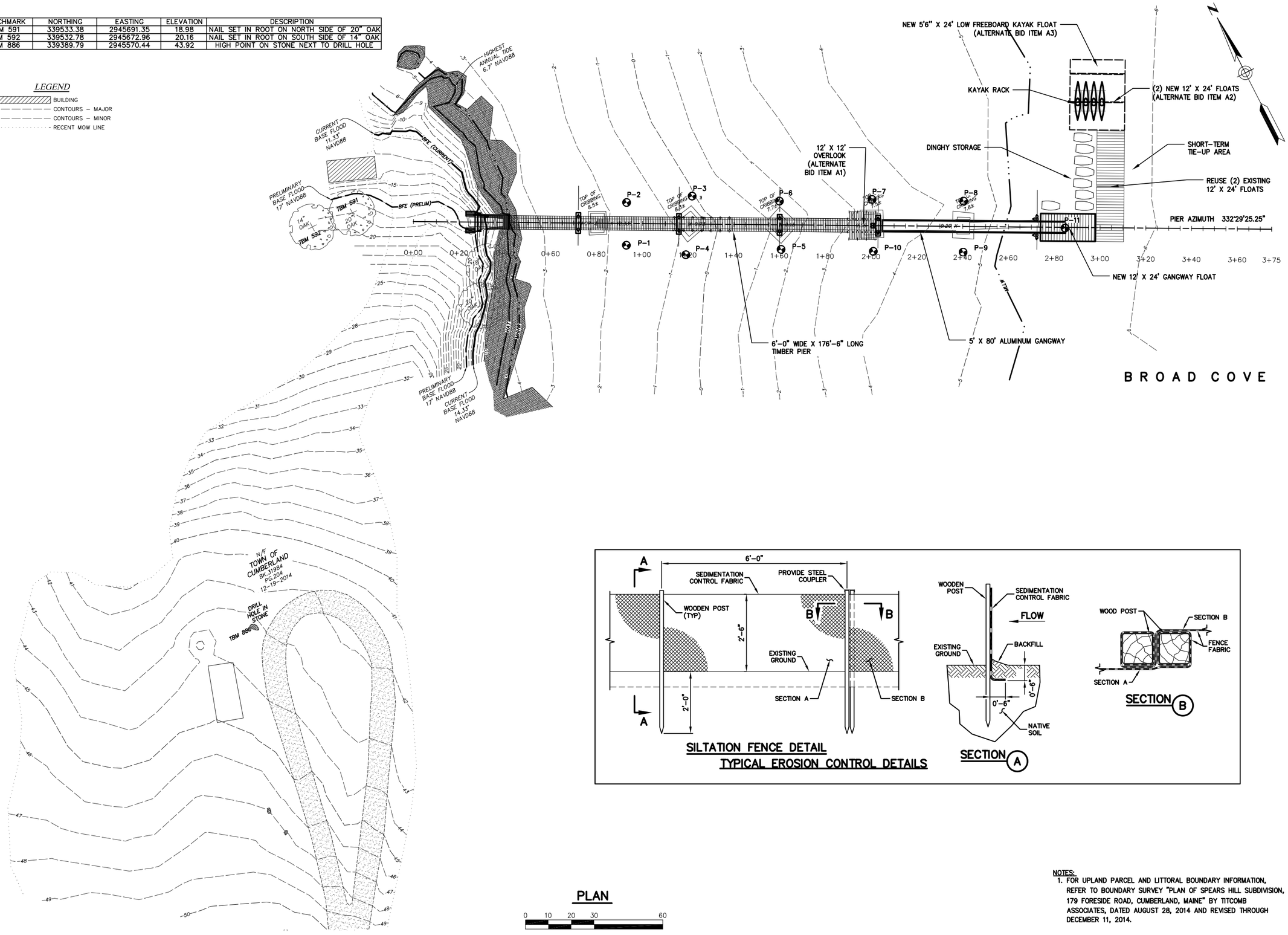
REV. 1

x:\15\15-05 payson pier, cumberland\cad\15-05 payson pier condition survey civil3d.dwg 6/12/2018

BENCHMARK	NORTHING	EASTING	ELEVATION	DESCRIPTION
TBM 591	339533.38	2945691.35	18.98	NAIL SET IN ROOT ON NORTH SIDE OF 20" OAK
TBM 592	339532.78	2945672.96	20.16	NAIL SET IN ROOT ON SOUTH SIDE OF 14" OAK
TBM 886	339389.79	2945570.44	43.92	HIGH POINT ON STONE NEXT TO DRILL HOLE

LEGEND

- BUILDING
- CONTOURS – MAJOR
- CONTOURS – MINOR
- RECENT MOW LINE



PLAN

0 10 20 30 60

SILTATION FENCE DETAIL

TYPICAL EROSION CONTROL DETAILS

SECTION (A)

SECTION (B)

NOTES:

1. FOR UPLAND PARCEL AND LITTORAL BOUNDARY INFORMATION, REFER TO BOUNDARY SURVEY "PLAN OF SPEARS HILL SUBDIVISION, 179 FORESIDE ROAD, CUMBERLAND, MAINE" BY TITCOMB ASSOCIATES, DATED AUGUST 28, 2014 AND REVISED THROUGH DECEMBER 11, 2014.

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NO.	DATE	INT.
1	6.5.18	BJB
	BID SET SUBMISSION	

STATE OF MAINE
BARNEY J. BAKER No. 5737
LICENSED PROFESSIONAL ENGINEER

DESIGNED BY:	DRAWN BY:	CHECKED BY:	SCALE:
DJB	JJC	BJB	AS SHOWN

SHEET TITLE: SITE PLAN

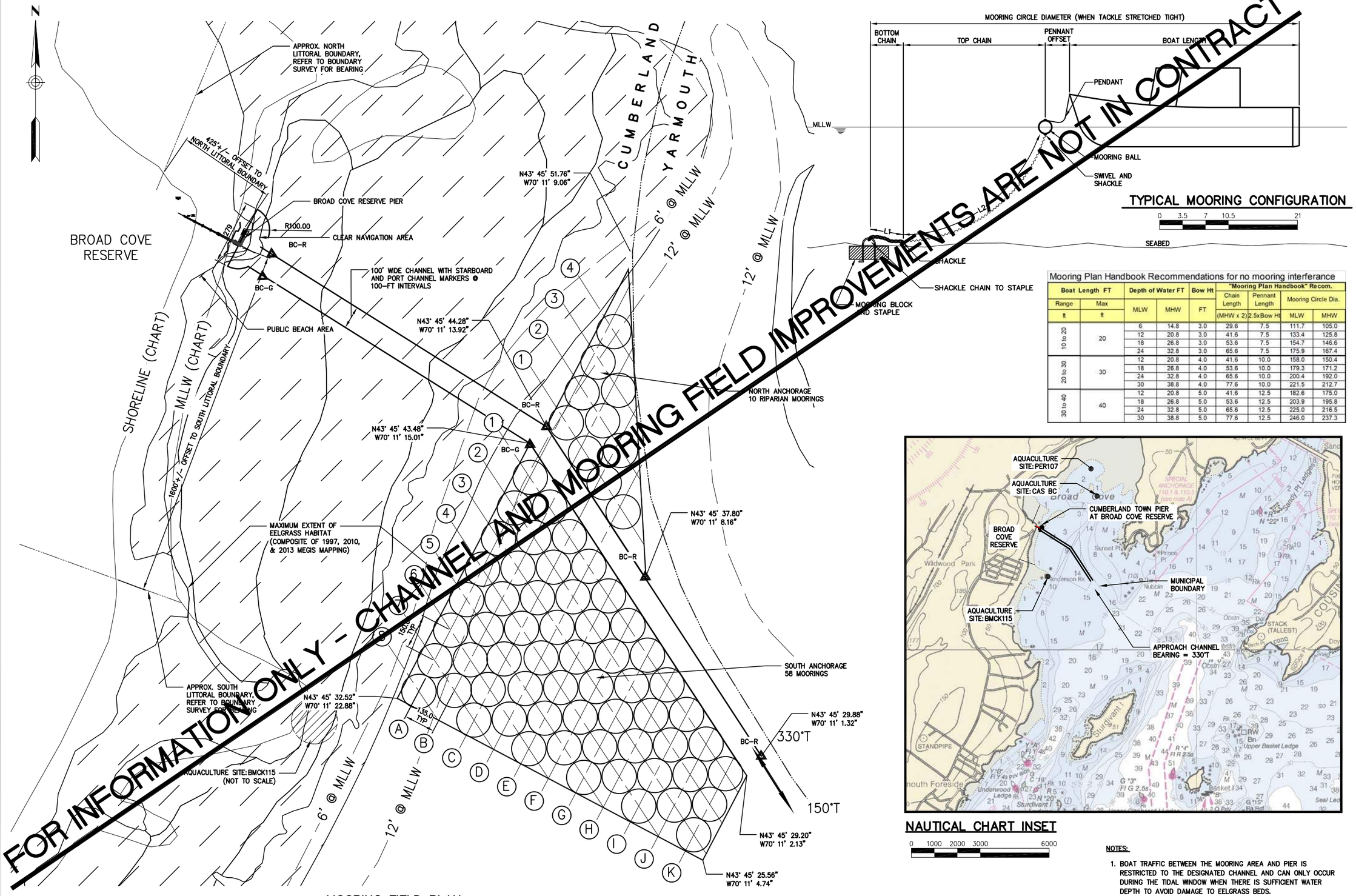
PROJECT: BROAD COVE PIER REPLACEMENT
BROAD COVE RESERVE
CUMBERLAND, MAINE

DATE: AUG 2015

CONTRACT NO. 15-05

SHEET NO. C-2 | REV. 1

x:\15\15-05 payson pier, cumberland\cad\15-05 payson pier condition survey civil3d.dwg 6/12/2018



MOORING FIELD PLAN

0 100 200 300 600

TYPICAL MOORING CONFIGURATION

0 3.5 7 10.5 21

Mooring Plan Handbook Recommendations for no mooring interference

Boat Length FT		Depth of Water FT		Bow Ht	"Mooring Plan Handbook" Recom.			
Range	Max	MLW	MHW	FT	Chain Length	Pennant Length	Mooring Circle Dia.	
ft	ft				(MHW x 2)	2.5xBow Ht	MLW	MHW
10 to 20	20	6	14.8	3.0	29.6	7.5	111.7	105.0
		12	20.8	3.0	41.6	7.5	133.4	125.8
		18	26.8	3.0	53.6	7.5	154.7	146.6
		24	32.8	3.0	65.6	7.5	175.9	167.4
20 to 30	30	12	20.8	4.0	41.6	10.0	158.0	150.4
		18	26.8	4.0	53.6	10.0	179.3	171.2
		24	32.8	4.0	65.6	10.0	200.4	192.0
		30	38.8	4.0	77.6	10.0	221.5	212.7
30 to 40	40	12	20.8	5.0	41.6	12.5	182.6	175.0
		18	26.8	5.0	53.6	12.5	203.9	195.8
		24	32.8	5.0	65.6	12.5	225.0	216.5
		30	38.8	5.0	77.6	12.5	246.0	237.3

NAUTICAL CHART INSET

0 1000 2000 3000 6000

NOTES:

1. BOAT TRAFFIC BETWEEN THE MOORING AREA AND PIER IS RESTRICTED TO THE DESIGNATED CHANNEL AND CAN ONLY OCCUR DURING THE TIDAL WINDOW WHEN THERE IS SUFFICIENT WATER DEPTH TO AVOID DAMAGE TO EELGRASS BEDS.
2. CHANNEL MARKERS LOCATED IN EELGRASS AREAS MUST USE LOW IMPACT TACKLE COMPRISING A MUSHROOM ANCHOR (OR EQUAL) AND SUSPENDED LINE TO MINIMIZE DISTURBANCE TO THE SEABED.

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NO.		DATE	INT.
1	BID SET SUBMISSION	6.5.18	BJB

STATE OF MAINE
BARNEY J. BAKER
No. 5737
LICENSED PROFESSIONAL ENGINEER

DESIGNED BY:	DJB	DRAWN BY:	JJC	CHECKED BY:	BJB	SCALE:	AS SHOWN

SHEET TITLE: MOORING FIELD PLAN

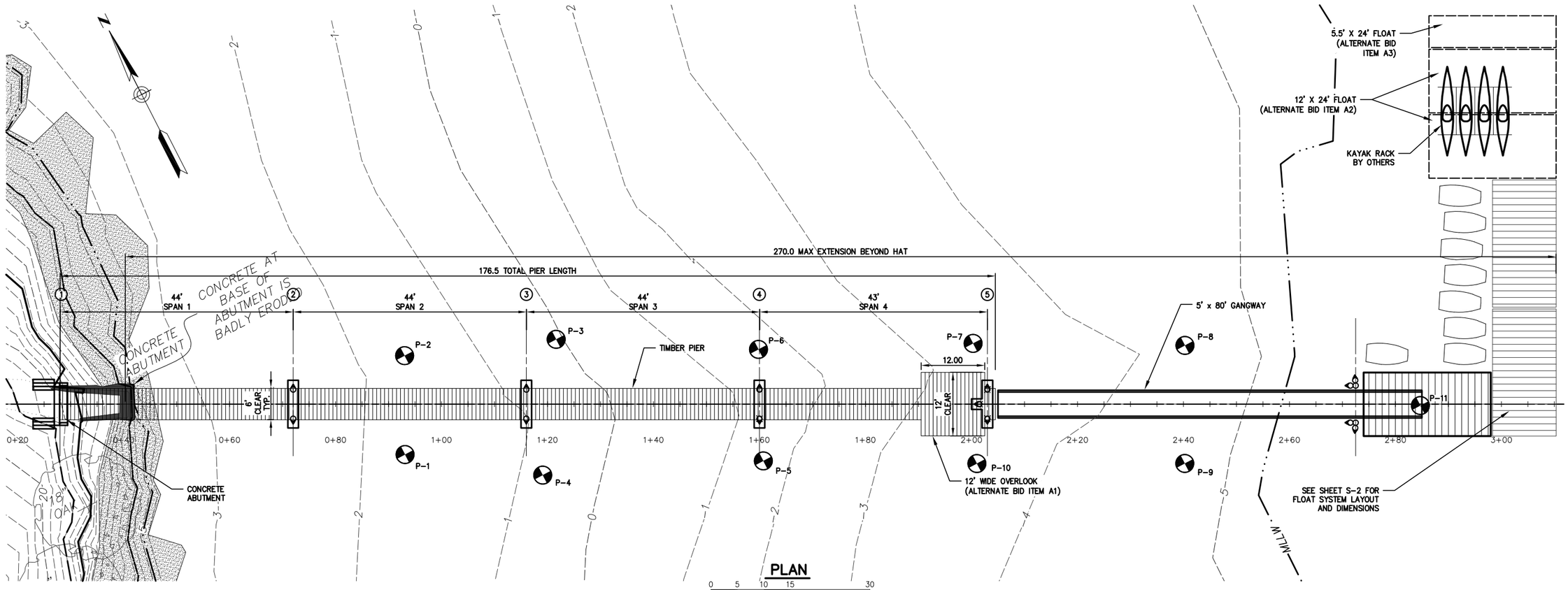
PROJECT: BROAD COVE PIER REPLACEMENT
BROAD COVE RESERVE
CUMBERLAND, MAINE

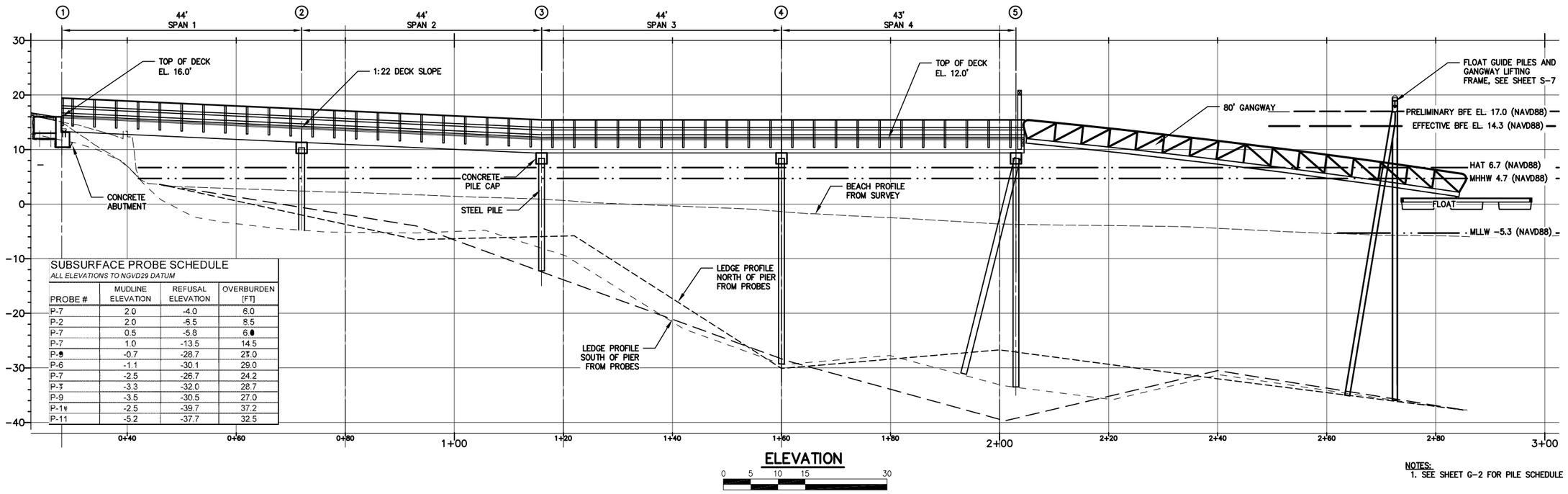
DATE: JAN 2016

CONTRACT NO. 15-05

SHEET NO. C-3 | REV. 1

x:\15\15-05 payson pier, cumberland\cad\15-05 payson pier condition survey civil3d.dwg 6/12/2018





SUBSURFACE PROBE SCHEDULE

ALL ELEVATIONS TO NGVD29 DATUM

PROBE #	MUDLINE ELEVATION	REFUSAL ELEVATION	OVERBURDEN [FT]
P-7	2.0	-4.0	6.0
P-2	2.0	-6.5	8.5
P-7	0.5	-5.8	6.3
P-7	1.0	-13.5	14.5
P-3	-0.7	-28.7	27.0
P-6	-1.1	-30.1	29.0
P-7	-2.5	-26.7	24.2
P-4	-3.3	-32.0	28.7
P-9	-3.5	-30.5	27.0
P-10	-2.5	-39.7	37.2
P-11	-5.2	-37.7	32.5

NOTES:
1. SEE SHEET G-2 FOR PILE SCHEDULE

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NO.	DESCRIPTION	DATE	INT.
1	BID SET SUBMISSION	6.5.18	BJB

STATE OF MAINE
BARNEY J. BAKER
No. 5737
LICENSED PROFESSIONAL ENGINEER

DESIGNED BY: DJB
DRAWN BY: JJC
CHECKED BY: BJB
SCALE: AS SHOWN

SHEET TITLE: PIER PLAN & ELEVATION

PROJECT: BROAD COVE PIER REPLACEMENT
BROAD COVE RESERVE
CUMBERLAND, MAINE

DATE: AUG 2015

CONTRACT NO. 15-05

SHEET NO. S-1

REV. 1

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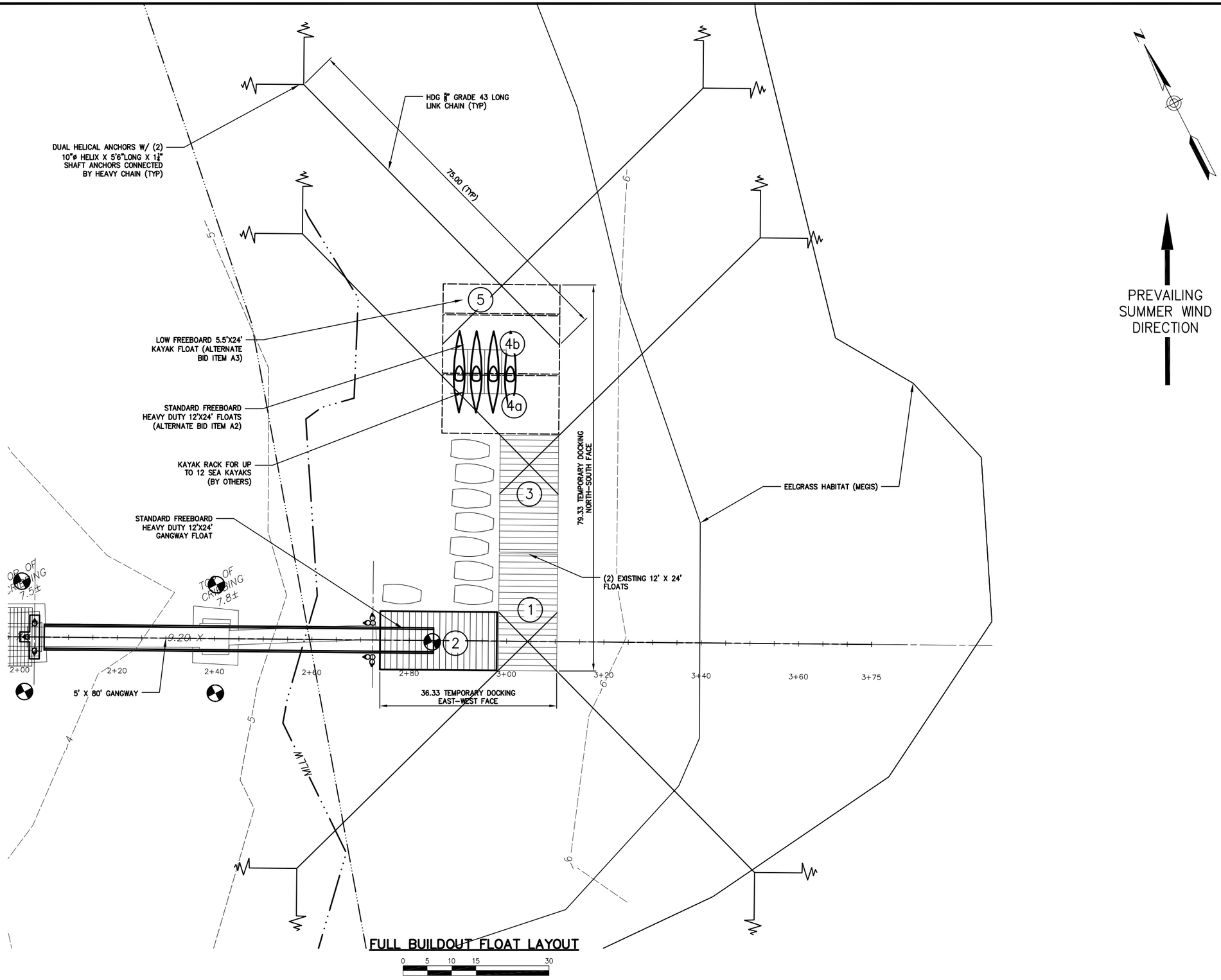

FULL BUILDOUT FLOAT LAYOUT

0 5 10 15 30

x:\15\15-05 payson pier, cumberland\cad\15-05 payson pier condition survey civil3d.dwg 6/12/2018

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NO.	DATE	INT.
1	6.5.18	BJB

BID SET SUBMISSION

STATE OF MAINE
BARNEY J. BAKER
No. 5737
LICENSED PROFESSIONAL ENGINEER

DESIGNED BY: DJB
DRAWN BY: JJC
CHECKED BY: BJB
SCALE: AS SHOWN

SHEET TITLE: FLOAT LAYOUT PLAN

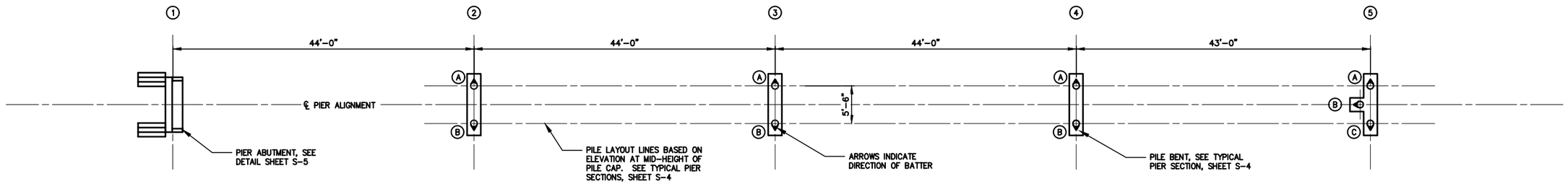
PROJECT: BROAD COVE PIER REPLACEMENT
BROAD COVE RESERVE
CUMBERLAND, MAINE

DATE AUG 2015

CONTRACT NO. 15-05

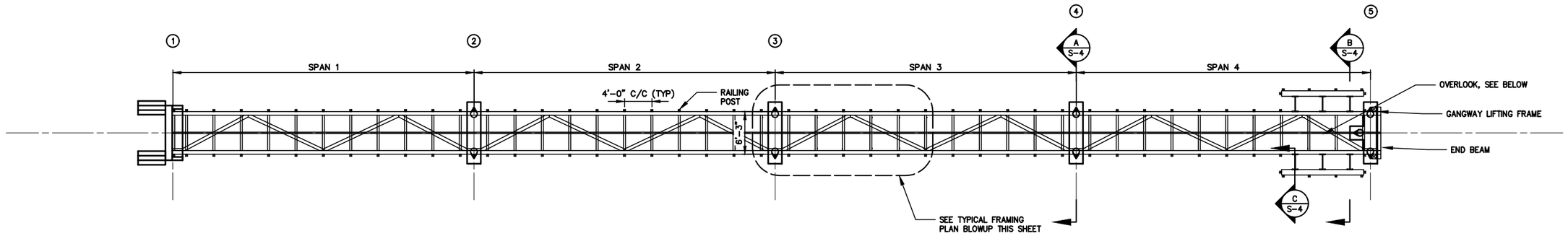
SHEET NO. S-2

REV. 1



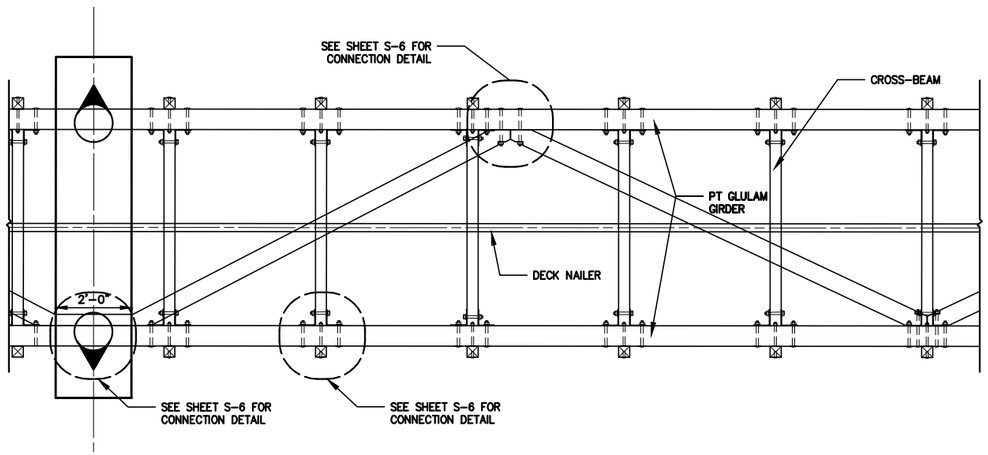
PILE LAYOUT PLAN

0 6 12 18 24 48



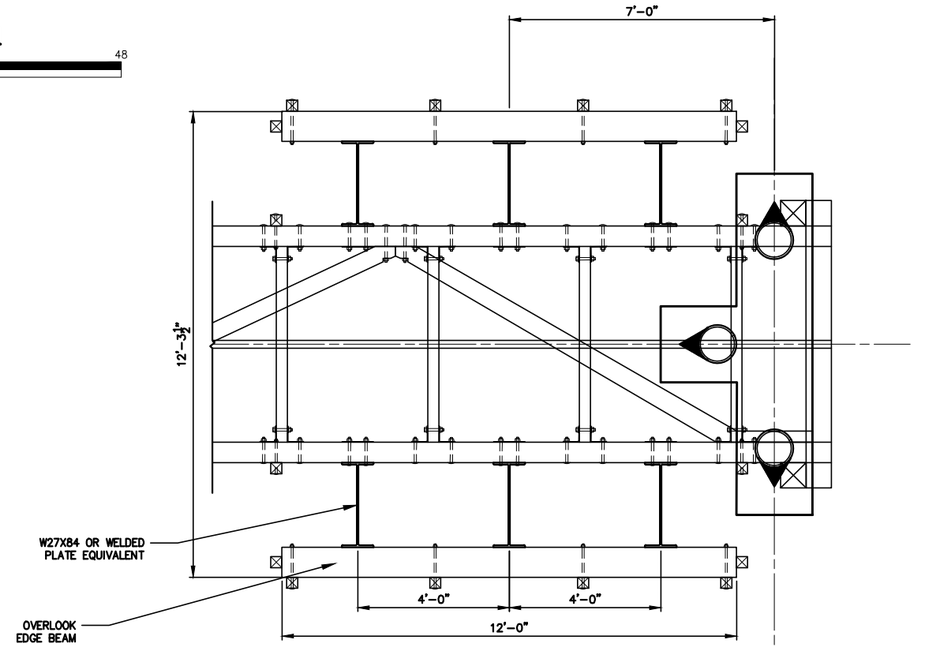
PIER FRAMING PLAN

0 6 12 18 24 48



TYPICAL FRAMING PLAN

0 2 4 6 12



OVERLOOK FRAMING PLAN

0 2 4 6 12

NOTE: CONSTRUCTION OF WIDENED OVERLOOK IS COVERED BY ALTERNATE BID ITEM A1.

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NO.	DATE	INT.
1	6.5.18	BJB
	BID SET SUBMISSION	

STATE OF MAINE — BARNEY J. BAKER No. 5737 — LICENSED PROFESSIONAL ENGINEER

DESIGNED BY:	DJB
DRAWN BY:	JJC
CHECKED BY:	BJB
SCALE:	AS SHOWN

SHEET TITLE: PILE LAYOUT & FRAMING PLANS

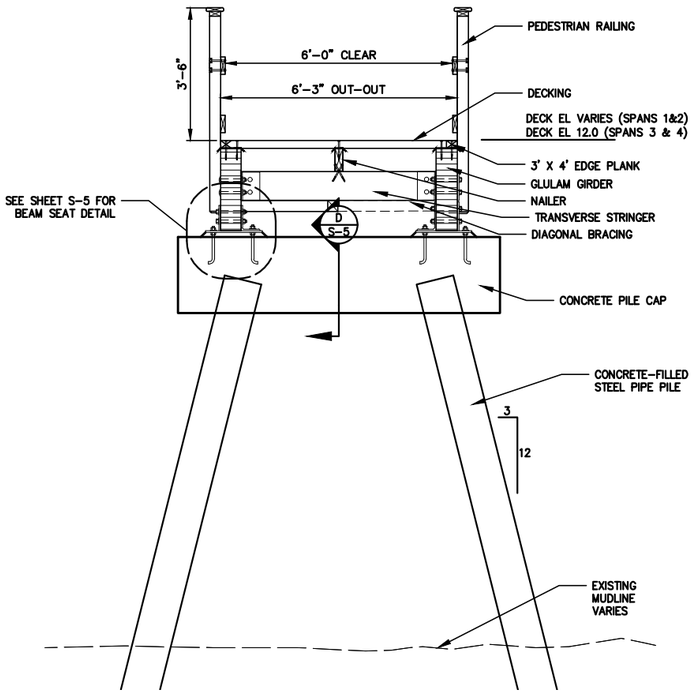
PROJECT: BROAD COVE PIER REPLACEMENT
BROAD COVE RESERVE
CUMBERLAND, MAINE

DATE: AUG 2015

CONTRACT NO. 15-05

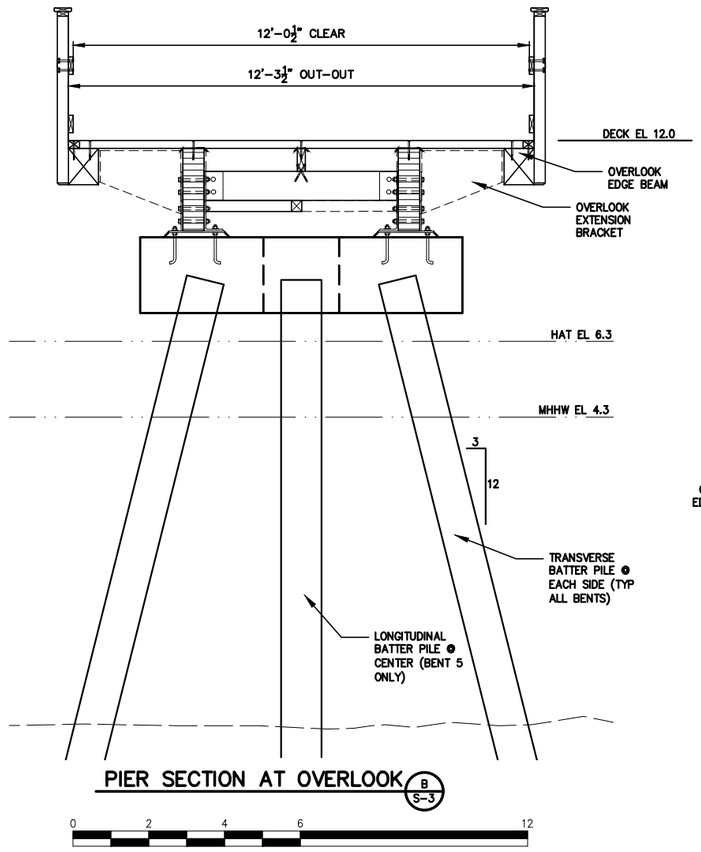
SHEET NO. S-3 | REV. 1

x:\15\15-05 payson pier, cumberland\cad\15-05 payson pier condition survey structural.dwg



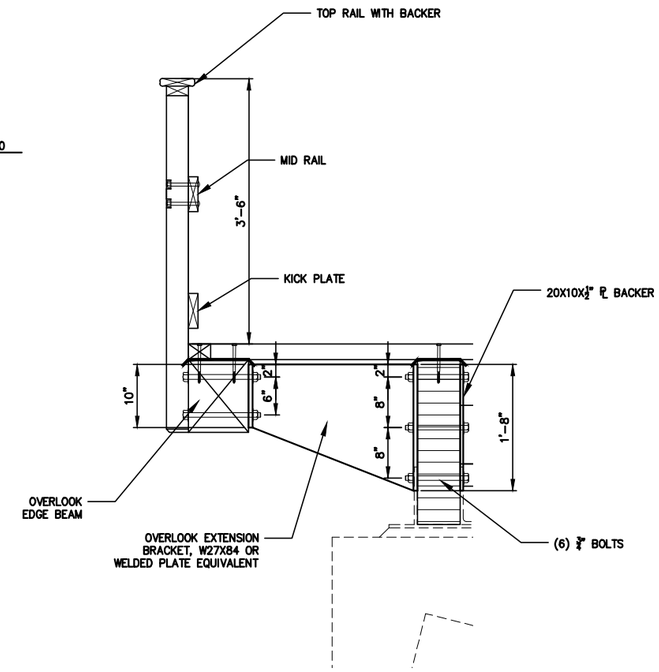
TYPICAL PIER SECTION (A, S-3)

0 2 4 6 12



PIER SECTION AT OVERLOOK (B, S-3)

0 2 4 6 12



OVERLOOK EXTENSION AND RAILING DETAIL (C, S-3)

0 1 2 6

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NO.	DESCRIPTION	DATE	INT.
A	BID SET SUBMISSION	6.5.18	BJB

STATE OF MAINE
BARNEY J. BAKER
No. 5737
LICENSED PROFESSIONAL ENGINEER

DESIGNED BY:	DJB
DRAWN BY:	JJC
CHECKED BY:	BJB
SCALE:	AS SHOWN

SHEET TITLE: PIER SECTIONS AND DETAILS

PROJECT: BROAD COVE PIER REPLACEMENT
BROAD COVE RESERVE
CUMBERLAND, MAINE

DATE: AUG 2015

CONTRACT NO.: 15-05

SHEET NO.: S-4

REV.: 1

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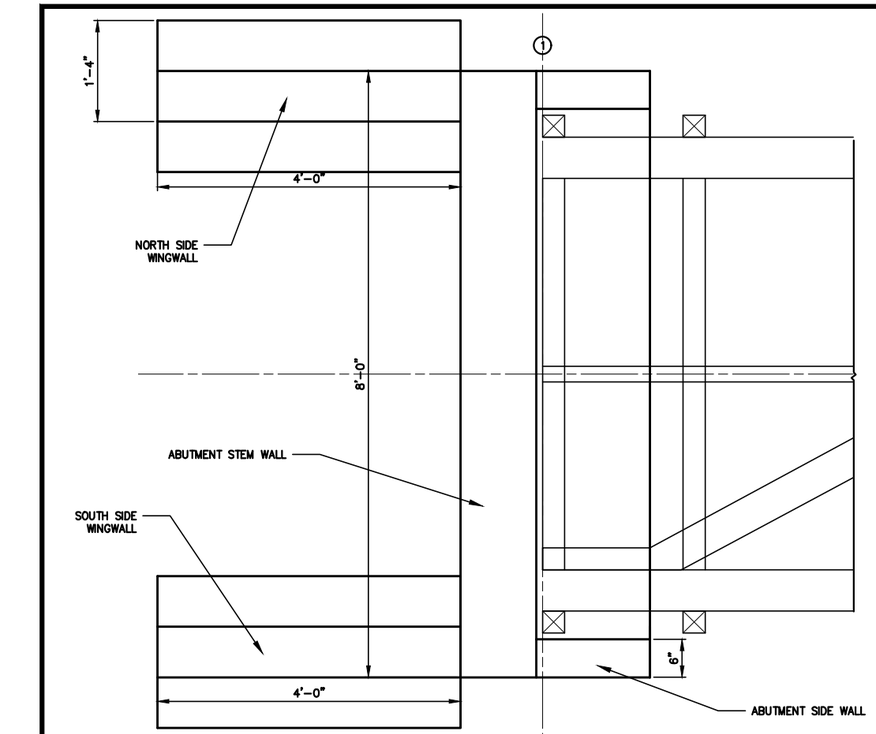
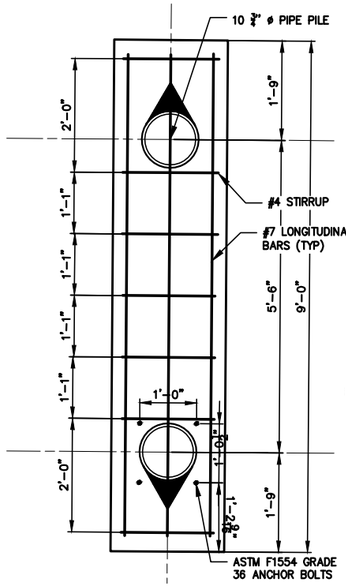
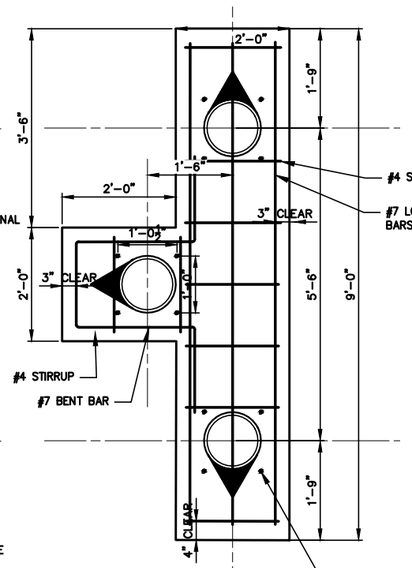


ABUTMENT PLAN

0 1 2 6

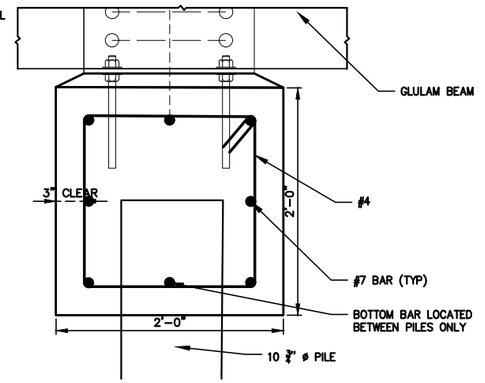


BENT 4 PLAN



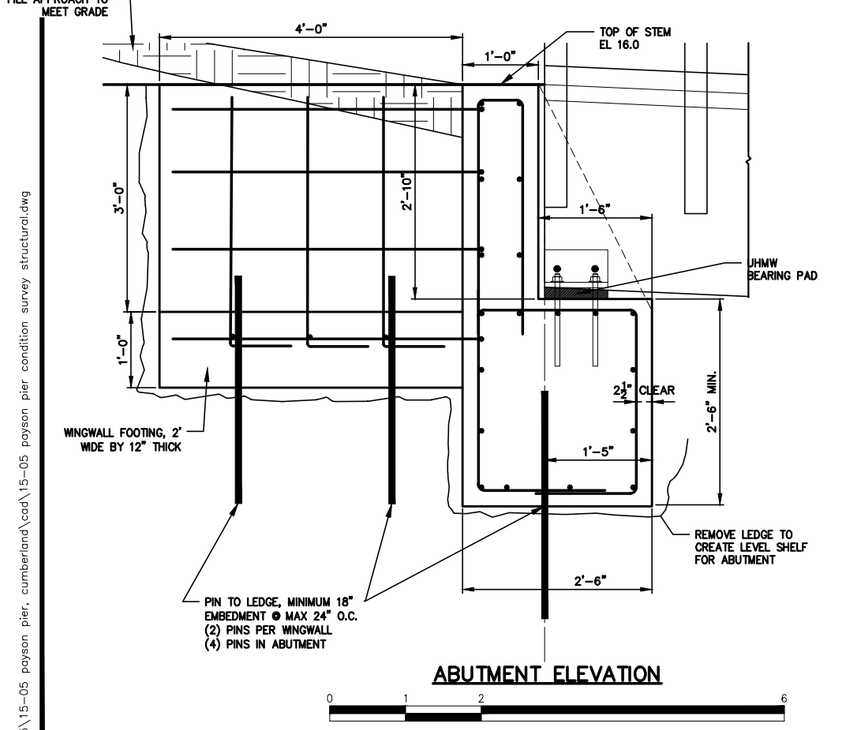
BENT 5 PLAN

0 1 2 3 4 8



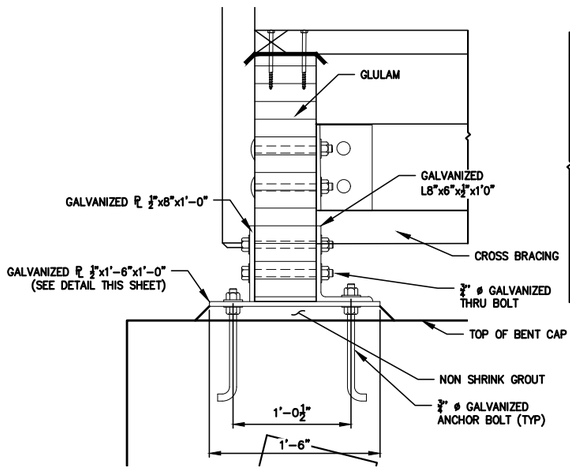
BENT CROSS SECTION D S-4

0 1 2 4

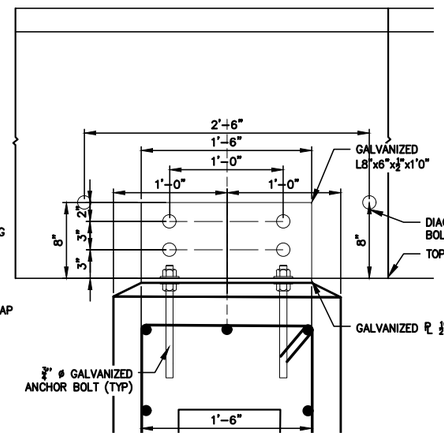


ABUTMENT ELEVATION

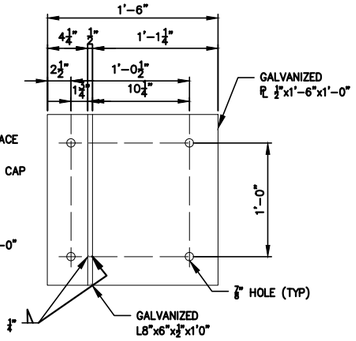
0 1 2 6



BEAM SEAT DETAIL



BEAM SEAT DETAIL



CONNECTION PLATE DETAIL

0 1 2 4

x:\15\15-05 poyson pier, cumberland\cad\15-05 poyson pier condition survey structural.dwg

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NO.	DESCRIPTION	INT.	DATE
1	BID SET SUBMISSION	BJB	6.5.18

STATE OF MAINE
BARNEY J. BAKER
No. 5737
LICENSED PROFESSIONAL ENGINEER

DESIGNED BY:	DJB	DRAWN BY:	JJC	CHECKED BY:	BJB	SCALE:	AS SHOWN

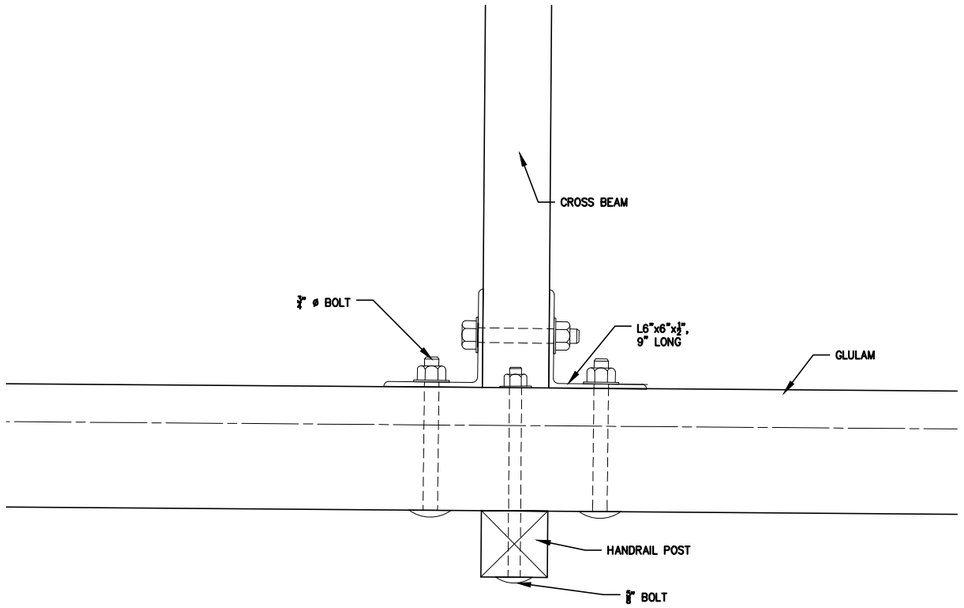
SHEET TITLE: ABUTMENT AND PILE CAP DETAILS

PROJECT: BROAD COVE PIER REPLACEMENT
TOWN OF CUMBERLAND
CUMBERLAND, MAINE

DATE: AUG 2015

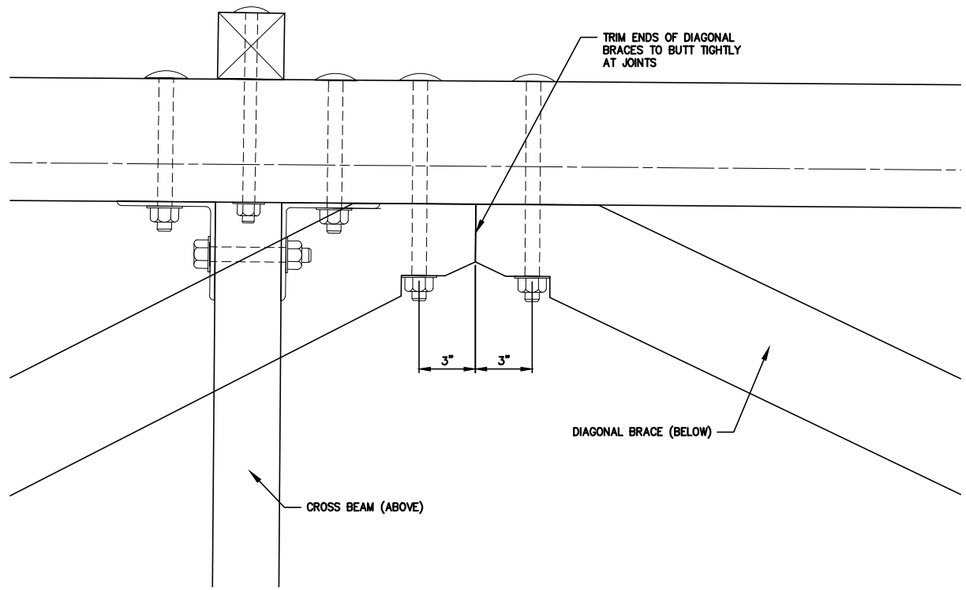
CONTRACT NO. 15-05

SHEET NO. S-5 | REV. 1



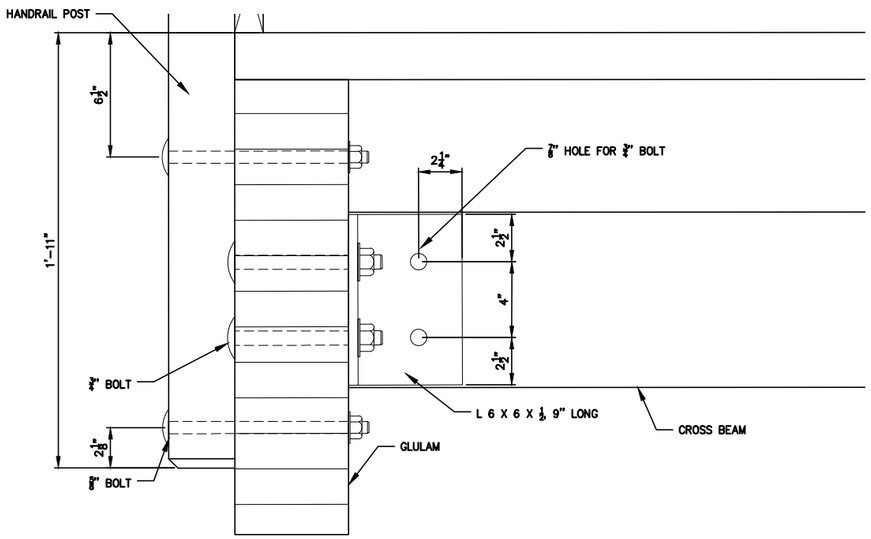
HANDRAIL POST AND CROSSBEAM CONNECTION DETAIL, PLAN VIEW

0 1 2



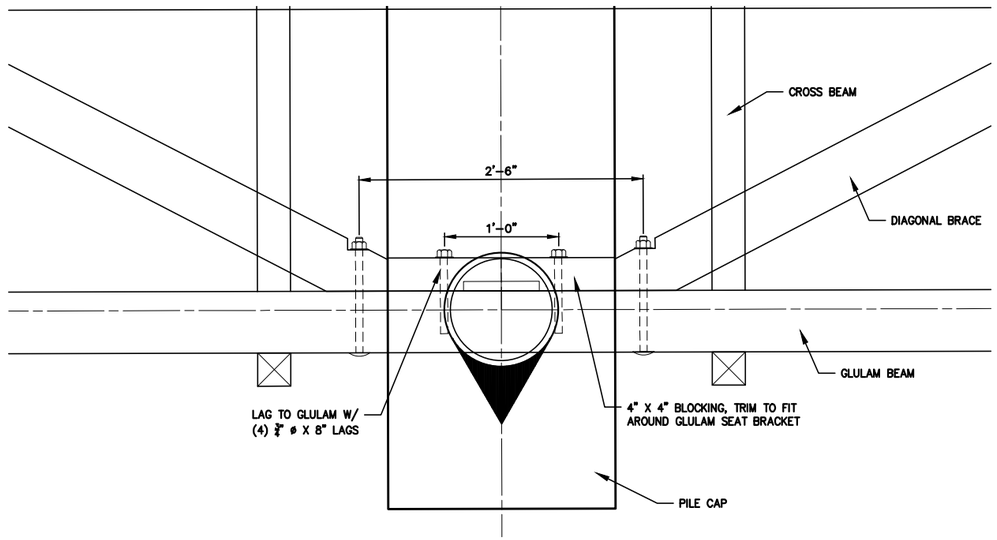
TYPICAL DIAGONAL BRACE CONNECTION DETAIL

0 1 2



HANDRAIL POST AND CROSSBEAM CONNECTION DETAIL, PROFILE VIEW

0 1 2



DIAGONAL BRACE CONNECTION AT SUPPORT

0 1 2 4

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NO.	DESCRIPTION	DATE	INT.
1	BID SET SUBMISSION	6.5.18	BJB

STATE OF MAINE
BARNEY J. BAKER
No. 5737
LICENSED PROFESSIONAL ENGINEER

DESIGNED BY: DJB
DRAWN BY: JJC
CHECKED BY: BJB
SCALE: AS SHOWN

SHEET TITLE: STRUCTURAL DETAILS

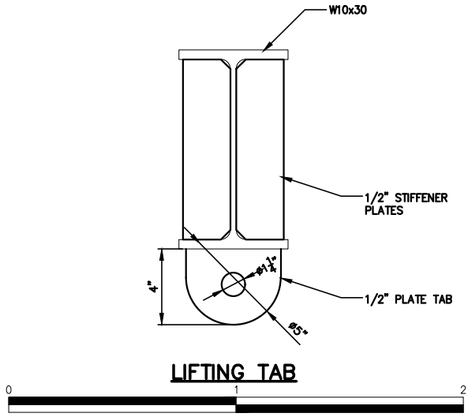
PROJECT: TOWN OF CUMBERLAND
BROAD COVE PIER REPLACEMENT
CUMBERLAND, MAINE

DATE: APR 2018

CONTRACT NO. 15-05

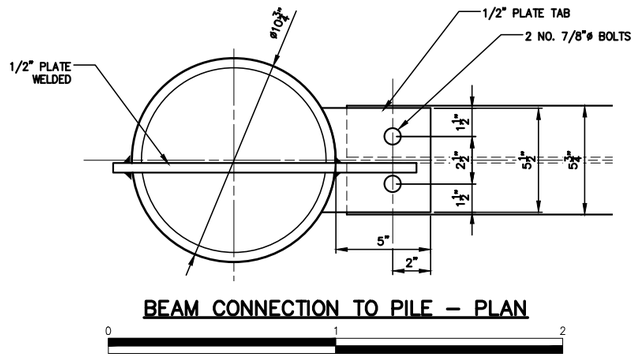
SHEET NO. S-6 | REV. A

x:\15\15-05 payson pier, cumberland\cad\15-05 payson pier condition survey structural.dwg



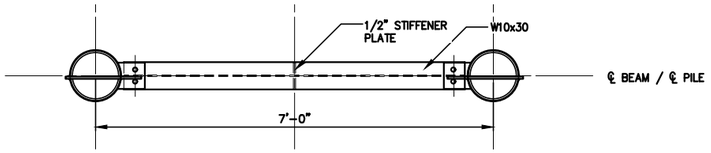
LIFTING TAB

0 1 2

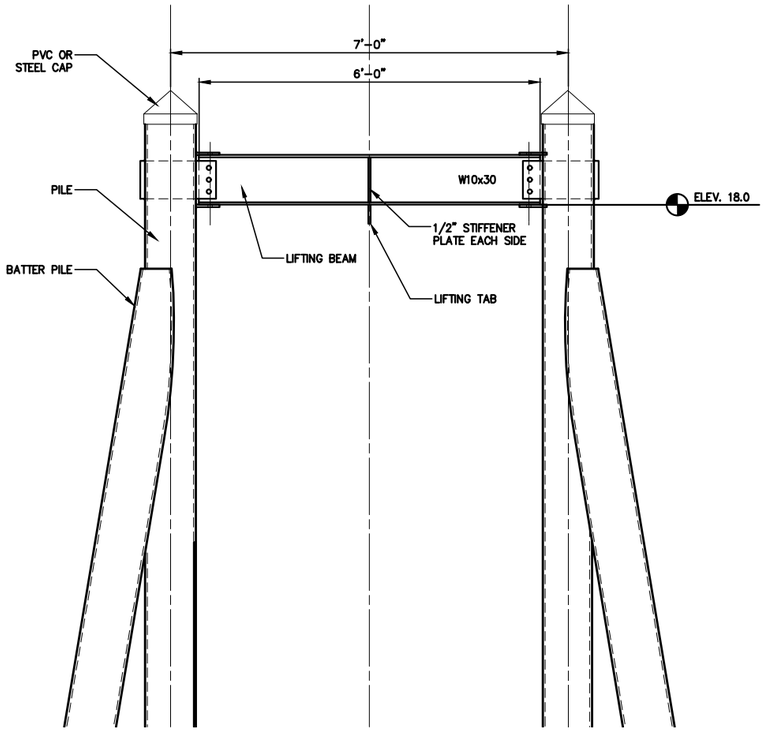


BEAM CONNECTION TO PILE – PLAN

0 1 2

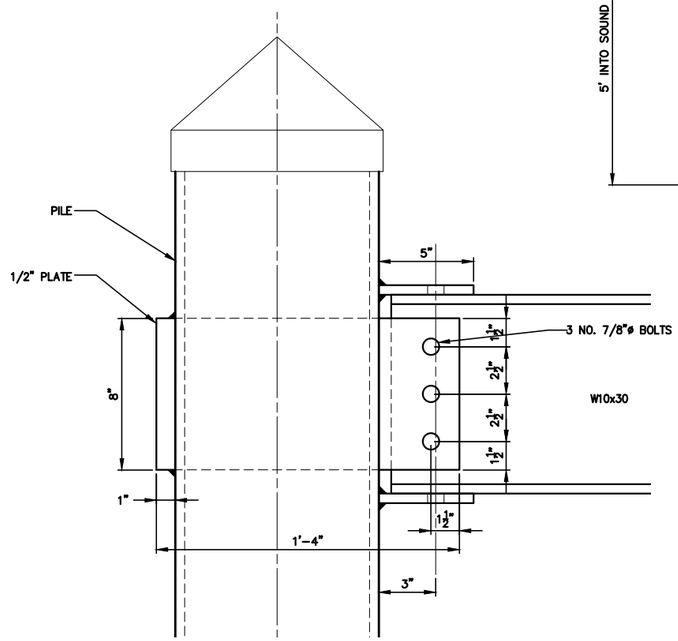


PLAN



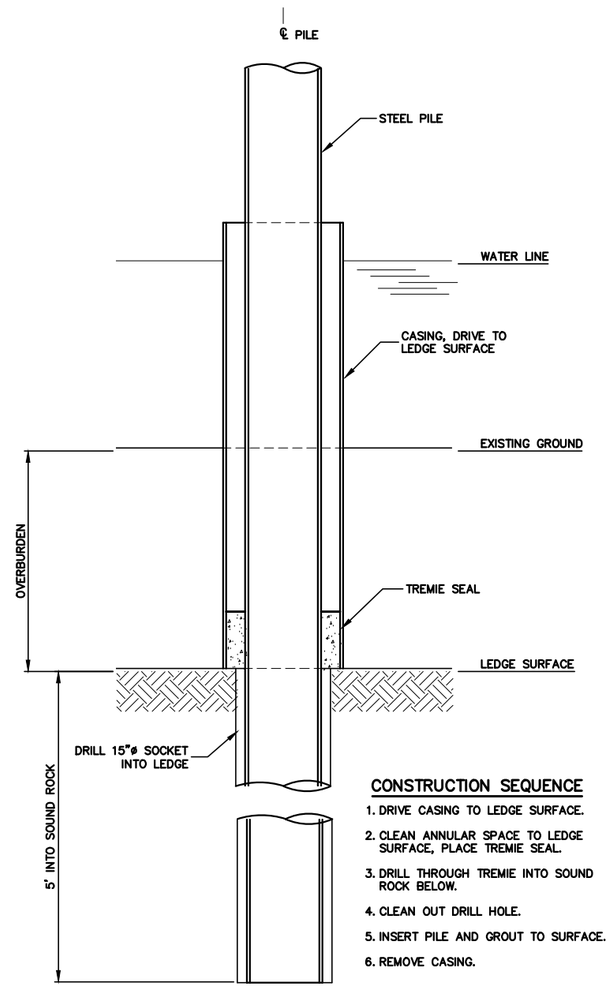
ELEVATION

0 1 2 6



BEAM CONNECTION TO PILE – ELEVATION

0 1 2



CONSTRUCTION SEQUENCE

1. DRIVE CASING TO LEDGE SURFACE.
2. CLEAN ANNULAR SPACE TO LEDGE SURFACE, PLACE TREMIE SEAL.
3. DRILL THROUGH TREMIE INTO SOUND ROCK BELOW.
4. CLEAN OUT DRILL HOLE.
5. INSERT PILE AND GROUT TO SURFACE.
6. REMOVE CASING.

STEEL PILE SOCKET DETAIL

SCALE: 1"=1'-0"

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NO.	SUBMISSION	DATE	INT.
1	BID SET	6.5.18	BJB

STATE OF MAINE
BARNEY J. BAKER
No. 5737
LICENSED PROFESSIONAL ENGINEER

DESIGNED BY:	DRAWN BY:	CHECKED BY:	SCALE:
DJB	JJC	BJB	AS SHOWN

SHEET TITLE: LIFTING FRAME AND PILE SOCKET

PROJECT: BROAD COVE PIER REPLACEMENT
TOWN OF CUMBERLAND
CUMBERLAND, MAINE

DATE: AUG 2015

CONTRACT NO.: 15-05

SHEET NO.: S-7

REV.: 1

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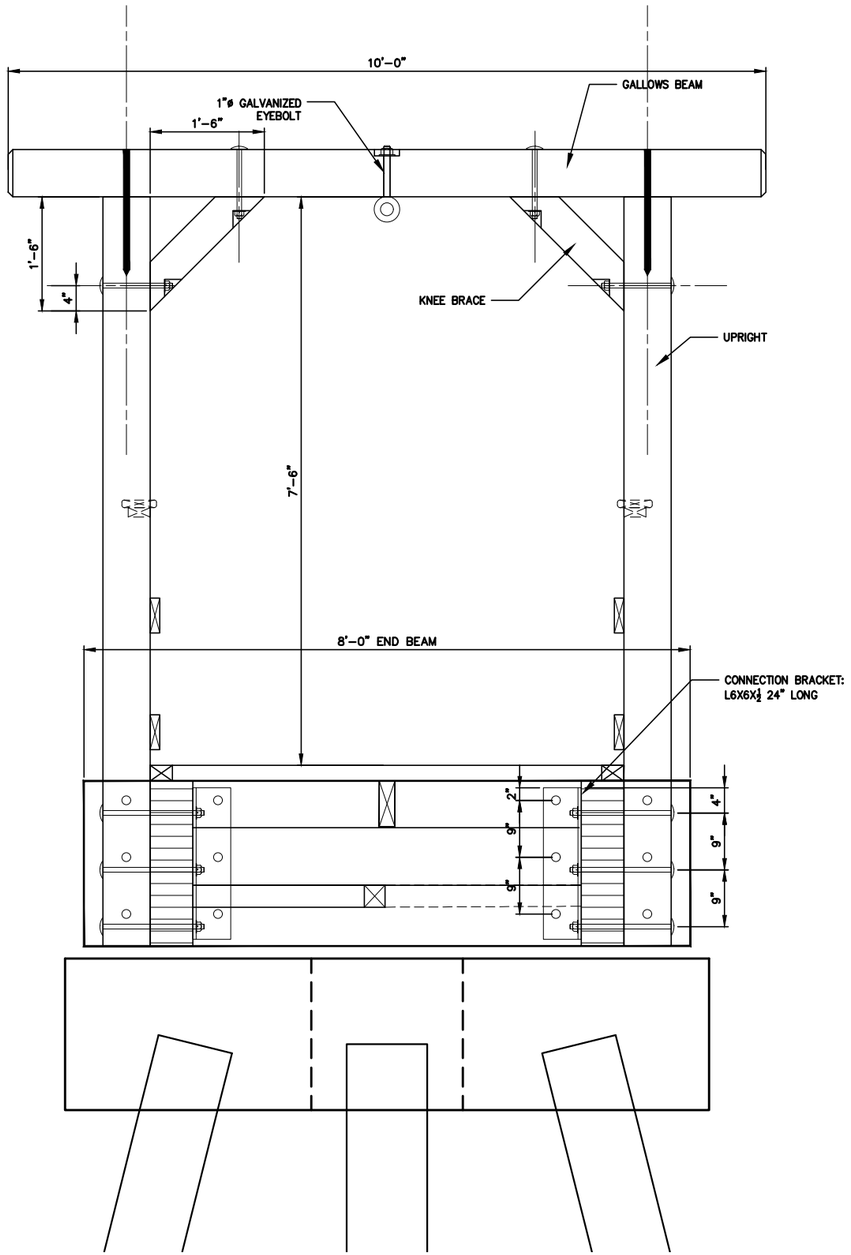
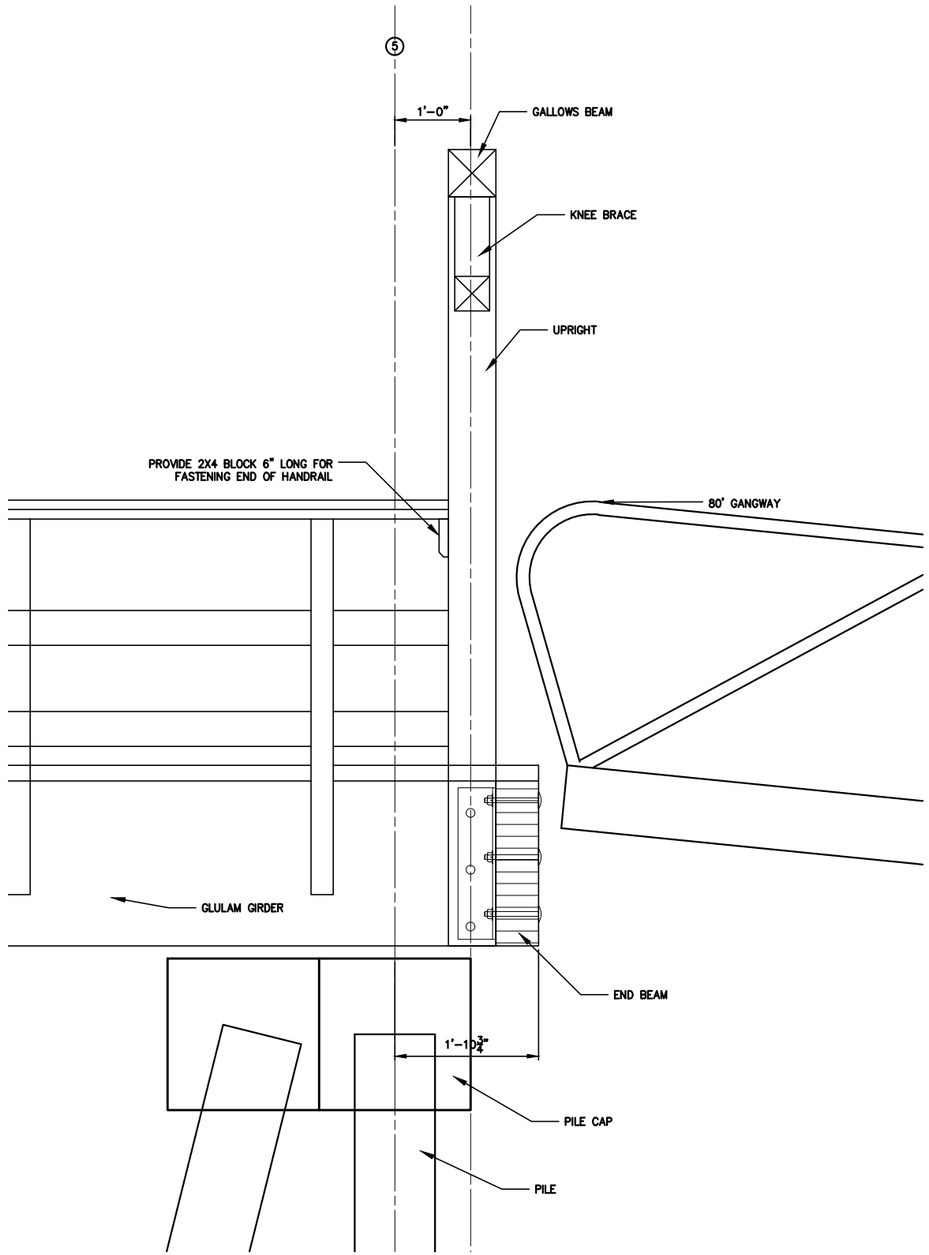


GALLOWS FRAME SECTION

0 1 2 6



GALLOWS FRAME ELEVATION

0 1 2 6

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NO.	DATE	INT.
1	6.5.18	BJB
	BID SET SUBMISSION	

STATE OF MAINE
BARNEY J. BAKER
No. 5737
LICENSED PROFESSIONAL ENGINEER

DESIGNED BY:	DJB	CHECKED BY:	BJB
DRAWN BY:	JJC	SCALE:	AS SHOWN

SHEET TITLE: GALLOWS & END BEAM DETAILS

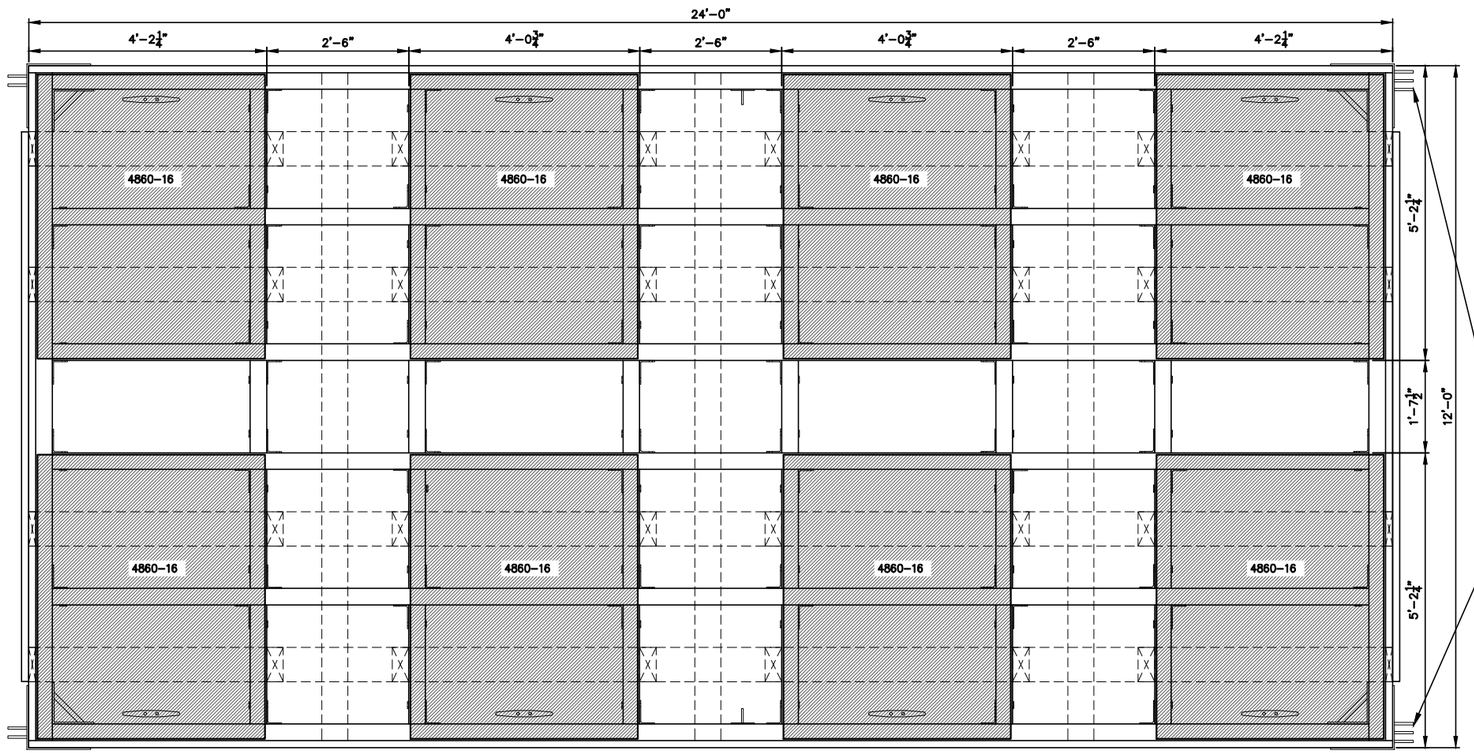
PROJECT: BROAD COVE PIER REPLACEMENT
TOWN OF CUMBERLAND
CUMBERLAND, MAINE

DATE APR. 2018

CONTRACT NO. 15-05

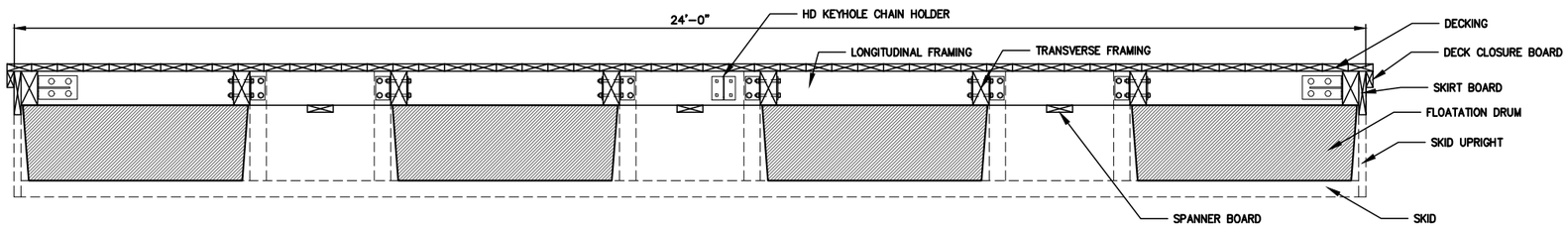
SHEET NO. S-8 | REV. 1

x:\15\15-05 payson pier, cumberland\cad\15-05 payson pier condition survey structural.dwg



TIMBER SCHEDULE						
Timber Size	Location	% Moisture at Treatment	Treatment		Grading to SPIB	Surface Finishing
			Type	pcf		
FLOATS						
2 X 6	DECKING	19%	ACQ	0.6	No. 1	S4S
4 X 8	LONGITUDINAL FRAMING	25%	CCA	1.0	No. 1	S4S
4 X 8	TRANSVERSE FRAMING	25%	CCA	1.0	No. 1	S4S
2 X 6	SPANNER BOARD	25%	CCA	1.0	No. 1	S4S
4 X 8	SKIDS	25%	CCA	1.0	No. 2	R
4 X 8	SKID UPRIGHT - INTERIOR	25%	CCA	1.0	No. 2	R
2 X 8	SKID UPRIGHT - END	25%	CCA	1.0	No. 2	R
2 X 4	DECK CLOSURE BOARD	19%	ACQ	0.6	No. 1	S4S
2 X 10	SKIRT BOARD	19%	ACQ	0.6	No. 1	S4S

PLAN



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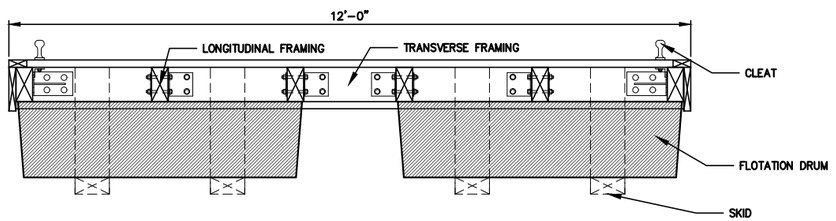
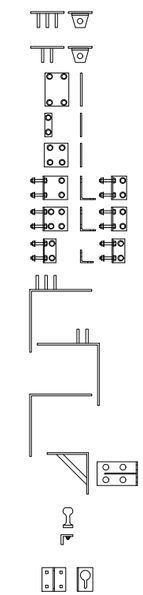


TYPICAL SECTION

0 1 2 3 4 8

FLOAT HARDWARE



- 3/8" T-TAB PLATE 3 TAB (FEMALE) (6H494)
- 3/8" T-TAB PLATE 2 TAB (MALE) (6H493)
- 3/8" BACKER PLATE (6H496)
- SMALL BACKER PLATE (6H401)
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- 3/8" CORNER NO TAB (6H490)
- 1/4" INSIDE CORNER (6H411)
- CLEAT WITH BACKING ANGLE
- HD KEYHOLE CHAIN HOLDER (6H416)

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NO.	DATE	INT.
1	6.5.18	BJB
	BID SET SUBMISSION	

STATE OF MAINE
BARNEY J. BAKER
No. 5737
LICENSED PROFESSIONAL ENGINEER

DESIGNED BY:	DJB	DRAWN BY:	JJC	CHECKED BY:	BJB	SCALE:	AS SHOWN

SHEET TITLE: TYPICAL 12X24 FLOAT DETAILS

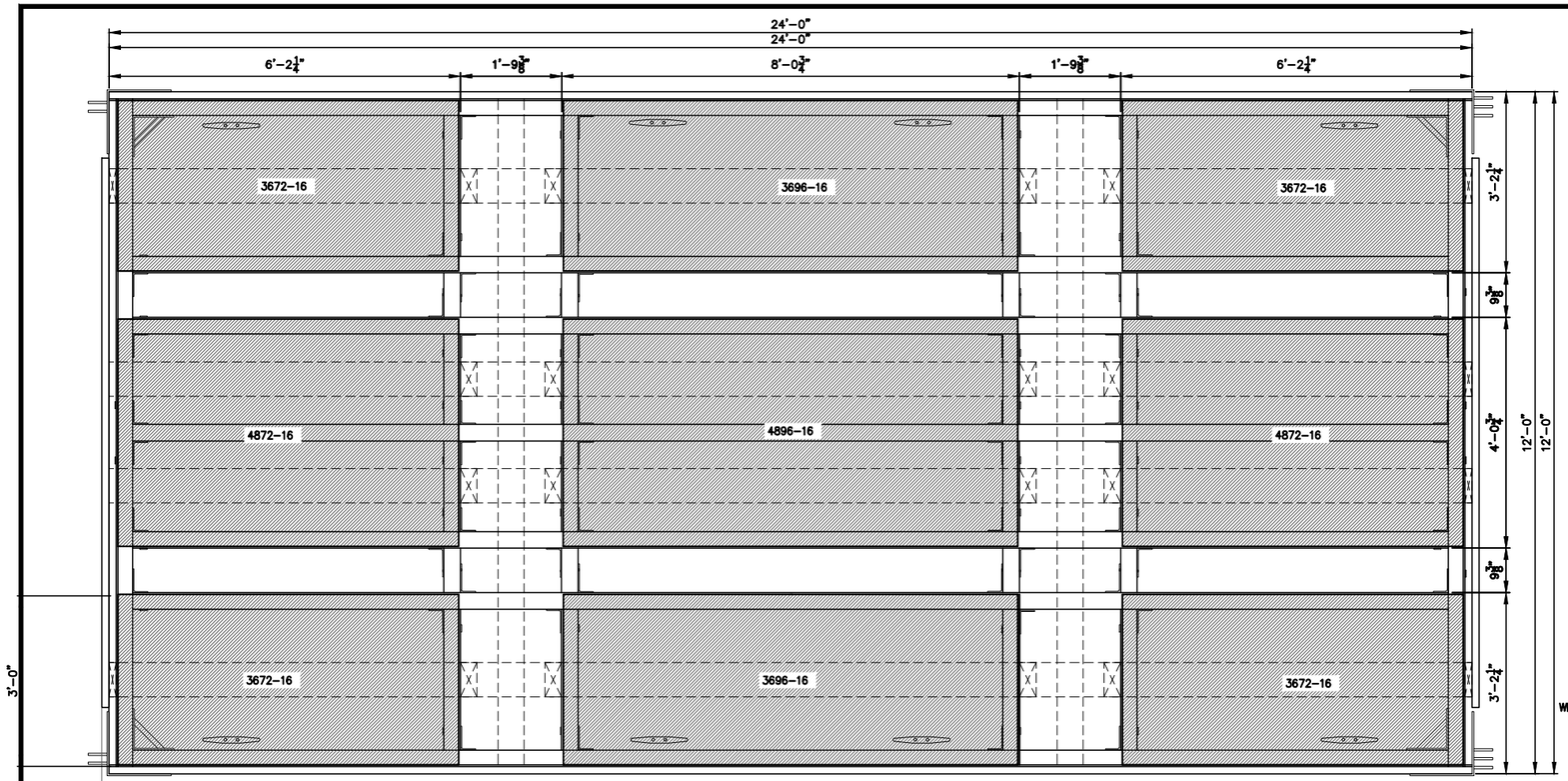
PROJECT: BROAD COVE PIER REPLACEMENT
BROAD COVE RESERVE
CUMBERLAND, MAINE

DATE DEC 2015

CONTRACT NO. 15-05

SHEET NO. F-1 | REV. 1

x:\15\15-05 payson pier, cumberland\cad\15-05 payson pier condition survey structural.dwg



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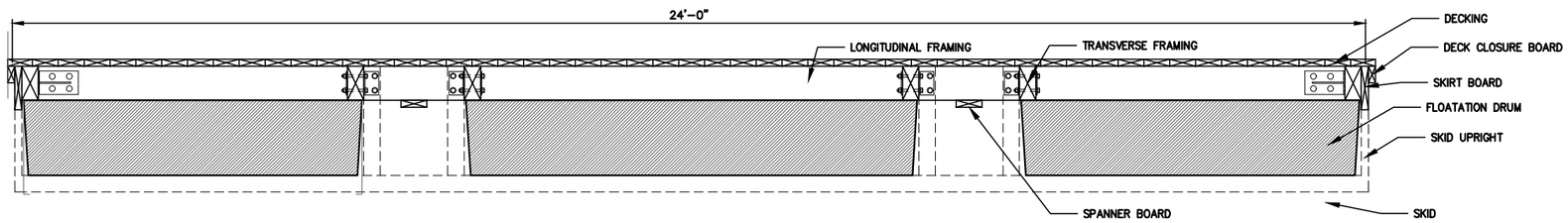

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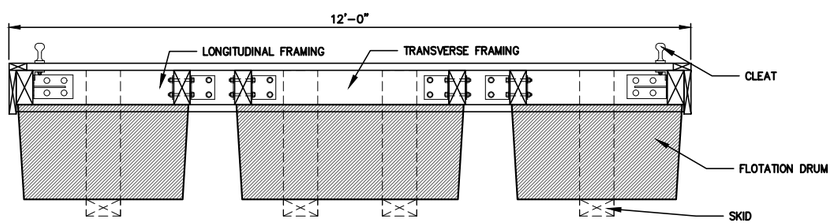
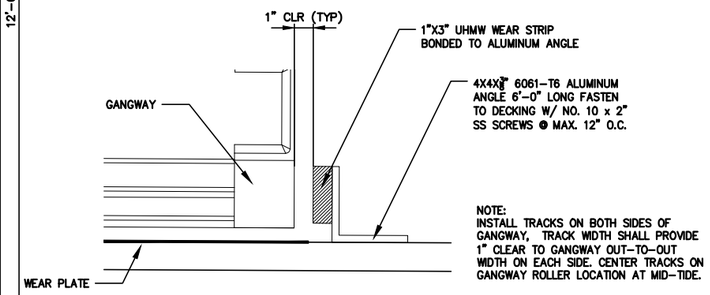


TYPICAL SECTION

0 1 2 3 4 8

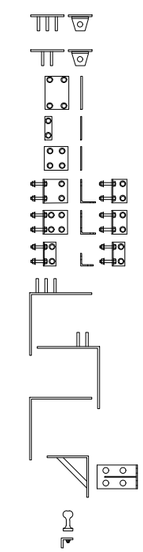
TIMBER SCHEDULE						
Timber Size	Location	% Moisture at Treatment	Treatment		Grading to SPIB	Surface Finishing
			Type	pcf		
FLOATS						
2 X 6	DECKING	19%	ACQ	0.6	No. 1	S4S
4 X 8	LONGITUDINAL FRAMING	25%	CCA	1.0	No. 1	S4S
4 X 8	TRANSVERSE FRAMING	25%	CCA	1.0	No. 1	S4S
2 X 6	SPANNER BOARD	25%	CCA	1.0	No. 1	S4S
4 X 8	SKIDS	25%	CCA	1.0	No. 2	R
4 X 8	SKID UPRIGHT - INTERIOR	25%	CCA	1.0	No. 2	R
2 X 8	SKID UPRIGHT - END	25%	CCA	1.0	No. 2	R
2 X 4	DECK CLOSURE BOARD	19%	ACQ	0.6	No. 1	S4S
2 X 10	SKIRT BOARD	19%	ACQ	0.6	No. 1	S4S



GANGWAY TRACK DETAIL

0 1 2

FLOAT HARDWARE



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BACKER PLATE (6H402)

90° STIFFENER PLATE (6H414)

90° SKID STIFFENER PLATE (6H418)

90° STIFFENER PLATE JR (6H414J)

3/8" CORNER HINGE PLATE 3 TAB (FEMALE) (6H492)

3/8" CORNER HINGE PLATE 2 TAB (MALE) (6H491)

3/8" CORNER NO TAB (6H490)

1/4" INSIDE CORNER (6H411)

CLEAT WITH BACKING ANGLE

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NO.	DESCRIPTION	DATE	INT.
1	BID SET SUBMISSION	6.5.18	BJB

STATE OF MAINE — BARNEY J. BAKER No. 5737 — LICENSED PROFESSIONAL ENGINEER

DESIGNED BY:	DJB	DRAWN BY:	JJC	CHECKED BY:	BJB	SCALE:	AS SHOWN

SHEET TITLE: 12X24 GANGWAY FLOAT DETAILS

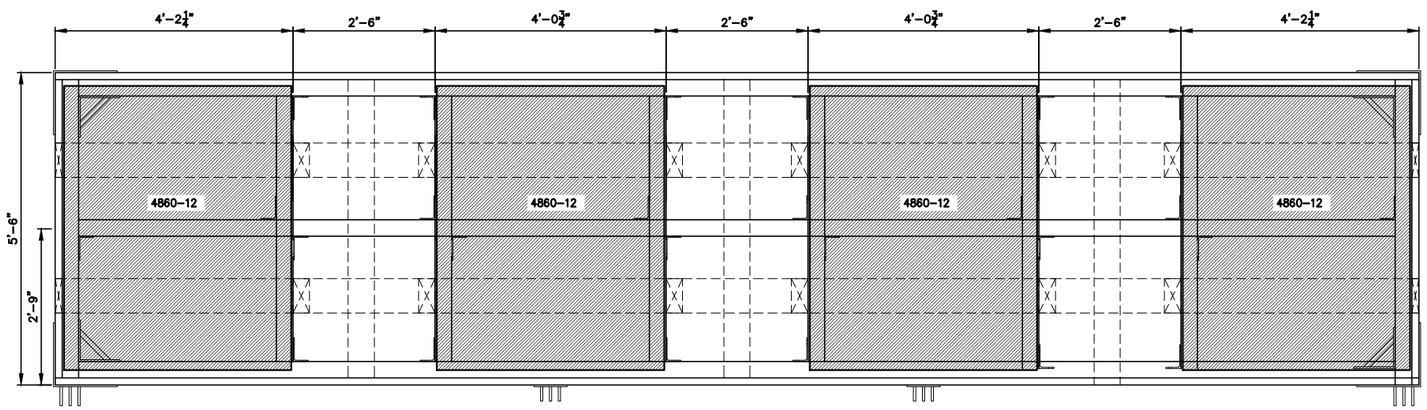
PROJECT: BROAD COVE PIER REPLACEMENT
BROAD COVE RESERVE
CUMBERLAND, MAINE

DATE: DEC 2015

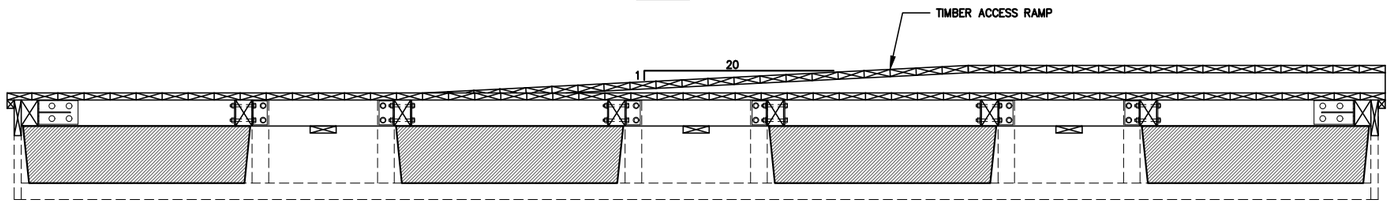
CONTRACT NO. 15-05

SHEET NO. F-2 | REV. 1

x:\15\15-05 payson pier, cumberland\cad\15-05 payson pier condition survey structural.dwg



PLAN



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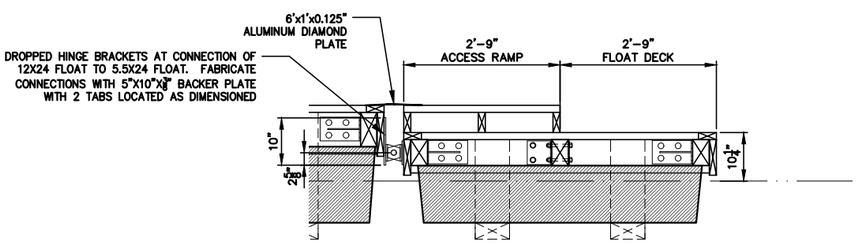

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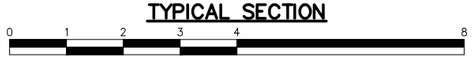
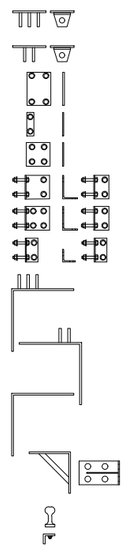


FLOAT HARDWARE



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NO.	DESCRIPTION	DATE	INT.
1	BID SET SUBMISSION	6.5.18	BJB

STATE OF MAINE
BARNEY J. BAKER
No. 5737
LICENSED PROFESSIONAL ENGINEER

DESIGNED BY:	DJB	DRAWN BY:	JJC	CHECKED BY:	BJB	SCALE:	AS SHOWN

SHEET TITLE: 5.5X24 FLOAT DETAILS

PROJECT: BROAD COVE PIER REPLACEMENT
BROAD COVE RESERVE
CUMBERLAND, MAINE

DATE: FEB 2016

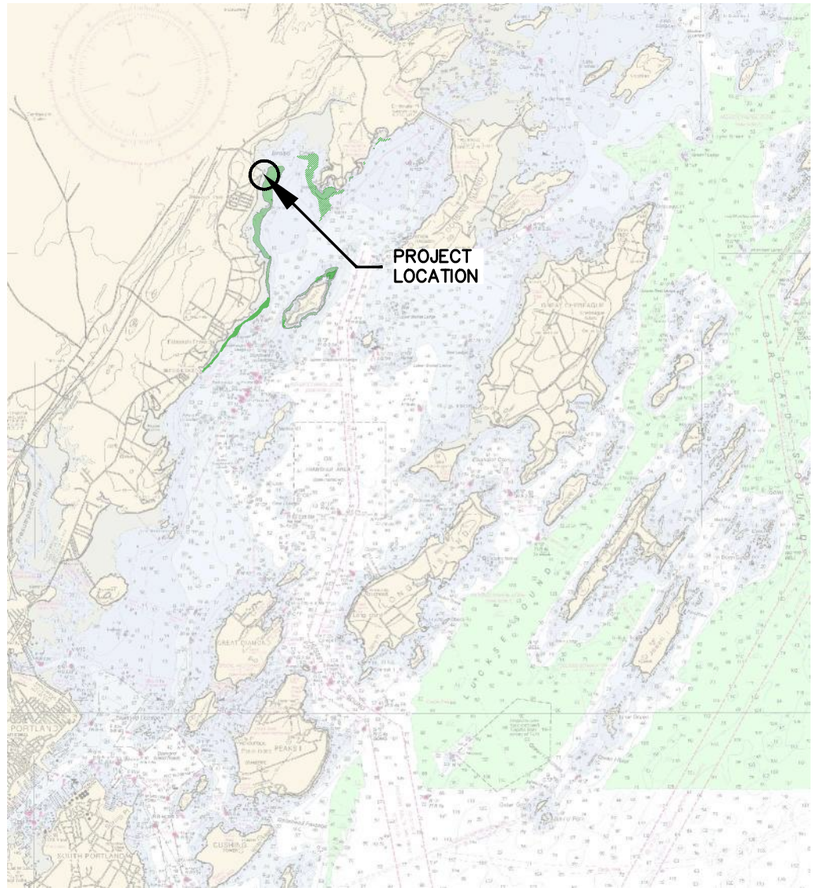
CONTRACT NO. 15-05

SHEET NO. F-3 | REV. 1

x:\15\15-05 payson pier, cumberland\cad\15-05 payson pier condition survey structural.dwg

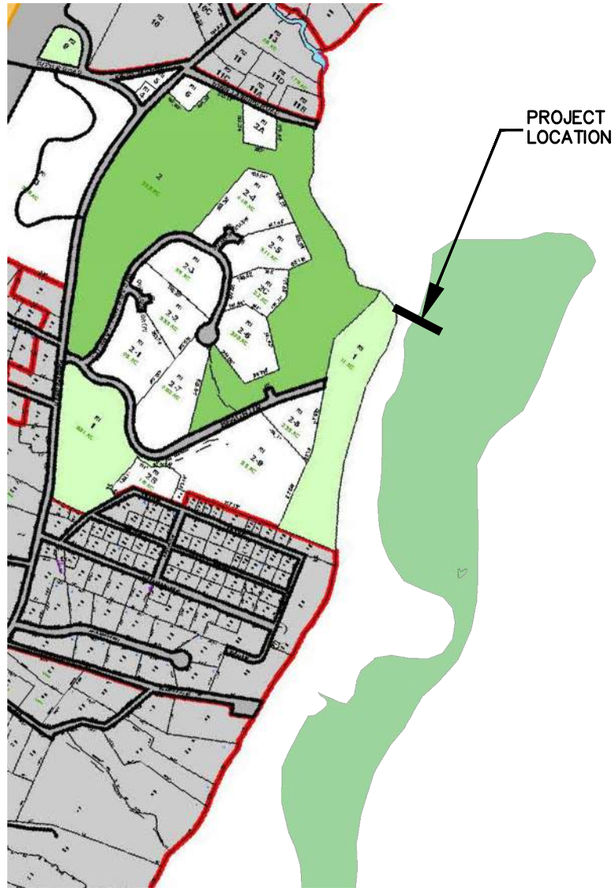
BROAD COVE PIER MASTER PLAN

BROAD COVE RESERVE, CUMBERLAND MAINE
PROJECT NO. 2209962



USGS LOCATION MAP

INDEX OF SHEETS



TAX MAP #R01

N

PROPERTY INFORMATION

OWNER:	TOWN OF CUMBERLAND, MAINE
ADDRESS:	179 FORESIDE ROAD CUMBERLAND, MAINE 04021
MAP/LOT:	R1-02
ZONING:	LOW DENSITY RESIDENTIAL (LDR); SHORELAND OVERLAY
SETBACKS:	NO CHANGE

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NO.	DATE	INT.
B	2022 EELGRASS	BJB
A	PERMIT SET	BJB
	SUBMISSION	

"STATE OF MAINE" BARNEY J. BAKER No. 5737 LICENSED PROFESSIONAL ENGINEER

DESIGNED BY:	DRAWN BY:	CHECKED BY:	SCALE:
BJB	JLD	BJB	AS SHOWN

SHEET TITLE: COVER SHEET

PROJECT: BROAD COVER RESERVE
BROAD COVER MASTER PLAN
Cumberland, Maine

DATE: JAN 2020

CONTRACT NO.: 2209962

SHEET NO.: G-1

REV.: A

GENERAL NOTES

1. THE CONTRACTOR SHALL BE GOVERNED BY THE CONSTRUCTION SAFETY RULES AS ADOPTED BY THE STATE BOARD OF CONSTRUCTION SAFETY, AUGUSTA, MAINE.
2. THE PROJECT IS SUBJECT TO THE SAFETY AND HEALTH REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA) AS PROMULGATED BY THE US DEPARTMENT OF LABOR.
3. ALL NON-PAVED AREAS DISTURBED DURING CONSTRUCTION SHALL BE LOAMED, SEEDED, FERTILIZED AND MULCHED UNLESS OTHERWISE DIRECTED BY THE TOWN OR THEIR REPRESENTATIVE.
4. THE CONTRACTOR SHALL COMPLY WITH FEDERAL, STATE AND LOCAL REGULATORY REQUIREMENTS.
5. TOPSOIL STRIPPED IN AREAS OF CONSTRUCTION THAT IS SUITABLE FOR REUSE AS LOAM SHALL BE STOCKPILED AT A LOCATION TO BE DESIGNATED BY THE TOWN. UNSUITABLE SOIL SHALL BE SEPARATED, REMOVED AND DISPOSED OF AT AN APPROVED DISPOSAL LOCATION OFFSITE.

CONSTRUCTION SEQUENCE & COORDINATION

1. ALL CONSTRUCTION ACTIVITIES TO BE UNDERTAKEN FROM BARGE NO DISTURBANCE TO UPLAND SITE BEYOND THAT REQUIRED FOR CONSTRUCTION OF NEW PIER ABUTMENT AND APPROACH RAMP SHALL BE ALLOWED.
2. THE CONTRACTOR SHALL WORK WITH THE TOWN TO DESIGNATE A LAYDOWN AREA IN THE UPPER PARKING AREA ONSITE FOR PARKING AND MATERIAL DELIVERY; AND WILL COORDINATE ACCESS BETWEEN THE LAYDOWN AREA AND THE WATERFRONT WITH THE TOWN.

EROSION CONTROL NOTES

1. APPLICATION OF TEMPORARY AND PERMANENT EROSION CONTROL MEASURES FOR THE PROJECT SHALL BE IN ACCORDANCE WITH PROCEDURES AND SPECIFICATIONS OF THE CURRENT MAINE EROSION AND SEDIMENT CONTROL HANDBOOK FOR CONSTRUCTION; BEST MANAGEMENT PRACTICES.
2. SILTATION FENCE SHALL BE INSTALLED BEFORE ANY EXCAVATION TAKES PLACE.
3. INSTALL EROSION CONTROL MESH ON ALL PROPOSED SLOPES 2:1 OR STEEPER, UNLESS SHOWN OR NOTED OTHERWISE.
4. ALL EROSION CONTROL MEASURES, SEEDING AND MULCHING SHALL BE INSPECTED WEEKLY, AFTER RAINSTORMS AND DURING RUNOFF EVENTS. ALL MEASURES SHALL BE REPAIRED OR REPLACED WHEN NO LONGER SERVICEABLE DUE TO SEDIMENT ACCUMULATION OR DAMAGE.
5. SEEDED AND MULCHED AREAS SHALL BE MAINTAINED UNTIL FINAL ACCEPTANCE OF THE WORK
6. TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED UPON COMPLETION OF GRADING OPERATIONS AND ESTABLISHMENT OF ACCEPTABLE GROUND COVER.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING EROSION CONTROL MEASURES DURING CONSTRUCTION.

SURVEY & DATUM NOTES

1. BASE SURVEY, TOPGRAPHY, SITE DATUM CONTROL, AND PROJECT BENCHMARKS ARE FROM A FIELD SURVEY WITH DOCUMENTING PLAN BY LITTLE RIVER LAND SURVEYING DATED 10/19/15.
2. ALL TOPOGRAPHIC INFORMATION PROVIDED IS REFERENCED TO NAVD88 VERTICAL DATUM UNLESS OTHERWISE NOTED.
3. BASE FLOOD/TIDAL INFORMATION TAKEN FROM MEDEP, FEMA, AND NOAA PUBLISHED DATA, REFER TO THE TABLE BELOW.

PROJECT ELEVATIONS (BY DATUM)

ELEVATION	CHART (ft)	NGVD29 (ft)	**NAVD88 (ft)**	Notes
FEMA Base Flood	22.3	17.7	**17.0**	Prelim FEMA Zone VE
FEMA Base Flood	19.5	15.0	**14.3**	Effective FEMA Zone V2
Highest Annual Tide	11.9	7.4	**6.7**	2013 MEDEP Predictions
MHHW	9.9	5.4	**4.7**	BASED ON TIDAL BM "PORTLAND"
MHW	9.5	5.0	**4.2**	
NAVD88	5.3		**0.0**	
NGVD29	4.5	0.0		
MLW	0.3	-4.2	**-4.9**	
MLLW	0.0	-4.5	**-5.3**	

REFERENCE DOCUMENTS

1. BOUNDARY SURVEY "PLAN OF SPEARS HILL SUBDIVISION, 179 FORESIDE ROAD, CUMBERLAND, MAINE" BY TITCOMB ASSOCIATES, DATED AUGUST 28, 2014 AND REVISED THROUGH DECEMBER 11, 2014.
2. COPIES OF REGULATORY PERMITS ARE PROVIDED IN THE PROJECT MANUAL.

SCOPE OF MASTER PLAN

1. REMOVE EXISTING GROUND TACKLE. INSPECT FOR CONDITION AND SUITABILITY FOR REUSE.
2. MODIFY FLOAT CONNECTIONS ON EXISTING FLOATS [NO. 1, NO. 2] TO MATCH PROPOSED LAYOUT.
3. FABRICATE FLOATS [NO. 6, 7, 8, 9a, 9b, 10].
4. INSTALL PROPOSED FLOAT SYSTEM WITH ADDITIONAL MOORRING HARDWARE PER SCHEDULE.
5. ADD TITAL GAUGE AT END OF EXISTING PIER PER DETAIL ON SH. C-2.

STRUCTURAL NOTES

FLOAT SYSTEM

1. REFER TO DRAWINGS F-1, F-2.
2. PROVIDE ONE 90-DEGREE STIFFENER (6H414 PLATE OR EQUAL) AT EACH TIMBER CONNECTION WHERE NO CORNER BRACKET OCCURS UNLESS OTHERWISE NOTED.
3. FLOAT FENDERING HAS NOT BEEN SPECIFIED ON THE FLOATS WITH THE UNDERSTANDING THAT THEY MAY BE ADDED BY CHANGE ORDER ONCE THE BASE BID AND ALTERNATE BID FLOAT CONFIGURATION IS FINALIZED.

MOORING TACKLE

1. REFER TO SHEET C-1 FLOAT LAYOUT PLAN FOR NUMBER AND LOCATION OF MOORINGS AND THE MOORING TACKLE SCHEDULE PROVIDED BELOW FOR TACKLE REQUIREMENTS.

MOORING TACKLE SCHEDULE

MOORING LOCATION	HELIX ANCHOR CONFIGURATION			FLOAT CONNECTION	SHACKLE SIZE [IN]	BOTTOM CHAIN			TOP CHAIN		
	Anchors per Mooring	Anchor Configuration Disc/Disc/Shaft/Length	Pullout Resistance per Anchor			Length (FT)	SIZE [IN]	SPECIFICATION (Working Load Limit)	LENGTH [FT]	SIZE [IN]	SPECIFICATION (Working Load Limit)
See C-1 & C-2	2	10"/12"/1-1/2"/10-FT	8000 lbs. (See Note iii)	6H416 Keyhole Anchor Plate	1	5	1	GRADE 43 HDG (30,000 lbs.)	75	5/8	GRADE 43 HDG (13,000 lbs.)

Notes:

i. Install anchors at locations shown and adjust chain lengths to achieve desired float layout.

ii. The contractor shall include in their bid all hardware (chains, shackles, bolts, etc.) needed for complete installation of the anchor system.

iii. Pullout resistance to be verified by field load test or based on measured installation torque correlated with manufactures test data. Anchors that do not meet this criteria at the direction of the Engineer.

TIMBER SCHEDULE

Timber Size	Location	% Moisture at Treatment	Treatment		Grading to SPIB	Surface Finishing
			Type	pcf		
SEE FLOATS SH. F-1 & F-2						
2 X 6	DECKING	19%	ACQ	0.6	No. 1	S4S
4 X 8	LONGITUDINAL FRAMING	25%	CCA	1.0	No. 1	S4S
4 X 8	TRANSVERSE FRAMING	25%	CCA	1.0	No. 1	S4S
2 X 6	SPANNER BOARD	25%	CCA	1.0	No. 1	S4S
4 X 8	SKIDS	25%	CCA	1.0	No. 2	R
4 X 8	SKID UPRIGHT - INTERIOR	25%	CCA	1.0	No. 2	R
2 X 8	SKID UPRIGHT - END	25%	CCA	1.0	No. 2	R
2 X 4	DECK CLOSURE BOARD	19%	ACQ	0.6	No. 1	S4S
2 X 10	SKIRT BOARD	19%	ACQ	0.6	No. 1	S4S

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NO.	DATE	BY
B	11/1/23	BJB
A	1:20:20	BJB
	2022 EELGRASS PERMIT SET SUBMISSION	INT.

STATE OF MAINE
BARNEY J. BAKER
No. 5737
LICENSED PROFESSIONAL ENGINEER

DESIGNED BY: BJB
DRAWN BY: JLD
CHECKED BY: BJB
SCALE: AS SHOWN

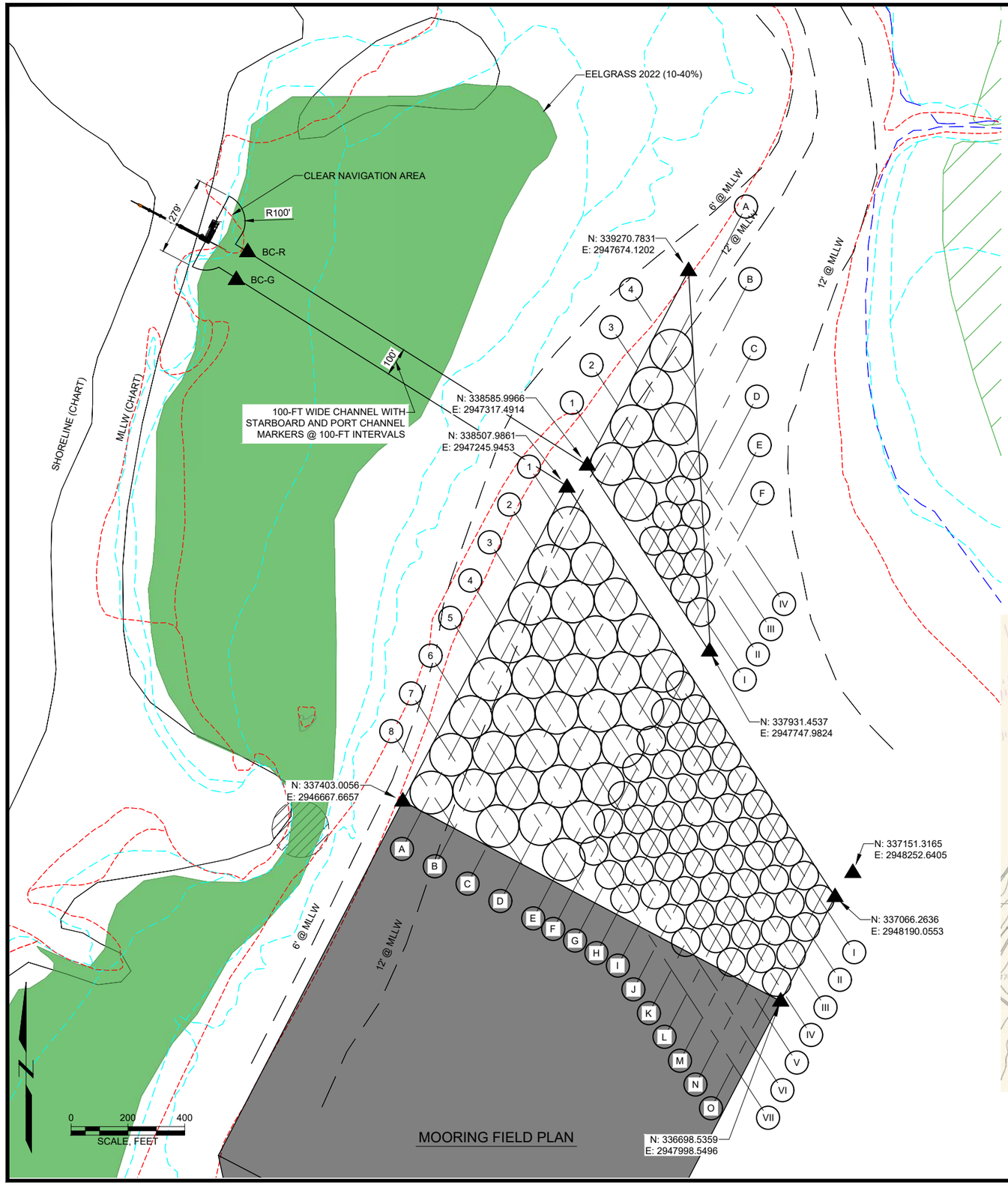
SHEET TITLE: NOTES & SCHEDULES

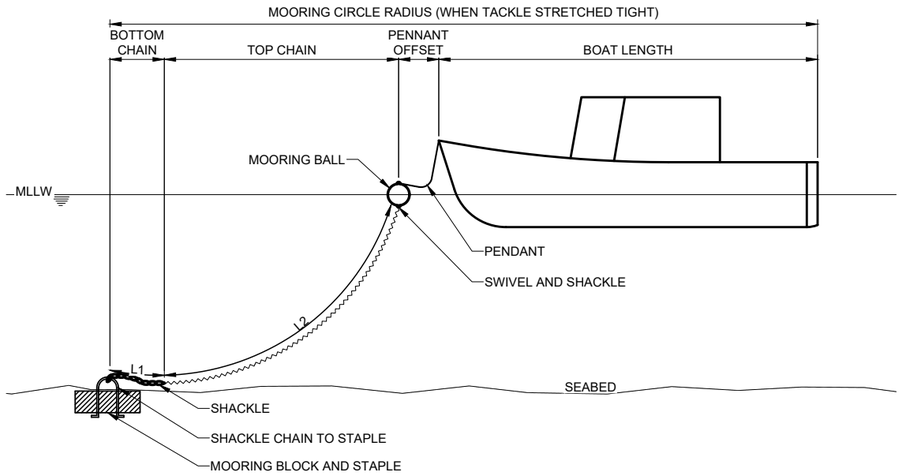
PROJECT: BROAD COVE RESERVE
BROAD COVE MASTER PLAN
Cumberland, Maine

DATE
JAN 2020

CONTRACT NO.
2209962

SHEET NO. G-2 | REV. A





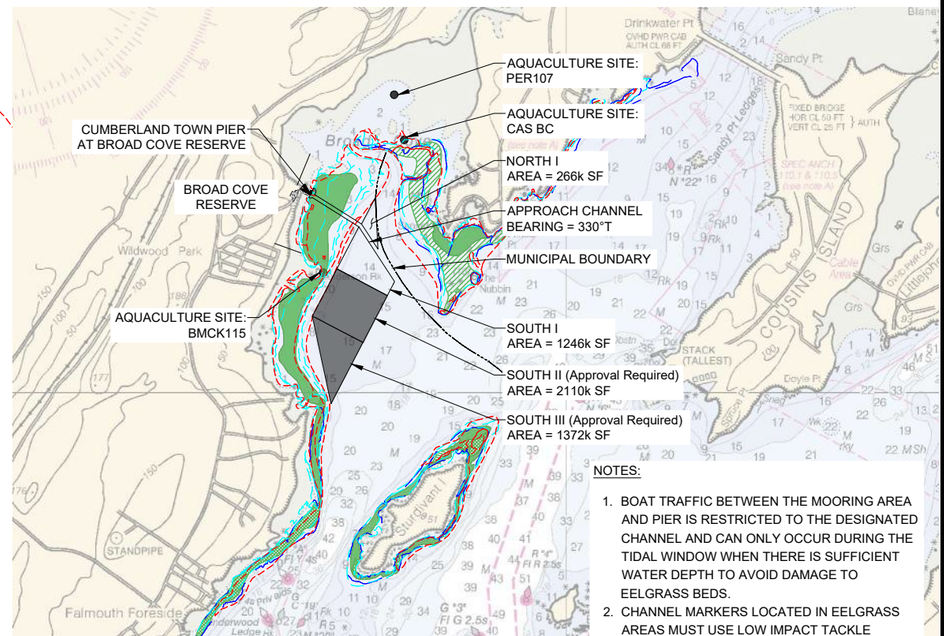
TYPICAL MOORING CONFIGURATION

NOT TO SCALE

2022 EELGRASS LIMITS 0-10% COVERAGE
2022 EELGRASS LIMITS 10-40% COVERAGE
2022 EELGRASS LIMITS 40-70% COVERAGE
2022 EELGRASS LIMITS 70-100% COVERAGE
2018 EELGRASS LIMITS
2013 EELGRASS LIMITS
1997 EELGRASS LIMITS

Mooring Plan Handbook Recommendations for no mooring interference

Boat Length FT		Depth of Water FT		Bow Ht	"Mooring Plan Handbook" Recom.			
					Chain Length	Pennant Length	Mooring Circle Dia.	
Range ft	Max ft	MLW	MHW	FT	(MHW x 2)+2.5xBow Ht		MLW	MHW
10 to 20	20	6	14.8	3.0	29.6	7.5	111.7	105.0
		12	20.8	3.0	41.6	7.5	133.4	125.8
		18	26.8	3.0	53.6	7.5	154.7	146.6
		24	32.8	3.0	65.6	7.5	175.9	167.4
20 to 30	30	12	20.8	4.0	41.6	10.0	158.0	150.4
		18	26.8	4.0	53.6	10.0	179.3	171.2
		24	32.8	4.0	65.6	10.0	200.4	192.0
		30	38.8	4.0	77.6	10.0	221.5	212.7
30 to 40	40	12	20.8	5.0	41.6	12.5	182.6	175.0
		18	26.8	5.0	53.6	12.5	203.9	195.8
		24	32.8	5.0	65.6	12.5	225.0	216.5
		30	38.8	5.0	77.6	12.5	246.0	237.3



NAUTICAL CHART INSET

0 2000 4000
SCALE, FEET

NOTES:

1. BOAT TRAFFIC BETWEEN THE MOORING AREA AND PIER IS RESTRICTED TO THE DESIGNATED CHANNEL AND CAN ONLY OCCUR DURING THE TIDAL WINDOW WHEN THERE IS SUFFICIENT WATER DEPTH TO AVOID DAMAGE TO EELGRASS BEDS.
2. CHANNEL MARKERS LOCATED IN EELGRASS AREAS MUST USE LOW IMPACT TACKLE COMPRISING A MUSHROOM ANCHOR (OR EQUAL) AND SUSPENDED LINE TO MINIMIZE DISTURBANCE TO THE SEABED.

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BARNEY J. BAKER
No. 5737
LICENSED PROFESSIONAL ENGINEER

DESIGNED BY:	BJB	CHECKED BY:	BJB
DRAWN BY:	JLD	SCALE:	AS SHOWN

SHEET TITLE: MOORING PLAN

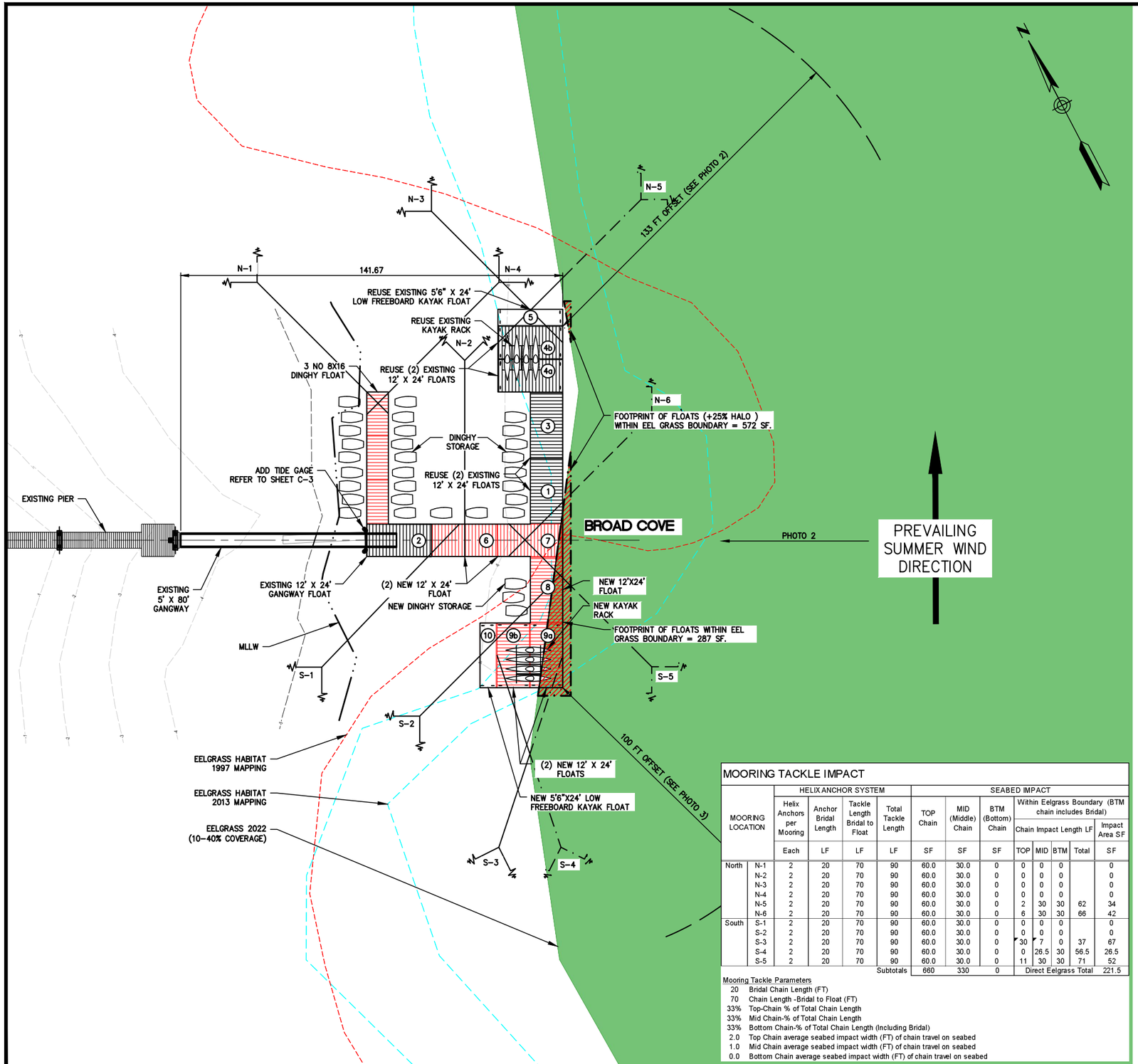
PROJECT: BROAD COVE MASTER PLAN
BROAD COVE RESERVE
CUMBERLAND, MAINE

DATE JAN 2020

CONTRACT NO. 2202962

SHEET NO. G-3 | REV. A

b:\working\cumberland, me town of\2202962 broad cove waterfront\00_cad\design\sheets\220962_general.dwg 12/5/2023



PROPOSED SITE PLAN

MOORING TACKLE IMPACT

MOORING LOCATION		HELIX ANCHOR SYSTEM: Helix Anchors per Mooring	Anchor Bridal Length	Tackle Length Bridal to Float	Total Tackle Length	SEABED IMPACT: TOP Chain	MID (Middle) Chain	BTM (Bottom) Chain	Within Eelgrass Boundary (BTM chain includes Bridal): Chain Impact Length LF TOP	MID	BTM	Total	Impact Area SF
		Each	LF	LF	LF	SF	SF	SF					SF
North	N-1	2	20	70	90	60.0	30.0	0	0	0	0		0
	N-2	2	20	70	90	60.0	30.0	0	0	0	0		0
	N-3	2	20	70	90	60.0	30.0	0	0	0	0		0
	N-4	2	20	70	90	60.0	30.0	0	0	0	0		0
	N-5	2	20	70	90	60.0	30.0	0	2	30	30	62	34
	N-6	2	20	70	90	60.0	30.0	0	6	30	30	66	42
South	S-1	2	20	70	90	60.0	30.0	0	0	0	0		0
	S-2	2	20	70	90	60.0	30.0	0	0	0	0		0
	S-3	2	20	70	90	60.0	30.0	0	30	7	0	37	67
	S-4	2	20	70	90	60.0	30.0	0	0	26.5	30	56.5	26.5
	S-5	2	20	70	90	60.0	30.0	0	11	30	30	71	52
					Subtotals	660	330	0	Direct Eelgrass Total				221.5

Mooring Tackle Parameters

20	Bridal Chain Length (FT)
70	Chain Length -Bridal to Float (FT)
33%	Top-Chain % of Total Chain Length
33%	Mid Chain-% of Total Chain Length
33%	Bottom Chain-% of Total Chain Length (Including Bridal)
2.0	Top Chain average seabed impact width (FT) of chain travel on seabed
1.0	Mid Chain average seabed impact width (FT) of chain travel on seabed
0.0	Bottom Chain average seabed impact width (FT) of chain travel on seabed

NOTES:
1. FIELD MEASUREMENTS TAKEN AT LOW TIDE ON AUGUST 12, 2022 (-1.2 FT @ 5.53 AM)
2. DRONE SURVEY COMPLETED AT LOW TIDE ON AUGUST 13, 2022 (-1.3 FT @ 6:35AM)

PHOTO 1: 133' NE FROM DOCK

PHOTO 2: LOOKING AT EXISTING DOCK

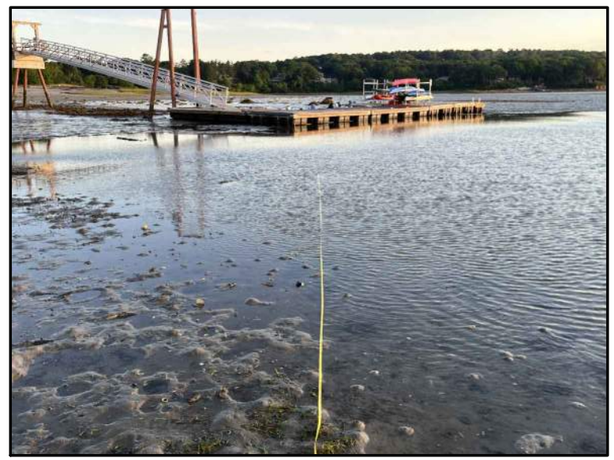


PHOTO 3: 100' SE FROM DOCK

GEI Consultants
5 MILK STREET • PORTLAND, ME 04101 • (207) 797-8901

NO.	DATE	INT.
E	4.26.2024	BJB
D	4/25/24	BJB
C	11/1/23	BJB
B	8/12/22	BJB
A	1/20/20	BJB

MOORING TACKLE IMPACTS
EEL GRASS/FLOAT HALO +25%
2022 EELGRASS
FIELD SURVEY
PERMIT SET
SUBMISSION

STATE OF MAINE
BARNEY J. BAKER
No. 5737
LICENSED PROFESSIONAL ENGINEER

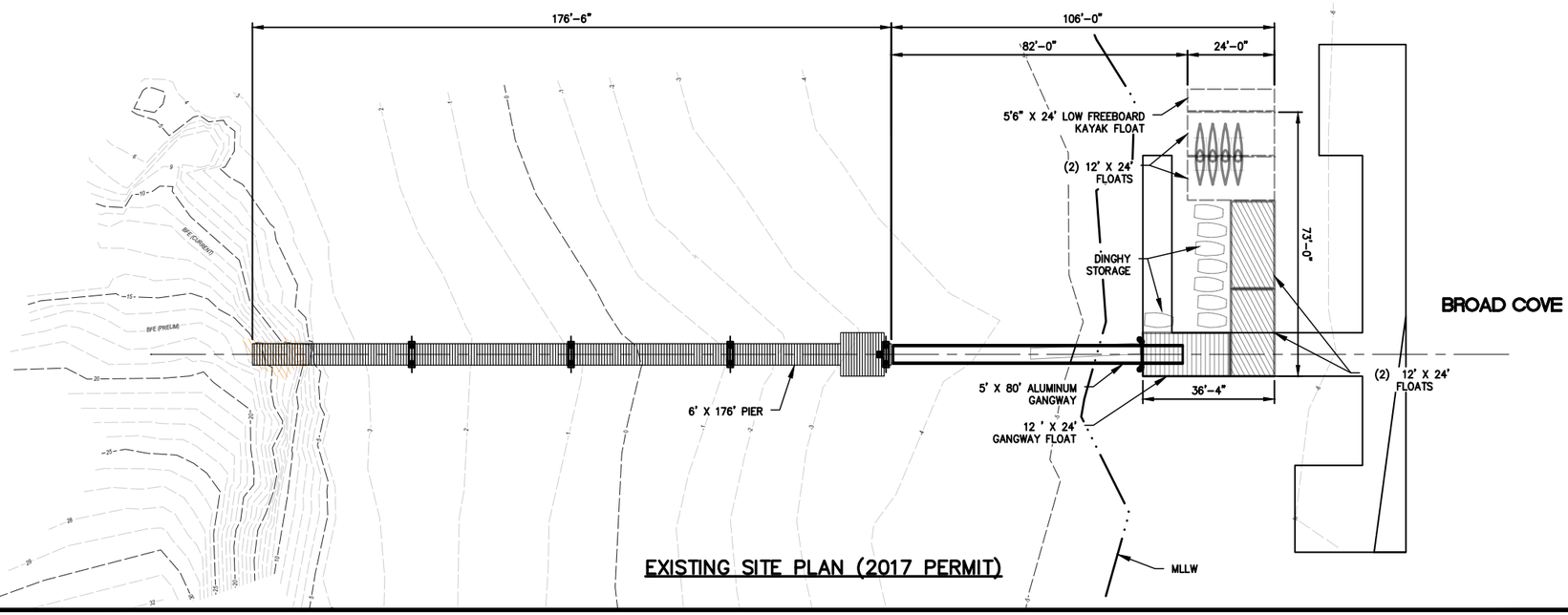
DESIGNED BY: BJB
DRAWN BY: JLD
CHECKED BY: BJB
SCALE: AS SHOWN

SHEET TITLE: EELGRASS OFFSETS

PROJECT: BROAD COVE MASTER PLAN
BROAD COVE RESERVE
Cumberland, Maine

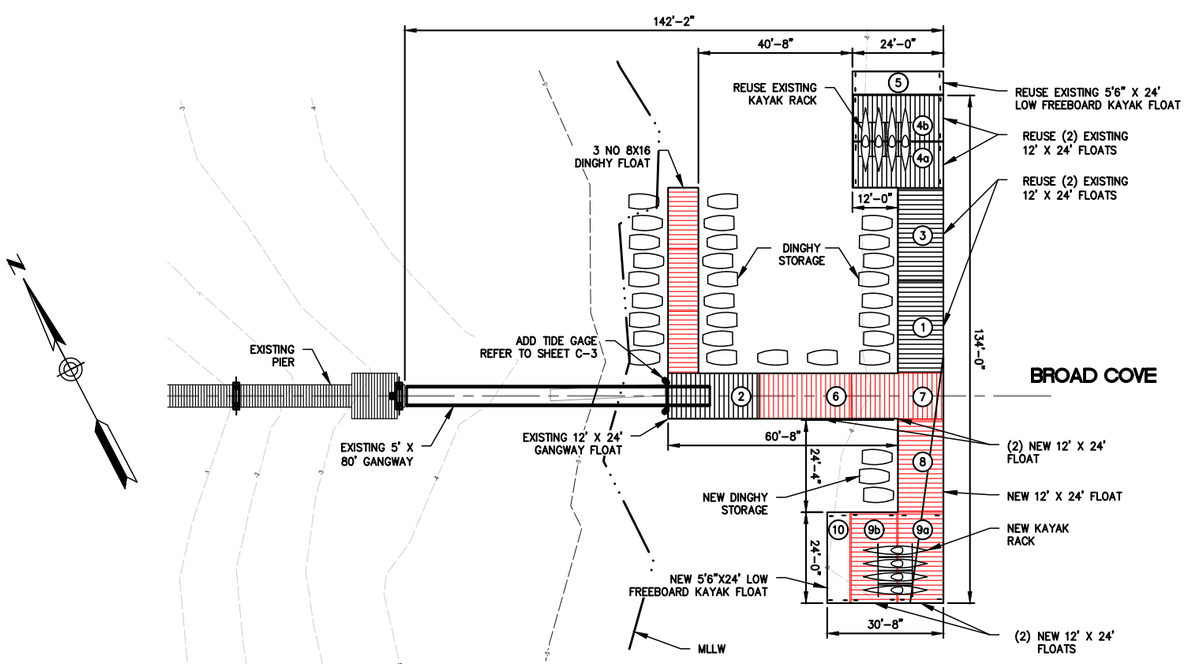
DATE JAN 2020
CONTRACT NO. 220962
SHEET NO. C-1
REV. E

b:\working\cumberland, me town of\2202962 broad cove waterfront\00_cad\design\sheets\220962-bdc-civil.dwg 4/26/2024



EXISTING SITE PLAN (2017 PERMIT)

FLOAT SCHEDULE							
Size	Area	Existing Floats	Total Area: Existing	Proposed Floats	Total Area: Proposed	Total Floats	Total Area
12 x 24 Gangway Float	288	1	288	0	0	1	288
12 x 24 Float	288	4	1152	5	1440	9	2592
5.5 x 24 Float	132	1	132	1	132	2	264
8 x 16 Float	128	0	0	3	384	3	384
Total:		6	1572	9	1956	15	3528



PROPOSED SITE PLAN

GEI Consultants
5 MILK STREET • PORTLAND, ME 04101 • (207)797-8901

NO.	DATE	INT.
B	11/1/23	BJB
A	1:20:20	BJB
	PERMIT SET SUBMISSION	
	2022 EELGRASS	

STATE OF MAINE
BARNEY J. BAKER
No. 5737
LICENSED PROFESSIONAL ENGINEER

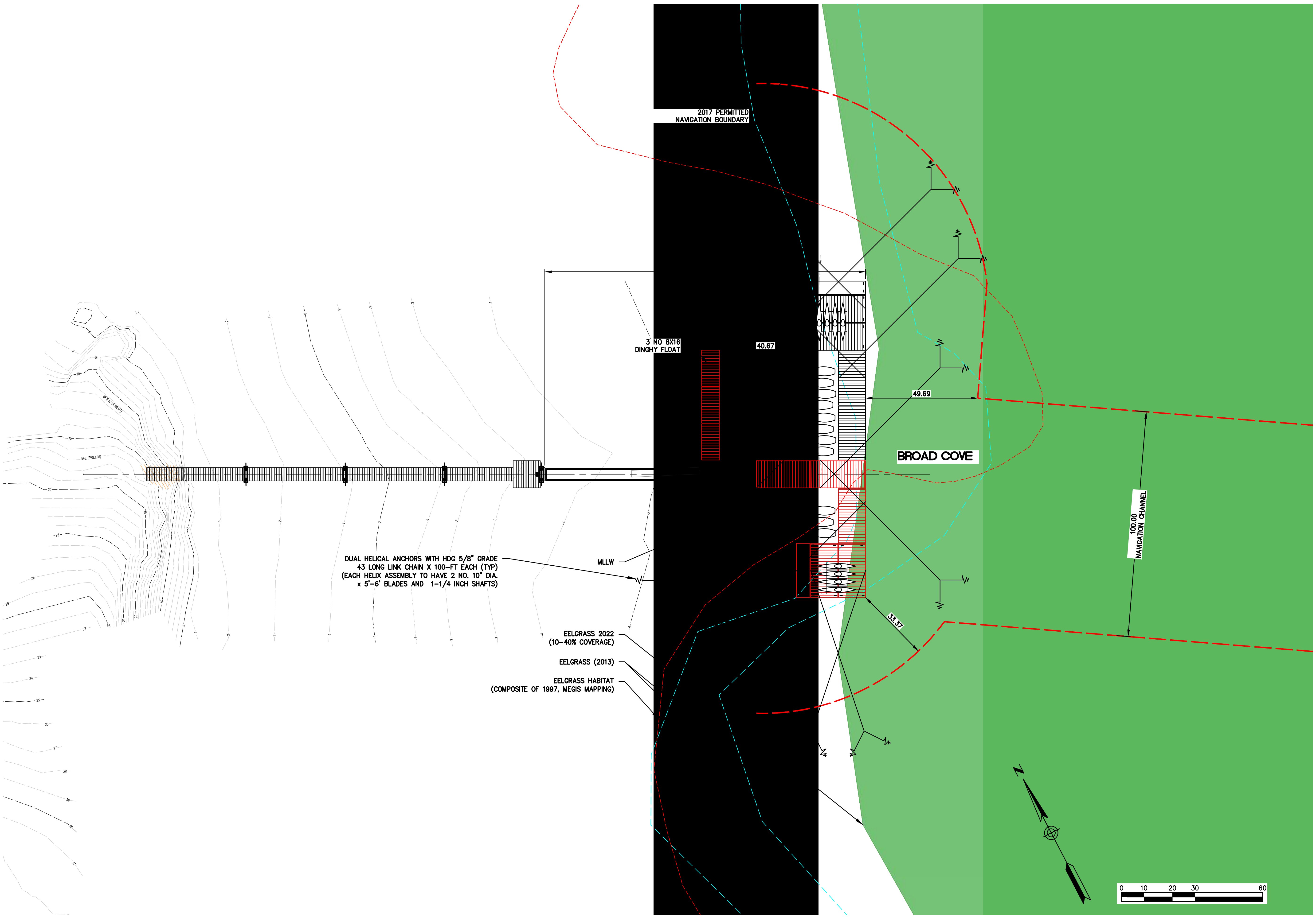
DESIGNED BY: BJB
DRAWN BY: JLD
CHECKED BY: BJB
SCALE: AS SHOWN

SHEET TITLE: SITE PLAN

PROJECT: BROAD COVE MASTER PLAN
BROAD COVE RESERVE
Cumberland, Maine

DATE JAN 2020
CONTRACT NO. 220962
SHEET NO. C-2
REV. A

b:\working\cumberland, me town of\2202962 broad cove waterfront\00_cad\design\sheets\220962-bdc-civil.dwg 12/5/2023



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GEI Consultants
5 MILK STREET • PORTLAND, ME 04101 • (207)797-8901

NO.		DATE	INT.
C	HELIX ANCHOR NOTE	03.06.2024	
B	2022 EELGRASS	11/123	BJB
A	PERMIT SET	1.20.20	BJB
NO.	SUBMISSION	DATE	INT.

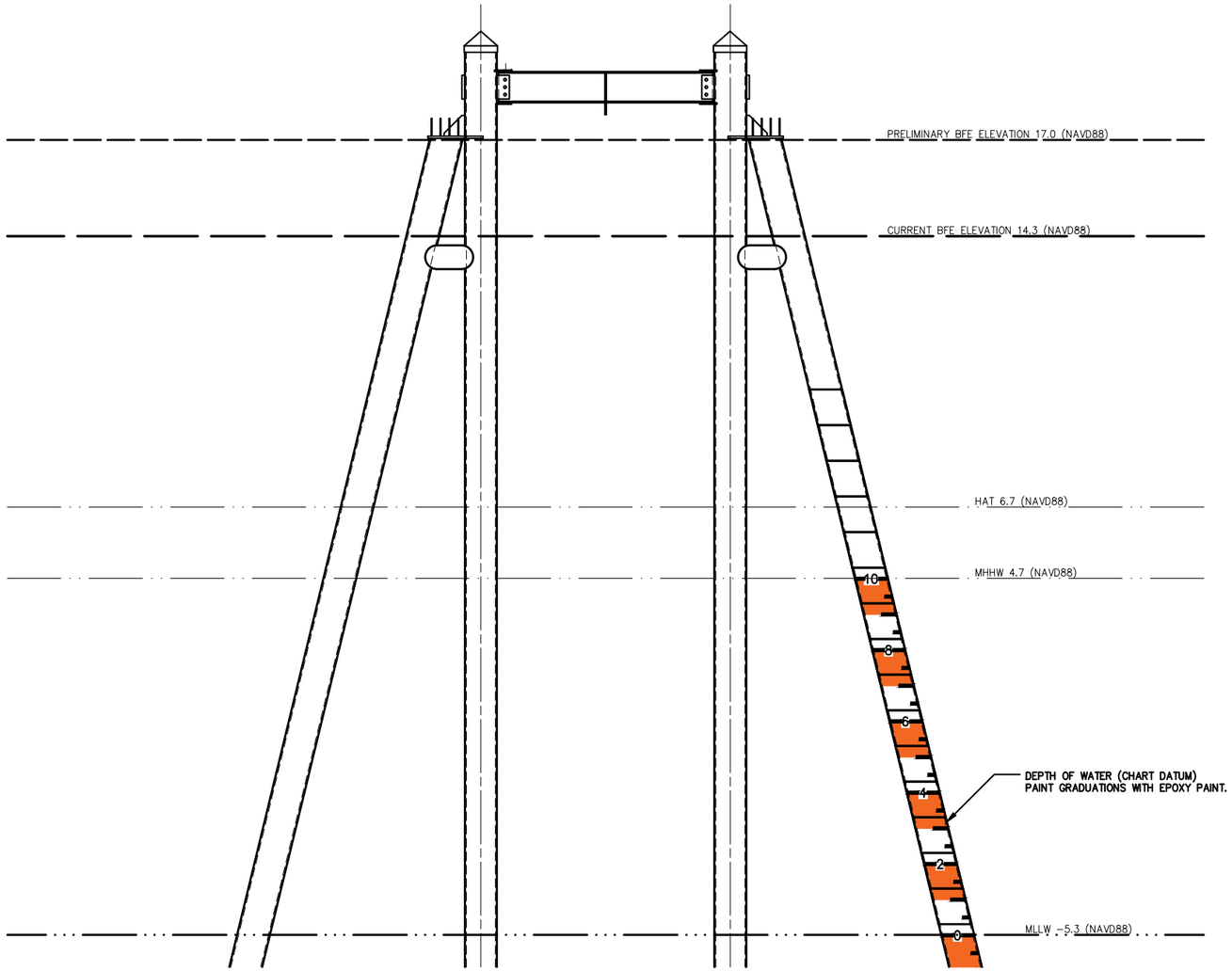
STATE OF MAINE ★ BARNEY J. BAKER No. 5737 ★ LICENSED PROFESSIONAL ENGINEER

DESIGNED BY: BJB
DRAWN BY: JLD
CHECKED BY: BJB
SCALE: AS SHOWN

SHEET TITLE: EELGRASS IMPACT PLAN

PROJECT: BROAD COVE RESERVE
BROAD COVE MASTER PLAN
Cumberland, Maine

DATE JAN 2020
CONTRACT NO. 220962
SHEET NO. C-3
REV. C



TIDAL GAUGE

0 2 4 6 12

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NO.	DATE	INT.
B	11/1/23	BJB
A	11/5/19	BJB
	2022 EELGRASS PROGRESS PLAN SUBMISSION	

STATE OF MAINE
BARNEY J. BAKER
No. 5737
LICENSED PROFESSIONAL ENGINEER

DESIGNED BY: BJB
DRAWN BY: JLD
CHECKED BY: BJB
SCALE: AS SHOWN

SHEET TITLE: TIDAL GAUGE

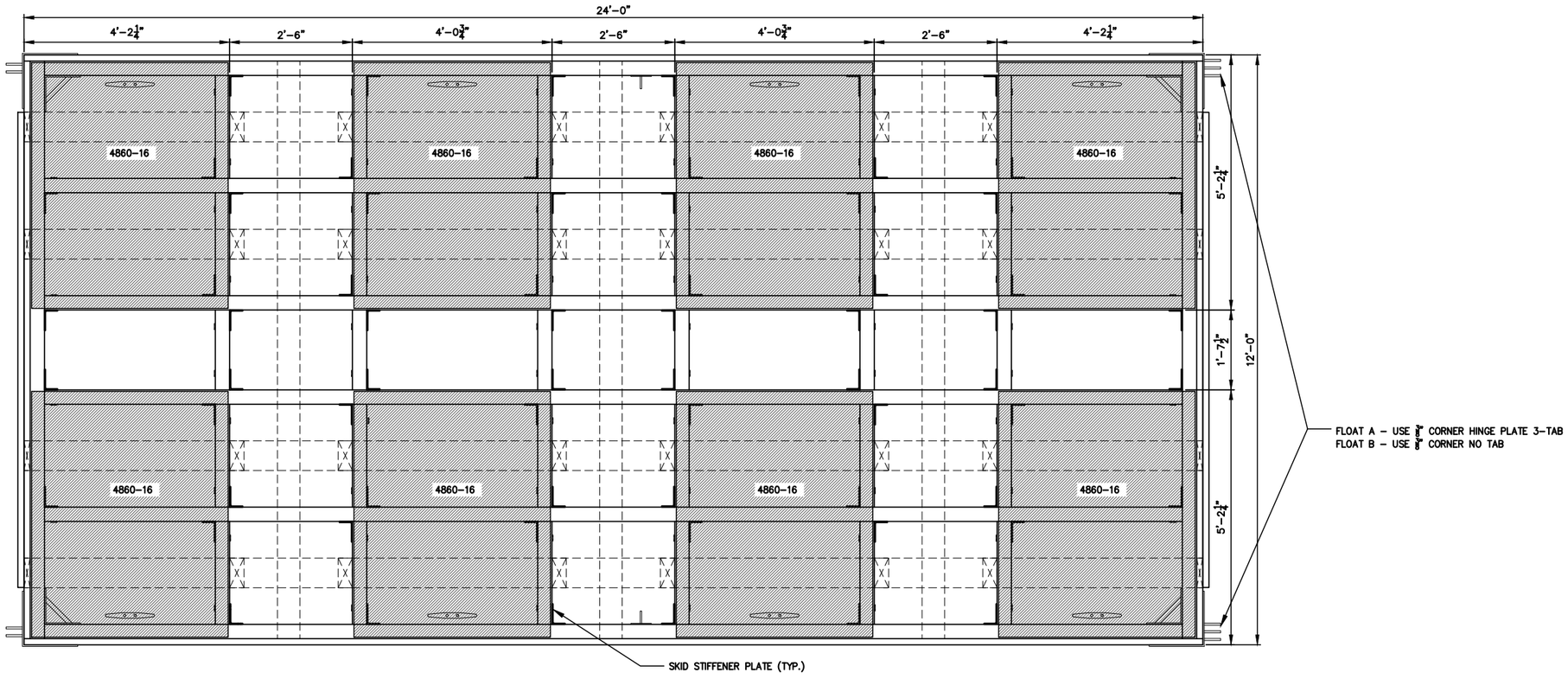
PROJECT: BROAD COVE MASTER PLAN
BROAD COVE RESERVE
Cumberland, Maine

DATE
DEC 2019

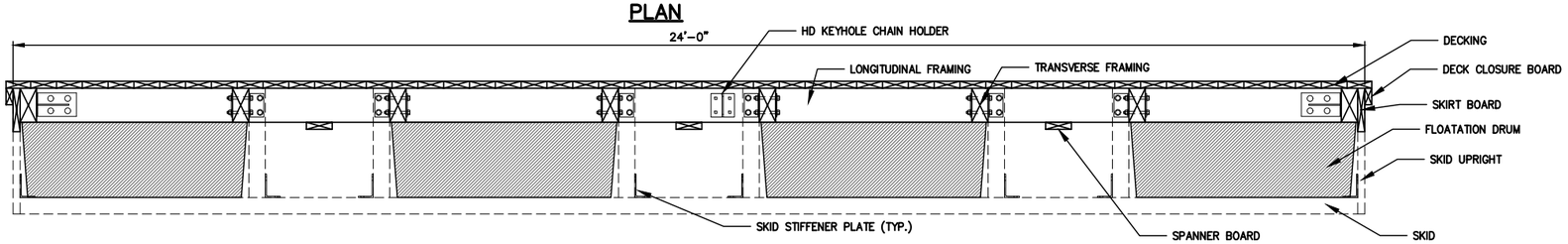
CONTRACT NO.
220962

SHEET NO. C-4

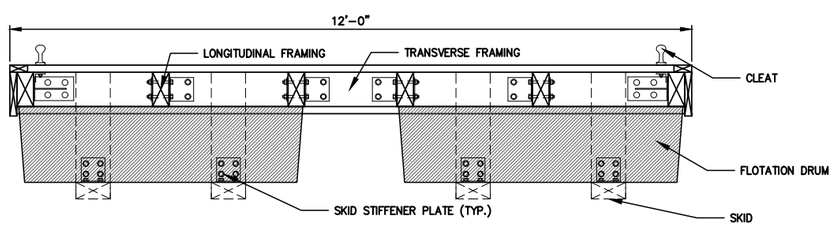
REV. A



PLAN

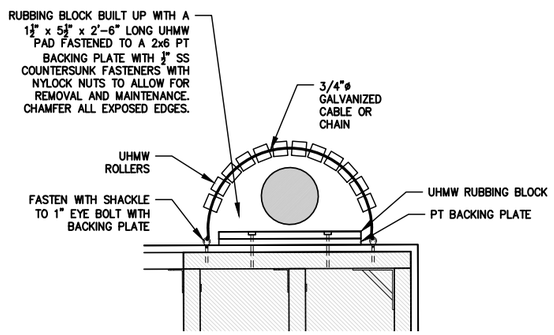


TYPICAL SECTION



TYPICAL SECTION

0 1 2 3 4 8



PILE GUIDE DETAIL

0 1 2 3 4 8

FLOAT HARDWARE

- 3/8" T-TAB PLATE 3 TAB (FEMALE) (6H494)
- 3/8" T-TAB PLATE 2 TAB (MALE) (6H493)
- 3/8" BACKER PLATE (6H496)
- SMALL BACKER PLATE (6H401)
- BACKER PLATE (6H402)
- 90° STIFFENER PLATE (6H414)
- 90° SKID STIFFENER PLATE (6H418)
- 90° STIFFENER PLATE JR (6H414J)
- 3/8" CORNER HINGE PLATE 3 TAB (FEMALE) (6H492)
- 3/8" CORNER HINGE PLATE 2 TAB (MALE) (6H491)
- 3/8" CORNER NO TAB (6H490)
- 1/4" INSIDE CORNER (6H411)
- CLEAT WITH BACKING ANGLE
- HD KEYHOLE CHAIN HOLDER (DH-CR)

NOTES:

1.) REFER TO TIMBER SCHEDULE ON SHEET G-2

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NO.	DATE	INT.
B	11/1/23	BJB
A	1:20:20	BJB
	2022 EELGRASS PERMIT SET SUBMISSION	

STATE OF MAINE
BARNEY J. BAKER
No. 5737
LICENSED PROFESSIONAL ENGINEER

DESIGNED BY:	BJB	CHECKED BY:	BJB
DRAWN BY:	JLD	SCALE:	AS SHOWN

SHEET TITLE: TYPICAL 12X24 FLOAT DETAILS

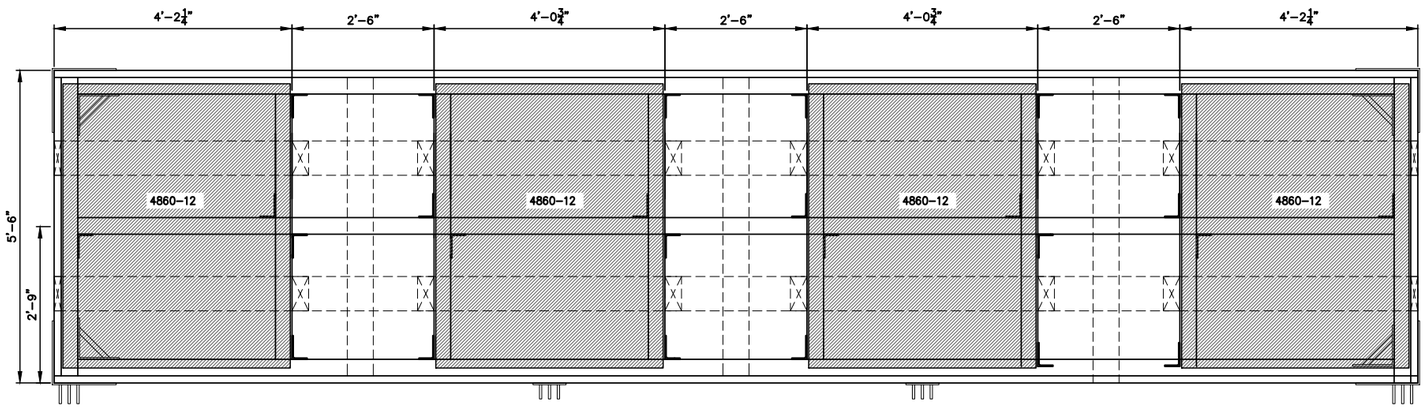
PROJECT: BROAD COVE RESERVE
BROAD COVE MASTER
CUMBERLAND, MAINE

DATE JAN 2020

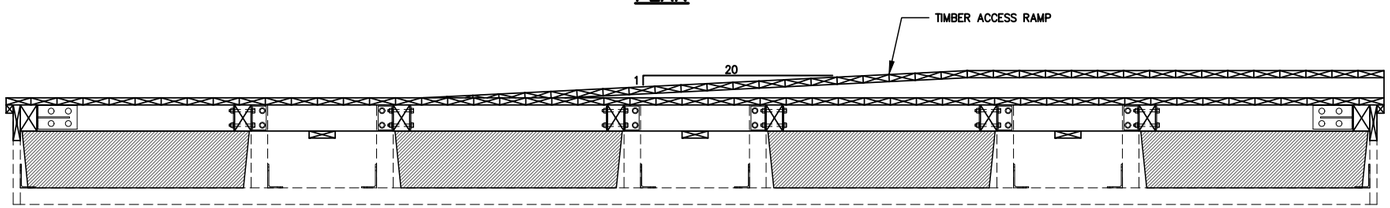
CONTRACT NO. 220962

SHEET NO. F-1 | REV. A

b:\working\cumberland, me town of\2202962 broad cove waterfront\00_cad\design\sheets\220962-bdc-civil.dwg 12/5/2023



PLAN



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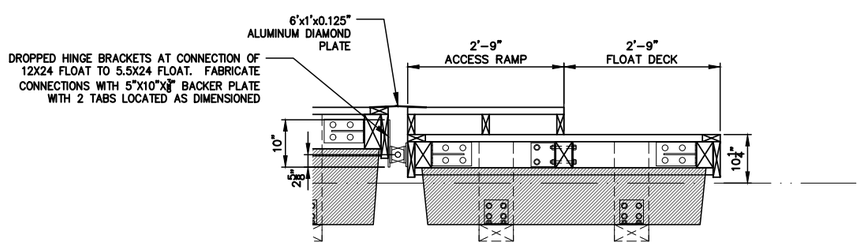
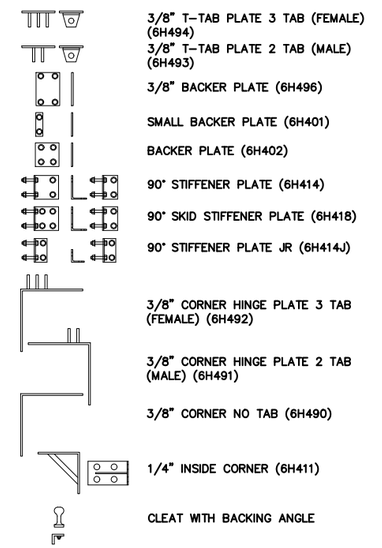


TYPICAL SECTION

0 1 2 3 4 8

FLOAT HARDWARE



3/8" T–TAB PLATE 3 TAB (FEMALE) (6H494)

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3/8" CORNER NO TAB (6H490)

1/4" INSIDE CORNER (6H411)

CLEAT WITH BACKING ANGLE

NOTES:

1.) REFER TO TIMBER SCHEDULE ON SHEET G–2

GEI Consultants
5 MILK STREET • PORTLAND, ME 04101 • (207)797-8901

NO.	DATE	INT.
B	11/1/23	BJB
A	1:20:20	BJB
	2022 EELGRASS PERMIT SET SUBMISSION	

STATE OF MAINE
BARNEY J. BAKER
No. 5737
LICENSED PROFESSIONAL ENGINEER

DESIGNED BY:	DRAWN BY:	CHECKED BY:	SCALE:
BJB	JLD	BJB	AS SHOWN

SHEET TITLE: 5.5X24 FLOAT DETAILS

PROJECT: BROAD COVE MASTER PLAN
BROAD COVE RESERVE
CUMBERLAND, MAINE

DATE JAN 2020

CONTRACT NO. 220962

SHEET NO. F-2 | REV. A

5 Milk Street, Portland, ME 04101 | 207.797.8901

geiconsultants.com

Paddle Craft Dock

NOVEMBER 15, 2024

Photo Courtesy of Custom Float Services

GORRILL PALMER
An LJB Engineering Company

GORRILL PALMER
An LJB Engineering Company

300 Southborough Drive, Suite 200, South Portland, ME 04106
(207) 772-2515 | GorrillPalmer.com

November 15, 2024

Dylan Smith, Planning Director
Town of York
York Town Hall, Town Planning Department
186 York Street
York, ME 03909

Re: Paddle Craft Dock

Dear Dylan,

We are excited about the opportunity to submit this proposal to assist the Town of York with engineering services relating to the Paddle Craft Dock project. In selecting a firm for this assignment, it is important that you select a firm that brings experience with this type of work, has established relationships at all levels, has knowledge of the local area, and brings leadership to ensure the project is successful. We believe that Gorrill Palmer is the best qualified firm for this assignment. The following pages will summarize our qualifications, experience, and our approach and will highlight our references.

FIRM OVERVIEW, HISTORY, AND SIZE – Gorrill Palmer, an LJB Engineering Company, is an integrated transportation, municipal and land development engineering firm that has been providing quality professional service to clients throughout New England since 1998 and the Mid-Atlantic area since 2013. Since our founding, Gorrill Palmer has been consistently recognized for our expertise, experience, and responsiveness, resulting in outstanding value for our clients.

At Gorrill Palmer, we have created a work environment built upon integrity, skill, and service. Our team includes individuals with expertise in transportation planning and engineering, municipal engineering, land development, environmental permitting, and construction observation. With staff/offices in Maine and Virginia, Gorrill Palmer's committed staff is well respected for our attention to detail and ability to consistently deliver high quality, innovative and cost-effective designs to our clients.

In April 2024, **Gorrill Palmer was acquired by LJB Inc.** to provide our clients with greater resources and staff depth. Founded in 1966, LJB is a national engineering firm who delivers civil, structural, safety and geospatial services to improve quality of life and continually enhance client experiences. The combined firm has around 400 employees and offers significant opportunities to our staff and additional service offerings to our clients. Gorrill Palmer was selected by the Town of York in 2017 to provide a variety of on call engineering services. Since that time, we have worked closely with the Planning Department to provide engineering peer review services for subdivision and site plan projects that are submitted for Planning Board review.

AREAS OF EXPERTISE – LJB serves a variety of clients in six primary markets: federal, state and local government, commercial, education, health care, and industrial/manufacturing. LJB's diverse staff hold professional engineering licenses in all 50 states, as well as several U.S. territories and Canadian provinces.

PRIMARY CONTACT – Ryan Barnes, will be the primary point of contact for the Town throughout the duration of the contract. Ryan can be contacted at (207) 671-8426 or rbarnes@gorrillpalmer.com.

SUBCONSULTANTS – Tim Forrester, Director of Coastal Resources with Flycatcher, LLC will lead the natural resource delineations and permitting for the project. Tim can be reached at (207)837-2199 or tim@flycatcherllc.com. Custom Float Services will assist Flycatcher with design and access requirements associated with the paddle dock.

Michael Coulombe, Vice President with Dow & Coulombe, Inc. will lead the survey for the project. Michael can be reached at (207)284-4521 or info@dowcoulombe.com.

CONFLICT OF INTEREST – Gorrill Palmer confirms that no individual acting for or employed by the Town is directly/indirectly related to Gorrill Palmer or any agreement that may be entered that Gorrill Palmer relates or in any portion profits from.

In closing, Gorrill Palmer takes pride in adhering to its "3R" core values of **Relationships, Responsiveness and Results**. The success of any project can be based on our firm's ability to effectively communicate with our clients and the public. Responsiveness can be defined as meeting a project deadline or having a principal of our firm actively involved in every project. Results can be defined as delivering a quality product and/or listening to our client's needs and delivering a product that meets those needs. It is these core values that Gorrill Palmer will bring to this important assignment to ensure project success.

Through hands on experience, Gorrill Palmer understands this project and is excited for the opportunity to provide you with the technical expertise and value that we can bring on this assignment. Should you have any questions regarding this submittal, please do not hesitate to contact us. We hereby certify that all information contained in this proposal is true and accurate. Our contact information is provided herein.

Respectfully submitted,

Gorrill Palmer, an LJB Engineering Company

William C. Haskell, PE
Municipal Operations Lead, New England
(207) 772-2515
whaskell@gorrillpalmer.com

Ryan Barnes, PE, CPESC
Project Manager
(207) 772-2515
rbarnes@gorrillpalmer.com

Table of Contents

Photo Courtesy of Custom Float Services

Project Description and Scope of Services

Project Description

This RFP requests a consultant to work with the York River Access Ad Hoc Committee and the Yark Harbor Board to evaluate siting options and design recommendations for a public access, non-motorized paddle craft dock at Goodrich Park. We understand that this project is located within a federally designated Wild and Scenic River. The design will incorporate accessibility, resiliency, and sustainability features that will be appropriate for State and Federal permitting requirements.

Scope of Services

Our Team is well acquainted with the unique design and permitting requirements associated with paddle craft docks in coastal Maine. The following summarizes our scope and technical approach to this project:

1. Kickoff Meeting with Town and Committees- The project team will attend a kickoff meeting with the Town and committees and review the options for full tidal and partial tidal access to Goodrich Park.
2. Conceptual Layout and Siting- Conceptual design will be completed based on existing lidar data and desktop review of resources.
    a. Conceptual Design - Gorrill Palmer will complete a site visit to review the site and possible layout options, this review will include preliminary GPS survey to determine if accessibility issues are apparent at possible sites. The design will incorporate recommendations relating to permitting and access from Flycatcher and Custom Float Services. We propose to prepare two conceptual designs for consideration.
    b. Natural Resource Delineation – Flycatcher will complete desktop review and provide guidance relating to permitting requirements at the proposed sites.
    c. Concept Plan Review- The Team will provide recommendations for the preferred siting of the paddle craft dock based on accessibility, percentage of tidal access, and permitting requirements. These options will be reviewed with the committee and the preferred site will be advanced to design and permitting.
3. Survey- Following selection of the preferred site, survey will begin.
    a. Survey - Dow & Coulombe will complete an existing conditions survey and topographic survey of the selected location for use in design and permitting.
    b. Natural Resource Delineation – Flycatcher will complete natural resource delineation at the preferred site.
4. Preliminary Design- Preliminary design will begin following the completion of the survey and delineation work.
    a. Preliminary Design - Gorrill Palmer will complete a preliminary design of the preferred site. The design will incorporate recommendations relating to permitting and access from Flycatcher and Custom Float Services. The design will include path designs from the existing parking lot to the preferred site following ADA requirements. This design will incorporate resilient and sustainable design methods appropriate for required permitting with State and Federal agencies.
    b. Review Meeting with Town and Committees – Gorrill Palmer will review the preliminary design of the preferred site with the Town and Committees and incorporate comments into the plans.
    c. Town Council Meeting – Gorrill Palmer will attend a Town Council Meeting or Workshop regarding the proposed design, the presentation will include preliminary opinion of probable construction cost, and the required permitting. Once approved by the Council the project will move into permitting.
5. Permitting- Following approval by the Council:
    a. Gorrill Palmer will complete permit level plans based on feedback received during the Town/Committee Meeting and the Town Council Meeting.
    b. Flycatcher will complete the permit applications for the State and Federal Permits.
6. Permit Submission – Permits will be submitted to State and Federal Agencies

Statement of Qualifications

LJB serves a variety of clients in six primary markets: federal, state and local government, commercial, education, health care, and industrial/manufacturing. LJB's diverse staff hold professional engineering licenses in all 50 states, as well as several U.S. territories and Canadian provinces.

Gorrill Palmer will be partnering with Tim Forrester the Director Coastal Resources for resource delineation and permitting. Custom Float Services will assist Flycatcher with design and access requirements associated with the paddle dock. Dow & Coulombe will complete the existing conditions and topographic survey for the project.

Project Manager and Key Personnel

Gorrill Palmer will be the lead consultant and designer, providing civil engineering review and analysis. A summary of the Gorrill Palmer key engineering staff that will be assigned to the design and implementation of this project include:

- *William Haskell, PE, CPESC* will be assigned as the Municipal Operations Group Leader for Civil Site Engineering. As the Municipal Operations Group Leader, Will provides technical assistance and quality control (QC) review for the project. He has over 30 years of experience in general civil and municipal engineering, including land development and permitting, sewer and storm drain design, large culvert design and permitting, and water resource planning and management.

- *Ryan Barnes, PE, CPESC* will be assigned as the Project Manager, supporting Will. Ryan has served as project manager and designer on a wide variety of municipal projects and studies throughout Maine and has served as the Town Engineer and Project Engineer for the municipalities of Brunswick and Lewiston. He has over 20 years of experience in general civil and municipal engineering, including land development and permitting, sewer, water, and storm drain design, large culvert design and permitting.

- *Flycatcher* – Tim Forrester – Director of Coastal Resources at Flycatcher will lead the resource delineation and permitting for the project.

- *Custom Floats Services-* Custom Float Services has been designing, building and supplying components for float & dock systems throughout the US Northeast Region and Atlantic Maritime Canada for over 25 years. They provide experience and knowledge to solve water-related access projects.

- *Dow & Coulombe, Inc* - Michael Coulombe, Vice President with Dow & Coulombe, Inc. will provide the survey for the project. Dow & Coulombe, Inc. continues to provide the same high quality land surveying services that have distinguished this company since 1864.

Will Haskell, P.E., CPESC, CESSWI, LEED AP BD+C

PROFESSIONAL ENGINEER/MUNICIPAL OPERATIONS LEADER, NEW ENGLAND

Years Experience:
30

Education
M.S.
Colorado State University
Civil/Water Resources Planning & Management
1994

B.S.
University of New Hampshire
Civil/Environmental Engineering
1990

Registration
Professional Engineer – ME, NH, MA, VT, CA

CPESC

CESSWI

LEED AP Building, Design & Construction

Specialized Training
Water Surface Profiling & Floodplain Analysis Seminar for HEC-RAS

Membership
American Society of Civil Engineers (ASCE)

Maine ASCE – Board of Direction

Town of Raymond Planning Board (former member)

South Portland/Cape Elizabeth Chamber Board

Will is the Municipal Operations Leader for New England at Gorrill Palmer and leads the firm's Municipal Group. He has over 30 years of experience in general civil and municipal engineering, including land development and permitting, sewer and storm drain design, erosion control design, combined sewer overflow and sewer separation, large culvert design and permitting, municipal road design, pedestrian improvements, pavement management, water resources planning and management, and construction inspection. He maintains professional engineering licenses in Maine and four other states and maintains the CPESC, CESSWI, and LEED AP BD&C credentials. Will provides project management support, quality control review, and design and permitting guidance to his staff.

Relevant Experience

Simard Payne Park Carry-In Boat Launch – Lewiston, ME
Client: City of Lewiston | Role: Project Manager

Will served as the project manager and principal in charge for the design and permitting of a carry-in boat launch at Simard Payne Park on the Androscoggin River for the City of Lewiston. This project included modifications to the existing park trails, design of a safe pathway down to the river, negotiating a steep embankment, invasive species management, and Maine DEP Natural Resources Protection Act permitting. The primary use of the boat launch was for the local rowing club, however, it is also available to any carry-in user. US Army Corps of Engineers permitting was not required because all permanent improvements were completed above the normal high water line of the river.

Mackerel Cove Boat Launch – Harpswell, ME
Client: Town of Harpswell | Role: Project Manager

Will served as the project manager and principal in charge for the design and permitting of a town boat launch on Mackerel Cove located on Abner Point Road. The prior ramp at this location had deteriorated and become unusable. Gorrill Palmer designed a new concrete plank ramp. Due to tidal conditions, the ramp is only usable during mid to high tide levels. The ramp was permitted through Maine DEP and US Army Corps of Engineers.

Bethel Point Road Tidal Culvert – Harpswell, ME
Client: Town of Harpswell | Role: Design & Permitting Assistance

Bethel Point Road provides access for the residents and businesses of Bethel Point, which is located to the west of Cundy's Harbor. The project replaced an existing 14-foot 2-inch span by 8-foot 4-inch rise corrugated metal culvert that became submerged at high tide. Bethel Point Road is a dead-end road and the sole access to the peninsula. Several alternatives (including sliplining) were evaluated, but the final selected design included a concrete box culvert with a 12-foot span and 10-foot rise. The box was embedded 2 feet below the natural

channel invert to improve fish passage. Provided design assistance and construction observation. The contractor installed a temporary bypass bridge to maintain access beyond the culvert during construction.

Basin Point Road Tidal Culvert – Harpswell, ME
Client: Town of Harpswell | Role: Project Manager

Managed the feasibility study to replace the existing 18-inch diameter culvert with a 14-foot span by 10-foot rise box culvert and raise approximately 680 feet of Basin Point Road approximately 3.5 feet to mitigate flooding that may be caused by future sea level rise. Basin Point Road provides access to approximately 115 households as well as access to the Dolphin Marina and Restaurant, which employs over 90 people and serves over 85,000 people annually. Without the suggested improvements, access to these businesses and residences could regularly be cut off due to rising sea levels and during storm events. GP worked closely with the Town of Harpswell, Harpswell Conservation Commission, and The Casco Bay Estuary Partnership.

College Street Culvert – Lewiston, ME
Client: City of Lewiston | Role: Design & Permitting Assistance, QC

Will was the principal in charge and provided quality control review for the design of this urban culvert with the goal of increasing the culvert capacity. The existing 7-foot span by 5.5-foot rise double box culvert was replaced by an 18-foot span by 5.5-foot rise single concrete box. The existing Jepson Brook channel on either end of the culvert is concrete lined; therefore, the new culvert was not depressed to create a natural stream channel. A U.S. Army Corps of Engineers (USACE) Category 2 General Permit was obtained for this project.

Central Avenue Culvert – Lewiston, ME
Client: City of Lewiston | Role: QC and Technical Advisor

Will was the principal in charge and provided quality control review and technical guidance for the design and modeling of the replacement culvert across Central Avenue. The existing culvert was a 500-foot-long, cast-in-place double box culvert, with each box being 7-feet-wide by 5.25-feet-high. Gorrill Palmer reviewed several alternatives, including replacing the existing boxes with a single 18-foot span by 5.25-foot rise and leaving the existing boxes and adding a third 7-foot span by 5.25-foot rise box alongside the existing culverts. Challenges included leaving the existing boxes and adding a third include proximity to an existing residence and conflicts with other utilities. Project required a USACE Category 2 General Permit.

New Gorham and Longfellow Road Culverts – Westbrook, ME
Client: City of Westbrook | Role: Project Manager

These two culverts were included in a larger sewer separation and drainage improvement project for the City of Westbrook. Will managed the design and permitting for the two culvert replacements. The New Gorham Road culvert was a 3-foot diameter culvert that was replaced by a 6-foot span by 4-foot rise precast concrete box. The Longfellow Road culverts were twin 3-foot diameter culverts that were replaced by a 7-foot span by 5-foot rise precast concrete box culvert. Gorrill Palmer found during the design that increasing the size of the New Gorham Road culvert would result in increased flooding at the downstream Longfellow Road culvert; therefore, the Longfellow Road culvert had to be upgraded as well. Challenges included existing water and sewer utility conflicts and depth of cover over the new culvert. USACE Category 2 permits were required for both culverts.

Ryan Barnes, P.E., CPESC

PROFESSIONAL ENGINEER/PROJECT MANAGER

Years Experience:
23

Education
B.S.
University of Maine, Orono
Civil Engineering
2001

Registration
Professional Engineer – ME

Certified Professional in Erosion and Sediment Control

Membership
MaineDEP Chapter 500 Updates Stakeholder Engagement

Member of Technical Committee and Definitions, Groundwater Recharge, and Stressor-guided SCMs Subcommittees

Maine Better Transportation Association – Transportation Conference Planning Committee

American Public Works Association Maine Chapter – Secretary and Board of Directors

State Transportation Innovation Council – Innovation Committee Chair

Ryan is a civil engineer, project manager, and construction project manager with more than 20 years of experience. He has managed and provided design for roadway, sidewalk, bridge, highway, utility (water, sewer, storm drain), and building projects, including Locally Administered Projects (LPA). His experience includes geometric, intersection, roundabout, drainage, and utility design as well as permitting, cost estimating, construction oversight and reporting, technical review, coordination, and quality assurance monitoring. Ryan has previously served as the Town Engineer for the Town of Brunswick, ME, and as a project manager for the Maine Turnpike Authority.

Relevant Experience

Simpson Brook Culvert Replacement – Town of Brunswick
Client: Town of Brunswick | Role: Town Engineer
Oversaw design and construction of the replacement of the Simpson Brook Culvert at Hacker Road. The project included replacing the failing 60" corrugated metal pipe with a 12' span 6' rise concrete pipe arch. The stream crossing was funded through the MaineDEP Stream Crossing Grant Program.

Mare Brook Watershed Management Plan – Town of Brunswick
Client: Town of Brunswick | Role: Town Engineer
The plan was developed under the direction of the Town Engineer and Town Planner and is currently being implemented. Funding for this project, in part, was provided by the U.S. Environmental Protection Agency under Section 604B of the Clean Water Act. The funding is administered by the Maine Department of Environmental Protection in partnership with EPA.

Living Shoreline Demonstration Projects – Town of Brunswick
Client: Town of Brunswick | Role: Town Engineer
The Town of Brunswick worked closely with partners at the Maine Coastal Program, Maine Geological Survey, Maine Department of Transportation, Casco Bay Estuary Partnership, the Nature Conservancy, Maine Coast Heritage Trush, and Brunswick-Topsham Land Trust to design and install two demonstration living shoreline projects. The demonstration projects were implemented to explore employing living shoreline techniques in coastal bluff environments, to help curtail erosion while maintaining the natural continuity of the land-water interface.

Cook's Corner Connector Road – Brunswick, ME
Client: Town of Brunswick | Role: Town Engineer
Oversaw the construction of a new access road for Brunswick Landing. Like many projects occurring on former naval air stations, the construction included addressing potentially contaminated soils and unknown existing conditions. The project required several field modifications due to unforeseen conditions found in the field. Despite this, the project was completed on time and on budget.

Graham Road Landfill Closure – Brunswick ME
Client: Town of Brunswick | Role: Town Engineer

The Town of Brunswick, under an Administrative Consent Agreement with MaineDEP, entered a Schedule of Compliance to close the Graham Road Landfill in June 2017. The design and permitting of the closure began in November 2018 and was completed on schedule in September 2020. Construction began in April 2021 and, despite historic rainfall during the summer, the project was completed on time and on budget. Through diligent record keeping and close coordination with the MaineDEP the $7.4 million project has been deemed eligible for a 75% reimbursement from the State of Maine.

Jepson Brook Watershed CSO Separation – Lewiston, ME
Client: Project Engineer | Role: Project Engineer

Designed and oversaw construction of approximately $5 million of CSO separation in the Jepson Brook Watershed. The projects included preliminary budgeting, design, bidding, and construction.

Ray Street, Portland, ME
Client: City of Lewiston | Role: Full-time Construction Representative

Served as the full-time construction representative, observing the progress and quality of construction for the approximately $2 million CSO project. The project entailed installation of 4,300 feet of sewer main and 5,600 feet of storm drainpipe including 1,400 feet of 42-inch storm drain at depths more than 18 feet. Duties included daily observations; preparation of daily, weekly, and monthly reports; verification of contractor payment requests; and coordination with city representatives for field changes during construction. The project was completed through the MaineDEP State Revolving Funds.

Gray Water District Projects – Gray, ME
Client: Gray Water District | Role: District Representative

Performed construction administration services, which included daily monitoring of the contractors' work, maintaining quantities daily, recording changes to the plans, addressing construction issues in the field with the contractor, and coordinating with the Gray Water District. Acted as representative for the Gray Water District on the following projects:

- Route 100 North – Installation of 1,000 feet of 16-inch water main that replaced the existing 6-inch water main.
- Route 202 – Installation of 2,300 feet of 16-inch water main renewal including the installation of a 24-inch casing that was installed under the Maine Turnpike using trenchless technology for a length of 220 feet.
- Route 100 South – Installation of 2.4 miles water main extension including the installation of 1,150-foot section of 16-inch polyethylene water main installed under the Gray Meadows using trenchless technology.

Tim Forrester

Director of Coastal Resources

EDUCATION

- B.S., Environmental Analysis and Planning & Biology. Frostburg State University (1999).
- Federal Reg. IV Wetland Identification, Delineation & Classification, Humboldt Field Research Institute, Steuben, Maine (2005).

YEARS WITH FIRM: 2

PROFESSIONAL CERTIFICATIONS

- Professional Wetland Scientist #1933 (PWS)
- Certified Professional in Erosion & Sediment Control #1539
- Maine Association of Wetland Scientists, Executive Committee Member and Treasurer (2010-2016).
- Certified SCUBA Diver, 2001

PROFILE

- Over 25 years of experience as an environmental consultant assisting industry and individuals in navigating the regulatory arena of Federal, State and Local government agencies on a wide array of natural resource projects across the State of Maine and Northern New England.
- Efficient leader in all facets of project management from initial planning and design, data collection, drafting, permitting, and construction.
- Provides consultation and management for a variety of project types such as: natural resource inventories, bathymetry mapping, project design and permitting, coastal resiliency, shoreline restoration and stabilization utilizing grey and green methods, dock design and permitting, and expert witness services. Project types include commercial, municipal and residential developments, ski areas, marine industries, utility companies, solar companies, engineering firms, surveyors, construction companies and non-profit organizations.
- Specializing in permitting projects involving the U.S. Army Corps of Engineers, Maine Department of Environmental Protection, Land Use Planning Commission, Federal and State Resource Agencies, and Cities and Towns across the State of Maine.

PREVIOUS CAREER EXPERIENCE

- *Atlantic Environmental LLC*: Owner; Woolwich, Maine (2017-2023)
- *Eco-Analysts, Inc*: Senior Project Manager, Biologist; Bath, Maine (1999-2017)
- *Northern Ecological*: Compliance Monitor; Portland, Maine (1998)
- *Frostburg State University*: Supervisor, Science Tutoring Program; Frostburg, Maryland (1996-99)

Richard Jordan

President and Founder

EDUCATION: B.A., Environmental Science and Policy, University of Southern Maine (1999)

YEARS WITH FIRM: 5

PROFESSIONAL CERTIFICATIONS/AFFILIATIONS AND TRAININGS

- Professional Wetland Scientist (#1517)
- MDEP Certified Contractor in Erosion/Sediment Control Practices (#1291)
- Former Vice-Chair, Town of Falmouth (ME) Planning Board (2020 - 2021)
- Program Committee Chair - Maine Association of Wetland Scientists (2021 - 2023)

PROFILE

- Over 20 years of siting/permitting experience helping municipalities, utilities, developers, and regulatory agencies identify, minimize, avoid, and solve known and unforeseen challenges throughout the development and permitting process.
- Provides expert consultation and management services on a variety of development projects: renewable and traditional energy generation and transmission projects; transportation, commercial and residential developments; and conservation property assessments.
- Supports wetland creation, restoration, and conservation projects through a team approach to complex problems and implementation of the best science and experiences available.
- Experienced in landowner outreach, stakeholder engagement, project development, and permitting at the local, state, and federal levels.
- Professional Wetland Scientist and experienced erosion and sedimentation control planner, helping projects maintain permit compliance and minimize impacts.

PREVIOUS CAREER EXPERIENCE

- TRC: Client Service Lead & Project Manager; Scarborough, Maine (2014 - 2019)
- Tetra Tech: Senior Scientist; Portland, Maine (2013 - 2014)
- Boyle Associates: Manager of Field Operations; Westbrook, Maine (2000 - 2013)

Rich Jordan; rich@flycatcherllc.com

RECENT/RELEVANT PROJECT EXPERIENCE

Thorton Tomassetti & The City of Saco | Saco Island Multimodal Bridge Concept Plan (Project Scientist)
Flycatcher was the environmental review lead for a team of designers, architects and engineers reviewing feasibility and design alternatives for a potential multimodal bridge over the Saco River between the Cities of Saco and Biddeford.

HNTB/Maine Turnpike Authority – Gorham Connector | South Portland (2021-Present)
Rich is working with Flycatcher's Senior Scientist to prepare natural resource mapping and functional assessments, support avoidance and minimization during the alternatives analysis, and design and permit a strategic and multi-faceted compensatory mitigation package to offset unavoidable impacts to protected natural resources. This work has included comprehensive field surveys of multiple alternatives, outreach to dozens of conservation organizations and stakeholders to determine potential mitigation alternatives, and discussions and presentations with state and federal regulators, and support for design and negotiation of an appropriate natural resource mitigation plan during the permitting phase of the Project.

Crossroad Holdings, LLC | Scarborough, Maine (2017- Present)
Rich is leading efforts for Environmental Mapping, Alternatives Analyses, and State and Federal Environmental Permitting for the >500-acre Scarborough Downs Redevelopment Project. This includes the Natural Resources Protection Act, and multiple-phases of a Site Location of Development Act (under a Long Term Construction Project term) and Clean Water Act (Army Corps) permitting. Rich leads environmental field studies including wetland and stream determinations, vernal pool surveys, rare plant surveys, and wildlife surveys to inform avoidance and mitigation, and supports negotiation with regulators during permitting review and design for compensatory mitigation.

Utility-Scale Solar Energy Projects | Multiple locations, Maine (2018-Present)
Rich has originated (sited) several distributed and utility-scale solar projects throughout Maine. Rich is currently supporting several solar energy generation projects in the Northeast, representing over 200 megawatts of clean solar energy. Along with the team at Flycatcher, Rich has supported permitting and due diligence services for several hundred megawatts of proposed and constructed solar projects throughout the state, including performing project siting; environmental fieldwork; strategic permitting support and execution at the local, state and federal levels; permit compliance inspection services during construction; and coordination of clearing, civil, landscaping, and erosion/sedimentation control professionals during project construction.

R.J. Grondin & Sons – Larrabee Farms Wetland Project | Scarborough, Maine (2005-Present)
Rich performed environmental review and analysis for design, permitting and construction/conservation of approximately 20-acres of wetland creation, four created vernal pools, and over 150 acres of preserved buffer habitats for a multi-user, pooled mitigation site. Included local (contract zoning and site plan review), state and federal permitting, construction oversight and post-construction monitoring. Rich continues to support this project through leadership of long-term monitoring and preparation and support of current and future compensation projects.

Rich Jordan; rich@flycatcherllc.com

Sanford Airport & Farmington Solar | Maine (2015-2021)

Rich was the environmental team manager for fieldwork and permitting of these two projects, which cover over 600 acres and provide nearly 130 megawatts of clean solar energy. Permitting support included managing the permit team who negotiated Natural Resource Protection Act and Site Location of Development Act permits, as well as local permitting. Permitting for these (at the time) novel projects required significant and prolonged coordination with multiple state agencies, including the Maine Department of Inland Fisheries and Wildlife and the Maine Natural Areas Program. Rich also served as the lead biologist overseeing wildlife management and monitoring and supported environmental compliance inspections during construction of both facilities.

Town of Falmouth | Falmouth, Maine (2018-Present)

Rich managed Wetland Mitigation Design and Permitting for the Town of Falmouth's ongoing Suckfish Brook II Wetland Restoration Project. Rich supported the town with its successful application for a competitive grant from the Maine Natural Resource Conservation Program to help fund the project. The project includes wetland creation and conservation and seeks to ensure long-term viability and ecological of the natural resources.

Maine Department of Transportation (MaineDOT) | Statewide (Wetland/Waterbody Surveys & Biological Assessments (2014-2018)

For his previous employer, Rich was Project Manager and Lead Wetland Scientist on MaineDOT natural resource assessments for existing and proposed road and multi-modal transportation projects. These assessments include wetland, stream, and vernal pool determinations pursuant to Maine DEP and USACE regulatory requirements and definitions. Rich also led a wildlife team in devising BAs for projects with potential effects on Endangered Species Act-listed species (e.g., Atlantic salmon and northern long eared bats).

Central Maine Regional Airport | Site Location of Development Act Recertification of Inspection and Maintenance (2024)

Currently supporting the Central Maine Regional Airport in the identification and repair of erosion problems, stormwater control systems, and maintenance of existing stormwater systems. Competed a site inspection to assess whether the stormwater control system as outlined on the Stormwater Management Plan are being maintained and functioning properly in accordance with the MDEP five-year recertification requirements.

Rich Jordan; rich@flycatcherllc.com

Rodney Kelshaw

Managing Partner & Senior Scientist

EDUCATION

- Bachelor of Science, Wildlife Management, University of Maine at Orono (1997)
- Federal Reg. IV Wetland Identification, Delineation & Classification, Humboldt, Steuben, Maine (2000)

YEARS WITH FIRM: 3

PROFESSIONAL CERTIFICATIONS

- Certified Wildlife Biologist #102308 (CWB), The Wildlife Society (2027)
- Certified Professional Soil Scientist #353740 (CPSS), Soil Science Society of America (2025)
- Professional Wetland Scientist #1518 (PWS), Society of Wetland Scientists (2025)
- Certified Professional in Erosion & Sediment Control #4625 (CPESC), EnviroCert International, Inc. (2025)
- Certified Erosion, Sediment and StormWater Inspector #12451 (2025)
- Licensed Soil Scientist #SS552 (CSS), State of Maine (annual expiration: 2025)
- Licensed Site Evaluator #S371 (LSE), State of Maine (biannual expiration: 2025)
- Maine Certification in Erosion Control Practices (1432), State of Maine (2026)
- Maine Department of Environmental Protection Qualified Third-Party Inspector
- Former President (Maine Chapter) and Member, The Wildlife Society, Maine
- President and Member, Maine Association of Professional Soil Scientists

PROFILE

- Over 25 years of experience in the environmental field, working in both the public and private sectors.
- Worked on an array of project types across the country, with a focus in the northeast.
- Experienced in project development, and permitting at the local, state and federal levels.
- Wetland, waterbody, vernal pool mapping and assessment.
- Wildlife surveys and habitat assessments.
- Wetland and wildlife habitat creation and restoration.
- Soil mapping and assessment.
- Construction inspection focused on erosion & sedimentation control planning and permit compliance.
- Invasive species identification, mapping and management.

PREVIOUS CAREER EXPERIENCE

- *University of Maine at Orono:* Adjunct Professor – Fall 2023 WLE 432: Wetland Ecology and Conservation
- *Stantec Consulting Services*: Project Scientist/Project Manager; Topsham, Maine (2013 - 2020)
- *Boyle Associates*: Project Scientist; Westbrook, Maine (2007 - 2013)
- *Moyse Environmental Services ;* Project Scientist; Bangor, Maine (1998 & 2000 - 2007)
- *State of New Jersey Division of Fish and Wildlife:* Fisheries Field Technician Lebanon, New Jersey (1999)

Rodney Kelshaw; rodney@flycatcherllc.com

RECENT/RELEVANT PROJECT EXPERIENCE

Thorton Tomassetti & The City of Saco | Saco Island Multimodal Bridge Concept Plan (Project Scientist)
Flycatcher was the environmental review lead for a team of designers, architects and engineers reviewing feasibility and design alternatives for a potential multimodal bridge over the Saco River between the Cities of Saco and Biddeford.

HNTB/Maine Turnpike Authority – Gorham Connector | South Portland (2021-Present)
Senior Scientist working to prepare natural resource mapping and functional assessments, support avoidance and minimization during the alternatives analysis, and design and permit a strategic and multi-faceted compensatory mitigation package to offset unavoidable impacts to protected natural resources. This work has included comprehensive field surveys of multiple alternatives, outreach to dozens of conservation organizations and stakeholders to determine potential mitigation alternatives, and discussions and presentations with state and federal regulators, and support for design and negotiation of an appropriate natural resource mitigation plan during the permitting phase of the Project.

Crossroad Holdings, LLC | Scarborough, Maine (2021- Present)
Environmental mapping for the >500-acre Scarborough Downs Redevelopment Project.

Maine Turnpike Authority (MTA) Connector Project| Natural Resource Delineation Compensatory Mitigation Planning, Gorham, Maine (2021- Present)
Serving as a project manager and field lead performing wetland and stream delineations and potential vernal pool surveys for a proposed highway connector project from Gorham to South Portland; including preparing wetland delineation and function & value reports. Assisting the engineering team to prepare environmental permits for the proposed project and serving as the lead scientist to develop the compensatory mitigation plan.

Maine Turnpike Authority (MTA) Exit 36 Project| Natural Resource Delineation & Site Evaluation, Saco, Maine (2019)
Served as a field lead performing wetland and stream delineations and vernal pool surveys. Also worked as a site evaluator to design the subsurface wastewater disposal system (septic system) for the proposed administration building.

Maine Turnpike Authority (MTA) Exit 103 Project| Natural Resource Delineation, Site Evaluation & Permitting, West Gardiner, Maine (2018)
Served as a field lead performing wetland and stream delineations and vernal pool surveys. Then worked as the lead scientist to prepare environmental permits for the proposed project. Also worked as a site evaluator to design the subsurface wastewater disposal system (septic system) for the proposed administration building.

Sugarloaf Mountain – Mountain Bike Park| Natural Resource Delineation, Wildlife Surveys, & Permitting, Carrabassett, Maine (Present)
Serving as a project manager and field lead performing wetland and stream delineations and potential vernal pool surveys for a proposed mountain bike park project at Sugarloaf Mountain; including preparing wetland delineation and function & value reports. Also performed habitat assessments for rare birds, salamanders, and insects. Project manager of the team that prepared environmental permits for the proposed project and was the lead scientist to develop the compensatory mitigation plan.

Rodney Kelshaw; rodney@flycatcherllc.com

Twin Energy Wind Project | Rumford & Roxbury, Maine (Field Lead & Project Scientist) (2022)
Served as a field lead performing wetland and stream delineations, potential vernal pool surveys and assessments for an over 500-acre Survey Area. This included a soil survey for the 500-acre Survey Area. Wildlife surveys included northern spring salamander (*Gyrinophilus porphyriticus*) survey, Roaring Brook mayfly (*Epeorus frisoni*) survey, northern bog lemming (*Synaptomys borealis*) survey, northern long eared bat (*Myotis septentrionalis*) hibernacula surveys, raptor and eagle point count study design and surveys, and a winter aerial stick nest survey.

Downeast Wind Project | Washington County, Maine (Wildlife Biologist, Wetland & Soil Scientist and Third-Party Inspector) (2014 to Present)
Served as a field lead performing pre-construction aerial bald eagle nest in accordance with the Eagle Conservation Plan Guidance and spring breeding bird surveys. Served as a field lead performing wetland and stream delineations, vernal pool surveys, and performed a 1,300-acre soil survey including the turbine array, access roads and transmission lines. Once the project was permitted, performed construction oversight for permit compliance as the MDEP 3PI.

New England Clean Energy Connect (NECEC) | Northwestern & Mid-coast Maine (Environmental Inspector) (2022 to Present)
Worked as the company inspector during clearing and construction of the electrical transmission project. The overall goal was to help the client remain in compliance with the local, state, and federal project permits. This was accomplished by review and understanding of project permits and permit requirements and daily communication of these requirements with the client and subcontractors. This position was focused on environmental protection, centering on control of stormwater, minimizing erosion, and avoiding sedimentation of natural resources. This included daily meetings with contractors to plan for installation of stormwater and erosion controls and then daily inspection of installed stormwater controls and erosion control devices.

PRESENTATIONS & PUBLICATIONS

University of Maine at Orono (UMO): Guest Lecturer – Spring 2024 EES 140: Introduction to Soil Science
Guest Lecture for two classes; Soil Formation/Chemistry and Erosion and Sedimentation.

Presentation: Build Maine Conference 2023. Designing Neighborhoods, Not Housing Pods
A workshop for engineers, municipal officials, developers, and housing advocates to learn the basics of designing neighborhoods, including how to set up flexible blocks, lot dimensions that work for a range of building types, and techniques for accommodating parking in a way that creates curb appeal and great walkable places that people want to live. Also learn strategies for how to lead with urban design, supported by engineering, including a deep dive into an efficient workflow between these two professions in order to prepare high quality plans and permit documents.

Presentation: Headwaters to the Sea Conference 2016
Climate Change in the Northeast Effect on Construction Best Management Practices and the Subsequent Risk to Aquatic Ecosystems. *2016 New England Association of Environmental Biologists (NEAB) 40th Anniversary Annual Conference*, 2016.

Past Experience

Simard Payne Park Carry-In Boat Launch – Lewiston, ME

Project Type:
Carry-In Boat Launch

Services Provided:
Design and Permitting

Reference:
Jeff Beaule
City of Lewiston
(207) 513-3003

Gorrill Palmer designed and permitted of a carry-in boat launch at Simard Payne Park on the Androscoggin River for the City of Lewiston. This project included modifications to the existing park trails, design of a safe pathway down to the river, negotiating a steep embankment, invasive species management, and Maine DEP Natural Resources Protection Act permitting. The primary use of the boat launch was for the local rowing club, however, it is also available to any carry-in user. US Army Corps of Engineers permitting was not required because all permanent improvements were completed above the normal high water line of the river.

Mackerel Cove Boat Launch – Harpswell, ME

Project Type:
Boat Launch

Services Provided:
Design and Permitting

Reference:
Kristi K. Eiane
Town of Harpswell
(207) 833-5771

Will served as the project manager and principal in charge for the design and permitting of a town boat launch on Mackerel Cove located on Abner Point Road. The prior ramp at this location had deteriorated and become unusable. Gorrill Palmer designed a new concrete plank ramp. Due to tidal conditions, the ramp is only usable during mid to high tide levels. The ramp was permitted through Maine DEP and US Army Corps of Engineers.

Basin Point Road Tidal Culvert – Harpswell, ME

Project Type:
Culvert/Resiliency

Services Provided:
Design and Permitting

Reference:
Kristi K. Eiane
Town of Harpswell
(207) 833-5771

Gorrill Palmer worked closely with the Town of Harpswell and the Casco Bay Estuary Partnership (CBEP) on a feasibility study to develop a long-term plan for managing the potential impacts of sea level rise (SLR) and storm surge on a portion of Basin Point Road. The study's objectives included developing options to manage the impact of increased saltwater movement into the brackish pond and wetlands located at the head of Basin Cove and assessing the design options and costs to upgrade the road and culvert to withstand anticipated sea level rise. CBEP was responsible for developing a detailed assessment of the current conditions and scenario planning for the impact of SLR and storm surge on the current habitat and ecosystems along the road. Similar to other roads in Harpswell, Basin Point Road is a long dead-end road with the potential for significant impacts to residents and business owners due to sea level rise. For example, in 2016, the Dolphin Marina and Restaurant, located at the end of the road served over 85,000 customers. Gorrill Palmer identified multiple options for addressing SLR scenarios of 1, 2, 3.3 and 6-feet. We considered raising the road profile in the vicinity of the pond to accommodate the 3.3-foot and 6-foot scenarios. Both options included increasing the existing culvert at the head of the Cove from 18-inch diameter to a precast concrete box culvert with 14-foot span by 12-foot rise.

Example of Work

Sail Maine (2021) - Portland, ME

Project Type:
Sail Maine Expansion

Services Provided:
Design and Permitting

Reference:
Cyrus Hagge
58 Eastern Promenade Trail
Portland, Maine
(207) 772-7245

Sail Maine is a community sailing center based on the Portland waterfront. Their mission is to provide affordable access to the water through community sailing and educational programming. Flycathcer/Atlantic Environmental in cooperation with Custom Float Services, designed and permitted the expansion of the Sail Maine boating facility in Portland, Maine. The proposed changes included float design aspects that provide ease of launching and retrieval of small sail boats. This facility has functioned harmoniously within the Portland waterfront since its installation.

Boothbay Sea and Science Center (2022 – present) – East Boothbay, ME

Project Type:
Boothbay Sea and Science Center Upgrades

Services Provided:
Design and Permitting

Reference:
Pauline Dion
12 Carter Rd.
East Boothbay, Maine
04544
(207) 751-2999

In 2022 Boothbay Sea and Science Center moved to its current location, on the shore of East Boothbay in Linekin Bay. The site contains 2 docks and was used for commercial fishing. That facility has been rebuilt and adapted to fit the needs of the now coastal education community. The upgrades included a new more resilient dock, ADA compliant features, a revised float configuration that not only meets the needs of the sailing program, but also includes educational components to support aquaculture husbandry such as up-wellers.

Simard Payne Park Carry-In Boat Launch – Lewiston, ME

Project Type:
Carry-In Boat Launch

Services Provided:
Design and Permitting

Reference:
Jeff Beaule
City of Lewiston
(207) 513-3003

Gorrill Palmer designed and permitted of a carry-in boat launch at Simard Payne Park on the Androscoggin River for the City of Lewiston. This project included modifications to the existing park trails, design of a safe pathway down to the river, negotiating a steep embankment, invasive species management, and Maine DEP Natural Resources Protection Act permitting. The primary use of the boat launch was for the local rowing club, however, it is also available to any carry-in user. US Army Corps of Engineers permitting was not required because all permanent improvements were completed above the normal high water line of the river.

Statement of Availability & Staff Location

Our group leaders and project managers manage the day-to-day workload and assignments. We hold weekly team meetings to review and prioritize workload and deadlines to ensure that projects are effectively managed for all clients. In general, each project would be assigned to a group and the workload would be scheduled with other ongoing work to ensure that critical project milestones are met. The depth and qualifications of our staff allow us to allocate and shift resources seamlessly to meet deadlines on the most demanding projects.

Staff for this project will be from the offices listed below:

Gorrill Palmer – South Portland, Maine
Flycatcher – Yarmouth, Maine
Dow & Coulombe – Saco, Maine
Custom Float Services – South Portland, Maine

Project Budget

We propose to complete the basic scope of services on an hourly rate plus expenses basis for an estimated fee of **$56,000**, including Flycatcher and Dow & Coulombe fee and estimated reimbursable expenses. An hourly breakdown is attached at the end of this proposal. Gorrill Palmer will submit monthly invoices as the design and permitting work proceeds.

ID	TASK	COMPLETION DATE	GP HOURS	ASSIGNEE	SCHEDULE
					April: 7-Apr, 14-Apr, 21-Apr, 28-Apr; May: 5-May, 12-May, 19-May, 26-May; June: 2-Jun, 9-Jun, 16-Jun, 23-Jun, 30-Jun; July: 7-Jul, 14-Jul, 21-Jul, 28-Jul; August: 4-Aug, 11-Aug, 18-Aug, 25-Aug; September: 1-Sep, 8-Sep, 15-Sep, 22-Sep, 29-Sep; October: 6-Oct, 13-Oct, 20-Oct, 27-Oct
1	**TASK 1 -Kickoff Meeting with Town and Committees**	4/12/2025	12	GP/Town	
2	**TASK 2 - Conceptual Layout and Siting**		38		
3	TASK 2 - Conceptual Design			GP/F/C	
4	TASK 2 - Natural Resource Desktop Review			F	
5	TASK 2 - Review Meeting with Town and Committees			GP/F/Town	
6	TASK 2 - Town Review	5/12/2025		Town	
7	**TASK 3 - Survey and Resource Delineation**		5		
8	TASK 3 - Survey			D&C	
9	TASK 3 - Natural Resource Delineation	6/9/2025		F	
10	**TASK 4 - Preliminary Design**		81		
11	TASK 4 - Preliminary Design			GP/F/C	
12	TASK 4 -Agency Consultation			GP/F/Town	
13	TASK 4 - Review Meeting with Town and Committees			GP/F/Town	
14	TASK 4 - Town Council Meeting	9/8/2025		GP/F/Town	
15	**TASK 5 - Permitting**		37		
16	TASK 5 - Permitting Plans			GP/F	
17	TASK 5 - Permitting Application			GP/F	
18	**TASK 6 - Submission**				
19	TASK 6 - Permit Submission	10/24/2025		Town	

SEBAGO TECHNICS

PROPOSAL DATE
November 15, 2024

REQUEST FOR PROPOSAL

Public Paddle Craft Dock Project

Prepared for:
Town of York, Maine

Prepared by:
Sebago Technics, Inc.
75 John Roberts Rd., Ste 4A
South Portland, Maine 04106
(207) 200-2100

Primary Contact:
Henry Hess, RLA
Project Manager
hhess@sebagotechnics.com
(207) 200-2086

CONTENTS

> “Speaking on behalf of my CEO, Planning Board, and pretty much everyone in Town, we all were thoroughly thrilled with your professional work and attention to the details and concerns of everyone involved and the smooth path to a remedy and solution. We couldn’t speak highly enough of you and the entire Sebago Technics team.
>
> Chris Backman, Town Manager
> Town of Orrington, Maine

November 15, 2024
240962

Dylan Smith, Planning Director
Town of York
186 York Street
York, ME 03909

Request for Proposals for Public Paddle Craft Dock

Dear Dylan:

Sebago Technics, Inc. (Sebago) is pleased to submit this proposal to the Town of York (Town) for Engineering Services for the Public Access and Paddle Craft Dock at Goodrich Park located at 200 US Route 1 in York, ME. Our team is eager to provide the Town with experienced, reliable, and responsive service. We specialize in providing survey, natural resources, site planning, design, engineering, and related services to a diverse base of Maine's municipalities, both large and small. These experiences have led to successful working relationships with numerous towns and cities across the state.

Our collective of creative professionals takes a unique hands-on approach to projects such as the York Paddle Craft Dock. We enjoy learning about project sites and evaluating options with clients in the field, and then applying our problem-solving and site analysis and design skills in the office. The goal of this collaborative approach is to find agreeable solutions that meet the functional and programmatic goals in an efficient and timely manner. The Sebago Technics team is integrated with disciplines in landscape architecture, civil engineering, transportation engineering, natural resources, and survey. We are confident that our qualified, customer-focused team will work collaboratively with Town staff to deliver excellent services for this site evaluation and feasibility.

We have assigned experienced professionals to lead our efforts for this public dock project. Henry Hess, RLA, will serve as Client Manager/Project Manager, leading the project and team design efforts. Jacob Bartlett, PLS, will serve as the survey field lead. Jake Hunnewell will be the project engineer, and Rebecca Gabrezski will serve as our lead permitting specialist. We have partnered with Great Northern Docks, who will provide dock specifications and budgeting of dock materials. They will be supported by our diverse and ample resources for continuity and overall project needs.

We value opportunities and partnerships where we can engage the collective expertise of Sebago and our passion for supporting the growth of our communities. We are excited by the opportunity to work with the Town of York to take on an important initiative to provide water access for paddle crafts to the community.

No person acting for or employed by the Town of York is directly or indirectly related to the proposer or to any agreement which may be entered into to which the Proposal relates or in any portion of the profits here from.

Sincerely,
SEBAGO TECHNICS, INC.

Henry Hess, RLA
Project Manager
hhess@sebagotechnics.com
(207) 200-2086

Kylie S. Mason, RLA, LEED-AP
Chief Operations Officer
kmason@sebagotechnics.com
(207) 200-2071

B. PROJECT DESCRIPTION AND SCOPE OF SERVICES

Sebago Technics, Inc. (Sebago) has extensive experience working on municipal projects across Maine. Our design team will coordinate closely with the York River Access Ad Hoc Committee (YRAAHC), York's Planning staff, and selected stakeholders to create a Paddle Craft Dock and improve public access to the trails and the river at Goodrich Park in the Town of York.

Sebago recently visited Goodrich Park and observed the need for better connectivity between the parking lot and the water and enhanced universal accessibility from the parking lot to the trail system. A collaborative approach to creating a new paddle dock system, in conjunction with improved park connectivity, will help the public safely engage with the Federally designated Wild and Scenic York River.

Following the contract award and negotiations, Sebago will schedule an introductory kick-off meeting with the design team, York staff, and stakeholders. This meeting will establish project goals, prioritize a working schedule, and outline the subsequent workflow. The proposed timeline below outlines potential dates for meetings, site visits, bi-weekly progress check-ins, submissions, and deadlines to meet the Town's 4-6 month design schedule.

Week 1: March 25 – April 1

- Coordinate an initial site walk with all involved parties to discuss the project program in detail.
- Discuss the anticipated future permits required (local and State).
- Encourage stakeholders to share their visions and ideas for the dock location, trail connections, parking access, and associated amenities.
- Provide meeting minutes documenting all discussions.
- Sebago's survey team will conduct field survey services to create an existing conditions plan.
- Great Northern Docks (GND) will attend the site walk for site investigations and be a resource for dock information.

Weeks 2-3: April 8 - 22

- Use preliminary data, including LiDAR, aerial imagery, and parcel line information, as well as site observations to create a conceptual site plan reflecting stakeholder ideas and RFP priorities.
- Schedule a meeting to present and review the conceptual design with stakeholders.

Weeks 4-5: April 23 - May 7

- Present the conceptual site plan and potential dock components to stakeholders.
- Gain feedback to refine and update the conceptual plan.

- Work with dock consultant (GND) to provide a preliminary budget for dock components discussed.
- Sebago can discuss climate resiliency and hear the stakeholders' concerns for future sea level rise and how they may be addressed with future development.
- The revised concept plan will form the basis for engineering work to follow.

Weeks 6-9: May 8 – May 28

- Develop a 25% engineering plan set, including the survey-based existing conditions plan.
- Communicate with the YRAAHC, Town, and stakeholders on progress and/or potential challenges that arise.
- Review applicable stormwater requirements to meet future State, Federal, and local requirements.
- Present the preliminary site plan and dock design at a bi-weekly meeting.
- Sebago will provide a color-rendered plan that can be used to raise awareness of the project among the Public.
- Sebago will provide a preliminary opinion of cost based on the 25% plans to get started with a high-level budget for the stakeholders. It is important to start thinking of the budget early on. The overall budget will aid in making decisions in programming and future phasing of the project.

Weeks 10-15: May 29 – July 2

- Incorporate feedback from the 25% design to develop a 75% design drawing plan set.
- The 75% design-engineered drawing plan set shall meet requirements for future local, State, and Federal regulatory submissions.
- These drawings will include construction details, dock components and location, landscape plans, grading, and utility plans.
- Communicate progress and any potential challenges at scheduled bi-weekly meetings determined ahead of time to provide feedback to the stakeholders.

Week 16: July 3 – July 10

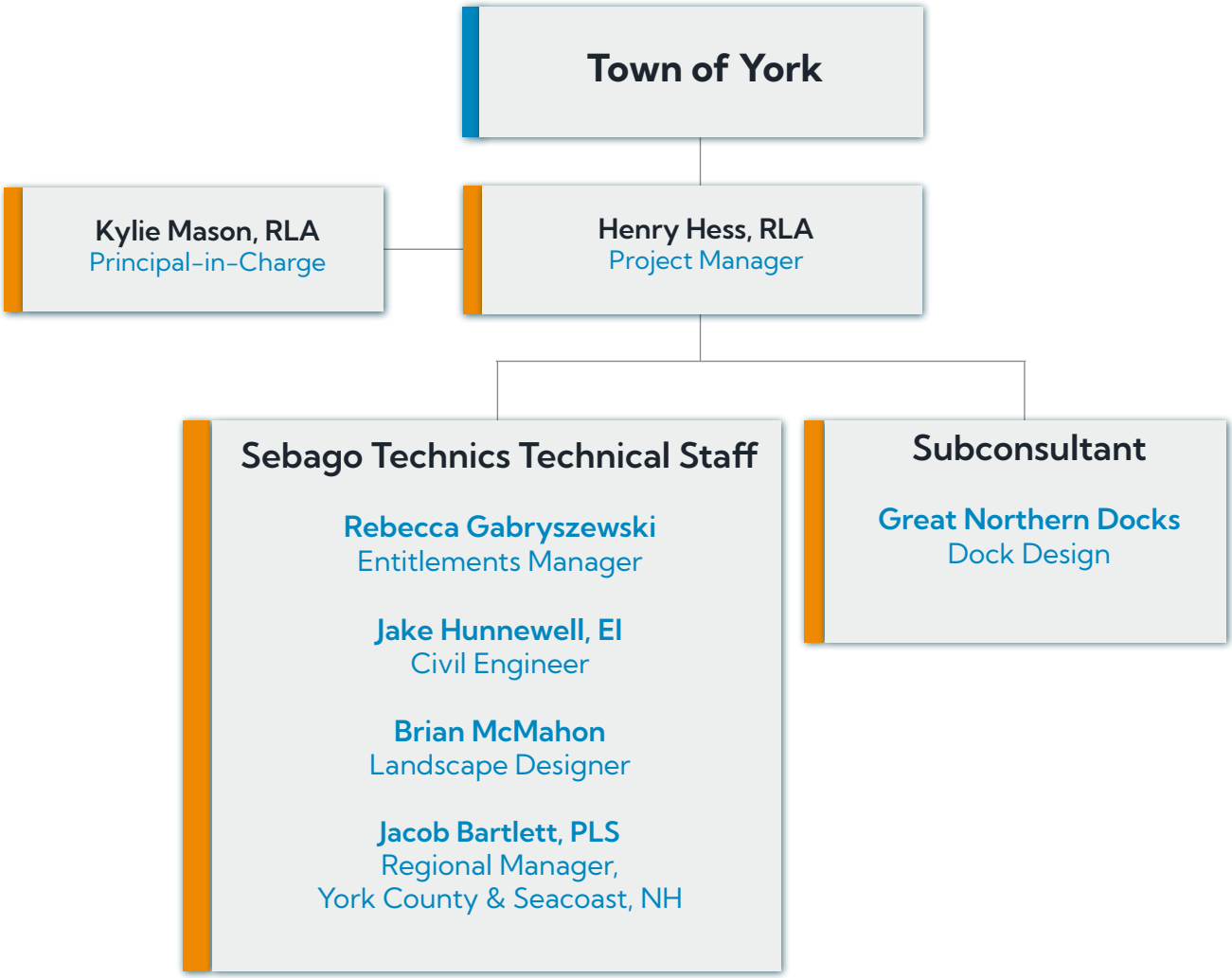
- Provide copies and present the 75% design and permitting-ready drawings to the Town Selectboard.
- Sebago will revise and update the preliminary opinion of cost to support the 75% drawings and give the Town an idea of potential construction costs.
- Sebago will provide a budget for permit application and exhibit preparation services for the local and State permit applications for planning.

- Sebago will provide digital and hard copies of all final deliverables.

C. STATEMENT OF QUALIFICATIONS (SOQ)

1. Resumes

We are proud to introduce the key personnel selected for the York Paddle Craft Dock project. Our team is composed of experienced professionals with extensive expertise in municipal feasibility studies and waterfront recreation projects. Each member brings a unique set of skills and a collaborative approach to ensure a thorough and innovative feasibility study. With a commitment to delivering practical and forward-thinking solutions, this team is well-equipped to guide the project from analysis to actionable recommendations for the Town of York.



Additional staff may be available to assist for any given assignment as-needed to support project needs and schedules.

Maine's Creative Engineering Collective

EVERYTHING WE DO IS SHAPING

Sebago Technics is a creative engineering collective comprising 110+ design professionals and technical staff, with four offices across Southern and Western Maine. Our comprehensive services encompass all aspects of projects, from initial site assessment and design to navigating permitting and overseeing construction.

THE WAY WE WORK

One of the defining features that set us apart is our structure as a 100% employee-owned company. The commitment and collaboration of our employees drive our success, and our team-based approach ensures that each client benefits from the expertise and insights of multiple specialties. Our diverse team of engineers, surveyors, landscape architects, and environmental scientists work together to deliver exceptional results on every project.

We welcome your vision and ideas. Beginning with a profound respect for people and processes, we actively listen to understand your goals. Leveraging our extensive experience and expertise, we work in tandem with you to uncover unseen opportunities and bring your vision to life.

FOUNDED

1981

TEAM MEMBERS

100+

STRUCTURE

100% EMPLOYEE-OWNED

SPECIALTIES

CIVIL ENGINEERING
SURVEY/GEOMATICS
LANDSCAPE ARCHITECTURE
TRANSPORTATION/TRAFFIC ENGINEERING
ENVIRONMENTAL SERVICES
PLANNING & PERMITTING
GIS & CAD

SECTORS

MUNICIPALITIES
INSTITUTIONS
HEALTHCARE
RESIDENTIAL
COMMERCIAL

HENRY A. HESS, RLA

Landscape Architect / Project Manager

Henry Hess joined Sebago Technics in 2018. He is a Maine and New Hampshire Registered Landscape Architect with over a decade of experience in land and master planning, site design, planting design, permitting, trail design, and construction. His leadership in landscape architecture results in creative and simple solutions to complex site challenges. Henry continues to shape communities in Maine cities and towns and build meaningful relationships with clients and regulators.

EXPERIENCE

Berwick Memorial Community Park – Berwick Maine: The project began with master planning of the park's future programming and then moved into engineering, permitting, and design development of the park. Working closely with Town staff culminated in drawings and specifications for basketball and tennis courts. The project required communication with a playground consultant to specify and deliver a new playground structure that would meet the required age demographic of the park users.

Gray Village Area Loop Trail – Gray Maine: Project management, community engagement, permitting, and design of a new pedestrian loop trail that connects the elementary school, the municipal offices, and the downtown village together in over a mile of trail. The project involved coordinating and leading public and staff on-site walks, listening to the community's needs, and designing a trail that meets both the needs of the community and the Town of Gray's budget.

Town Center Sidewalks – Cape Elizabeth, ME: Provided landscape architectural design services for a roadway esplanade and commercial property transition areas for new pedestrian walkway improvements for the Town of Cape Elizabeth. In addition to landscape architectural services, Sebago Technics provided peer review of projects seeking Planning Board approval in the Town.

Seashore Trolley Museum Improvements – Kennebunkport, ME: Project manager and landscape architect for the permitting, design, and expansion of the Seashore Trolley Museum that included a new model railroad building, as well as a new trolley car barn. These buildings were planned simultaneously to fit into the overall Seashore Trolley Museum Campus.

L.L.Bean Campus Design – Freeport, ME: A member of the site and landscape design team throughout the permitting efforts of all three phases of the new corporate campus, including the design of pedestrian plazas, vehicular and pedestrian circulation, and planting design. During construction, provided landscape installation and site observations while working closely with contractors on site amenity installation. Also coordinated the creation and installation of customized site amenities for the project.

Penbay Medical Campus – Maine Coast: Visited and evaluated medical campuses up and down the Maine coast for ADA compliance. Created written report on ADA compliance and provided design solutions for ADA accessibility, and the potential for expansion and new programming at each site.

EDUCATION

Accredited Bachelors of Science
Landscape Architecture
University of Massachusetts - Amherst, MA
2011

Associates in Applied Science
Horticultural Technology
University of New Hampshire - Durham, NH
2008

REGISTRATIONS

Registered Landscape Architect:
Maine #4841

SEBAGO TECHNICS

KYLIE S. MASON, RLA, LEED-AP

Chief Operations Officer

Kylie Mason, RLA, LEED-AP, is a Maine licensed landscape architect and Chief Operations Officer for Sebago Technics. In this role, she is responsible for the overall operations of one of Maine's largest and most successful land development firms.

In addition, Kylie oversees large-scale, complex projects serving a range of clients from Public & Private Schools to Medical Provider Campuses to Corporate Campuses. She excels in her listening and communication skills, which form the foundation of her strong design ability and understanding of clients' goals and objectives.

EXPERIENCE

Gardiner Waterfront Park Project - Gardiner, Maine: The City's representative, project manager, and lead designer working side-by-side with numerous stakeholders to ensure timely delivery of the park. Significant collaboration with the Savings Bank of Maine, having committed $1 million to the project.

Riverwalk North, Westbrook, Maine: Evaluation of Site, Masterplanning, Design and Permitting for new Riverwalk, Park and Brown Street realignment, and streetscape along the Presumpscot River in Westbrook, between Bridge Street and Cumberland Street.

L.L.Bean Outdoor Discovery Center at Lower Flying Point - Freeport, Maine: A new waterfront facility serving thousands of visitors annually. Includes multi-purpose space, visitor orientation space, and wrap-around porch with direct access to Casco Bay. This is the flagship for the premiere Maine retailer's Outdoor Discovery Programs.

Bowdoin College - Brunswick, Maine: Project Manager for multiple projects including **Roux Center for the Environment, Whittier Athletic Complex, Pine Street Extension, Park Row Apartments, Harpswell Apartments, Brunswick Apartments, Schiller Coastal Studies Center, Schiller Boat Launch,** and multiple campus improvement projects.

Campus Master Plan and Site Development for L.L.Bean Corporate & Retail Campuses featuring innovative bioretention/rain gardens, considered the first of its kind in Maine and received a LEED Silver Certification; multiple pedestrian plazas, retail vignette opportunities, and Route One Streetscape Enhancements in Freeport, Maine.

Margaret Chase Smith School - Sanford, Maine: 39,000 s.f. expansion of the existing Margaret Chase Smith School. The new improvements created two accessible playgrounds, efficient and safe parent drop-off, expansion of the parking doubling the existing capacity, and a new multi-purpose recreational field benefiting the students and the community.

Morse High School RSU1 - Bath, Maine: Evaluation and Recommendation of entire District for Site Selection for new High School and Technical Center heading into Site Engineering, Development and Permitting

REGISTRATIONS

Registered Landscape Architect
Maine #3335

LEED Accredited Professional

CLARB Certified

LPA Certification, NHDOT

ASSOCIATIONS

American Society of Landscape Architects

Council of Landscape Architects Registration Board

USGBC (LEED)

PUBLIC SPEAKING

2013 USGBC - New Hampshire Chapter: Sustainable and Functional Aesthetics in the Landscape

2013 Maine Medical Association: Accommodating your levels of care - LEED Healthcare, Healing Spaces & Exterior considerations for your practice

2014 Maine Society of Landscape Architects: Sustainable Strategies for Stormwater in Maine

SEBAGO TECHNICS

REBECCA L. GABRYSZEWSKI

Entitlements Manager

Rebecca Gabryszewski joined Sebago Technics in May 2016 and serves as Entitlements Manager. Rebecca brings over 30 years of diverse experience to this role, having worked with many different disciplines in the various aspects of permitting, environmental assessments, and site planning. Rebecca has provided regulatory, environmental, and mapping services for projects throughout the Eastern states, Midwest, and New York. She has completed Environmental Assessments (NEPA), Phase I and Phase II Environmental Site Assessments, Monitoring Reports, and Integrated Natural Resource Management Plans for various municipal, State, and Federal clients. She is responsible for the training and development of our team members for regulatory processes, creating clear, concise permitting applications, and the advancement of our map-making and graphic communications of our site information.

EXPERIENCE

Bowdoin College - Brunswick, ME: Entitlements lead for multiple projects including Whittier Athletic Complex, Pine Street Extension, Park Row Apartments, Harpswell Apartments, Athletic Field Improvements, Schiller Boat Launch, and multiple campus improvement projects.

Portland Harbor Common Lot – Portland, ME: Entitlements lead for the redevelopment design of a parking lot on the Portland Waterfront into a working park-amenity area on Commercial Street. The project consists of grading and stormwater improvements, notably designing the project to be resilient against rising sea level and coastal storm damage.

One Diamond Residential Development – Biddeford, ME: Entitlements lead for a residential development along the Saco River in Biddeford. The project has been designed to accommodate rising water levels and storm surges and includes the extension of a municipal river walk path.

L.L.Bean Outdoor Discovery Center at Lower Flying Point – Freeport, ME: Permitting assistance on a new waterfront facility serving thousands of visitors annually. Includes multi-purpose space, visitor orientation space, and wrap-around porch with direct access to Casco Bay. This is the flagship for the premiere Maine retailer's Outdoor Discovery Programs.

The Dunes on the Waterfront – Ogunquit, ME: Entitlements lead for a rental cottage redevelopment in Ogunquit. The project is located in a Shoreland Zone due to the proximity of the Ogunquit River and followed the applicable municipal guidelines for developing in the Shoreland Zone.

Jordan Bay Marina – Raymond, ME: Entitlements lead for the expansion of the landside facilities for Jordan Bay Marina, including outdoor boat parking and display, and a boat storage building.

EDUCATION

B.A. Geography
University of Connecticut, Storrs, CT
1993

A.S. Office Management Systems
Sacred Heart University, Fairfield, CT
1988

TRAINING

U.S. Department of Transportation/ Federal Highway Administration NEPA Training

U.S. Army Corps Wetland Delineation methods course at the University of New Hampshire - Durham, NH

SEBAGO TECHNICS

JAKE S. HUNNEWELL, EI

Civil Engineer

Jake Hunnewell joined Sebago Technics, Inc. in May 2021 as a Civil Engineer within the Project Delivery Group. Jake graduated from the University of Rhode Island with a degree in Civil and Environmental Engineering. He has worked in construction, including performing inspection quality control for paving. In his current role as a Civil Engineer, he is a key member of a multi-disciplinary site development team. His responsibilities include, but are not limited to, grading design, stormwater treatment and drainage design, utility coordination and design, and permitting.

EXPERIENCE

Jordan Bay Marina – Raymond, ME: This project expanded landside facilities for Jordan Bay Marina, including outdoor boat parking and display, and a boat storage building. Jake's responsibilities as the civil engineer included pre- and post-development drainage analyses using HydroCAD, stormwater BMP sizing and design, grading design, and utility layout.

Camp Kita – Acton, ME: This project involved the construction of an overnight bereavement camp on Loon Pond in that included the construction of various types of cabins, a community center, recreational spaces, expanded parking area, and stormwater control measures. Jake's responsibilities as the civil engineer included grading and drainage design, pre- and post-development stormwater drainage analysis using HydroCAD, and utility layout.

Berwick Memorial Park – Berwick, ME: This project involved the construction of a park development including a basketball court, tennis court, playground area, and internal paved ADA walkways. Jake's responsibilities as the civil engineer included detailed grading and drainage design.

Central Maine Medical Center Entrance – Lewiston, ME: This project involved the reconstruction of the main entrance to the Hospital to bring the entrance up to ADA standards. This project was particularly challenging due to the existing steep slopes around the entrance, multiple grade constraints, and the need to consider the ideal ADA pathways. Jake's responsibilities as the civil engineer included detailed grading and drainage design, and site plan detailing.

Grand Atlantic Hotel – Boothbay Harbor, ME: This project included two hotels constructed on the waterfront in Boothbay Harbor. Jake's responsibilities as the civil engineer included detailed grading design, utility layout and drainage design, and the preparation of construction specifications.

Belfast Convenient MD – Belfast, ME: This project included the construction of a Convenient MD facility on undeveloped land with significant wetland coverage. Jake's responsibilities as the civil engineer included pre- and post-development drainage analyses using HydroCAD, stormwater BMP sizing and design, grading design, utility layout and coordination, and conducting stormwater BMP inspections during construction.

Garbage to Garden – Portland, ME: This project involved expanding parking and material storage areas for current operations to allow this business to continue to grow. This site was particularly challenging due to steep slopes, an onsite stream, and unforeseen existing drainage conditions. Jake's responsibilities as the civil engineer included pre- and post-development drainage analyses using HydroCAD, stormwater BMP sizing and design, and grading and drainage design.

EDUCATION

University of Rhode Island, Kingston, RI

B.S. Civil and Environmental Engineering, 2020

CERTIFICATIONS

Maine Engineer-Intern Certification

OSHA 10-Hour Construction Safety

SEBAGO TECHNICS

BRIAN A. MCMAHON

Landscape Designer

Brian McMahon graduated from the University of Rhode Island with a degree in Landscape Architecture and a minor in Community Planning. His curiosity and eagerness to learn have shaped him into a critical lead designer on all of his projects. Brian excels in numerous skills including due diligence research, site inventory and analysis, conceptual site planning, graphic visualizations, site design development, and planting design.

EXPERIENCE

Lakeside Norway – Norway, ME: Assisted with site design for a commercial project located along a lakefront property. Brian assisted with the design of the site's recreational amenities along the waterfront, detailed planting plans, and graphic visitations for the full master plan.

Village Area Loop Trail – Gray, ME: Collaborated directly with the Town of Gray to develop a new trail as part of a larger master plan effort. Brian designed the layout of the trail, as well as the associated amenities and planting plans.

Dunes on the Waterfront – Ogunquit, ME: Assisted with the site design for additional rental cottage units along the Ogunquit River. Brian also worked directly with the Town of Ogunquit to approve a zone change for the property, and co-managed the project throughout its entirety.

Martin's Point Health Care Veranda Campus – Portland, ME: Facilitated the site design for a 25,000-square-foot office building on an existing medical campus. Brian's design intent focused on pedestrian and vehicular connectivity throughout the existing campus, while also creating safe, accessible amenity areas for all users of the site.

Portland International Jetport Parking Expansion - Portland ME: Facilitated the site design for a long-term parking lot containing 650 spaces, adjacent to the Portland International Jetport Arrival and Departure Terminals. Brian's design concentrated around parking efficiencies, vehicular traffic flow, and pedestrian way-finding across the expansive site.

Maine Health Medical Building - Waldoboro, ME: Facilitated the site design for a 14,000-square-foot medical building on an undeveloped property. Brian also assisted in the production of construction documents.

One Diamond Residential Development – Biddeford, ME: Provided master planning efforts for a large-scale residential project along the Saco River. Brian assisted with site design, including a riverwalk trail and recreational amenities, detailing site elements, and landscape exhibits.

EDUCATION

University of Rhode Island,
Kingston, Rhode Island
Bachelor of Landscape Architecture
Minor: Community Planning
2021

SEBAGO TECHNICS

JACOB I. BARTLETT, PLS

Regional Manager, York County & Seacoast, NH

Jacob Bartlett joined Sebago Technics, Inc. (Sebago) in August 2016 as a Project Surveyor and most recently was promoted to Regional Manager, York County & Seacoast, NH in 2023. Jacob graduated with a Bachelor of Science in Surveying Engineering Technology from the University of Maine, and now holds registrations in multiple states and has over a decade of experience. He has worked for New England-based surveying firms on a wide variety of survey assignments involving private, municipal, State, and Federal clients. The bulk of his experience is with boundary retracement and resolution, from small residential lots to large scale commercial developments.

One of his particular interests lies with "paper streets", or dedicated, unaccepted public ways. He has performed multiple surveys that delve into the rights of the individual land owners and the municipalities those roadways reside in. These rights can vary greatly based upon certain critical dates and how exactly the roadways were originally created.

Although most of Jacob's experience is geared around boundary and roadway retracement, he has been involved in a wide variety of surveying projects, ranging from high precision layout for construction to aiding the geomatics high definition scanning team with their work. As needed, he will add input regarding the development of survey procedures and adjustment protocols to help refine Sebago's already robust standard operating procedures.

EXPERIENCE

York Town Hall Boundary Survey – 2020
Sebago was hired to perform a boundary survey in support of the reconfiguration and easement agreements on the parcel boundaries surrounding the Town Hall. This project included topography of the developed area from the cemetery to Route 1 in anticipation of an expansion of the Town Hall. Jacob served as the stamping surveyor and had to perform the records research in the Town Records as well as York County Registry of deeds to determine what the original parcel lines were. Once development moved forward, Sebago also supported the construction layout work on the addition to Town Hall and their contractor.

Mount Agamenticus – 2022-Ongoing
This work is a continuation of an older boundary survey originally performed by Titcomb Associates in the early 1990's to determine property line location on the northeasterly side of the Town-owned tract around Mount Agamenticus. David Titcomb handled the boundary survey work on the Perkins and Young abutters, and the work has currently been updated to determine the abutting line with MacIntire on the northeast corner near Second Hill. This work involves extensive historical research and diligent fieldwork to find property boundaries that were established in the early 1800s.

DD3 Caisson Seat Scan | Portsmouth Naval Shipyard: Project Surveyor for industrial construction. Multiple scans/analyses of the existing caisson seat of Dry Dock 3 for client during reconstruction of the seat. Served as stamping professional.

DD1 Refueling Complex Overhead Rails| Portsmouth Naval Shipyard: Project Surveyor for industrial construction. Aided steel erection subcontractor with alignment of 8 sets of overhead rails (crane rails and removable roof rails). Served as stamping professional.

Sarah Long Bridge Train Rail As-Builts: Project Surveyor for industrial construction. As-built of the train rail system installed on the lower level of the Sarah Long Bridge for approval by DOT. Served as stamping professional.

EDUCATION

University of Maine, Orono, ME
B.S.,Surveying Engineering Technology
Minors: Construction Management Technology, Engineering Entrepreneurship
2009

REGISTRATIONS

Professional Land Surveyor
Maine #2513
New Hampshire #1003
Vermont #109448

AFFILIATIONS

Maine Society of Land Surveyors
Vermont Society of Land Surveyors New Hampshire Land Surveying Association
National Society of Professional Surveyors

CERTIFICATIONS

OSHA 10-hour Construction Safety

CPR & First Aid

TSA TWIC

SEBAGO TECHNICS

Great Northern Docks in Maine specializes in the highest quality custom boat docks designed for the harsh conditions of the New England Waterfront.

For over 45 years, family-owned and operated Great Northern Docks has built its reputation on superior quality products and friendly, knowledgeable customer service. Located in Maine, where lakes, rivers and coastline abound, our commitment to convenient access in aquatic environments anywhere with docks, stairs, ramps and bridges, remains our focus, serving residential, commercial, camping and conservation interests.

Manufacturing in Maine for the boat-dock and trail-bridge markets, you can see decades of experience and quality craftsmanship revealed in our own brands of aluminum docks, wood docks and DIY hardware. Along with our own products, we selectively host quality lines by other domestic manufacturers such as the Guardian Bumper and the Drag-on Float.

Great Northern Docks has worked with towns such as Saco on boardwalks and dock systems.

Contact:
Gretta Sans
Sales Associate
1114 Roosevelt Trail
P.O. Box 1615
Naples, ME 04055 USA
gsens@greatnortherndocks.com
www.greatnortherndocks.com

2. Similar Projects

We are pleased to present our extensive portfolio of similar marine infrastructure and dock facility projects completed within the past five years that align with the scope of the Town of York's Paddle Craft Dock project. Our recent work on these projects has consistently demonstrated our expertise in waterfront development, detailed analysis, and stakeholder collaboration. Through our proven track record of delivering comprehensive feasibility studies and infrastructure assessments for municipalities across Maine, we have developed sustainable solutions tailored to each community's unique needs.

Our project team's experience encompasses all aspects of waterfront facility planning, design, and implementation. As requested, we have provided references from these recently completed projects of similar scope and complexity, which showcase our capability to deliver thorough and effective solutions for waterfront access facilities. These references reflect our commitment to excellence in municipal infrastructure and our ability to work collaboratively with local communities. Please feel free to contact these references for further insight into the quality of service Sebago Technics consistently provides to our clients.

GRAY TRAILS
Kristen Muszynski
Community Planner
Town of Gray
24 Main Street
Gray, ME 04039
(207) 657-3339 x114

COBSCOOK STATE PARK
Ryan Kerr
Senior Planner
Maine Department of Agriculture,
Conservation, and Forestry
Bureau of Parks and Lands
106 Hogan Road, Suite 7
Bangor, ME 04401
Ryan.Kerr@maine.gov
(207) 974-6467

PORTLAND HARBOR COMMON LOT
Alex Marshall
Parks Division Director
City of Portland
389 Congress Street
Portland, ME 04101
amarshall@portlandmaine.gov
(207) 808-5400

LAKESIDE NORWAY
Jason Shiers
Founder
Left Turn Enterprises, LLC
jason@lte.llc
(207) 739-0675

BOWDOIN COLLEGE SCHILLER BOAT LAUNCH
John Simoneau
Sr. Capital Projects Manager
Bowdoin College
Office of Facilities Management
3800 College Station
Brunswick, Maine 04011-8429
jsimonea@bowdoin.edu
(207) 725-3979

RECREATION EXPERIENCE

PARKS & TRAILS

L.L. BEAN Flying Point & Outdoor Discovery Center
Freeport, ME

Cobscook State Park
Dennysville, ME

Gray Trails
Gray, ME

Riverwalk North
Westbrook, ME

Little Falls Recreational Masterplan
Gorham, ME

Narraganset School Playground
Gorham, ME

Lake Auburn Watershelf Trail
Auburn, ME

Crafts Landing Waterfront Park
Greenville, ME

Clifford Park
Boothbay, ME

Gardiner Waterfront
Gardiner, ME

Lakeside Norway
Norway, ME

Lewiston to Lisbon Rail-to-Trail
Lewiston, ME

Mill Creek Park Improvements
South Portland, ME

Ocean Avenue Dog Park
Portland, ME

P.D. Merrill Marine Gateway
Portland, ME

Pollack Brook Pedestrian Bridge & Trail
Cape Elizabeth, ME

Scarborough Fish & Game Trail Improvements
Scarborough, ME

Seacoast Club Adventure Recreation Park
Windham, ME

Williams Court Park
Biddeford, ME

Camp Hinds Shooting Range Construction
Raymond, ME

Maine Trail Builders - Campground and Lodge
Windham, ME

ATHLETIC FIELDS

Memorial Field
Deering High School
Portland, ME

Memorial Field Masterplan
Casco, ME

University of Maine
Morse Synthetic Turf Field

Fitzpatrick Stadium
Synthetic Turf Field Replacement - Portland, ME

Sanford Vocational School
Athletic Field
Sanford, ME

Messalonskee High School
Turf Field & Track Complex
Oakland, ME

Saint Joseph's College Turf Field & Masterplanning
Standish, ME

Field Study - Village Elementary School
Gorham, ME

Chick Property Masterplan
Gorham, ME

Waynflete Academy Fields
Portland, ME

BOAT LAUNCHES & PIER REPLACEMENTS

Cliff Island Barge Landing
Portland, ME

Cushing Island Marine Landing
Portland, ME

Bug Light Ramp Reconstruction
South Portland, ME

Cape Porpoise Pier Replacement
Kennebunk, ME

Cushing Island Marine Landing
Portland, ME

Goat Island Restoration
Cape Porpoise, ME

Great Diamond Island Barge Landing
Portland, ME

Higgins Beach Shoreline Restoration
Scarborough, ME

Maine Wharf
Portland, ME

Merrill's Terminal
Portland, ME

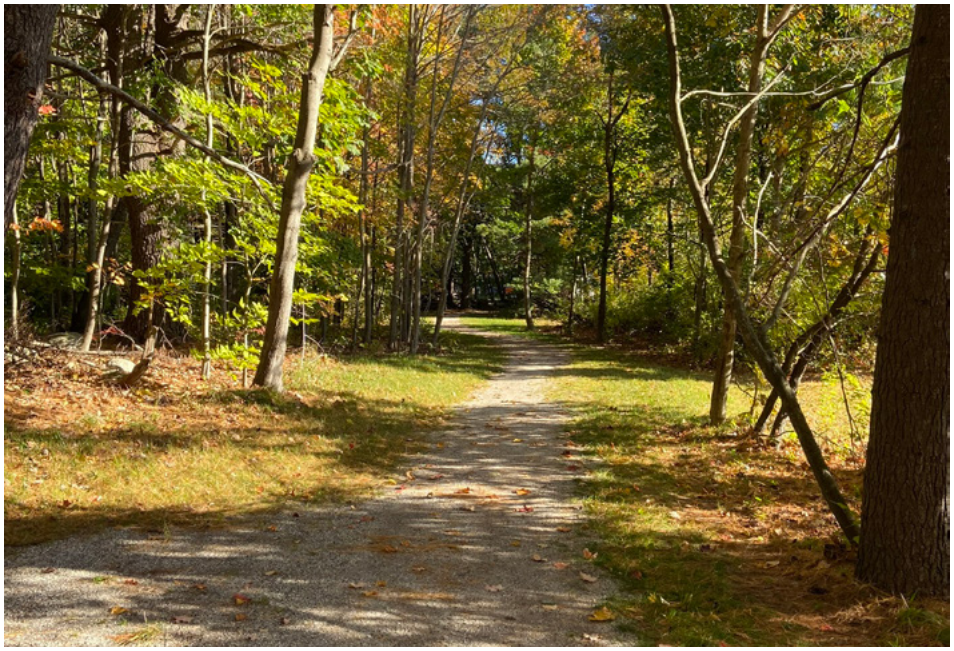
Schiller Boat Launch
Harpswell, ME

GARDINER WATERFRONT PARK
Gardiner, ME

L.L. BEAN Outdoor Discovery Center
Freeport, ME

LAKESIDE NORWAY
Norway, ME

GRAY TRAILS
Gray, Maine



Sebago Technics was engaged by the Town of Gray, Maine to lead the planning, design, and permitting for the expansion of their downtown trail network, referred to as the Gray Trails project. This initiative aimed to develop and enhance the recreational trail system for the local community.

Beginning in 2023, Sebago Technics worked closely with the Town of Gray and the local Nordic Walking club to plan and execute this trail network expansion. Sebago's services included comprehensive master planning, detailed surveying, civil engineering design, and securing the necessary permits to bring the project to fruition.

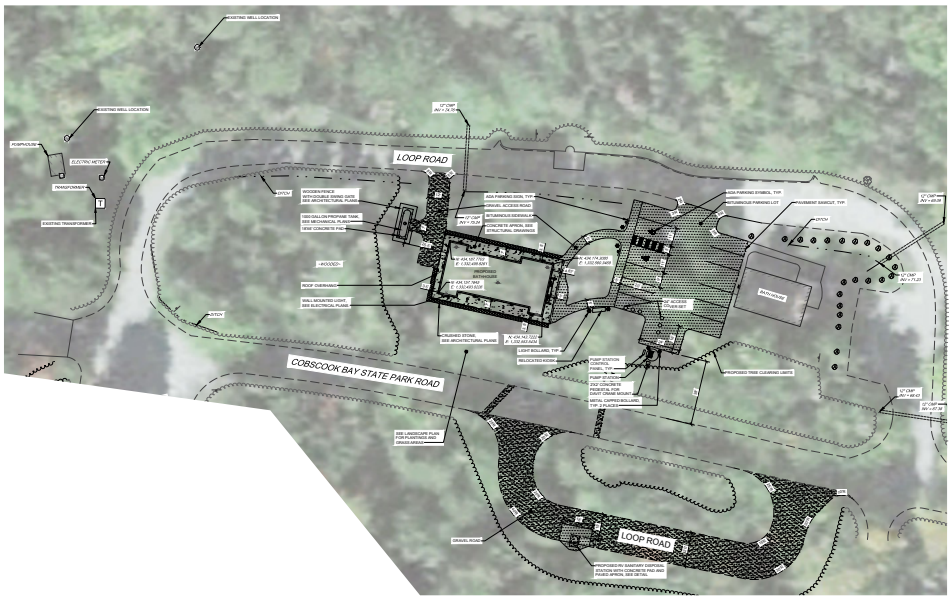
A key aspect of Sebago's approach was engaging directly with members of the public and other key stakeholders. The team reviewed the proposed trail layout with the community, soliciting feedback on desired amenities and programming for the expanded system. Sebago then worked collaboratively with the Town and stakeholders to refine the site design, ensuring the new trails met the needs and vision of the Gray residents.

The project was completed in the spring of 2024, within the initial $40,000 design budget.

SEBAGO TECHNICS

COBSCOOK BAY STATE PARK

Dennysville, Maine



Sebago Technics is proud to be retained by the Maine Department of Agriculture, Conservation, and Forestry, Bureau of Parks and Lands, as a key member of the design team tasked with the enhancement of Cobscook Bay State Park. Our role encompasses providing comprehensive surveying and site civil design services for the development of a new shower building and extensive utility upgrades within the park.

This project is part of a broader federal aid initiative aimed at renovating and modernizing facilities across all State Parks in Maine. The primary objective is to upgrade the restroom facilities at Cobscook Bay State Park to enhance the overall visitor experience. Notably, Cobscook Bay State Park is the only campground in the Maine State Park system lacking centralized flushable toilets, making this upgrade particularly significant.

Sebago Technics delivered a suite of professional services to ensure the successful completion of this project:

- **Topographic and Existing Conditions Survey:** Conducted a detailed survey of approximately five acres within the park to map current conditions accurately.
- **Site Soil and Natural Resources Investigation:** Performed thorough investigations to inform the design and ensure compliance with environmental standards.
- **Site Grading and Utility Design:** Developed plans for site grading and the installation of utilities associated with the new shower building.
- **Engineered Septic System Design:** Designed an advanced septic system and associated sanitary pump station to support the new facilities.
- **Gravel Road Design:** Created design plans for the construction of a new gravel road to improve access within the park.
- **Utility Extensions Layout:** Planned the layout for water main and electrical utility extensions throughout the park to support the upgraded infrastructure.
- **Permitting Support:** Assisted with the local permitting process by preparing and submitting necessary documentation.
- **Construction Documents and Specifications:** Prepared detailed construction documents and specifications to guide the project through to completion.

Project Timeline

Project Start: 2023

Anticipated Construction Commencement: Summer 2024

SEBAGO TECHNICS

PORTLAND HARBOR COMMON LOT

Portland, Maine

Sebago Technics was retained by the City of Portland and Parks Conservancy to shape the historical community space at the existing Portland Harbor Common Lot.

Construction of a new public green space on Portland's eastern waterfront is expected to start next year. The first phase of the Portland Harbor Common Lot will transform a City-owned parking area between the Maine State Pier and the Ocean Gateway International Marine Passenger Terminal into an open space preserved for the public. This park is part of the City's waterfront master plan to develop an interconnected linear open space resiliency system along the waterfront, expanding their storm mitigation strategies. Sebago worked collaboratively with the City's Planning, Parks, Engineering, and Waterfront Development staff and led the permitting efforts with the City and Maine Department of Environmental Protection.

Some features of the project will include an open lawn, landscaping, seating, pathways, and areas to support events, vendors, food trucks, and restrooms. A promenade and new railing will be installed along the water's edge, allowing people to safely enjoy the active waterfront and appreciate the tug boats, Casco Bay Ferries, cruise ships, and other vessels. The site plan also provides opportunities to reflect on historical references through signage and artistic interpretation. The park will be a front lawn and waterfront asset for the neighborhood and City residents, as well as a place to welcome tourists coming off cruise ships and visitors to downtown Portland/Old Port.

Engineering services provided by Sebago Technics included preparing an existing conditions survey, documenting subsurface conditions and utilities, collaborating with structural engineers on existing retaining wall and railing design, and developing grading and utility plans and stormwater management plans. Assessing potential impacts from sea level rise and wave action was incorporated into the site design through reduction in pavement, grading and infiltration considerations, and use of cost effective and durable materials.

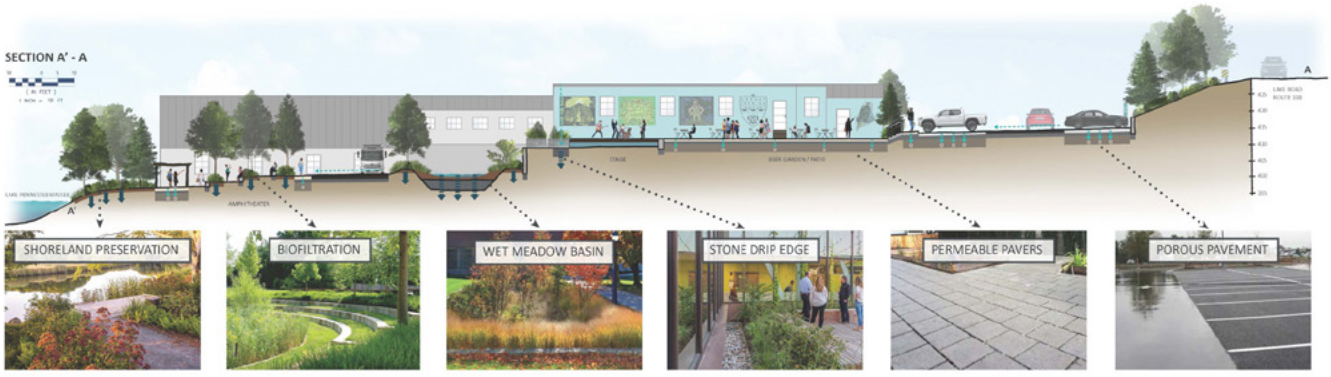
Landscape architecture services provided by Sebago Technics included leading a design charette with City staff and the Portland Parks Conservancy, developing multiple concepts, finalizing the site plan and landscape amenities, lighting design, and selection of urban and salt tolerant native plant species. Structural soil and irrigation detailing was developed to establish plant material and flush salt from soil after king tide/flooding inundation. The park design is based on green infrastructure adaptation to 'living with water'.

Project start: 2022
Anticipated construction: 2025

SEBAGO TECHNICS

LAKESIDE NORWAY

Norway, Maine



Sebago Technics was engaged by Left Turn Enterprises, LLC to transform an underutilized lakefront property on Pennesseewassee Lake in Norway, Maine into a lively year-round cultural and recreational hub.

Our team developed a comprehensive Master Plan that outlines a mixed-use vision for the site, with thoughtfully integrated spaces that complement one another both functionally and aesthetically. Key to the plan is a focus on sustainable stormwater management strategies that protect and enhance the surrounding habitat and water quality of the lake.

The centerpiece of the 'Lakeside' development will be a venue capable of hosting a diverse array of community events, from weddings and concerts to local festivals. This flexible event space will also include provisions for a hometown craft brewer to expand their operations. Importantly, the site design provides direct access to the lake and surrounding trails, allowing visitors to fully immerse themselves in the natural beauty of Pennesseewassee Lake. This includes the integration of a new dock system to facilitate water-based recreation and enjoyment of the lakefront.

Throughout the planning and design process, our team worked closely with Left Turn Enterprises and local stakeholders to ensure the 'Lakeside' vision reflects the community's values and aspirations. The result is a thoughtfully crafted master plan that transforms an underutilized asset into a vibrant, year-round destination that celebrates Norway, Maine's natural beauty and rich cultural heritage.

SEBAGO TECHNICS

BOWDOIN COLLEGE SCHILLER BOAT LAUNCH

Harpswell, Maine

Sebago Technics, Inc. is providing comprehensive professional services for the construction of a new private boat launch facility for Bowdoin College on Orr's Island in Harpswell, Maine. The project, which commenced in Summer 2022, aims to create improved water access for the seasonal removal and installation of college docks. This strategic infrastructure development requires careful coordination with regulatory agencies and thorough environmental consideration.

The project's scope encompasses complex technical challenges, including the design and construction of an access road through steep, wooded terrain and the implementation of a boat launch along the rugged shoreline. Sebago Technics is delivering a full range of services, including detailed site survey, civil engineering design, and environmental assessment. The design process has required particular attention to ledge removal, slope stability, and the management of unsuitable soils, with geotechnical investigations providing crucial data for construction planning and environmental protection.

The permitting process represents a significant component of the project, requiring approvals and modifications from the Army Corps of Engineers. The location, accessed via a gravel drive near the field studies lab, necessitates careful consideration of impervious surface impacts and environmental effects. Sebago Technics is coordinating with stakeholders and regulatory agencies leading to construction.

SEBAGO TECHNICS

3. Example of Work

Sebago Technics is proud to highlight our recent work on the Crafts Landing Waterfront Park project, which closely parallels the scope and objectives of the Town of York's Paddle Craft Dock initiative.

Located in the heart of downtown Greenville, Maine, this comprehensive waterfront access project showcased our expertise in navigating complex marine infrastructure challenges. Working with the Moosehead Lake Region Economic Development Corporation and in collaboration with the Forest Society of Maine and the Town of Greenville, our team successfully managed all aspects of the project, from initial site survey and civil engineering design to environmental assessment and multi-agency permitting coordination, including brownfield remediation requirements and VRAP compliance.

The project required innovative solutions for challenging site conditions, particularly addressing brownfield constraints through specific soil barriers and limits on soil disturbances to protect the lake from contaminant exposure. Our design successfully incorporated a central gathering space, wayfinding kiosk, boat docks, snowmobile access, and landscaping using native plant materials, while ensuring environmental protection and public safety.

The following pages provide a detailed overview of this project, along with one complete copy of our work for your reference and review.

REFERENCE
Karin R. Tilberg
President/CEO
Forest Society of Maine
115 Franklin Street, 3rd Floor
Bangor, ME 04401
karin@fsmaine.org
(207) 945-9200

CRAFTS LANDING WATERFRONT PARK

Greenville, Maine

Working with the Moosehead Lake Region Economic Development Corporation, in collaboration with Forest Society of Maine and the Town of Greenville, Sebago Technics provided site planning design and construction document services from 2019-2020 for a new public park located in the heart of downtown Greenville.

This property was made available to the Town to develop a gateway to the lake for both residents and visitors to Greenville and the Moosehead Lake Region. The significance of this acquisition allowed for the only public access to the lake downtown. A key constraint on the land was that portions of the property were a brownfield, so the site design needed to incorporate specific soil barriers and limits on soil disturbances outlined in the VRAP to limit contaminant exposure to the lake. The park plan incorporates a central gathering space, wayfinding kiosk, boat docks, snowmobile access, and landscaping using native plant materials.

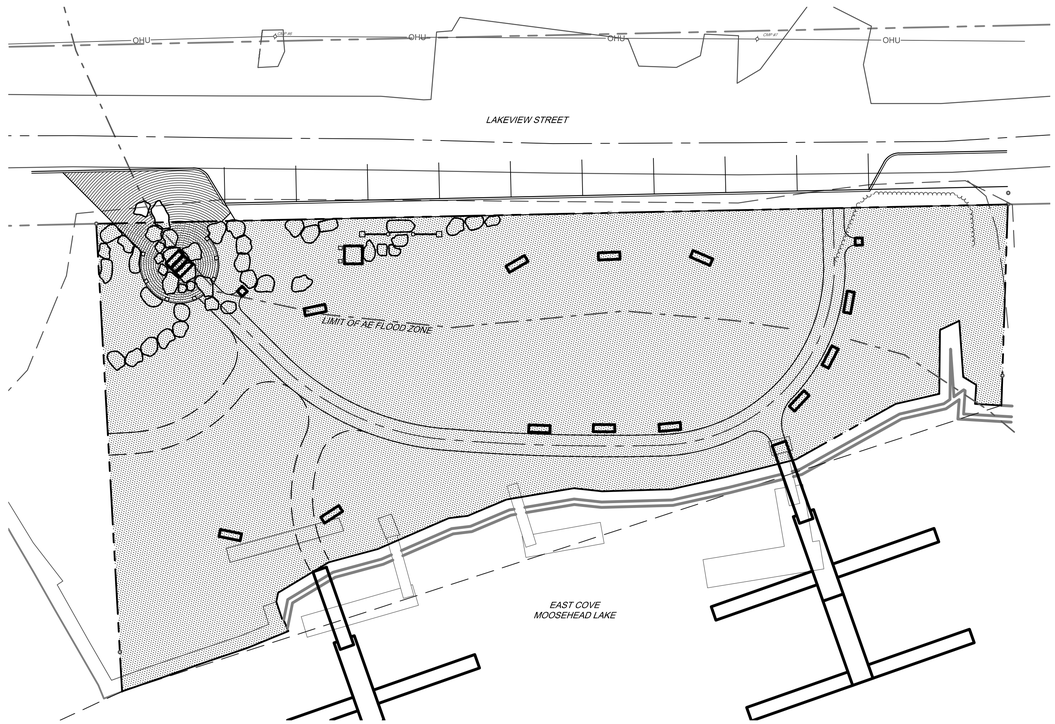
CRAFTS LANDING PARK

3 LAKEVIEW STREET
GREENVILLE, MAINE

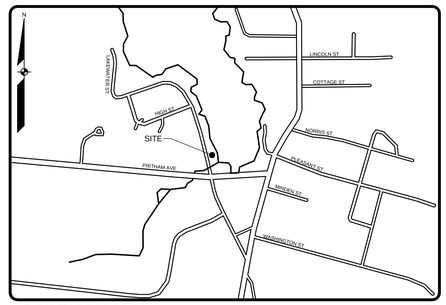
APPLICANT:
MOOSHEAD LAKE
REGION EDC
P.O. BOX 223
GREENVILLE, ME 04441

ENGINEER/SURVEYOR/
LANDSCAPE ARCHITECT:

SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100



SCALE: 1" = 20'



LOCATION MAP NTS

Sheet List Table

Sheet Number	Sheet Title
1	COVER SHEET
1 OF 1	EXISTING CONDITIONS BY OTHERS
2	NOTE AND LEGEND SHEET
3	SITE PLAN
4	GRADING AND UTILITY PLAN
5	LANDSCAPE PLAN
6	DETAILS
7	DETAILS
8	COVER SYSTEM DETAILS (PLAN BY RANSOM CONSULTING, LLC)

STEVEN G. DOE, RLA NO. 131
REGISTERED LANDSCAPE ARCHITECT
STEPHEN G. DOE
No. 131
STATE OF MAINE
09/10/2020

REV.	BY	DATE	STATUS
A	SGD	09/10/20	ISSUED FOR BIDS

SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

COVER SHEET
OF:
CRAFTS LANDING PARK
3 LAKEVIEW STREET
GREENVILLE, MAINE
FOR:
MOOSHEAD LAKE REGION EDC
P.O. BOX 223
GREENVILLE, ME 04441

DESIGNED	SDG
DRAWN	STI
CHECKED	SDG
DATE	04-15-20
SCALE	1" = 20'
PROJECT	19534

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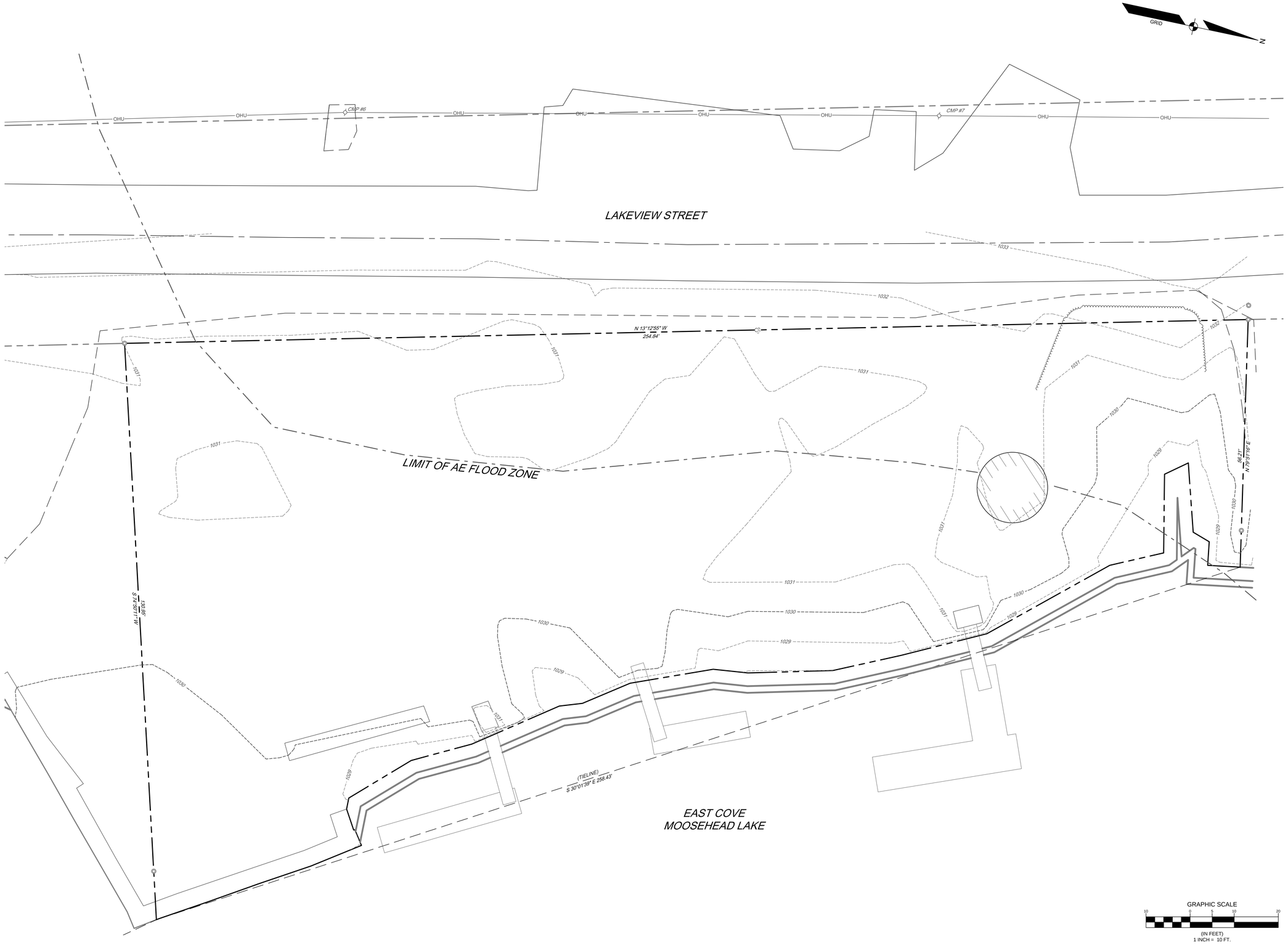
SHEET 1 OF 8



STEVEN G. DOE, RLA NO. 131

REGISTERED LANDSCAPE ARCHITECT
STEPHEN G. DOE
No. 131
STATE OF MAINE
09/10/2020

REV.	BY	DATE	STATUS
A	SGD	09/10/20	ISSUED FOR BIDS

SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd.
Suite A
South Portland, ME 04106
Tel. 207-200-2100

EXISTING CONDITIONS BY OTHERS

OF:
CRAFTS LANDING PARK
3 LAKEVIEW STREET
GREENVILLE, MAINE

FOR:
MOOSEHEAD LAKE REGION EDC
P.O. BOX 223
GREENVILLE, ME 04441

DESIGNED	SDG
DRAWN	MAL/SGD
CHECKED	SDG
DATE	04-15-20
SCALE	1" = 10'
PROJECT	19534

SHEET 1 OF 1

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LEGEND

EXISTING		PROPOSED
	PROPERTY LINE/R.O.W.	
	ABUTTER LINE/R.O.W.	
	DEED LINE/R.O.W.	
	TIE LINE	
	SETBACK	
	EASEMENT	
	BUFFER	
	FLOODPLAIN	
	FLOODWAY	
	CENTERLINE	
⊡	MONUMENT	■
◎	IRON PIPE/ROD	●
◎	DRILL HOLE	◉
C1/L1	DEED CALL	
C1/L1	CURVE/LINE NO.	C1/L1
	SOILS	
	ZONE LINE	
	ZONE LINE ON PL	
BENCHMARK DESCRIPTION WITH ELEVATION	BENCHMARK	
△	SURVEY CONTROL	
TP-1	TEST PIT	
MW	MW-1 MONITORING WELL	
B-1	BORING	
	BUILDING	
	DECK/STEPS/ OVERHANG	
	EDGE WETLAND	
	WETLANDS	
	UPLANDS	
	STREAM	
	LEDGE	
	EDGE PAVEMENT	
	PAVEMENT SAWCUT	
	EDGE CONCRETE	
	PAVEMENT PAINT	
	EDGE GRAVEL	
	CURB LINE	
	EDGE OF WATER	
	TREELINE	
120 118	CONTOURS	120
×120.00	SPOT GRADE	+120.00
O	CHAIN LINK FENCE	O
X	BARB WIRE FENCE	X
⊡	STOCKADE FENCE	⊡
	GUARD RAIL	
	STONE WALL	
	RETAINING WALL	
	DECIDUOUS TREE	X
	CONIFEROUS TREE	X
	MULCH LINE	
○	BOLLARD	●
	SIGN	
	RAILROAD	
G	GAS	G
	GAS GATE VALVE	GV
GM	GAS METER	
G	GAS MANHOLE	
W	WATER	W
	WATER GATE VALVE	WV
	WATER SHUT OFF	WV
	HYDRANT	
W	WATER MANHOLE	
W	WELL	W
S	SANITARY SEWER	S
FM	FORCE MAIN	FM
S	SANITARY MANHOLE	●
SD	STORM DRAIN	SD
UD	UNDER DRAIN	UD
D	DRAINAGE MANHOLE	●
	CATCH BASIN	■
OHU	OVERHEAD UTILITY	OHU
UGU	UNDERGROUND UTILITY	UGU
T	TRANSFORMER PAD	T
E	ELECTRICAL MANHOLE	E
EM	ELECTRIC METER	
H	HVAC UNIT	
T	TELEPHONE MANHOLE	
	LIGHT POLE	
	UTILITY POLE	
	GUY WIRE	
	DRAINAGE DITCH	
	EROSION CONTROL BLANKET	
	FILTER BARRIER	FB
	RIPRAP	
	CHECK DAM	
	INLET PROTECTION	
	BOULDER	

GENERAL NOTES

1. BOUNDARY AND TOPOGRAPHIC INFORMATION SHOWN HEREON IS BASED UPON EXISTING CONDITIONS SURVEY.
7. ALL WORK SHALL CONFORM TO THE APPLICABLE CODES AND ORDINANCES.
8. CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE HIM OR HERSELF WITH ALL CONDITIONS AFFECTING THE PROPOSED WORK AND SHALL MAKE PROVISIONS AS TO THE COST THEREOF. CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIM OR HERSELF WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS AND CONFIRMING THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK.
9. CONTRACTOR SHALL NOTIFY ENGINEER OF ALL PRODUCTS OR ITEMS NOTED AS "EXISTING" WHICH ARE NOT FOUND IN THE FIELD.
10. PROVIDE ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND OWNER'S REQUIREMENTS UNLESS SPECIFICALLY OTHERWISE INDICATED OR WHERE LOCAL CODES OR REGULATIONS TAKE PRECEDENCE.
11. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. ANY UNUSUAL CONDITIONS SHALL BE REPORTED TO THE ATTENTION OF THE ENGINEER.
12. CONTRACTOR SHALL CLEAN AND REMOVE DEBRIS AND SEDIMENT DEPOSITED ON PUBLIC. STREETS, SIDEWALKS, ADJACENT AREAS, OR OTHER PUBLIC WAYS DUE TO CONSTRUCTION.
13. CONTRACTOR SHALL INCORPORATE PROVISIONS AS NECESSARY IN CONSTRUCTION TO PROTECT EXISTING STRUCTURES, PHYSICAL FEATURES, AND MAINTAIN SITE STABILITY DURING CONSTRUCTION. CONTRACTOR SHALL RESTORE ALL AREAS TO ORIGINAL CONDITION AND AS DIRECTED BY DESIGN DRAWINGS.
14. SITE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS PRIOR TO CONSTRUCTION.
15. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH "MAINE EROSION AND SEDIMENT CONTROL BMPS" PUBLISHED BY THE BUREAU OF LAND AND WATER QUALITY OF THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION, OCTOBER 2016 OR LATEST EDITION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO POSSESS A COPY OF THE EROSION CONTROL PLAN AT ALL TIMES.
16. THE CONTRACTOR IS HEREBY CAUTIONED THAT ALL SITE FEATURES SHOWN HEREON ARE BASED ON FIELD OBSERVATIONS BY THE SURVEYOR AND BY INFORMATION PROVIDED BY UTILITY COMPANIES. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR SHALL CONTACT DIG SAFE (811) AT LEAST THREE (3) BUT NOT MORE THAN THIRTY (30) DAYS PRIOR TO COMMENCEMENT OF EXCAVATION OR DEMOLITION TO VERIFY HORIZONTAL AND VERTICAL LOCATION OF ALL UTILITIES.
17. CONTRACTOR SHALL BE AWARE THAT DIG SAFE ONLY NOTIFIES ITS "MEMBER" UTILITIES ABOUT THE DIG. WHEN NOTIFIED, DIG SAFE WILL ADVISE CONTRACTOR OF MEMBER UTILITIES IN THE AREA. CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING AND CONTACTING NON-MEMBER UTILITIES DIRECTLY. NON-MEMBER UTILITIES MAY INCLUDE TOWN OR CITY WATER AND SEWER DISTRICTS AND SMALL LOCAL UTILITIES, AS WELL AS USG PUBLIC WORKS SYSTEMS.
18. CONTRACTORS SHALL BE RESPONSIBLE FOR COMPLIANCE WITH THE REQUIREMENTS OF 23 MRSA 3360-A. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE APPROPRIATE UTILITIES TO OBTAIN AUTHORIZATION PRIOR TO RELOCATION OF ANY EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THESE PLANS. IF A UTILITY CONFLICT ARISES, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER, THE MUNICIPALITY AND APPROPRIATE UTILITY COMPANY PRIOR TO PROCEEDING WITH ANY RELOCATION.
19. ALL PAVEMENT JOINTS SHALL BE SAWCUT PRIOR TO PAVING TO PROVIDE A DURABLE AND UNIFORM JOINT.
20. NO HOLES, TRENCHES OR STRUCTURES SHALL BE LEFT OPEN OVERNIGHT IN ANY EXCAVATION ACCESSIBLE TO THE PUBLIC OR IN PUBLIC RIGHTS-OF-WAY.
21. IMMEDIATELY UPON COMPLETION OF CUTS/FILLS, THE CONTRACTOR SHALL STABILIZE DISTURBED AREAS IN ACCORDANCE WITH EROSION CONTROL NOTES AND AS SPECIFIED ON PLANS.
22. THE CONTRACTOR SHALL BE FULLY AND SOLELY RESPONSIBLE FOR THE REMOVAL, REPLACEMENT AND RECTIFICATION OF ALL DAMAGED AND DEFECTIVE MATERIAL AND WORKMANSHIP IN CONNECTION WITH THE CONTRACT WORK. THE CONTRACTOR SHALL REPLACE OR REPAIR AS DIRECTED BY THE OWNER ALL SUCH DAMAGED OR DEFECTIVE MATERIALS WHICH APPEAR WITHIN A PERIOD OF ONE YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION.
23. ALL WORK PERFORMED BY THE GENERAL CONTRACTOR AND/OR TRADE SUBCONTRACTOR SHALL CONFORM TO THE REQUIREMENTS OF LOCAL, STATE OR FEDERAL LAWS, AS WELL AS ANY OTHER GOVERNING REQUIREMENTS, WHETHER OR NOT SPECIFIED ON THE DRAWINGS.
24. WHERE THE TERMS "APPROVED EQUAL", "OTHER APPROVED", "EQUAL TO", "ACCEPTABLE" OR OTHER GENERAL QUALIFYING TERMS ARE USED IN THESE NOTES, IT SHALL BE UNDERSTOOD THAT REFERENCE IS MADE TO THE RULING AND JUDGEMENT OF SEBAGO TECHNICS, INC.
25. THE GENERAL CONTRACTOR SHALL PROVIDE ALL NECESSARY PROTECTION FOR THE WORK UNTIL TURNED OVER TO THE OWNER.
26. THE GENERAL CONTRACTOR SHALL MAINTAIN A CURRENT AND COMPLETE SET OF CONSTRUCTION DRAWINGS ON SITE DURING ALL PHASES OF CONSTRUCTION FOR USE OF ALL TRADES.
27. THE CONTRACTOR SHALL TAKE FULL RESPONSIBILITY FOR ANY CHANGES AND DEVIATION OF APPROVED PLANS NOT AUTHORIZED BY THE ARCHITECT/ENGINEER AND/OR CLIENT/OWNER.
28. DETAILS ARE INTENDED TO SHOW END RESULT OF DESIGN. ANY MODIFICATION TO SUIT FIELD DIMENSION AND CONDITION SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO ANY WORK.
29. BEFORE THE FINAL ACCEPTANCE OF THE PROJECT, THE CONTRACTOR SHALL REMOVE ALL EQUIPMENT AND MATERIALS, REPAIR OR REPLACE PRIVATE OR PUBLIC PROPERTY WHICH MAY HAVE BEEN DAMAGED OR DESTROYED DURING CONSTRUCTION, CLEAN THE AREAS WITHIN AND ADJACENT TO THE PROJECT WHICH HAVE BEEN OBSTRUCTED BY HIS/HER OPERATIONS, AND LEAVE THE PROJECT AREA NEAT AND PRESENTABLE.
30. SIDESLOPES SHALL NOT BE STEEPER THAN 3:1 (H:V) EXCEPT AS OTHERWISE IDENTIFIED ON THIS PLAN. ALL SIDESLOPES STEEPER THAN 3:1 (H: V) SHALL BE LINED WITH EROSION CONTROL BLANKET.

LANDSCAPE NOTES

1. PLANT QUANTITIES SHOWN ON PLANT LISTS ARE FOR CONVENIENCE TO THE CONTRACTOR ONLY. THE CONTRACTOR IS RESPONSIBLE FOR ALL PLANT MATERIAL INSTALLATION AS SHOWN ON PLANS.
2. SIZE AND GRADING STANDARDS OF PLANT MATERIALS SHALL CONFORM TO THE LATEST EDITION OF "U.S.A. STANDARD FOR NURSERY STOCK," BY THE AMERICAN ASSOCIATION OF NURSERYMEN, INC.
3. ALL PLANT MATERIAL SHALL BE FREE FROM INSECTS AND DISEASE.
4. ALL PLANTING SHALL BE DONE IN ACCORDANCE WITH ACCEPTABLE HORTICULTURAL PRACTICES. THIS IS TO INCLUDE PROPER PLANTING MIX, PLANT BED AND TREE PIT PREPARATION, PRUNING, STAKING OR GUYING, WRAPPING, SPRAYING, FERTILIZATION, PLANTING AND ADEQUATE MAINTENANCE UNTIL ACCEPTANCE BY THE OWNER.
5. PLANT MATERIAL SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR BY THE CONTRACTOR AND A PERIOD OF TWO YEARS THEREAFTER BY THE OWNER FROM DATE OF INSTALLATION. DURING THE ONE YEAR GUARANTEE PERIOD, DEAD PLANT MATERIAL SHALL BE REPLACED AT NO COST TO THE OWNER. AT THE END OF THE ONE YEAR PERIOD, THE CONTRACTOR SHALL OBTAIN FINAL ACCEPTANCE FROM THE OWNER.
6. ALL GRASS, OTHER VEGETATION AND DEBRIS SHALL BE REMOVED FROM ALL PLANTING AREAS PRIOR TO PLANTING.
7. EXISTING TREES TO BE PRESERVED WILL BE PROTECTED DURING CONSTRUCTION AND SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.
8. THE LANDSCAPE CONTRACTOR IS ADVISED OF THE PRESENCE OF THE UNDERGROUND UTILITIES AND SHALL VERIFY THE EXISTENCE AND LOCATION OF SAME BEFORE COMMENCING AND DIGGING OPERATIONS. THE LANDSCAPE CONTRACTOR SHALL REPLACE OR REPAIR UTILITIES, PAVING, WALKS, CURBING, ETC. DAMAGED IN PERFORMANCE OF THIS JOB AT NO ADDITIONAL COST TO THE OWNER.
9. ALL SHRUB BEDS SHALL BE MULCHED WITH 3" CLEAN SHREDDED DARK BROWN BARK MULCH.
10. THE CONTRACTOR SHALL PROVIDE 6" LOAM FOR ALL AREAS TO BE SODDED OR SEEDED. PLANTING AREAS SHALL RECEIVE 12" ROLLED THICKNESS OF LOAM UNLESS OTHERWISE SPECIFIED ON THE PLANS. THE LANDSCAPE CONTRACTOR SHALL COORDINATE SUBGRADE PREPARATION WITH THE GENERAL CONTRACTOR PRIOR TO PLACING LOAM.
11. ANY DEVIATION FROM THE LANDSCAPE PLAN, INCLUDING PLANT LOCATION, SELECTION, SIZE, QUANTITY OR CONDITION SHALL BE REVIEWED AND APPROVED BY THE OWNER AND LANDSCAPE ARCHITECT (AND MUNICIPAL AUTHORITY, IF APPLICABLE) PRIOR TO INSTALLATION ON SITE.
12. WHERE INDICATED ON PLAN, PLANTING SOIL MIXTURE FOR PERENNIAL AND ANNUAL FLOWER BED AREAS SHALL CONSIST OF FOUR PARTS TOPSOIL, TWO PARTS SPHAGNUM PEAT MOSS, AND ONE PART HORTICULTURAL PERLITE BY VOLUME. PEAT MOSS MAY BE SUBSTITUTED WITH WELL-ROTTED OR DEHYDRATED MANURE OR COMPOST. ROTOTILL BEDS TO A DEPTH OF 8 INCHES.

STEVEN G. DOE, RLA NO. 131

REGISTERED LANDSCAPE ARCHITECT
STEPHEN G. DOE
No. 131
STATE OF MAINE
09/10/2020

REV	BY	DATE	STATUS
A	SGD	09/10/20	ISSUED FOR BIDS

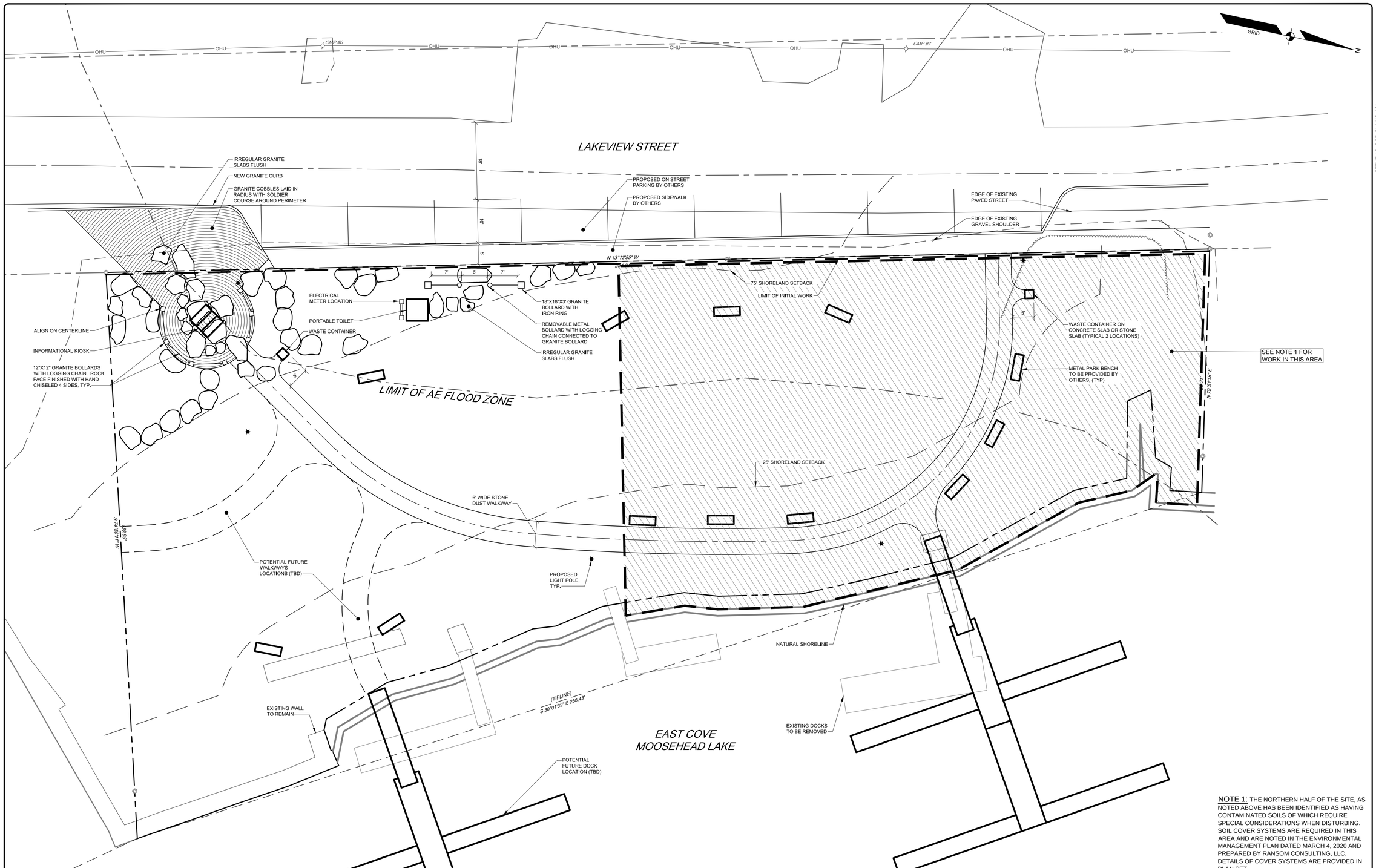
SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd.
Suite A
South Portland, ME 04106
Tel. 207-200-2100

NOTE AND LEGEND SHEET
OF:
CRAFTS LANDING PARK
3 LAKEVIEW STREET
GREENVILLE, MAINE
FOR:
MOOSHEAD LAKE REGION EDC
P.O. BOX 223
GREENVILLE, ME 04441

DESIGNED	SDG
DRAWN	STI
CHECKED	SDG
DATE	04-15-20
SCALE	NTS
PROJECT	19534

SHEET 2 OF 8

19534-NL.dwg, T.AB.24x36



NOTE 1: THE NORTHERN HALF OF THE SITE, AS NOTED ABOVE HAS BEEN IDENTIFIED AS HAVING CONTAMINATED SOILS OF WHICH REQUIRE SPECIAL CONSIDERATIONS WHEN DISTURBING. SOIL COVER SYSTEMS ARE REQUIRED IN THIS AREA AND ARE NOTED IN THE ENVIRONMENTAL MANAGEMENT PLAN DATED MARCH 4, 2020 AND PREPARED BY RANSOM CONSULTING, LLC. DETAILS OF COVER SYSTEMS ARE PROVIDED IN PLAN SET.

NOTE 2: LIGHT FIXTURE TO BE: 26" HARBOR LITE 150W/240V HPS W/12'-6" - 4 1/2" X 3" OD ALUMINUM POLE AS MANUFACTURED BY STERNER LIGHTING SYSTEMS INC. (612.906.7300)

GRAPHIC SCALE

10 0 5 10 20

(IN FEET)
1 INCH = 10 FT.

STEVEN G. DOE, RLA NO. 131

REGISTERED LANDSCAPE ARCHITECT
STEPHEN G. DOE
No. 131
STATE OF MAINE
09/10/2020

REV	BY	DATE	STATUS
A	SGD	09/10/20	ISSUED FOR BIDS

SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd.
Suite A
South Portland, ME 04106
Tel. 207-200-2100

SITE PLAN
OF:
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3 LAKEVIEW STREET
GREENVILLE, MAINE
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SHEET 3 OF 8

19534-S.dwg, TAB-24x36

PROPOSED UNDERGROUND ELECTRIC LINE. UNDERGROUND LINE INSTALLATION TO BE COORDINATEED WITH CMP AND INSTALLED DURING LAKEVIEW STREET RECONSTRUCTION

LAKEVIEW STREET

LAKEVIEW STREET TO BE RECONSTRUCTED SPRING 2021. EXISTING GRADES IN THIS AREA WILL BE CHANGED. COORDINATE SITE WORK IN THIS AREA WITH TOWN OF GREENVILLE AND ROADWAY SITE CONTRACTOR

EXCAVATED NATIVE SOILS FROM SITE WORK AND PLANTING INSTALLATION FROM AREAS WITH CONTAMINATED SOILS SHALL BE PLACED IN PROPOSED MOUNDED AREAS WITH TYPE 2 COVER SYSTEM

GRADING OF ENTIRE PLAZA TO BE DETERMINED UPON FINAL ENGINEERING OF LAKEVIEW STREET

1032.0 ± ASSUMED TC
1031.5 ± ASSUMED BC

PEDESTRAL MOUNTED ELECTRICAL METER

EXISTING WATER SHUT-OFF

NEW WATER METER PIT

FROST FREE WATER SPICKET

LIMIT OF AE FLOOD ZONE

SITE WORK IN THIS AREA TO PROVIDE LANDSCAPE COVER SYSTEM TYPE 2 WITH MARKER LAYER (SEE DETAIL) PROVIDE MIN. 6" LOAM

EXISTING WOODLAND TO REMAIN UNDISTURBED WITH EXCEPTION OF LANDSCAPE PLANTINGS. PLANTINGS IN THIS AREA TO UTILIZE COVER SYSTEM TYPE 6

FILTER BARRIER

EAST COVE
MOOSEHEAD LAKE

CMP #6

CMP #7

OHU

UGU

FB

GRID N

NOTE 1:
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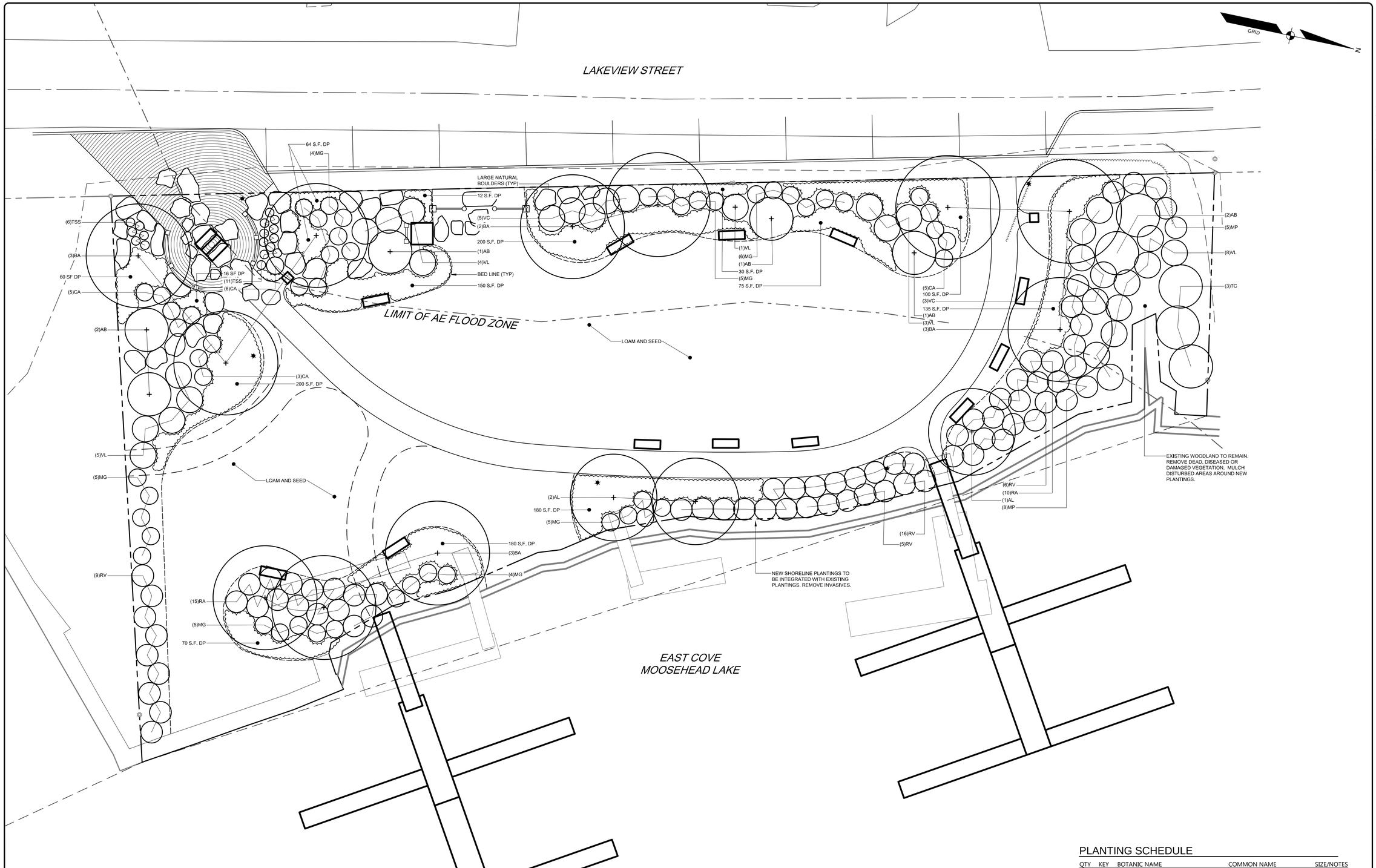
SHEET 4 OF 8

19534-GU.dwg - TAB:24x36



GRAPHIC SCALE

10 0 5 10 20

(IN FEET)
1 INCH = 10 FT.

PLANTING SCHEDULE

QTY	KEY	BOTANIC NAME	COMMON NAME	SIZE/NOTES
3	AL	AMELANCHIER LAEVIS	ALLEGHANY SERVICEBERRY	2'-2 1/2' HGT
11	BA	BETULA ALLEGHANIENSIS	YELLOW BIRCH	2 1/2" CALIPER/CLUMP
7	AB	ABIES BALSAMEA	BALSAM FIR	5'-6' HGT
3	TC	TSUGA CANADENSIS	CANADIAN HEMLOCK	6-7' HGT
19	CA	CLETHRA ALNIFOLIA 'HUMMINGBIRD'	HUMMINGBIRD SUMMERSWEET	#2 CONT.
25	RA	RAUS AROMATICA 'LOW GROW'	LOW GROW SUMAC	#1 CONT.
8	VC	VACCINIUM CORYMBOSUM	HIGHBUSH BLUEBERRY	18"-24"
34	MG	MYRICA GALE	SWEET GALE	18"-24" HGT
13	MP	MYRICA PENSYLVANICA	NORTHERN BAYBERRY	#5 CONT.
1472 SF	DP	DENNSTAEDTIA PUNCTILOBA	HAYSCENTED FERN	SOD
21	VL	VIBURNUM LENTAGO	NANNYBERRY VIBURNUM	#3 CONT
17	TSS	TIARELLA CORDIFOLIA 'SURGAR AND SPICE'	SUGAR AND SPICE FOAM FLOWER	
36	RV	ROSA VIRGINIANA	VIRGINIA ROSE	#1 CONT

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EROSION CONTROL MEASURES

PRE-CONSTRUCTION PHASE

PRIOR TO THE BEGINNING OF ANY CONSTRUCTION, SEDIMENT BARRIERS (SILT FENCE) WILL BE STAKED/INSTALLED ACROSS THE SLOPE(S), ON THE CONTOUR AT OR JUST BELOW THE LIMITS OF CLEARING OR GRUBBING, AND/OR JUST ABOVE ANY ADJACENT PROPERTY LINE OR WATERCOURSE TO PROTECT AGAINST CONSTRUCTION RELATED EROSION. THE PLACEMENT OF SEDIMENT BARRIERS SHALL BE COMPLETED IN ACCORDANCE WITH GUIDELINES ESTABLISHED IN BEST MANAGEMENT PRACTICES AND IN ACCORDANCE WITH THIS EROSION CONTROL PLAN AND DETAILS IN THIS PLAN SET. THIS NETWORK IS TO BE MAINTAINED BY THE CONTRACTOR UNTIL ALL EXPOSED SLOPES HAVE AT LEAST 90% VIGOROUS PERENNIAL VEGETATIVE COVER TO PREVENT EROSION. TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER PERMANENT STABILIZATION IS ATTAINED.

PRIOR TO ANY CLEARING OR GRUBBING, A CONSTRUCTION ENTRANCE/EXIT SHALL BE CONSTRUCTED AT THE INTERSECTION OF THE PROPOSED ENTRANCES AND EXISTING ROADWAY TO AVOID TRACKING OF MUD, DUST AND DEBRIS FROM THE SITE.

PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL PREPARE A DETAILED SCHEDULE AND MARKED UP PLAN INDICATING AREAS AND COMPONENTS OF THE WORK AND KEY DATES SHOWING DATE OF DISTURBANCE AND COMPLETION OF THE WORK. THE CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH THE MUNICIPAL STAFF. THREE COPIES OF THE SCHEDULE AND MARKED UP PLAN SHALL BE PROVIDED TO THE MUNICIPALITY THREE DAYS PRIOR TO THE SCHEDULED PRE-CONSTRUCTION MEETING. SPECIAL ATTENTION SHALL BE GIVEN TO THE 14 DAY LIMIT OF DISTURBANCE IN THE SCHEDULE ADDRESSING TEMPORARY AND PERMANENT VEGETATION MEASURES.

CONSTRUCTION AND POST-CONSTRUCTION PHASE

AREAS UNDERGOING ACTUAL CONSTRUCTION SHALL ONLY EXPOSE THAT AMOUNT OF MINERAL SOIL NECESSARY FOR PROGRESSIVE AND EFFICIENT CONSTRUCTION. AN AREA CONSIDERED OPEN IS ANY AREA NOT STABILIZED WITH PAVEMENT, VEGETATION, MULCHING, EROSION CONTROL MATS, RIPRAP OR GRAVEL BASE ON A ROAD, SUCH AS ACTIVE EXCAVATION AND ACTIVE GRADING. LIMIT THE EXPOSED AREA TO THOSE AREAS IN WHICH WORK IS ACTIVELY OCCURRING OR CAN BE MULCHED IN THE SAME DAY. OPEN AREAS SHALL BE ANCHORED WITH TEMPORARY EROSION CONTROL AS SHOWN ON THE DESIGN PLANS AND AS DESCRIBED WITHIN THIS EROSION CONTROL PLAN WITHIN SEVEN (7) DAYS OF DISTURBANCE. AREAS LOCATED WITHIN 100 FEET OF STREAMS SHALL BE ANCHORED WITH TEMPORARY EROSION CONTROL WITHIN SEVEN (7) DAYS. REFER TO WINTER EROSION CONTROL NOTES FOR THE TREATMENT OF OPEN AREAS AFTER OCTOBER 1ST OF THE CONSTRUCTION YEAR.

THE CONTRACTOR MUST INSTALL ANY ADDED MEASURES WHICH MAY BE NECESSARY TO CONTROL EROSION/SEDIMENTATION FROM THE SITE DEPENDENT UPON THE ACTUAL SITE AND WEATHER CONDITIONS. CONTINUATION OF EARTHWORK OPERATIONS ON ADDITIONAL AREAS SHALL NOT BEGIN UNTIL THE EXPOSED SOIL SURFACE ON THE AREA BEING WORKED HAS BEEN STABILIZED, IN ORDER TO MINIMIZE AREAS WITHOUT EROSION CONTROL PROTECTION.

EROSION CONTROL APPLICATIONS & MEASURES

THE PLACEMENT OF EROSION CONTROL MEASURES SHALL BE COMPLETED IN ACCORDANCE WITH GUIDELINES ESTABLISHED IN BEST MANAGEMENT PRACTICES AND IN ACCORDANCE WITH THE EROSION CONTROL PLAN AND DETAILS IN THE PLAN SET.

1. TEMPORARY MULCHING:

ALL DISTURBED AREAS SHALL BE MULCHED WITH MATERIALS SPECIFIED BELOW PRIOR TO ANY STORM EVENT. ALL DISTURBED AREAS NOT FINAL GRADED WITHIN 14 DAYS SHALL BE MULCHED. DISTURBED AREAS ADJACENT TO NATURAL RESOURCES THAT ARE NOT GRADED WITHIN SEVEN (7) DAYS SHALL BE MULCHED. ALSO, AREAS, WHICH HAVE BEEN TEMPORARILY OR PERMANENTLY SEEDED, SHALL BE MULCHED IMMEDIATELY FOLLOWING SEEDING. EROSION CONTROL BLANKETS ARE RECOMMENDED TO BE USED AT THE BASE OF GRASSED WATERWAYS AND ON SLOPES GREATER THAN 33%. MULCH ANCHORING SHOULD BE USED ON SLOPES GREATER THAN 5% AFTER SEPTEMBER 15TH OF THE CONSTRUCTION YEAR (SEE WINTER EROSION CONTROL NOTES).
TYPES OF MULCH:

HAY OR STRAW: SHALL BE APPLIED AT A RATE OF 75 LBS/1,000 S.F. (1.5 TONS PER ACRE).

EROSION CONTROL MIX: SHALL BE PLACED EVENLY AND MUST PROVIDE 100% SOIL COVERAGE. EROSION CONTROL MIX SHALL BE APPLIED SUCH THAT THE THICKNESS ON SLOPES 3:1 OR LESS IS 2 INCHES PLUS 1/2 INCH PER 20 FEET OF SLOPE UP TO 100 FEET. THE THICKNESS ON SLOPES BETWEEN 3:1 AND 2:1 SHALL BE 4 INCHES PLUS 1/2 INCH PER 20 FEET OF SLOPE UP TO 100 FEET. THIS SHALL NOT BE USED ON SLOPES GREATER THAN 2:1.

EROSION CONTROL BLANKET: SHALL BE INSTALLED SUCH THAT CONTINUOUS CONTACT BETWEEN THE MAT AND THE SOIL IS OBTAINED. INSTALL BLANKETS AND STAPLE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

2. SOIL STOCKPILES:

STOCKPILES OF SOIL OR SUBSOIL SHALL BE MULCHED WITH HAY OR STRAW AT A RATE OF 75 LBS/1,000 S.F. (1.5 TONS PER ACRE) OR WITH A FOUR-INCH LAYER OF WOOD WASTE EROSION CONTROL MIX. THIS WILL BE DONE WITHIN 24 HOURS OF STOCKING AND RE-ESTABLISHED PRIOR TO ANY RAINFALL. ANY SOIL STOCKPILE WILL NOT BE PLACED (EVEN COVERED WITH HAY OR STRAW) WITHIN 100 FEET FROM ANY NATURAL RESOURCES. SEDIMENT BARRIERS SHALL BE INSTALLED DOWNGRADIENT OF STOCKPILES, AND STORMWATER SHALL BE PREVENTED FROM RUNNING ONTO THE STOCKPILE.

3. NATURAL RESOURCES PROTECTION:

ANY AREAS WITHIN 100 FEET FROM ANY NATURAL RESOURCES SHALL BE MULCHED USING TEMPORARY MULCHING (AS DESCRIBED IN PART 1 OF THIS SECTION) WITHIN 7 DAYS OF EXPOSURE OR PRIOR TO ANY STORM EVENT. SEDIMENT BARRIERS (AS DESCRIBED IN PART 4 OF THIS SECTION) SHALL BE PLACED BETWEEN ANY NATURAL RESOURCE AND THE DISTURBED AREA. PROJECTS CROSSING THE NATURAL RESOURCE SHALL BE PROTECTED A MINIMUM DISTANCE OF 100 FEET ON EITHER SIDE FROM THE RESOURCE.

4. SEDIMENT BARRIERS:

PRIOR TO THE BEGINNING OF ANY CONSTRUCTION, SEDIMENT BARRIERS SHALL BE STAKED ACROSS THE SLOPE(S), ON THE CONTOUR AT OR JUST BELOW THE LIMITS OF CLEARING OR GRUBBING, AND/OR JUST ABOVE ANY ADJACENT PROPERTY LINE OR WATERCOURSE TO PROTECT AGAINST CONSTRUCTION RELATED EROSION. SEDIMENT BARRIERS SHALL BE MAINTAINED BY THE CONTRACTOR UNTIL ALL EXPOSED SLOPES HAVE AT LEAST 90% VIGOROUS PERENNIAL VEGETATIVE COVER TO PREVENT EROSION.

SILT FENCE: SHALL BE INSTALLED PER THE DETAIL ON THE PLANS. THE EFFECTIVE HEIGHT OF THE FENCE SHALL NOT EXCEED 36 INCHES. IT IS RECOMMENDED THAT SILT FENCE BE REMOVED BY CUTTING THE FENCE MATERIALS AT GROUND LEVEL SO AS TO AVOID ADDITIONAL SOIL DISTURBANCE.

HAY BALES: SHALL NOT BE INSTALLED ADJACENT TO WETLAND. INSTALL PER THE DETAIL ON THE PLANS. BALES SHALL BE WIRE-BOUND OR STRING-TIED AND THESE BINDINGS MUST REMAIN PARALLEL WITH THE GROUND SURFACE DURING INSTALLATION TO PREVENT DETERIORATION OF THE BINDINGS. BALES SHALL BE INSTALLED WITHIN A MINIMUM 4 INCH DEEP TRENCH LINE WITH ENDS OF ADJACENT BALES TIGHTLY ABUTTING ONE ANOTHER.

EROSION CONTROL MIX: SHALL NOT BE USED ADJACENT TO WETLANDS. INSTALL PER THE DETAIL ON THE PLANS. THE MIX SHALL CONSIST PRIMARILY OF ORGANIC MATERIAL AND CONTAIN A WELL-GRADED MIXTURE OF PARTICLE SIZES AND MAY CONTAIN ROCKS LESS THAN 4 INCHES IN DIAMETER. THE MIX COMPOSITION SHALL MEET THE STANDARDS DESCRIBED WITHIN THE MDEP BEST MANAGEMENT PRACTICES. NO TRENCHING IS REQUIRED FOR INSTALLATION OF THIS BARRIER. EROSION CONTROL MIX BERMS SHALL NOT BE USED SOLELY AT THE BOTTOM OF STEEP SLOPES (>8%) OR SLOPES WITH FLOWING WATER.

CONTINUOUS CONTAINED BERM: SHALL BE INSTALLED PER THE DETAIL ON THE PLANS. THIS SEDIMENT BARRIER IS EROSION CONTROL MIX PLACED WITHIN A SYNTHETIC TUBULAR NETTING AND PERFORMS AS A STURDY SEDIMENT BARRIER THAT WORKS WELL ON HARD GROUND SUCH AS FROZEN CONDITIONS, TRAVELED AREAS OR PAVEMENT. NO TRENCHING IS REQUIRED FOR INSTALLATION OF THIS BARRIER.

5. TEMPORARY CHECK DAMS:

SHALL BE INSTALLED PER THE DETAIL ON THE PLANS. CHECK DAMS ARE TO BE PLACED WITHIN DITCHES/ SWALES AS SPECIFIED ON THE DESIGN PLANS IMMEDIATELY AFTER FINAL GRADING. CHECK DAMS SHALL BE 2 FEET HIGH. TEMPORARY CHECK DAMS MAY BE REMOVED ONLY AFTER THE ROADWAYS ARE PAVED AND THE VEGETATED SWALE ARE ESTABLISHED WITH AT LEAST 90% OF VIGOROUS PERENNIAL GROWTH. THE AREA BENEATH THE CHECK DAM MUST BE SEEDED AND MULCHED IMMEDIATELY AFTER REMOVAL OF THE CHECK DAM.

STONE CHECK DAMS: STONE DAMS SHOULD BE CONSTRUCTED OF 2 TO 3 INCH STONE AND PLACED SUCH THAT COMPLETE COVERAGE OF THE SWALE IS OBTAINED AND THAT THE CENTER OF THE DAM IS 6 INCHES LOWER THAT THE OUTER EDGES.

HAY BALE CHECK DAMS: BALES SHALL BE WIRE-BOUND OR STRING-TIED. BALES SHALL BE INSTALLED WITHIN A MINIMUM 4 INCH DEEP TRENCH LINE WITH ENDS OF ADJACENT BALES TIGHTLY ABUTTING ONE ANOTHER. HAY BALES SHALL BE PLACED SUCH THAT COMPLETE COVERAGE OF THE SWALE IS OBTAINED AND THAT THE CENTER OF THE DAM IS 6 INCHES LOWER THAT THE OUTER EDGES.

MANUFACTURED CHECK DAMS: MANUFACTURED CHECK DAMS, AS SPECIFIED IN THE DETAIL ON THE PLANS, MAY BE USED IF AUTHORIZED BY THE PROPER LOCAL, STATE OR FEDERAL REGULATING AGENCIES. THESE UNITS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURE'S RECOMMENDATIONS.

6. STORMDRAIN INLET PROTECTION:

INLET PROTECTION SHALL BE PLACED AROUND A STORMDRAIN DROP INLET OR CURB INLET PRIOR TO PERMANENT STABILIZATION OF THE IMMEDIATE AND UPSTREAM DISTURBED AREAS. THEY SHALL BE CONSTRUCTED IN A MANNER THAT WILL FACILITATE CLEAN-OUT AND DISPOSAL OF TRAPPED SEDIMENTS AND MINIMIZE INTERFERENCE WITH CONSTRUCTION ACTIVITIES. ANY RESULTANT PONDING OF WATER FROM THE PROTECTION METHOD MUST NOT CAUSE EXCESSIVE INCONVENIENCE OR DAMAGE TO ADJACENT AREAS OR STRUCTURES.

HAY BALE DROP INLET PROTECTION: WE DO NOT RECOMMEND THE USE OF HAY BALES AS INLET PROTECTION.

CONCRETE BLOCK AND STONE INLET SEDIMENT FILTER (DROP OR CURB INLET): SHALL BE INSTALLED PER THE DETAIL ON THE PLANS. THE HEIGHT OF THE CONCRETE BLOCK BARRIER CAN VARY BUT MUST BE BETWEEN 12 AND 24 INCHES TALL. A MINIMUM OF 1 INCH CRUSHED STONE SHALL BE USED.

MANUFACTURED SEDIMENT BARRIERS AND FILTER (DROP OR CURB INLET): MANUFACTURED FILTERS, AS SPECIFIED IN THE DETAIL ON THE PLANS, MAY BE USED IF INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

7. STABILIZED CONSTRUCTION ENTRANCE/EXIT:

PRIOR TO CLEARING AND/OR GRUBBING THE SITE A STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE CONSTRUCTED WHEREVER TRAFFIC WILL EXIT THE CONSTRUCTION SITE ONTO A PAVED ROADWAY IN ORDER TO MINIMIZE THE TRACKING OF SEDIMENT AND DEBRIS FROM THE CONSTRUCTION SITE ONTO PUBLIC ROADWAYS. THE ENTRANCES AND ADJACENT ROADWAY AREAS SHALL BE PERIODICALLY SWEPT TO FURTHER MINIMIZE THE TRACKING OF MUD, DUST OR DEBRIS FROM THE CONSTRUCTION AREA. THE TERM "SWEEP" IS UNDERSTOOD TO MEAN REMOVAL AND RECOVERY OF TRACKED SEDIMENT WITH A STREET SWEEPER, NOT BRUSHING THE MATERIAL INTO SWALES OR STRUCTURES WITH A MECHANICAL BROOM. STABILIZED CONSTRUCTION EXITS SHALL BE CONSTRUCTED IN AREAS SPECIFIED ON THE PLANS AND AS DETAILED ON THE PLANS. THE CONTRACTOR SHALL MAINTAIN THE STABILIZED CONSTRUCTION ENTRANCE UNTIL ALL DISTURBED AREAS ARE STABILIZED.

8. DUST CONTROL:

DUST CONTROL DURING CONSTRUCTION SHALL BE ACHIEVED BY THE USE OF A WATERING TRUCK TO PERIODICALLY SPRINKLE THE EXPOSED ROADWAY AREAS AS NECESSARY TO REDUCE DUST DURING THE DRY MONTHS. APPLYING OTHER DUST CONTROL PRODUCTS SUCH AS CALCIUM CHLORIDE OR OTHER MANUFACTURED PRODUCTS ARE ALLOWED IF AUTHORIZED BY THE PROPER LOCAL, STATE AND/OR FEDERAL REGULATING AGENCIES. HOWEVER, IT IS THE CONTRACTOR'S ULTIMATE RESPONSIBILITY TO MITIGATE DUST AND SOIL LOSS FROM THE SITE. IF OFFSITE TRACKING OCCURS, PUBLIC ROADS SHOULD BE SWEPT IMMEDIATELY AND NOT LESS THAN ONCE A WEEK AND PRIOR TO SIGNIFICANT STORM EVENTS.

9. TEMPORARY VEGETATION:

TEMPORARY VEGETATION SHALL BE APPLIED TO DISTURBED AREAS THAT WILL NOT RECEIVE FINAL GRADING FOR PERIODS UP TO 12 MONTHS. THIS PROCEDURE SHOULD BE USED EXTENSIVELY IN AREAS ADJACENT TO NATURAL RESOURCES. SEEDBED PREPARATION AND APPLICATION OF SEED SHALL BE CONDUCTED AS INDICATED IN THE PERMANENT VEGETATION SECTION OF THIS NARRATIVE. SPECIFIC SEEDS (FAST GROWING AND SHORT LIVING) SHALL BE SELECTED FROM THE MAINE EROSION AND SEDIMENT CONTROL BMP MANUALS FOR CONTRACTORS AND ENGINEERS, 2016 OR LATEST REVISION. ALTERNATIVE EROSION CONTROL MEASURES SHOULD BE USED IF SEEDING CAN NOT BE DONE BEFORE SEPTEMBER 15TH OF THE CONSTRUCTION YEAR.

10. PERMANENT VEGETATION:

REVEGETATION MEASURES SHALL COMMENCE IMMEDIATELY UPON COMPLETION OF FINAL GRADING OF AREAS TO BE LOAMED AND SEEDED. THE APPLICATION OF SEED SHALL BE CONDUCTED BETWEEN APRIL 1ST AND OCTOBER 1ST OF THE CONSTRUCTION YEAR, PLEASE REFER TO THE WINTER EROSION CONTROL NOTES FOR MORE DETAIL. REVEGETATION MEASURES SHALL CONSIST OF THE FOLLOWING:

SEEDBED PREPARATION:

A. FOUR (4) INCHES OF LOAM SHALL BE SPREAD OVER DISTURBED AREAS AND SMOOTHED TO A UNIFORM SURFACE. LOAM SHALL BE FREE OF SUBSOIL, CLAY LUMPS, STONES AND OTHER OBJECTS OVER 2 INCHES OR LARGER IN ANY DIMENSION, AND WITHOUT WEEDS, ROOTS OR OTHER OBJECTIONABLE MATERIAL.

B. SOILS TESTS SHALL BE TAKEN AT THE TIME OF SOIL STRIPPING TO DETERMINE FERTILIZATION REQUIREMENTS. SOILS TESTS SHALL BE TAKEN PROMPTLY AS TO NOT INTERFERE WITH THE 14-DAY LIMIT ON SOIL EXPOSURE. BASED UPON TEST RESULTS, SOIL AMENDMENTS SHALL BE INCORPORATED INTO THE SOIL PRIOR TO FINAL SEEDING. IN LIEU OF SOIL TESTS, SOIL AMENDMENTS MAY BE APPLIED AS FOLLOWS:

ITEM	APPLICATION RATE
10-20-20 FERTILIZER (N-P205-K20 OR EQUAL)	18.4 LBS./1,000 S.F.
GROUND LIMESTONE (50% CALCIUM & MAGNESIUM OXIDE)	138 LBS./1,000 S.F.

C. WORK LIME AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WITH PROPER EQUIPMENT. ROLL THE AREA TO FIRM THE SEEDBED EXCEPT ON CLAY OR SILTY SOILS OR COARSE SAND.

APPLICATION OF SEED:

A. SEEDING: SHALL BE CONDUCTED BETWEEN APRIL 1ST AND OCTOBER 1ST OF THE CONSTRUCTION YEAR. GENERALLY A SEED MIXTURE MAY BE APPLIED AS FOLLOWS: (MDEP SEED MIX 2 IS DISPLAYED)

SEED TYPE	APPLICATION RATE
CREEPING RED FESCUE	0.46 LBS/1,000 S.F. (20 LBS/ACRE)
REDTOP	0.05 LBS/1,000 S.F. (2 LBS/ACRE)
TALL FESCUE	0.46 LBS/1,000 S.F. (20 LBS/ACRE)
TOTAL:	0.97 LBS/1,000 S.F. (42 LBS/ACRE)

NOTE: A SPECIFIC SEED MIXTURE SHOULD BE CHOSEN TO MATCH THE SOILS CONDITION OF THE SITE. VARIOUS AGENCIES CAN RECOMMEND SEED MIXTURES. MDEP RECOMMENDED SEED MIXTURES ARE IN THE EROSION AND SEDIMENT CONTROL BMP MANUAL DATED 2016 OR LATEST REVISION.

B. HYDROSEEDING: SHALL BE CONDUCTED ON PREPARED AREAS WITH SLOPES LESS THAN 2:1. LIME AND FERTILIZER MAY BE APPLIED SIMULTANEOUSLY WITH THE SEED. RECOMMENDED SEEDING RATES MUST BE INCREASED BY 10% WHEN HYDROSEEDING.

C. MULCHING: SHALL COMMENCE IMMEDIATELY AFTER SEED IS APPLIED. REFER TO THE TEMPORARY MULCHING SECTION OF THIS NARRATIVE FOR DETAILS.

SODDING:
FOLLOWING SEEDBED PREPARATION, SOD CAN BE APPLIED IN LIEU OF SEEDING IN AREAS WHERE IMMEDIATE VEGETATION IS MOST BENEFICIAL SUCH AS DITCHES, AROUND STORMWATER DROP INLETS AND AREAS OF AESTHETIC VALUE. SOD SHOULD BE LAID AT RIGHT ANGLES TO THE DIRECTION OF FLOW, STARTING AT THE LOWEST ELEVATION. SOD SHOULD BE ROLLED OR TAMPED DOWN TO EVEN OUT THE JOINTS ONCE LAID DOWN. WHERE FLOW IS PREVALENT THE SOD MUST BE PROPERLY ANCHORED DOWN. IRRIGATE THE SOD IMMEDIATELY AFTER INSTALLATION. IN MOST CASES, SOD CAN BE ESTABLISHED BETWEEN APRIL 1ST AND NOVEMBER 15TH OF THE CONSTRUCTION YEAR, HOWEVER, REFER TO THE WINTER EROSION CONTROL NOTES FOR ANY ACTIVITIES AFTER OCTOBER 1ST.

INSPECTION AND MONITORING

MAINTENANCE MEASURES SHALL BE APPLIED AS NEEDED DURING THE ENTIRE CONSTRUCTION CYCLE. CONSTRUCTION INSPECTIONS SHALL BE PERFORMED BEFORE AND AFTER EACH RAINFALL, SNOW STORM OR PERIOD OF THAWING AND RUNOFF, AND AT LEAST EVERY SEVEN (7) DAYS. A WET WEATHER EVENT IS ONE THAT PRODUCES MORE THAN 0.5 INCH OF RAINFALL IN A CONSECUTIVE 24-HOUR PERIOD. THE CONTRACTOR SHALL PERFORM A VISUAL INSPECTION OF ALL INSTALLED EROSION CONTROL MEASURES. ALL CONSTRUCTION INSPECTIONS SHALL BE CONDUCTED BY SOMEONE WITH KNOWLEDGE OF EROSION AND STORMWATER CONTROL, INCLUDING THE STANDARDS AND CONDITIONS IN THE PERMIT. THE SCOPE OF CONSTRUCTION INSPECTIONS INCLUDE DISTURBED AND IMPERVIOUS AREAS, MATERIAL STORAGE AREAS, AND VEHICLE ACCESS POINTS IN ADDITION TO ESC MEASURES. THE CONTRACTOR SHALL PERFORM REPAIRS AS NEEDED TO ALLOW CONTINUED PROPER FUNCTIONING OF THE EROSION CONTROL MEASURE. IF CORRECTIVE ACTION IS REQUIRED, THE ACTION OR REPAIR SHALL BE STARTED BY THE END OF THE NEXT WORKDAY AND COMPLETED WITHIN SEVEN (7) DAYS, OR BEFORE THE NEXT STORM EVENT. THE CONTRACTOR SHALL PROVIDE THE NECESSARY REGULATING AGENCIES WITH WRITTEN DOCUMENTATION DESCRIBING DATES OF INSPECTIONS AND NECESSARY FOLLOW-UP WORK TO MAINTAIN EROSION CONTROL MEASURES MEETING THE REQUIREMENTS OF THIS PLAN. THE INSPECTION FORMS AND DOCUMENTATION OF CORRECTIVE ACTIONS TAKEN DURING CONSTRUCTION SHALL BE MAINTAINED FOR AT LEAST THREE YEARS.
FOLLOWING THE TEMPORARY AND/OR FINAL SEEDINGS, THE CONTRACTOR SHALL INSPECT THE WORK AREA SEMIMONTHLY UNTIL THE SEEDINGS HAVE BEEN ESTABLISHED. ESTABLISHED MEANS A MINIMUM OF 90% OF AREAS VEGETATED WITH VIGOROUS GROWTH. RESEEDING SHALL BE CARRIED OUT BY THE CONTRACTOR WITH FOLLOW-UP INSPECTIONS IN THE EVENT OF ANY FAILURES UNTIL VEGETATION IS ADEQUATELY ESTABLISHED.

STANDARDS FOR TIMELY STABILIZATION:

STANDARD FOR THE TIMELY STABILIZATION OF DISTURBED SLOPES -- THE CONTRACTOR WILL CONSTRUCT AND STABILIZE STONE-COVERED SLOPES BY NOVEMBER 15. THE CONTRACTOR WILL SEED AND MULCH ALL SLOPES TO BE VEGETATED BY SEPTEMBER 15. THE MDEP WILL CONSIDER ANY AREA HAVING A GRADE GREATER THAN 15% (10H:1V) TO BE A SLOPE. IF THE CONTRACTOR FAILS TO STABILIZE ANY SLOPE TO BE VEGETATED BY SEPTEMBER 15, THEN THE CONTRACTOR WILL TAKE ONE OF THE FOLLOWING ACTIONS TO STABILIZE THE SLOPE FOR LATE FALL AND WINTER.

D. STABILIZE THE SOIL WITH TEMPORARY VEGETATION AND EROSION CONTROL MATS -- BY OCTOBER 1 THE CONTRACTOR WILL SEED THE DISTURBED SLOPE WITH WINTER RYE AT A SEEDING RATE OF 3 POUNDS PER 1,000 SQUARE FEET AND APPLY EROSION CONTROL MATS OVER THE MULCHED SLOPE. THE CONTRACTOR WILL MONITOR GROWTH OF THE RYE OVER THE NEXT 30 DAYS. IF THE RYE FAILS TO GROW AT LEAST THREE INCHES OR COVER AT LEAST 75% OF THE DISTURBED SLOPE BY NOVEMBER 1, THEN THE APPLICANT WILL COVER THE SLOPE WITH A LAYER OF WOOD WASTE COMPOST AS DESCRIBED IN ITEM 2(C.) OF THIS STANDARD OR WITH STONE RIPRAP AS DESCRIBED IN ITEM 2(D.) OF THIS STANDARD.

E. STABILIZE THE SLOPE WITH SOD -- THE CONTRACTOR WILL STABILIZE THE DISTURBED SLOPE WITH PROPERLY INSTALLED SOD BY OCTOBER 1. PROPER INSTALLATION INCLUDES THE APPLICANT PINNING THE SOD ONTO THE SLOPE WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, AND WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL. THE APPLICANT WILL NOT USE LATE-SEASON SOD INSTALLATION TO STABILIZE SLOPES HAVING A GRADE GREATER THAN 33% (3H:1V).

F. STABILIZE THE SLOPE WITH WOOD WASTE COMPOST -- THE CONTRACTOR WILL PLACE A SIX-INCH LAYER OF WOOD WASTE COMPOST ON THE SLOPE BY NOVEMBER 15. PRIOR TO PLACING THE WOOD WASTE COMPOST, THE APPLICANT WILL REMOVE ANY SNOW ACCUMULATION ON THE DISTURBED SLOPE. THE APPLICANT WILL NOT USE WOOD WASTE COMPOST TO STABILIZE SLOPES HAVING GRADES GREATER THAN 50% (2H:1V) OR HAVING GROUNDWATER SEEPS ON THE SLOPE FACE.

G. STABILIZE THE SLOPE WITH STONE RIPRAP -- THE CONTRACTOR WILL PLACE A LAYER OF STONE RIPRAP ON THE SLOPE BY NOVEMBER 15. THE APPLICANT WILL HIRE A REGISTERED PROFESSIONAL ENGINEER TO DETERMINE THE STONE SIZE NEEDED FOR STABILITY AND TO DESIGN A FILTER LAYER FOR UNDERNEATH THE RIPRAP.

STANDARD FOR THE TIMELY STABILIZATION OF DISTURBED SOILS -- BY SEPTEMBER 15 THE CONTRACTOR WILL SEED AND MULCH ALL DISTURBED SOILS ON AREAS HAVING A SLOPE LESS THAN 15%. IF THE CONTRACTOR FAILS TO STABILIZE THESE SOILS BY THIS DATE, THEN THE CONTRACTOR WILL TAKE ONE OF THE FOLLOWING ACTIONS TO STABILIZE THE SOIL FOR LATE FALL AND WINTER.

A. STABILIZE THE SOIL WITH TEMPORARY VEGETATION -- BY OCTOBER 1 THE CONTRACTOR WILL SEED THE DISTURBED SOIL WITH WINTER RYE AT A SEEDING RATE OF 3 POUNDS PER 1000 SQUARE FEET, LIGHTLY MULCH THE SEEDED SOIL WITH HAY OR STRAW AT 75 POUNDS PER 1000 SQUARE FEET, AND ANCHOR THE MULCH WITH PLASTIC NETTING. THE APPLICANT WILL MONITOR GROWTH OF THE RYE OVER THE NEXT 30 DAYS. IF THE RYE FAILS TO GROW AT LEAST THREE INCHES OR COVER AT LEAST 75% OF THE DISTURBED SOIL BEFORE NOVEMBER 15, THEN THE APPLICANT WILL MULCH THE AREA FOR OVER-WINTER PROTECTION AS DESCRIBED IN ITEM 3(C.) OF THIS STANDARD.

B. STABILIZE THE SOIL WITH SOD -- THE APPLICANT WILL STABILIZE THE DISTURBED SOIL WITH PROPERLY INSTALLED SOD BY OCTOBER 1. PROPER INSTALLATION INCLUDES THE APPLICANT PINNING THE SOD ONTO THE SOIL WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, AND WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL.

C. STABILIZE THE SOIL WITH MULCH -- BY NOVEMBER 15 THE APPLICANT WILL MULCH THE DISTURBED SOIL BY SPREADING HAY OR STRAW AT A RATE OF AT LEAST 150 POUNDS PER 1000 SQUARE FEET ON THE AREA SO THAT NO SOIL IS VISIBLE THROUGH THE MULCH. PRIOR TO APPLYING THE MULCH, THE APPLICANT WILL REMOVE ANY SNOW ACCUMULATION ON THE DISTURBED AREA. IMMEDIATELY AFTER APPLYING THE MULCH, THE APPLICANT WILL ANCHOR THE MULCH WITH PLASTIC NETTING TO PREVENT WIND FROM MOVING THE MULCH OFF THE DISTURBED SOIL.

HOUSEKEEPING:

1. SPILL PREVENTION. CONTROLS MUST BE USED TO PREVENT POLLUTANTS FROM CONSTRUCTION AND WASTE MATERIALS STORED ON SITE TO ENTER STORMWATER, WHICH INCLUDES STORAGE PRACTICES TO MINIMIZE EXPOSURE OF THE MATERIALS TO STORMWATER. THE SITE CONTRACTOR OR OPERATOR MUST DEVELOP, AND IMPLEMENT AS NECESSARY, APPROPRIATE SPILL PREVENTION, CONTAINMENT, AND RESPONSE PLANNING MEASURES.

2. GROUNDWATER PROTECTION. DURING CONSTRUCTION, LIQUID PETROLEUM PRODUCTS AND OTHER HAZARDOUS MATERIALS WITH THE POTENTIAL TO CONTAMINATE GROUNDWATER MAY NOT BE STORED OR HANDLED IN AREAS OF THE SITE DRAINING TO AN INFILTRATION AREA. AN "INFILTRATION AREA" IS ANY AREA OF THE SITE THAT BY DESIGN OR AS A RESULT OF SOILS, TOPOGRAPHY AND OTHER RELEVANT FACTORS ACCUMULATES RUNOFF THAT INFILTRATES INTO THE SOIL. DIKES, BERMS, SUMPS, AND OTHER FORMS OF SECONDARY CONTAINMENT THAT PREVENT DISCHARGE TO GROUNDWATER MAY BE USED TO ISOLATE PORTIONS OF THE SITE FOR THE PURPOSES OF STORAGE AND HANDLING OF THESE MATERIALS. ANY PROJECT PROPOSING INFILTRATION OF STORMWATER MUST PROVIDE ADEQUATE PRE-TREATMENT OF STORMWATER PRIOR TO DISCHARGE OF STORMWATER TO THE INFILTRATION AREA, OR PROVIDE FOR TREATMENT WITHIN THE INFILTRATION AREA, IN ORDER TO PREVENT THE ACCUMULATION OF FINES, REDUCTION IN INFILTRATION RATE, AND CONSEQUENT FLOODING AND DESTABILIZATION.

3. FUGITIVE SEDIMENT AND DUST. ACTIONS MUST BE TAKEN TO ENSURE THAT ACTIVITIES DO NOT RESULT IN NOTICEABLE EROSION OF SOILS OR FUGITIVE DUST EMISSIONS DURING OR AFTER CONSTRUCTION. OIL MAY NOT BE USED FOR DUST CONTROL, BUT OTHER WATER ADDITIVES MAY BE CONSIDERED AS NEEDED. A STABILIZED CONSTRUCTION ENTRANCE (SCE) SHOULD BE INCLUDED TO MINIMIZE TRACKING OF MUD AND SEDIMENT. IF OFF-SITE TRACKING OCCURS, PUBLIC ROADS SHOULD BE SWEPT IMMEDIATELY AND NO LESS THAN ONCE A WEEK AND PRIOR TO SIGNIFICANT STORM EVENTS. OPERATIONS DURING DRY MONTHS, THAT EXPERIENCE FUGITIVE DUST PROBLEMS, SHOULD WET DOWN UNPAVED ACCESS ROADS ONCE A WEEK OR MORE FREQUENTLY AS NEEDED WITH A WATER ADDITIVE TO SUPPRESS FUGITIVE SEDIMENT AND DUST.

4. DEBRIS AND OTHER MATERIALS. MINIMIZE THE EXPOSURE OF CONSTRUCTION DEBRIS, BUILDING AND LANDSCAPING MATERIALS, TRASH, FERTILIZERS, PESTICIDES, HERBICIDES, DETERGENTS, SANITARY WASTE AND OTHER MATERIALS TO PRECIPITATION AND STORMWATER RUNOFF. THESE MATERIALS MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE.

5. EXCAVATION DE-WATERING. EXCAVATION DE-WATERING IS THE REMOVAL OF WATER FROM TRENCHES, FOUNDATIONS, COFFER DAMS, PONDS, AND OTHER AREAS WITHIN THE CONSTRUCTION AREA THAT RETAIN WATER AFTER EXCAVATION. IN MOST CASES THE COLLECTED WATER IS HEAVILY SILTED AND HINDERS CORRECT AND SAFE CONSTRUCTION PRACTICES. THE COLLECTED WATER REMOVED FROM THE PONDED AREA, EITHER THROUGH GRAVITY OR PUMPING, MUST BE SPREAD THROUGH NATURAL WOODED BUFFERS OR REMOVED TO AREAS THAT ARE SPECIFICALLY DESIGNED TO COLLECT THE MAXIMUM AMOUNT OF SEDIMENT POSSIBLE, LIKE A COFFERDAM SEDIMENTATION BASIN. AVOID ALLOWING THE WATER TO FLOW OVER DISTURBED AREAS OF THE SITE. EQUIVALENT MEASURES MAY BE TAKEN IF APPROVED BY THE DEPARTMENT.

6. AUTHORIZED NON-STORMWATER DISCHARGES. IDENTIFY AND PREVENT CONTAMINATION BY NON-STORMWATER DISCHARGES. WHERE ALLOWED NON-STORMWATER DISCHARGES EXIST, THEY MUST BE IDENTIFIED AND STEPS SHOULD BE TAKEN TO ENSURE THE IMPLEMENTATION OF APPROPRIATE POLLUTION PREVENTION MEASURES FOR THE NON-STORMWATER COMPONENT(S) OF THE DISCHARGE. AUTHORIZED NON-STORMWATER DISCHARGES ARE:
   A. DISCHARGES FROM FIREFIGHTING ACTIVITY;
   B. FIRE HYDRANT FLUSHINGS;
   C. VEHICLE WASHWATER IF DETERGENTS ARE NOT USED AND WASHING IS LIMITED TO THE EXTERIOR OF VEHICLES (ENGINE, UNDERCARRIAGE AND TRANSMISSION WASHING IS PROHIBITED);
   D. DUST CONTROL RUNOFF IN ACCORDANCE WITH PERMIT CONDITIONS;
   E. ROUTINE EXTERNAL BUILDING WASHDOWN, NOT INCLUDING SURFACE PAINT REMOVAL, THAT DOES NOT INVOLVE DETERGENTS;
   F. PAVEMENT WASHWATER (WHERE SPILLS/LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE NOT OCCURRED, UNLESS ALL SPILLED MATERIAL HAD BEEN REMOVED) IF DETERGENTS ARE NOT USED;
   G. UNCONTAMINATED AIR CONDITIONING OR COMPRESSOR CONDENSATE;
   H. UNCONTAMINATED GROUNDWATER OR SPRING WATER;
   I. FOUNDATION OR FOOTER DRAIN-WATER WHERE FLOWS ARE NOT CONTAMINATED;
   J. UNCONTAMINATED EXCAVATION DEWATERING;
   K. POTABLE WATER SOURCES INCLUDING WATERLINE FLUSHINGS; AND
   L. LANDSCAPE IRRIGATION.

7. UNAUTHORIZED NON-STORMWATER DISCHARGES. THE DEPARTMENT'S APPROVAL DOES NOT AUTHORIZE A DISCHARGE THAT IS MIXED WITH A SOURCE OF NON-STORMWATER, OTHER THAN THOSE DISCHARGES. SPECIFICALLY, THE DEPARTMENT'S APPROVAL DOES NOT AUTHORIZE DISCHARGES OF THE FOLLOWING:
   A. WASTEWATER FROM THE WASHOUT OR CLEAN OUT OF CONCRETE, STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS OR OTHER CONSTRUCTION MATERIALS;
   B. FUELS, OILS OR OTHER POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATION AND MAINTENANCE;
   C. SOAPS, SOLVENTS, OR DETERGENTS USED IN VEHICLE AND EQUIPMENT WASHING; AND
   D. TOXIC OR HAZARDOUS SUBSTANCES FROM A SPILL OR OTHER RELEASE.

WINTER EROSION CONTROL MEASURES

THE WINTER CONSTRUCTION PERIOD IS FROM OCTOBER 1 THROUGH APRIL 15. IF THE CONSTRUCTION SITE IS NOT STABILIZED WITH PAVEMENT, A ROAD GRAVEL BASE, 75% MATURE VEGETATION COVER OR RIPRAP BY NOVEMBER 15 THEN THE SITE NEEDS TO BE PROTECTED WITH OVER-WINTER STABILIZATION. AN AREA CONSIDERED OPEN IS ANY AREA NOT STABILIZED WITH PAVEMENT, VEGETATION, MULCHING, EROSION CONTROL MATS, RIPRAP OR GRAVEL BASE ON A ROAD. LIMIT THE EXPOSED AREA TO THOSE AREAS IN WHICH WORK IS EXPECTED TO BE UNDER TAKEN DURING THE PROCEEDING 15 DAYS AND THAT CAN BE MULCHED IN ONE DAY PRIOR TO ANY SNOW EVENT. ALL AREAS SHALL BE CONSIDERED TO BE DENUDED UNTIL THE SUBBASE GRAVEL IS INSTALLED IN ROADWAY AREAS OR THE AREAS OF FUTURE LOAM AND SEED HAVE BEEN LOAMED, SEEDED AND MULCHED. HAY AND STRAW MULCH RATE SHALL BE A MINIMUM OF 150 LBS./1,000 S.F. (3 TONS/ACRE) AND SHALL BE PROPERLY ANCHORED. THE CONTRACTOR MUST INSTALL ANY ADDED MEASURES WHICH MAY BE NECESSARY TO CONTROL EROSION/SEDIMENTATION FROM THE SITE DEPENDENT UPON THE ACTUAL SITE AND WEATHER CONDITIONS. CONTINUATION OF EARTHWORK OPERATIONS ON ADDITIONAL AREAS SHALL NOT BEGIN UNTIL THE EXPOSED SOIL SURFACE ON THE AREA BEING WORKED HAS BEEN STABILIZED, IN ORDER TO MINIMIZE AREAS WITHOUT EROSION CONTROL PROTECTION.

1. SOIL STOCKPILES

STOCKPILES OF SOIL OR SUBSOIL WILL BE MULCHED FOR OVER WINTER PROTECTION WITH HAY OR STRAW AT TWICE THE NORMAL RATE OR AT 150 LBS/1,000 S.F. (3 TONS PER ACRE) OR WITH A FOUR-INCH LAYER OF WOOD WASTE EROSION CONTROL MIX. THIS WILL BE DONE WITHIN 24 HOURS OF STOCKING AND RE-ESTABLISHED PRIOR TO ANY RAINFALL OR SNOWFALL. ANY SOIL STOCKPILE WILL NOT BE PLACED (EVEN COVERED WITH HAY OR STRAW) WITHIN 100 FEET FROM ANY NATURAL RESOURCES.

2. NATURAL RESOURCES PROTECTION

ANY AREAS WITHIN 100 FEET FROM ANY NATURAL RESOURCES, SHALL BE MULCHED BY DECEMBER 1 AND ANCHORED WITH PLASTIC NETTING OR PROTECTED WITH EROSION CONTROL MATS. DURING WINTER CONSTRUCTION, A DOUBLE LINE OF SEDIMENT BARRIERS (I.E. SILT FENCE BACKED WITH HAY BALES OR EROSION CONTROL MIX) WILL BE PLACED BETWEEN ANY NATURAL RESOURCE AND THE DISTURBED AREA.

PROJECTS CROSSING THE NATURAL RESOURCE SHALL BE PROTECTED A MINIMUM DISTANCE OF 100 FEET ON EITHER SIDE FROM THE RESOURCE. EXISTING PROJECTS NOT STABILIZED BY DECEMBER 1 SHALL BE PROTECTED WITH THE SECOND LINE OF SEDIMENT BARRIER TO ENSURE FUNCTIONALITY DURING THE SPRING THAW AND RAINS.

3. SEDIMENT BARRIERS

DURING FROZEN CONDITIONS, SEDIMENT BARRIERS SHALL CONSIST OF WOOD WASTE FILTER BERMS AS FROZEN SOIL PREVENTS THE PROPER INSTALLATION OF HAY BALES AND SEDIMENT SILT FENCES.

4. MULCHING

ALL AREA SHALL BE CONSIDERED TO BE DENUDED UNTIL AREAS OF FUTURE LOAM AND SEED HAVE BEEN LOAMED, SEEDED AND MULCHED. HAY AND STRAW MULCH SHALL BE APPLIED AT A RATE OF 150 LB. PER 1.000 SQUARE FEET OR 3 TONS/ACRE (TWICE THE NORMAL ACCEPTED RATE OF 75-LBS./1,000 S.F. OR 1.5 TONS/ACRE) AND SHALL BE PROPERLY ANCHORED. MULCH SHALL NOT BE SPREAD ON TOP OF SNOW. THE SNOW WILL BE REMOVED DOWN TO A ONE-INCH DEPTH OR LESS PRIOR TO APPLICATION. AFTER EACH DAY OF FINAL GRADING, THE AREA WILL BE PROPERLY STABILIZED WITH ANCHORED HAY OR STRAW OR EROSION CONTROL MATTING. AN AREA SHALL BE CONSIDERED TO HAVE BEEN STABILIZED WHEN EXPOSED SURFACES HAVE BEEN EITHER MULCHED WITH STRAW OR HAY AT A RATE OF 150 LB. PER 1.000 SQUARE FEET (3TONS/ACRE) AND ADEQUATELY ANCHORED THAT GROUND SURFACE IS NOT VISIBLE THOUGH THE MULCH.

BETWEEN THE DATES OF SEPTEMBER 1 AND APRIL 15, ALL MULCH SHALL BE ANCHORED BY EITHER PEG LINE, MULCH NETTING, ASPHALT EMULSION CHEMICAL, TRACK OR WOOD CELLULOSE FIBER. WHEN GROUND SURFACE IS NOT VISIBLE THOUGH THE MULCH THEN COVER IS SUFFICIENT. AFTER NOVEMBER 1ST, MULCH AND ANCHORING OF ALL BARE SOIL SHALL OCCUR AT THE END OF EACH FINAL GRADING WORK DAY.

5. MULCHING ON SLOPES AND DITCHES

SLOPES SHALL NOT BE LEFT EXPOSED FOR ANY EXTENDED TIME OF WORK SUSPENSION UNLESS FULLY MULCHED AND ANCHORED WITH PEG AND NETTING OR WITH EROSION CONTROL BLANKETS. MULCHING SHALL BE APPLIED AT A RATE OF 230 LBS/1,000 S.F. ON ALL SLOPES GREATER THAN 8%. MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL DRAINAGE WAYS WITH A SLOPE GREATER THAN 3% FOR SLOPES EXPOSED TO DIRECT WINDS AND FOR ALL OTHER SLOPES GREATER THAN 5%. EROSION CONTROL BLANKETS SHALL BE USED IN LIEU OF MULCH IN ALL DRAINAGE WAYS WITH SLOPES 8%. EROSION CONTROL MIX CAN BE USED TO SUBSTITUTE EROSION CONTROL BLANKETS ON ALL SLOPES EXCEPT DITCHES.

6. SEEDING

BETWEEN THE DATES OF OCTOBER 15 AND APRIL 1ST, LOAM OR SEED WILL NOT BE REQUIRED. DURING PERIODS OF ABOVE FREEZING TEMPERATURES FINISHED AREAS SHALL BE FINE GRADED AND EITHER PROTECTED WITH MULCH OR TEMPORARILY SEEDED AND MULCHED UNTIL SUCH TIME AS THE FINAL TREATMENT CAN BE APPLIED. IF THE DATE IS AFTER NOVEMBER 1ST AND IF THE EXPOSED AREA HAS BEEN LOOMED, FINAL GRADED WITH A UNIFORM SURFACE, THEN THE AREA MAY BE DORMANT SEEDED AT A RATE OF 3 TIMES HIGHER THAN SPECIFIED FOR PERMANENT SEED AND THEN MULCHED. DORMANT SEEDING MAY BE SELECTED TO BE PLACED PRIOR TO THE PLACEMENT OF MULCH AND FABRIC NETTING ANCHORED WITH STAPLES. IF DORMANT SEEDING IS USED FOR THE SITE, ALL DISTURBED AREAS SHALL RECEIVE 4' OF LOAM AND SEED AT AN APPLICATION RATE OF 5LBS/1000 S.F. ALL AREAS SEEDED DURING THE WINTER WILL BE INSPECTED IN THE SPRING FOR ADEQUATE CATCH. ALL AREAS SUFFICIENTLY VEGETATED (LESS THAN 75% CATCH) SHALL BE REVEGETATED BY REPLACING LOAM, SEED AND MULCH. IF DORMANT SEEDING IS NOT USED FOR THE SITE, ALL DISTURBED AREAS SHALL BE REVEGETATED IN THE SPRING. SEED TYPE SHALL BE WINTER RYE.

STANDARDS FOR TIMELY STABILIZATION OF CONSTRUCTION SITES DURING WINTER

1. STANDARD FOR THE TIMELY STABILIZATION OF DITCHES AND CHANNELS -- THE APPLICANT WILL CONSTRUCT AND STABILIZE ALL STONE-LINED DITCHES AND CHANNELS ON THE SITE BY NOVEMBER 15. THE APPLICANT WILL CONSTRUCT AND STABILIZE ALL GRASS-LINED DITCHES AND CHANNELS ON THE SITE BY SEPTEMBER 15. IF THE APPLICANT FAILS TO STABILIZE A DITCH OR CHANNEL TO BE GRASS-LINED BY SEPTEMBER 15, THEN THE APPLICANT WILL TAKE ONE OF THE FOLLOWING ACTIONS TO STABILIZE THE DITCH FOR LATE FALL AND WINTER.

INSTALL A SOD LINING IN THE DITCH -- THE APPLICANT WILL LINE THE DITCH WITH PROPERLY INSTALLED SOD BY OCTOBER 1. PROPER INSTALLATION INCLUDES THE APPLICANT PINNING THE SOD ONTO THE SOIL WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL, AND ANCHORING THE SOD WITH JUTE OR PLASTIC MESH TO PREVENT THE SOD STRIPS FROM SLOUGHING DURING FLOW CONDITIONS.
INSTALL A STONE LINING IN THE DITCH --THE APPLICANT WILL LINE THE DITCH WITH STONE RIPRAP BY NOVEMBER 15. THE APPLICANT WILL HIRE A REGISTERED PROFESSIONAL ENGINEER TO DETERMINE THE STONE SIZE AND LINING THICKNESS NEEDED TO WITHSTAND THE ANTICIPATED FLOW VELOCITIES AND FLOW DEPTHS WITHIN THE DITCH. IF NECESSARY, THE APPLICANT WILL REGRADE THE DITCH PRIOR TO PLACING THE STONE LINING SO TO PREVENT THE STONE LINING FROM REDUCING THE DITCH'S CROSS-SECTIONAL AREA.

2. STANDARD FOR THE TIMELY STABILIZATION OF DISTURBED SLOPES -- THE APPLICANT WILL CONSTRUCT AND STABILIZE STONE-COVERED SLOPES BY NOVEMBER 15. THE APPLICANT WILL SEED AND MULCH ALL SLOPES TO BE VEGETATED BY SEPTEMBER 15. THE DEPARTMENT WILL CONSIDER ANY AREA HAVING A GRADE GREATER THAN 15% (10H:1V) TO BE A SLOPE. IF THE APPLICANT FAILS TO STABILIZE ANY SLOPE TO BE VEGETATED BY SEPTEMBER 15, THEN THE APPLICANT WILL TAKE ONE OF THE FOLLOWING ACTIONS TO STABILIZE THE SLOPE FOR LATE FALL AND WINTER.

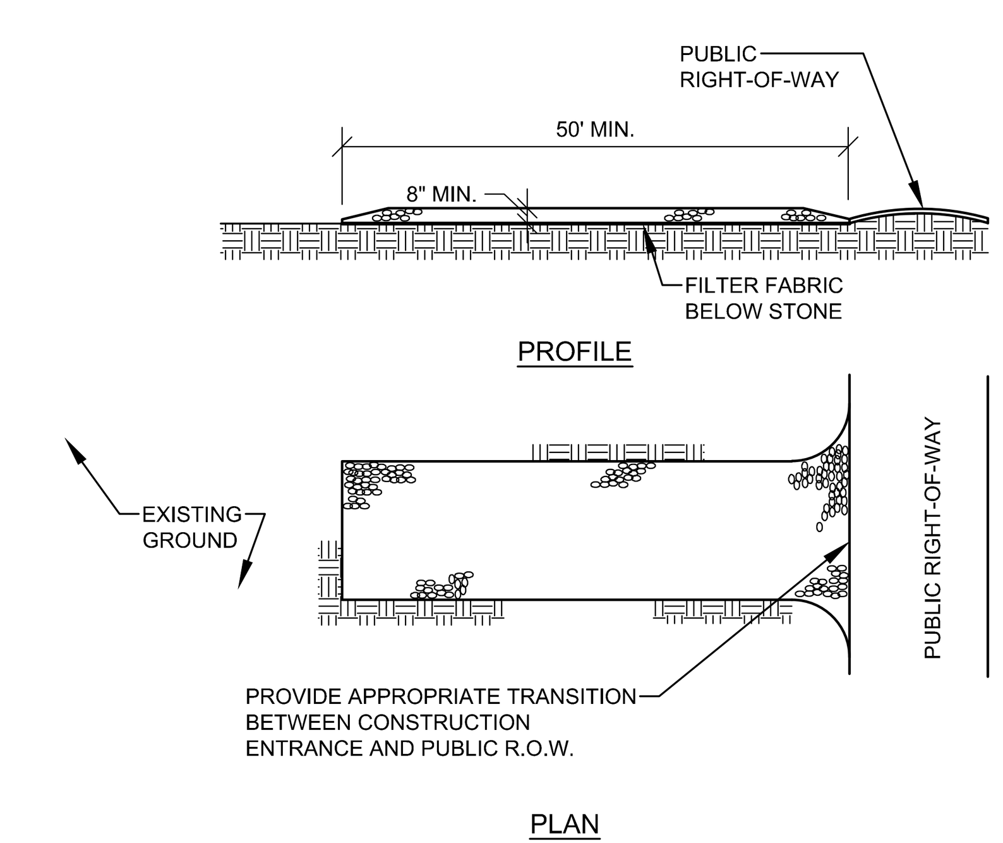
STABILIZE THE SOIL WITH TEMPORARY VEGETATION AND EROSION CONTROL MATS -- BY OCTOBER 1 THE APPLICANT WILL SEED THE DISTURBED SLOPE WITH WINTER RYE AT A SEEDING RATE OF 3 POUNDS PER 1000 SQUARE FEET AND APPLY EROSION CONTROL MATS OVER THE MULCHED SLOPE. THE APPLICANT WILL MONITOR GROWTH OF THE RYE OVER THE NEXT 30 DAYS. IF THE RYE FAILS TO GROW AT LEAST THREE INCHES OR COVER AT LEAST 75% OF THE DISTURBED SLOPE BY NOVEMBER 1, THEN THE APPLICANT WILL COVER THE SLOPE WITH A LAYER OF WOOD WASTE COMPOST AS DESCRIBED IN ITEM III OF THIS CONDITION OR WITH STONE RIPRAP AS DESCRIBED IN ITEM IV OF THIS CONDITION.

STABILIZE THE SLOPE WITH SOD -- THE APPLICANT WILL STABILIZE THE DISTURBED SLOPE WITH PROPERLY INSTALLED SOD BY OCTOBER 1. PROPER INSTALLATION INCLUDES THE APPLICANT PINNING THE SOD ONTO THE SLOPE WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, AND WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL. THE APPLICANT WILL NOT USE LATE-SEASON SOD INSTALLATION TO STABILIZE SLOPES HAVING A GRADE GREATER THAN 33% (3H:1V).

STABILIZE THE SLOPE WITH WOOD WASTE COMPOST -- THE APPLICANT WILL PLACE A SIX-INCH LAYER OF WOOD WASTE COMPOST ON THE SLOPE BY NOVEMBER 15. PRIOR TO PLACING THE WOOD WASTE COMPOST, THE APPLICANT WILL REMOVE ANY SNOW ACCUMULATION ON THE DISTURBED SLOPE. THE APPLICANT WILL NOT USE WOOD WASTE COMPOST TO STABILIZE SLOPES HAVING GRADES GREATER THAN 50% (2H:1V) OR HAVING GROUNDWATER SEEPS ON THE SLOPE FACE.

STABILIZE THE SLOPE WITH STONE RIPRAP -- THE APPLICANT WILL PLACE A LAYER OF STONE RIPRAP ON THE SLOPE BY NOVEMBER 15. THE APPLICANT WILL HIRE A REGISTERED PROFESSIONAL ENGINEER TO DETERMINE THE STONE SIZE NEEDED FOR STABILITY AND TO DESIGN A FILTER LAYER FOR UNDERNEATH THE RIPRAP.

3. STANDARD FOR THE TIMELY STABILIZATION OF DISTURBED SOILS -- BY SEPTEMBER 15 THE APPLICANT WILL SEED AND MULCH ALL DISTURBED SOILS ON AREAS HAVING A SLOPE LESS THAN 15%. IF THE APPLICANT FAILS TO STABILIZE THESE SOILS BY THIS DATE, THEN THE APPLICANT WILL TAKE ONE OF THE FOLLOWING ACTIONS TO STABILIZE THE SOIL FOR LATE FALL AND WINTER.
STABILIZE THE SOIL WITH TEMPORARY VEGETATION -- BY OCTOBER 1 THE APPLICANT WILL SEED THE DISTURBED SOIL WITH WINTER RYE AT A SEEDING RATE OF 3 POUNDS PER 1000 SQUARE FEET, LIGHTLY MULCH THE SEEDED SOIL WITH HAY OR STRAW AT 75 POUNDS PER 1000 SQUARE FEET, AND ANCHOR THE MULCH WITH PLASTIC NETTING. THE APPLICANT WILL MONITOR GROWTH OF THE RYE OVER THE NEXT 30 DAYS. IF THE RYE FAILS GROW AT LEAST THREE INCHES OR COVER AT LEAST 75% OF THE DISTURBED SOIL BEFORE NOVEMBER 15, THEN THE APPLICANT WILL MULCH THE AREA FOR OVER-WINTER PROTECTION AS DESCRIBED IN ITEM III OF THIS STANDARD.
STABILIZE THE SOIL WITH SOD -- THE APPLICANT WILL STABILIZE THE DISTURBED SOIL WITH PROPERLY INSTALLED SOD BY OCTOBER 1. PROPER INSTALLATION INCLUDES THE APPLICANT PINNING THE SOD ONTO THE SOIL WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, AND WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL.
STABILIZE THE SOIL WITH MULCH -- BY NOVEMBER 15 THE APPLICANT WILL MULCH THE DISTURBED SOIL BY SPREADING HAY OR STRAW AT A RATE OF AT LEAST 150 POUNDS PER 1000 SQUARE FEET ON THE AREA SO THAT NO SOIL IS VISIBLE THROUGH THE MULCH. PRIOR TO APPLYING THE MULCH, THE APPLICANT WILL REMOVE ANY SNOW ACCUMULATION ON THE DISTURBED AREA. IMMEDIATELY AFTER APPLYING THE MULCH, THE APPLICANT WILL ANCHOR THE MULCH WITH PLASTIC NETTING TO PREVENT WIND FROM MOVING THE MULCH OFF THE DISTURBED SOIL.



NOTES:
1. STONE SIZE- AASHTO DESIGNATION M43, SIZE NO. 2 (2 1/2" TO 1 1/2"). USE CRUSHED STONE.
2. LENGTH- AS SHOWN ON PLANS, MIN. 50 FEET.
3. THICKNESS- NOT LESS THAN EIGHT (8) INCHES.
4. WIDTH- NOT LESS THAN FULL WIDTH OF ALL POINT OF INGRESS OR EGRESS.
5. MAINTENANCE- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED IMMEDIATELY.

STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE

STEVEN G. DOE, RLA NO. 131

REGISTERED LANDSCAPE ARCHITECT · STEPHEN G. DOE · No. 131 · STATE OF MAINE · 09-10-2020

A	SGD	09/10/20	ISSUED FOR BIDS
REV:	BY:	DATE:	STATUS:

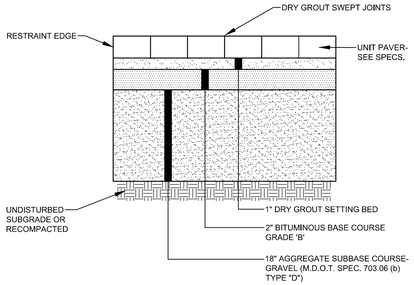
SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

DETAILS
OF:
CRAFTS LANDING PARK
3 LAKEVIEW STREET
GREENVILLE, MAINE
FOR:
MOOSHEAD LAKE REGION EDC
P.O. BOX 223
GREENVILLE, ME 04441

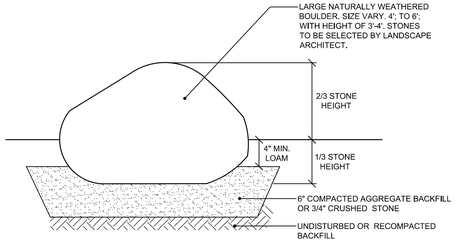
DESIGNED	SDG
DRAWN	STI
CHECKED	SDG
DATE	04-15-20
SCALE	NTS
PROJECT	19534

19534-D.dwg, TAB:D1

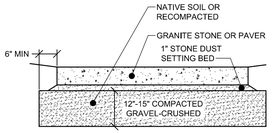
SHEET 6 OF 8



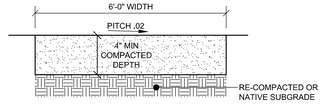
UNIT PAVER
NOT TO SCALE



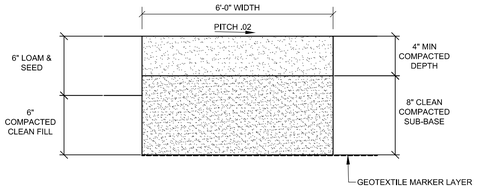
BOULDER INSTALLATION
NOT TO SCALE



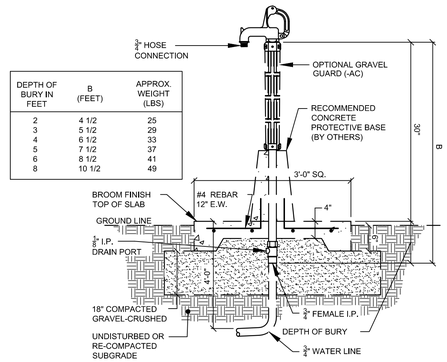
GRANITE PAVER
NOT TO SCALE



STONE DUST WALKWAY
NOT TO SCALE

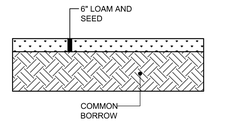


STONE DUST WALKWAY IN HAZARD AREA
NOT TO SCALE

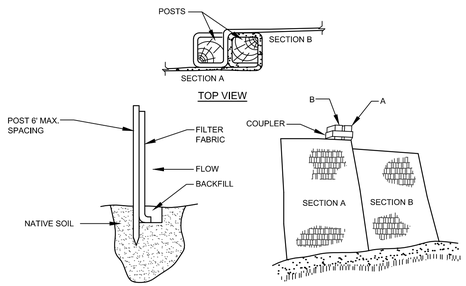


DEPTH OF BURY IN FEET	B (FEET)	APPROX. WEIGHT (LBS)
2	4 1/2	25
3	5 1/2	29
4	6 1/2	33
5	7 1/2	37
6	8 1/2	41
8	10 1/2	49

ZURN YARD HYDRANT
NOT TO SCALE



LOAM AND SEED DETAIL
NOT TO SCALE



INSTALLATION:

1. EXCAVATE A 6"x 6" TRENCH ALONG THE LINE OF PLACEMENT FOR THE FILTER BARRIER.
2. UNROLL A SECTION AT A TIME AND POSITION THE POSTS AGAINST THE BACK (DOWNSTREAM) WALL OF THE TRENCH.
3. DRIVE POSTS INTO THE GROUND UNTIL APPROXIMATELY 2" OF FABRIC IS LYING ON THE TRENCH BOTTOM.
4. LAY THE TOE-IN FLAP OF FABRIC ONTO THE UNDISTURBED BOTTOM OF THE TRENCH. BACKFILL THE TRENCH AND TAMP THE SOIL. TOE-IN CAN ALSO BE ACCOMPLISHED BY LAYING THE FABRIC FLAP ON UNDISTURBED GROUND AND PILING AND TAMPING FILL AT THE BASE, BUT MUST BE ACCOMPANIED BY AN INTERCEPTION DITCH.
5. JOIN SECTION AS SHOWN ABOVE.
6. BARRIER SHALL BE MIRAFI SILT FENCE OR EQUAL.

FILTER BARRIER
NOT TO SCALE

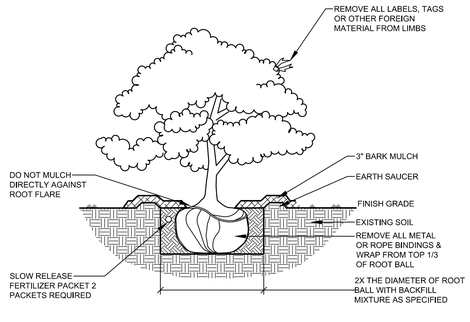
COMPOSITION

EROSION CONTROL MIX SHALL BE MANUFACTURED ON OR OFF THE PROJECT SITE SUCH THAT ITS COMPOSITION IS IN ACCORDANCE WITH THE LATEST VERSION OF THE MDEP MAINE EROSION AND SEDIMENT CONTROL BMP MANUAL. IT MUST CONSIST PRIMARILY OF ORGANIC MATERIAL SEPARATED AT THE POINT OF GENERATION, AND MAY INCLUDE: SHREDDED BARK, STUMP GRINDINGS, COMPOSTED BARK, OR ACCEPTABLE MANUFACTURED PRODUCTS. WOOD AND BARK CHIPS, GROUND CONSTRUCTION DEBRIS OR REPROCESSED WOOD PRODUCTS WILL NOT BE ACCEPTABLE AS THE ORGANIC COMPONENT OF THE MIX.

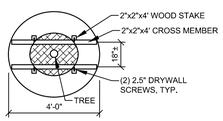
INSTALLATION:

1. THE BARRIER MUST BE PLACED ACROSS THE SLOPE, ALONG THE CONTOUR.
2. EXISTING GROUND SHALL BE PREPARED SUCH THAT THE BARRIER MAY LIE NEARLY FLAT ALONG THE GROUND TO AVOID THE CREATION OF VOIDS AND BRIDGES IN ORDER TO MINIMIZE THE POTENTIAL OF WASH OUTS UNDER THE BARRIER.
3. THE BARRIER SHALL BE A MINIMUM OF 1 FOOT HIGH (AS MEASURED ON THE UPHILL SIDE) AND 2 FEET WIDE FOR SLOPES LESS THAN 5% IN GRADE AND SHALL BE WIDER TO ACCOMMODATE THE ADDITIONAL RUNOFF.
4. EROSION CONTROL MIX CAN BE INSTALLED WHERE SILT FENCE IS ILLUSTRATED ON THE DESIGN PLANS IN AREAS EXCEPT IN, BUT NOT LIMITED TO, THE FOLLOWING AREAS: WETLAND AREAS, AT POINTS OF CONCENTRATED FLOW, BELOW CULVERT OUTLET APRONS, AROUND CATCH BASINS AND CLOSED STORM SYSTEMS AND AT THE BOTTOM OF STEEP SLOPES THAT ARE MORE THAN 50 FEET FROM TOP TO BOTTOM.
5. BERMS COMPOSED OF EROSION CONTROL MIX CAN BE RESHAPED WHEN NECESSARY.

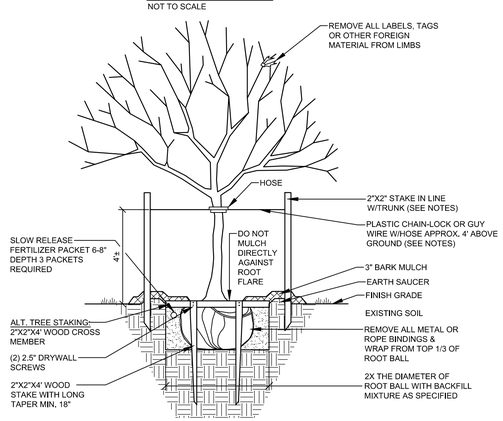
EROSION CONTROL MIX BERM
NOT TO SCALE



DECIDUOUS & EVERGREEN SHRUB
NOT TO SCALE



ALT. TREE STAKING PLAN
NOT TO SCALE

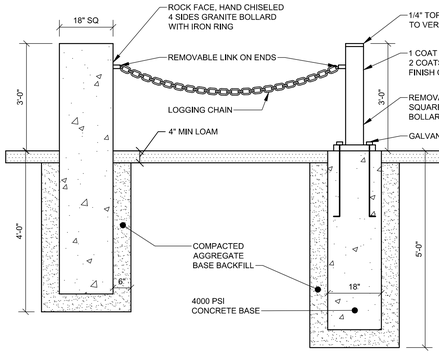


NOTES:

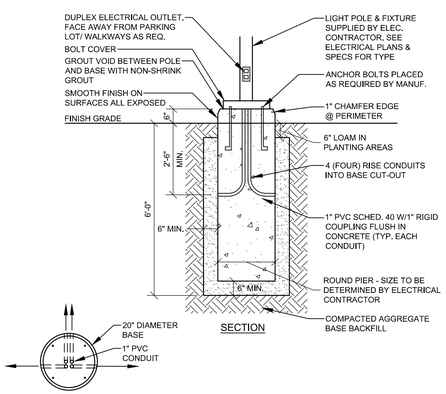
INSTALL STAKES AND GUYS TO TREES IF THE FOLLOWING APPLY:

1. THE TREE IS OF SUBSTANTIAL SIZE.
2. THE PLANTING LOCATION IS EXTREMELY WINDY, AS ON OPEN UNDEVELOPED SITES.
3. THE PLANTING LOCATION IS COMPRISED OF SAND OR OTHER LOOSE TEXTURED SOILS.
4. IF STAKES AND GUYS ARE REQUIRED, REMOVE AFTER ONE YEAR TIME.

DECIDUOUS TREES
NOT TO SCALE



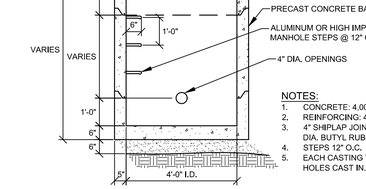
GRANITE BOLLARD
NOT TO SCALE



NOTES:

1. CONCRETE f'c=5000 psi. @ 28 DAYS WITH STEEL REINFORCEMENT
2. CONDUIT AND ANCHOR BOLTS PLACED AS REQUIRED PROVIDED BY ELECTRICAL CONSTRACTOR
3. PROVIDE 2 COATS BITUMINOUS DAMPROOFING FOR ALL CONCRETE BELOW GRADE.
4. INSTALL BASE 3'-0" ABOVE FINISH GRADE IN LOCATIONS WHERE POLES ARE IN PARKING LOT PAVEMENT.
5. LIGHT POLE BASE AS MANUFACTURED BY SUPERIOR CONCRETE OR APPROVED EQUAL

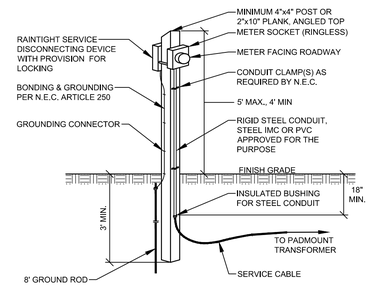
20" ROUND LIGHT POLE BASE
NOT TO SCALE



NOTES:

1. CONCRETE: 4,000 PSI AFTER 28 DAYS.
2. REINFORCING: 4x4/4x4 W.W.M.
3. 4" SHIPLAP JOINTS SEALED WITH 1" DIA. BUTYL RUBBER SEALANT.
4. STEPS 12" O.C.
5. EACH CASTING TO HAVE LIFTING HOLES CAST IN.

PRECAST CONCRETE 2" WATER METER PIT
(S.C. MODEL #6821-MH)
NOT TO SCALE



NOTES:

1. SERVICE LOCATION AND TYPE OF CONSTRUCTION MUST BE APPROVED BY A CMP REPRESENTATIVE. SEE GRADING AND UTILITY PLAN FOR LOCATION.
2. THE CONTRACTOR SHALL PROVIDE THE TRENCH (AND BACKFILL) TO THE TRANSFORMER PER CMP SPECIFICATIONS.

METER POST
NOT TO SCALE

STEVEN G. DOE, RLA NO. 131

REGISTERED LANDSCAPE ARCHITECT — STEPHEN G. DOE — No. 131 — STATE OF MAINE — 09/10/2020

REV	BY	DATE	STATUS
A	SGD	09/10/20	ISSUED FOR BIDS

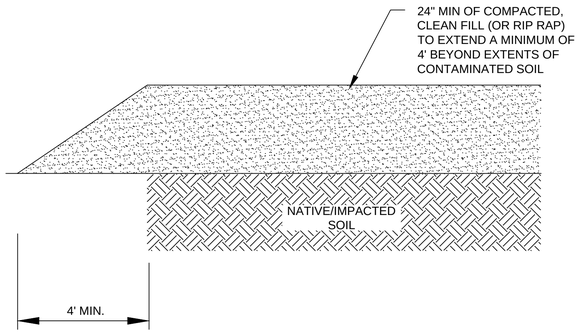
DETAILS
OF:
CRAFTS LANDING PARK
3 LAKEVIEW STREET
GREENVILLE, MAINE
FOR:
MOOSEHEAD LAKE REGION EDC
P.O. BOX 223
GREENVILLE, ME 04441

SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

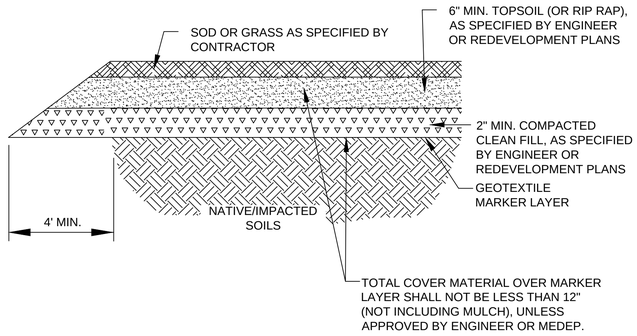
DESIGNED	SDG
DRAWN	STI
CHECKED	SDG
DATE	04-15-20
SCALE	NTS
PROJECT	19534

19534-D.dwg, TAB:D2

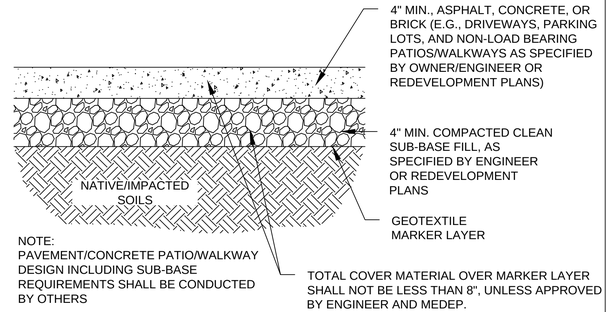
SHEET 7 OF 8



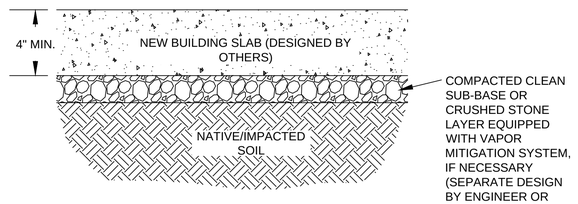
COVER SYSTEM TYPE 1:
LANDSCAPE COVER WITHOUT MARKER LAYER
NOT TO SCALE



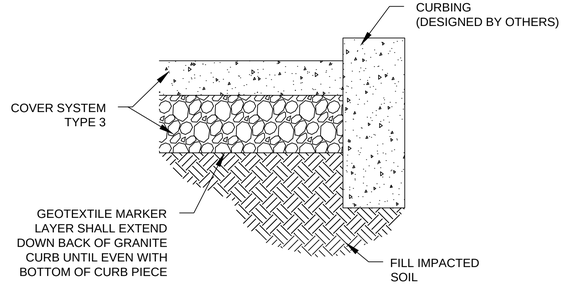
COVER SYSTEM TYPE 2:
LANDSCAPE COVER PLUS MARKER LAYER
NOT TO SCALE



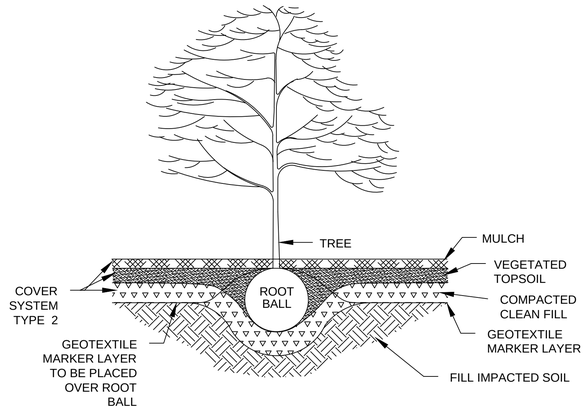
COVER SYSTEM TYPE 3: HARDSCAPE ASPHALT/
CONCRETE/BRICK COVER PLUS MARKER LAYER
NOT TO SCALE



COVER SYSTEM TYPE 4:
STRUCTURE/BUILDING FOUNDATION COVER
NOT TO SCALE



COVER SYSTEM TYPE 5:
SIDEWALK ABUTTING GRANITE CURBING
NOT TO SCALE



COVER SYSTEM TYPE 6:
TREE PITS
NOT TO SCALE

RANSOM Consulting, LLC

Legend & Notes

Notes:

1. The quantities identified are minimum requirements for covering of the identified contaminated soils. Additional sub-base materials may be required in areas proposed for asphalt paving, buildings and/or concrete sidewalks/patios, as necessary, to maintain structural integrity of these materials. The site design engineer is required to make the determination of structural suitability.
2. Geotextile marker layer shall be US65HVO demarcation fabric or approved equal.

Prepared For

Piscataquis County Economic Development Council
50 Mayo Street
Dover-Foxcroft, Maine

Site Address

3 Lakeview St
Greenville, Maine

091.06060 | *Sept. 2020*

Figure 3
Cover System Details

File: 3Lakeview_110-F3_Details.dwg Date: 09/10/2020

4. Availability

Our project team at Sebago Technics is fully prepared and available to commence work immediately upon selection for the Town of York's Paddle Craft Dock project. Under the leadership of Henry Hess as Project Manager, we have strategically structured our resources and current workload to ensure dedicated attention to this project. Operating primarily from our South Portland headquarters, with additional support available through our Sanford regional office, we are ideally positioned to serve the Town of York's needs. Our robust project management framework, supported by industry-leading software tools, enables us to maintain precise schedule control while managing multiple projects efficiently. Through our flexible resource allocation system, we can guarantee consistent availability of our technical experts throughout all project phases. We have established internal protocols that emphasize responsive communication and regular client engagement, ensuring seamless project coordination and timely deliverables. Sebago Technics stands ready to provide the sustained level of service and commitment the Town of York's Paddle Craft Dock project demands.

D. PROJECT TASK AND SCHEDULE MATRIX

Project Tasks/Milestones	Completion Date	Personnel Hours	Approximate Cost	Description/Notes
Initial Site Walk	Apr 2025	16	$2,400	Two attendees from Sebago Technics (Landscape Architect and PM) and representatives from Great Northern Docks (GND). Includes minimal prep time, drive time, and finalization of meeting minutes. Assumes 1.5-hour site walk and programming meeting.
Prelim Conceptual Site Plan	22 Apr 2025	16	$2,400	Includes time from one GIS team member, a Landscape Architect, and the Project Manager.
Concept Review/Presentation Meeting	30 Apr 2025	12	$1,800	Two attendees from Sebago Technics for an in-person review meeting. Personnel hours include prep time, drive time, finalization of meeting minutes, and assumes a two-hour meeting.
Finalize Conceptual Plan	7 May 2025	5	$675	Includes time from one Landscape Architect, a CAD designer, and review by the Project Manager.
Survey Fieldwork & Existing Conditions Plan	7 May 2025	48	$5,600	Includes time from Field Crew (2 members), Survey CAD Technician, and Professional Land Surveyor for review and finalization of the Existing Conditions Plan.
Preliminary 25% Engineering Design Plan Set	28 May 2025	76	$11,400	Includes time from CAD Designer, Landscape Architect, Civil Engineering, Project Manager, and GND consultant.
75% Permit-Ready Drawing Set	2 Jul 2025	115	$17,250	Includes time from CAD Designer, Landscape Architect, Civil Engineering, Project Manager, and GND consultant.
Final Design Presentation	July Selectboard Meeting	6	$900	One attendee from Sebago Technics. Includes prep time and drive time. Assumes a two-hour Selectboard meeting.
Meeting Allowance	Bi-Weekly	32	$5,600	Bi-weekly meetings with Town and/or stakeholders (does not include the initial site walk, concept review meeting/presentation, or final design presentation to Selectboard) with two representatives from the consultant team. Assumes 10-12, one-hour meetings and minimal prep time.
TOTAL			**$48,025**	
Future Additional Services				
MDEP Shoreland NRPA Permit-by-Rule		*40*	*$5,400*	
USACE Permit		*34*	*$4,590*	
Harbor Board Commission Application		*8*	*$1,080*	
Town Site Plan Permit		*35*	*$4,725*	
TOTAL			***$15,795***	

We appreciate the dedication demonstrated by the **Town of York** and its citizens to building a better future.

Sebago Technics thanks you for your consideration to **shape this future, together**.



Proposal for:

Town of York Public Paddle Craft Dock Project

November 15, 2024







Submitted by:

VIEWSHED

In collaboration with:

TEC Associates

VIEWSHED

Landscape Architecture | GIS | Planning

November 14, 2024

Dylan Smith
Planning Director
York Town Hall
186 York Street
York, Maine 03909

RE: Proposal for Town of York Public Paddle Craft Dock Project

Dear Mr. Smith:

We are pleased to provide the following proposal for Design Services for the Town of York Public Paddle Craft Dock Project. In order to best approach the multi-faceted design of this project, we have created an interdisciplinary team of VIEWSHED's landscape architects and community engagement specialists who will work alongside TEC Associates' highly experienced civil and marine engineers. We believe that the strengths of our combined team will be well suited to developing this project for the Town of York.

We understand that the project will site and design a non-motorized paddle craft dock that will create public access between Goodrich Park and the York River. We will use our expertise across the realms of design, engineering, and public engagement to create a thoughtful design that will be informed by our collaboration with Town staff, the York River Access Ad Hoc Committee, and the York Harbor Board.

The following proposal outlines VIEWSHED and TEC Associates' respective roles in achieving the requested scope of services, including project tasks, schedule, public meetings, and deliverables.

Thank you for the opportunity to present the attached proposal for this exciting project for the Town of York. Please feel free to contact us directly with any questions.

Sincerely,

Hilary Oat-Judge
Maine Licensed Landscape Architect + Principal
VIEWSHED

CONSULTANT INFORMATION

No person acting for or employed by the Town of York is directly or indirectly related to the proposer or to any agreement which may be entered into to which the Proposal relates or in any portion of the profits here from.

PRIMARY CONSULTANT

VIEWSHED

117 W Main Street, Yarmouth ME - (207) 846-2355

Principal Officers: Judy Colby-George (Owner), Hilary Oat-Judge, Jamie Hark

Contact Person: Judy Colby-George - jcg@viewshed.net - (207) 847-5640

SUB CONSULTANT

TEC ASSOCIATES

40 Mechanic Street, South Portland ME - (207) 767-6068

Principal Officer: Gordon Armstrong - gordon@tecassoc.com - (207) 767-6068

STATEMENT OF QUALIFICATIONS

TEAM

For this multi-faceted project, VIEWSHED is pleased to form an interdisciplinary team that merges our expertise in design, planning, and community engagement with the civil and marine engineering of TEC Associates.

VIEWSHED will lead the team as the prime contract-holder and project manager. In this capacity, we will serve as the Town's primary point of contact and subconsultant manager. We are an interdisciplinary firm, drawing on a background in GIS, planning, public engagement, and landscape architecture in our work.

TEC ASSOCIATES is an engineering consulting firm providing marine, railroad, civil and structural engineering services. They specialize in the engineering and design of marine facilities. The company has a depth of experience in assessing the conditions of harbors and their recreational and commercial facilities as well as related services such as parking, utility needs and public facilities. TEC Associates has successfully recommended solutions to harbor infrastructure issues and provide cost estimates to clients so they can effectively plan improvements. In addition to their numerous projects on Maine's coastline, they have operated as the City of Portland's marine engineer for over 40 years.

KEY PERSONNEL

VIEWSHED - Yarmouth, ME

Hilary Oat-Judge
Licensed Landscape Architect

Jamie Hark
Landscape Designer | Resilience Planner

Judy Colby-George
Owner + Principal | GIS Systems

TEC Associates - South Portland, ME

Gordon Armstrong P.E.
Vice President | Professional Engineer

Statement of Availability

In submitting this proposal, the Consultant team affirms that all Key Personnel will be available to complete the Scope of Work in the proposed schedule timeframe.

VIEWSHED

HILARY OAT-JUDGE

Hilary Oat-Judge has twenty years of experience in Landscape Architecture, designing projects of varied scales in the public and private realm. Some of her signature projects are the redesign of the Native Plant Garden at the New York Botanical Garden and the design of the Trellis Bridge at the Chicago Botanic Gardens. Hilary has extensive experience in developing construction document sets and performing construction administration for complex projects at all scales, from highly detailed residential work to multi-block city streetscapes. She has a particular interest in using all of the tools of the Landscape Architect to address the challenges that are prevalent in the world today. Her deep knowledge of native planting design, stormwater management, and sustainable design honed through decades of practice and volunteer work across the country gives her invaluable expertise for all types of projects.

SELECT EXPERIENCE

Simard-Payne Memorial Park
Ribbon Path Plan
Master Plan
Lewiston, ME

Yard South
Portland, ME

Private Residence
Harpswell, ME

Millwood Residence *
Great Falls, VA

Private Residence *
Waccabuc, NY

Tree House Residence *
Great Falls, VA

New York Botanical Garden +
Native Plant Garden
Azalea Garden
Bronx, NY

Chicago Botanic Gardens +
Trellis Bridge
Glencoe, IL

Eastern Market Mettro Plaza +
Washington, DC

+ Denotes work while at Oehme, van Sweden | OvS
** Denotes work while at* Oat-Judge Landscape Architecture

PROFESSIONAL AFFILIATIONS

Licensed Landscape Architect in Maine, Connecticut, Maryland and Virginia
LEED AP
American Society of Landscape Architects (ASLA)

EDUCATION

University of Pennsylvania School of Design
Master of Landscape Architecture

Williams College
Bachelor of Arts in History with Highest Honors

EMPLOYMENT

Viewshed
Landscape Architect
Yarmouth, ME (2024 - present)

Oat-Judge Landscape Architecture
Principal
Washington, DC (2015-2024)

Oehme, van Sweden | OvS
Senior Associate
Washington, DC (2007-2015)

Sotheby's
Senior Administrator, Impressionist & Modern Art
New York, NY (2000-2004)

SELECT AWARDS

AIA DC Award of Excellence: Eastern Market Metro Plaza
ASLA Honor Award for General Design: NYBG Native Plant Garden
ASLA National Community Service Award: ASLA Legacy Project Coolidge HS

VIEWSHED

JAMIE HARK

Jamie has a background in private and public sector landscape design, planning, environmental science and cartography. Living in Harpswell, he is committed to serving Maine communities of all shapes and sizes. As a landscape designer he has played a vital role in all aspects of project design and management, from master planning and schematic design through construction administration. He is committed to creating landscapes that build on historic and cultural legacies, supporting healthy biodiversity, and working for the communities of the future. Jamie is specifically passionate about supporting coastal adaptation and resilience efforts as we grapple with the effects of climate change. In his spare time, Jamie is a handdrawn map-maker, aerial photographer, and active participant in Harpswell's Land Trust and Conservation Commission. You'll find him exploring the diverse landscapes of Maine by foot, ski, bike or kayak.

SELECT EXPERIENCE

Montgomery Dam Feasibility Study
Camden, ME

Elm & Front Street Streetscape Renovation
Bath, ME

Former Rockport Elementary School Park
Rockport, ME

Mayo Mill Dam Removal Feasibility Study
Dover-Foxcroft, ME

Parks & Recreation Master Plan + Design
Kennebunkport, ME

Simard Payne Park Ribbon Path
Lewiston, ME

Montgomery Dam Removal Feasibility Study
Camden, ME

The Climate Initiative HQ Master Plan+
Kennebunk, ME

Fort Williams Park Transportation Study+
Cape Elizabeth, ME

Fort Williams Park Pond Master Plan+
Cape Elizabeth, ME

Temple Beth El Cemetery Expansion Plan+
Portland, ME

York County Court House Design+
Biddeford, ME

Nantucket Island Coastal Resiliency Master Plan*
Nantucket, MA

Coastal Resilience & Adaptation Toolkit*
Boston, MA

+ Denotes work while at Richardson & Associates
** Denotes work while at Stoss Landscape Urbanism*

EDUCATION

University of Virginia
Master of Landscape Architecture

The George Washington University
Bachelor of Arts in Environmental Studies & Geography
Minor in Geographical Information Systems

EMPLOYMENT

VIEWSHED
Landscape Designer & Project Manager
Yarmouth, ME (2023 - present)

Richardson & Associates Landscape Architects
Landscape Designer & Project Manager
Saco, ME (2022 - 2023)

Stoss Landscape Urbanism
Landscape Design Intern
Boston, MA (2021)

Landworks Studio, Inc.
Landscape Design Intern
Salem, MA (2020)

HONORS & PUBLICATIONS

Student Certificate of Honor, ASLA 2022

Fort Sewall Informational Signs & Posters, 2022

Wildfire Vulnerability Assessment, Shenandoah Regional Planning Agency, 2021

Thomas Foggin Award For Excellence In Environmental Studies, 2013

VIEWSHED

JUDY COLBY-GEORGE

Judy Colby-George, GISP, is the owner and principal of VIEWSHED. She has over 30 years of experience helping clients to implement GIS and engage in complex spatial issues. Judy has extensive experience with public participation GIS and working with clients to understand the spatial relationships of various policies and programs. Her work ranges from creating and updating GIS datasets, development of online mapping applications, cartography, visualizations, VIEWSHED analyses, and providing detailed analysis to solve client problems.

Judy believes that GIS is a tool that can help engage the public in the messy problems that face our world today, and work with clients to tell their stories, represent data in an understandable format, and invite a variety of people to the decision-making process.

SELECT EXPERIENCE

Community Intertidal Data Portal
Casco Bay, ME

Comprehensive Plan
Harpswell, ME

Comprehensive Plan Public Participation
Cape Elizabeth, ME.

Comprehensive Plan Mapping, Utility Data Management, GIS Services
Town of Falmouth, ME

Brunswick Sewer District
Brunswick, ME.

Zoning Analysis
City of Auburn, ME

Tax Map Development + Online Viewer
Norway, ME

Tax Map Development + Online Viewer
Pownal, ME

Tax Map Development + Online Viewer
Durham, ME

Tax Map Development + Online Viewer
Paris, ME

Property Valuation and Sea Level Rise
Island Institute, ME

Ocean Wind VIEWSHED Analysis
Coastal New Jersey

Kitty Hawk North Offshore Wind
Coastal Virginia / North Carolina

Kitty Hawk South Offshore Wind
Coastal North Carolina

PROFESSIONAL AFFILIATIONS

URISA Board of Directors, Secretary
Maine GIS Users Group
Maine Association of Planners
New England URISA
American Association of Geographers

EDUCATION

University of Maine
Master of Ecology and Environmental Science

University of Wisconsin-Madison
Master of Land Resources with focus on GIS & Coastal Planning

University of Wisconsin-Madison
Bachelor of Science in Geography & Certificate of Environmental Studies

EMPLOYMENT

VIEWSHED (Formerly Spatial Alternatives)
Principal / Owner (2001 - present)
Yarmouth, ME

SELECT PRESENTATIONS

Sea Level Rise Impacts on Marshes and Mudflats, GIS Pro, Portland, ME, 2024

Building Community Using Geospatial Tools Workshop, GIS Pro, Boise, ID, 2022

Equity, Social Justice, and GIS, Maine Municipal Assoc. Tech Conference, 2019

Municipal GIS Process and Policy, Panel Discussion NEARC 2017

TEC ASSOCIATES CONSULTING ENGINEERS

GORDON ARMSTRONG, PE

VICE PRESIDENT

TEC's small, experienced team provides tailored solutions for local and national clients. Intimate knowledge of local historical uses and marine facilities, gives TEC an advantage with New England clients. TEC has operated as the City of Portland's marine engineer for over 40 years. TEC has designed economical solutions for the City of Portland and dozens of other waterfront clients, addressing a challenging environment and aging or historic infrastructure. Their record of providing accurate construction documents, estimates, on-site inspection, and permitting makes TEC a respected consultancy in the New England region and beyond.

Since joining TEC in 2016, Gordon has been responsible for inspection, rating, and design of railroad bridges and marine structures. Recent major projects include mooring cells and fenders for Gulf Oil and the reconstruction of Custom House Wharf both in Portland Harbor, and a new railroad bridge and upgrades to existing bridges for Woodland Pulp LLC in Calais, Maine.

SELECT EXPERIENCE

City-Owned Waterfront Facilities Engineering
Portland, ME

Gulf Oil Pier & Mooring Cell Design & Construction
South Portland, ME

Custom House Wharf Reconstruction
Portland, ME

CAT Ferry Gangway Design
Portland, ME

Stewman's Pier Design & Construction
Bar Harbor, ME

Maine Maritime Museum Pier Reconstruction
Bath, ME

Ponce's Wharf Repair Inspection & Construction
Long Island, ME

Royal River Marine Travel Lift Replacement
Yarmouth, ME

Piccadilly Marine Pier, Float and Gangway Installation
Falmouth, ME

Preliminary Waterfront Infrastructure Engineering
Belfast, ME

Ferry Pier Inspection & Repair Recommendations
Stonington, ME

Union Wharf Reconstruction Planning & Design
Portland, ME

Private Pier Planning, Surveying & Permitting
Peaks Island, ME

PROFESSIONAL AFFILIATIONS

Professional Engineer 17342, State of Maine
Professional Engineer 018.0135662, State of Vermont

EDUCATION

University of Maine
Bachelor of Science in Civil Engineering

EMPLOYMENT

TEC Associates
Vice President - Engineer
Portland, ME (2016 - present)

Jeff's Marine
President - Technician
Thomaston, ME (2008 - present)

Cornerstone Energy Services
Intern
South Portland, ME (2015)

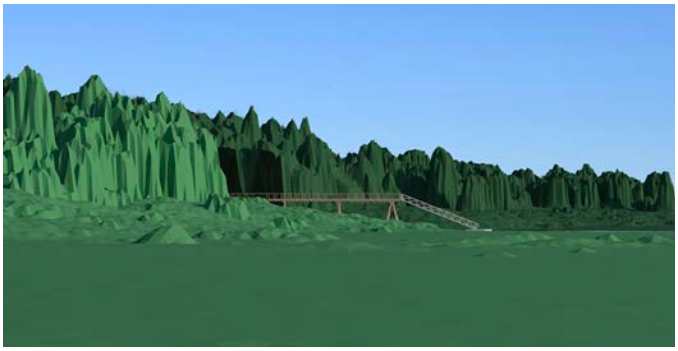
VIEWSHED - PAST EXPERIENCE

CROTCHED MOUNTAIN BEACH ACCESS

Greenfield, NH
Client: Crotched Mountain Foundation
Completed 2019

VIEWSHED (formerly TJD&A) developed a master plan for this waterfront site designed to improve access for all levels of mobility. The final plan included a series of ramps, elevated platforms, and a dock with an accessible watercraft launch. The design also included areas for storage, a vehicular drop-off area, and a new pavilion site.

Reference: Michael Redmond
(Former) Senior Vice President/Chief Operating Officer
(603) 668-7584 - mredmond@uppervalleyhaven.org



WELLIN RECREATIONAL PIER VISUAL IMPACT ASSESSMENT

St. George, ME
Client: Maine DEP
Completed 2024

VIEWSHED prepared this supplemental evaluation of the visual effects of a residential pier proposed for Clark Cove in St. George, ME. Deliverables included a series of photorealistic visual simulations of the proposed dock from two different publicly accessible viewpoints and a report on the evaluation of visual effects.

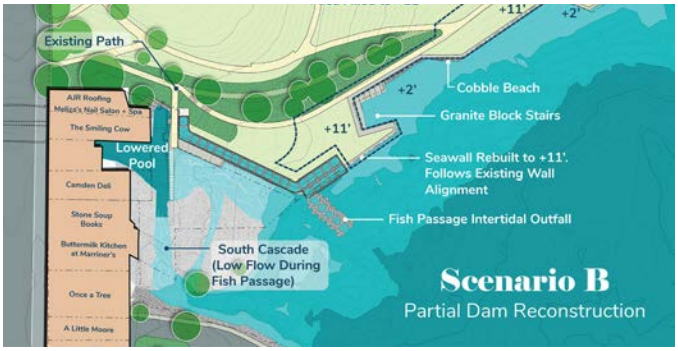
Reference: Rylan Bytnar
Project Manager, Bureau of Land Resources, Maine DEP
(207) 995-0510 - rylan.bytnar@maine.gov

KENNEBUNKPORT PARKS & REC MP

Kennebunkport, ME
Client: Town of Kennebunkport
Completed 2023

VIEWSHED developed a community-wide Master Plan for Kennebunkport to provide the Parks and Recreation Department with a strategy for improving and maintaining town parks and recreational facilities over the next decade. The work included concept designs for a number of coastal parks to address vulnerabilities to climate change and opportunities for resilience.

Reference: Stephanie Simpson
Director of Parks and Recreation
(207) 967 4304 - ssimpson@kennebunkportme.gov

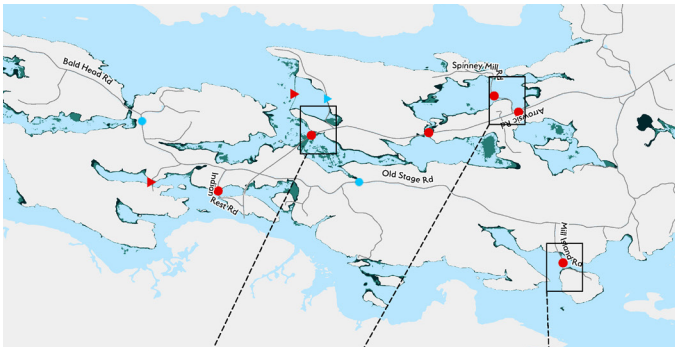


CAMDEN DAM FEASIBILITY STUDY

Camden, ME
Client: Inter-Fluve
Completed 2024

VIEWSHED worked in coordination with Inter-Fluve, FB Environmental, and the Town of Camden to engage the Megunticook River Citizen's Advisory Committee in an upcoming voting initiative for the future of Camden's Montgomery Dam. The team created base maps, conceptual plans and realistic renderings to weigh the resilience and cost values of dam removal or restoration.

Reference: Mike Burke
Principal Water Resources Engineer
(207) 315-7014 - mburke@interfluve.com



ARROWSIC CLIMATE ACTION PLAN

Arrowsic, ME
Client: Town of Arrowsic
Completed 2024

VIEWSHED worked with the Town to develop a Climate Action Plan to guide the community around impacts of sea level rise, flooding and marsh migration. The project combined a geospatial vulnerability assessment, facilitation with the Climate Resilience Committee, and a series of public engagement activities to create a plan that reflects the needs and capacity of the community.

Reference: Jody Jones
Co-Chair Climate Resilience Committee
(207) 522-3441 - jodyinarrowsic@gmail.com

SOUTH PORTLAND MIXED-USE DEVELOPMENT PLANNING

South Portland, ME
Client: N/A
Ongoing

VIEWSHED is providing ongoing assistance for a coastal mixed-use development project in South Portland. The project has included preliminary design and cost estimation for a waterfront park on the site's existing brownfield. Designs utilize fill operations and living shoreline approaches to create a resilient coastal landscape for public use.

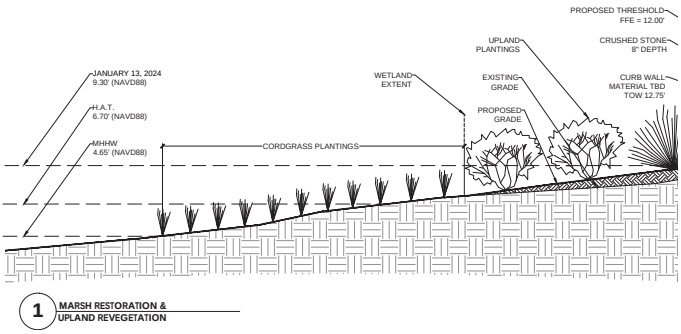
Reference: N/A

ROCKPORT VILLAGE CORRIDOR STUDY

Rockport, ME
Client: Town of Rockport
Completed 2024

In collaboration with Sewall Engineering, VIEWSHED took part in this MDOT Planning Partnership Initiative to study transportation, accessibility, streetscape and connectivity issues in Rockport's village area. This included community engagement, interactive web content, surveys and public workshops in addition to renderings and park designs.

Reference: Johnathan Duke
Town Manager, Town of Rockport
(207) 236-0806 x4 - jduke@rockportmaine.gov



LIVING SHORELINE DESIGN FOR HARPSWELL RESIDENCE

Great Island, Harpswell, ME
Client: Lauren Reiter
Completed Ongoing

VIEWSHED is working in collaboration with Reiter Architecture and Acorn Engineering to provide coastal designs for the protection of a residential home with living shoreline applications. Deliverables include a final permitting landscape set for a NRPA Tier I permit with planting and material plans to address sea level rise and storm surge inundation.

Reference: Lauren Reiter
Homeowner, Architect
(917) 502-2225 - laurenjreiter@yahoo.com

TEC ASSOCIATES - PAST EXPERIENCE

City of Portland
Portland, ME

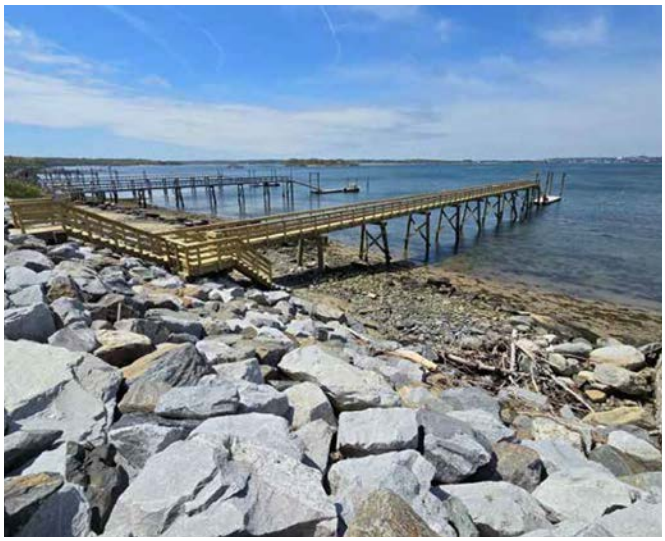
Waterfront facilities engineering for City owned piers and wharves. The scope of work required for each project varies; however, most require surveying, drafting, design, environmental permitting, construction plans and specifications, and construction observation. Projects include a 160 foot addition to the Portland Fish Pier, retrofitting the IMT roll-on/roll-off ramp to fit the first CAT ferry, a new bulkhead and float system at the State Pier for cruise ships, new dolphins for the East End Beach commercial ramp, a new fender system for the Portland Fish Pier, street reconstruction at Portland pier with new paving and brick sidewalks, and repairs to the Cliff Island pier including new floats and a gangway for the City fireboat.

Reference:

Philip DiPierro

Project Manager, City of Portland, Public Buildings & Waterfront Department

Office: 207-808-5403



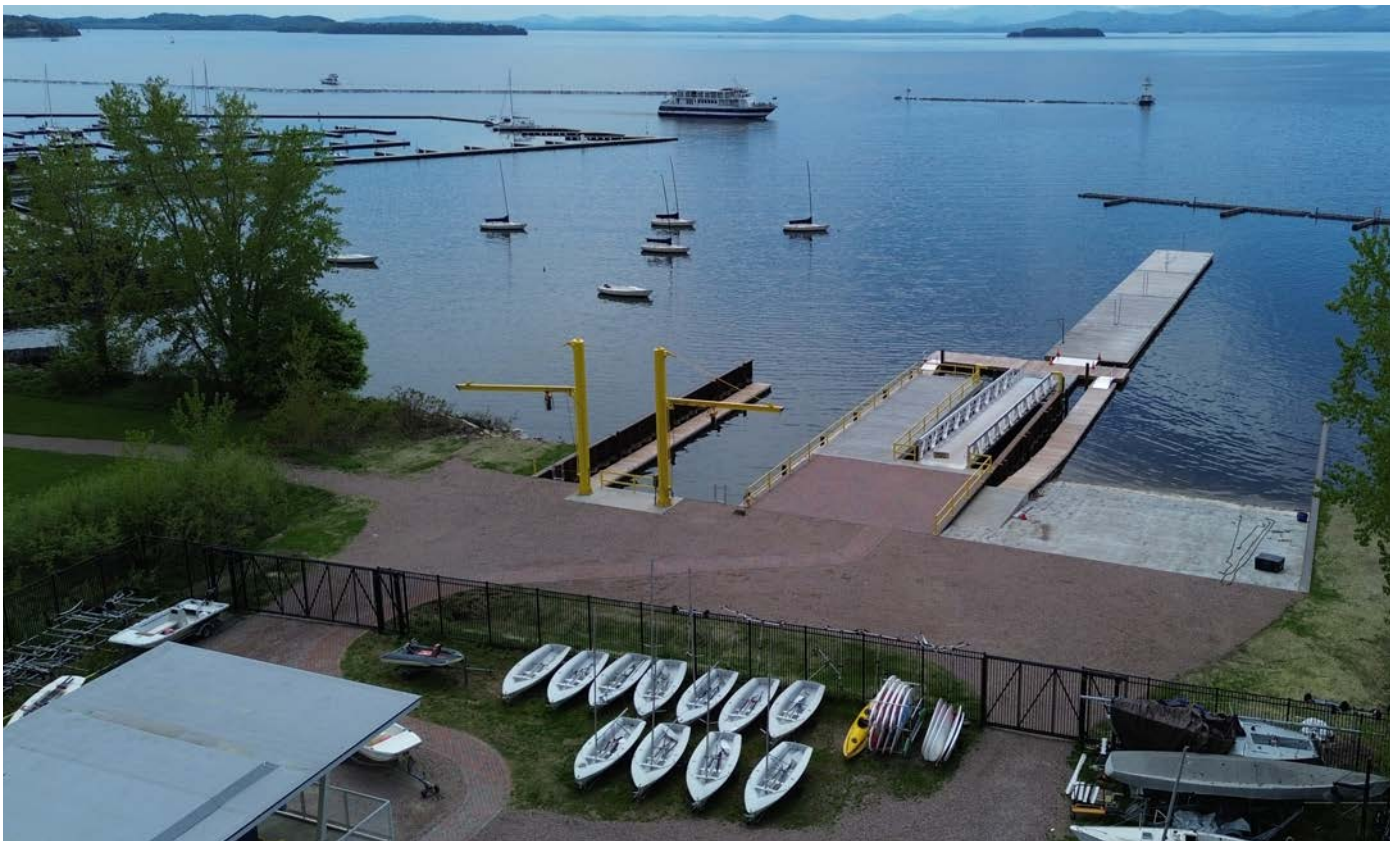
38 Centennial Street Pier
Peaks Island, ME

Provided investigation, planning, surveying, and permitting for the construction of a private pier on Peaks Island, Maine. The structure was built of 23ft long timber sons on timber pile and caps. The pier provided access to a 40ft long gangway and float system. The structure also provided access to the shoreline through a combination of timber and granite stairs. The project also included substantial shoreline stabilization and re-grading of the upland soils. NRPA, Municipal, Army Corp and Portland Harbor Commission permits were completed for the project.

Ocean Properties, Ltd.
Bar Harbor, ME

TEC designed the replacement of Stewman's Pier in downtown Bar Harbor and provided construction phase observation and engineering. They coordinated the design with the structural engineer and architect for new buildings to be located on the pier. The inner half of the pier with buildings was constructed with a concrete deck on steel piles. Because of minimal overburden, the steel piles were drilled and socketed into ledge. The outer half of the pier without buildings is all timber construction.

TEC ASSOCIATES - EXAMPLE OF WORK



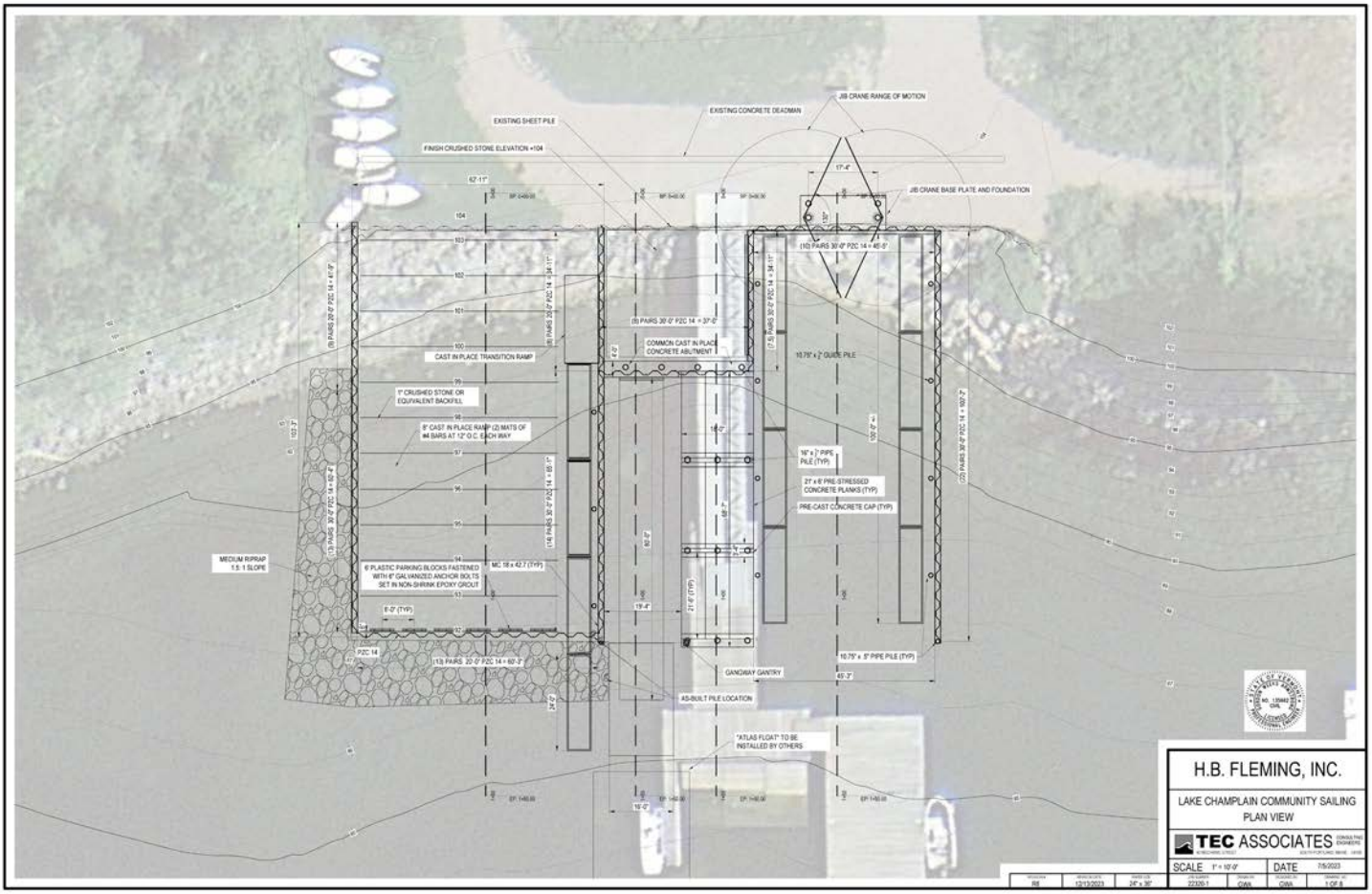
H.B. FLEMING, INC.
LAKE CHAMPLAIN COMMUNITY SAILING CENTER

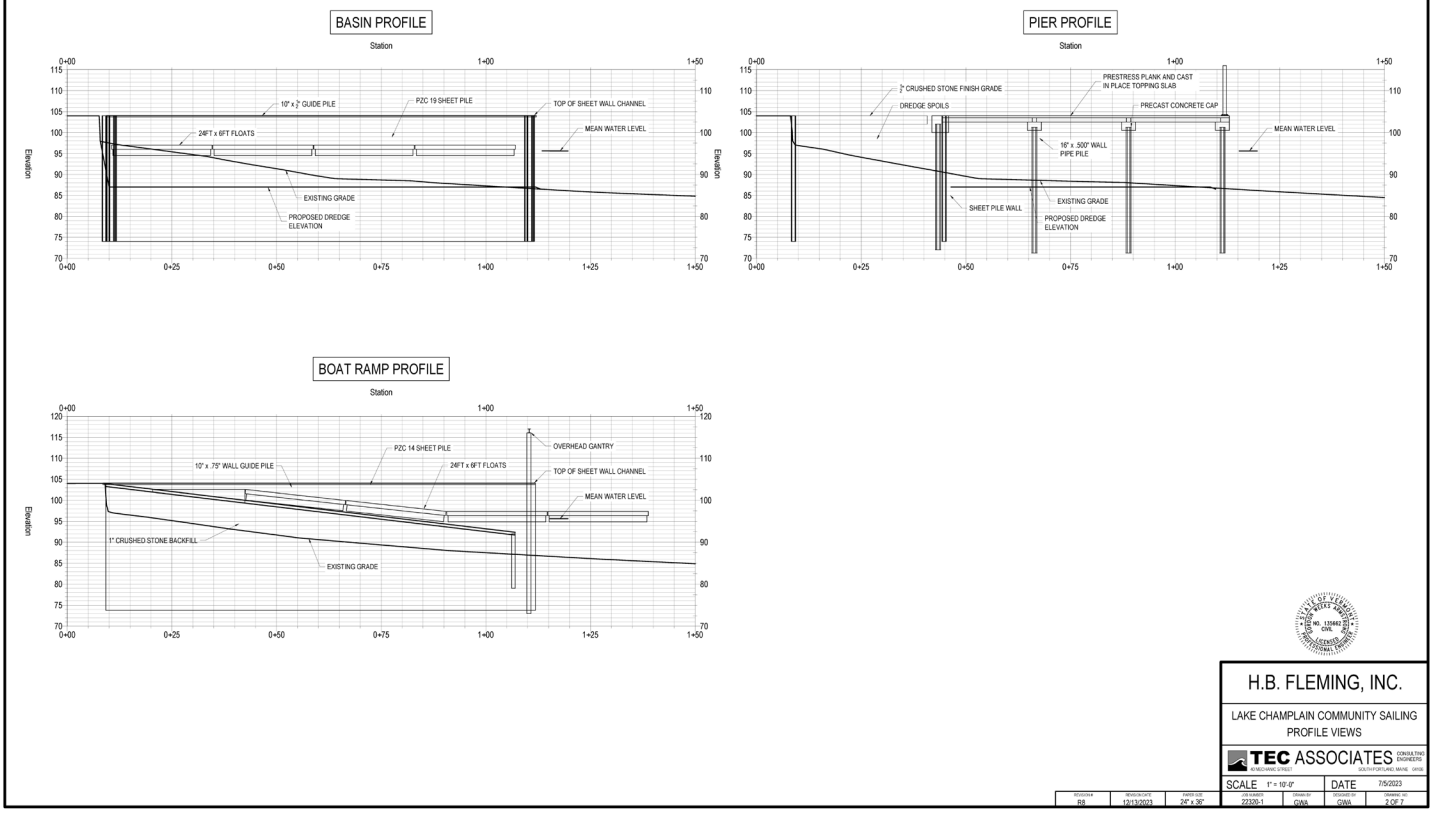
LIST OF DRAWINGS

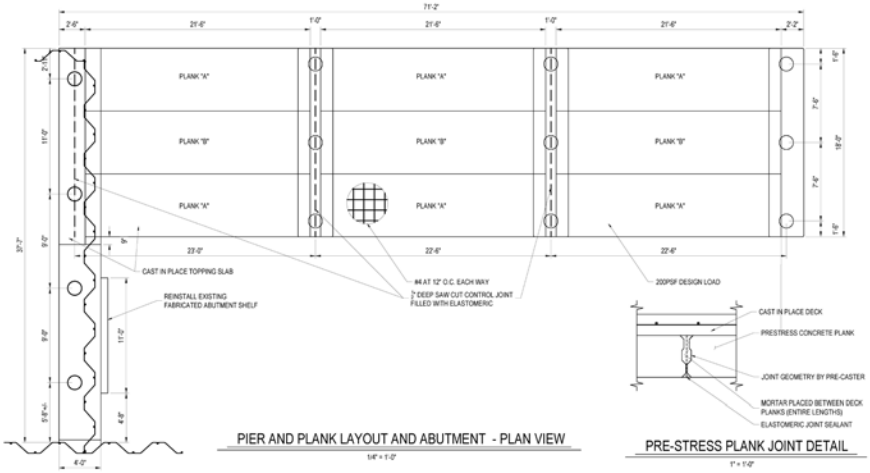
1. PLAN VIEW
2. PROFILE VIEWS
3. PIER AND CONCRETE DETAILS
4. GANGWAY GANTRY & CONCRETE DETAILS
5. CONCRETE AND GUIDE PILE DETAILS
6. TIE-BACK & CONCRETE DETAILS
7. JIB CRANE DETAILS 1
8. JIB CRANE DETAILS 2

TEC ASSOCIATES CONSULTING ENGINEERS
40 MECHANIC STREET
SOUTH PORTLAND, MAINE 04106

REVISION #		DATE 12/13/2023	
22310-1	GWA	GWA	COVER


JIB CRANE RANGE OF MOTION
EXISTING SHEET PILE
EXISTING CONCRETE DEADMAN
FINISH CRUSHED STONE ELEVATION +104
JIB CRANE BASE PLATE AND FOUNDATION
(10) PAIRS 30'-0" PZC 14 x 48'-5"
(5) PAIRS 30'-0" PZC 14 x 37'-0"
COMMON CAST IN PLACE CONCRETE ABUTMENT
CAST IN PLACE TRANSITION RAMP
10.75" x ½" GUIDE PILE
1" CRUSHED STONE OR EQUIVALENT BACKFILL
8" CAST IN PLACE RAMP (2) MATS OF #4 BARS AT 12" O.C. EACH WAY
16" x ½" PIPE PILE (TYP)
27" x 6" PRE-STRESSED CONCRETE PLANKS (TYP)
PRE-CAST CONCRETE CAP (TYP)
MEDIUM RIPRAP 1.5: 1 SLOPE
6" PLASTIC PARKING BLOCKS FASTENED WITH 6" GALVANIZED ANCHOR BOLTS SET IN NON-SHRINK EPOXY GROUT
MC 18 x 42.7 (TYP)
(13) PAIRS 20'-0" PZC 14 x 60'-3"
10.75" x .5" PIPE PILE (TYP)
GANGWAY GANTRY
AS-BUILT PILE LOCATION
"ATLAS FLOAT" TO BE INSTALLED BY OTHERS
H.B. FLEMING, INC.
LAKE CHAMPLAIN COMMUNITY SAILING
PLAN VIEW
TEC ASSOCIATES
SCALE 1" = 10'-0"
DATE 7/5/2023
RB
12/13/2023
24" x 36"
22320-1
GWA
GWA
1 OF 8


BASIN PROFILE
Station
Elevation
10" x ½" GUIDE PILE
PZC 19 SHEET PILE
TOP OF SHEET WALL CHANNEL
24'FT x 6'FT FLOATS
MEAN WATER LEVEL
EXISTING GRADE
PROPOSED DREDGE ELEVATION
PIER PROFILE
Station
Elevation
½" CRUSHED STONE FINISH GRADE
DREDGE SPOILS
PRESTRESS PLANK AND CAST IN PLACE TOPPING SLAB
PRECAST CONCRETE CAP
MEAN WATER LEVEL
16" x .500" WALL PIPE PILE
SHEET PILE WALL
EXISTING GRADE
PROPOSED DREDGE ELEVATION
BOAT RAMP PROFILE
Station
Elevation
PZC 14 SHEET PILE
OVERHEAD GANTRY
10" x .75" WALL GUIDE PILE
24'FT x 6'FT FLOATS
TOP OF SHEET WALL CHANNEL
MEAN WATER LEVEL
1" CRUSHED STONE BACKFILL
EXISTING GRADE
H.B. FLEMING, INC.
LAKE CHAMPLAIN COMMUNITY SAILING
PROFILE VIEWS
TEC ASSOCIATES
SCALE 1" = 10'-0"
DATE 7/5/2023
RB
12/13/2023
24" x 36"
22320-1
GWA
GWA
2 OF 7

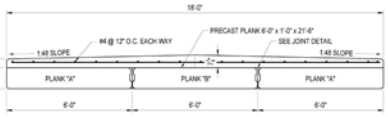


PIER AND PLANK LAYOUT AND ABUTMENT - PLAN VIEW

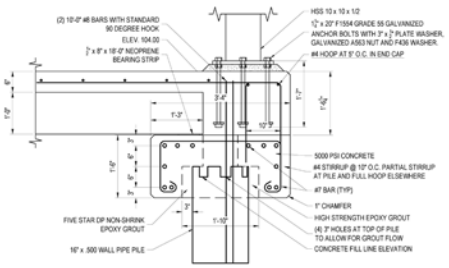
1/4" = 1'-0"

PRE-STRESS PLANK JOINT DETAIL

1" = 1'-0"

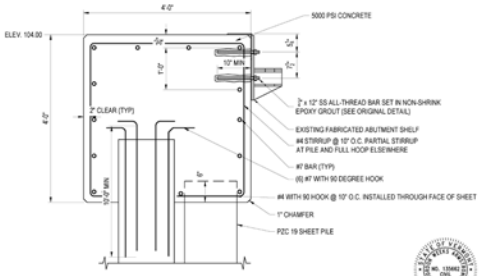


PIER AND PLANK LAYOUT - SECTION VIEW



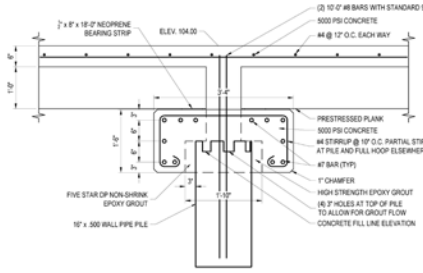
END PRE-CAST CAP AND DECK - SECTION VIEW

1" = 1'-0"



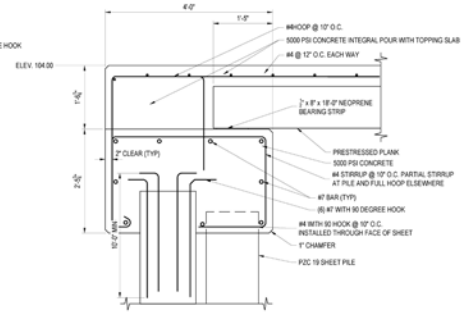
COMMON ABUTMENT AT GANGWAY - SECTION VIEW

1" = 1'-0"



PRE-CAST CAP AND DECK - SECTION VIEW

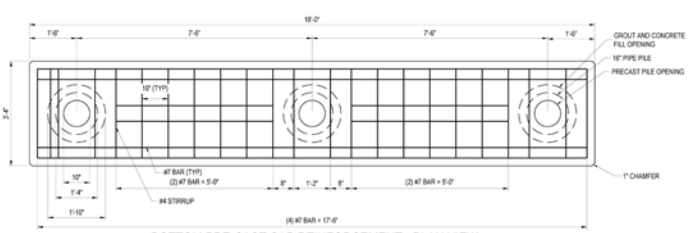
1" = 1'-0"



COMMON ABUTMENT AT PIER - SECTION VIEW

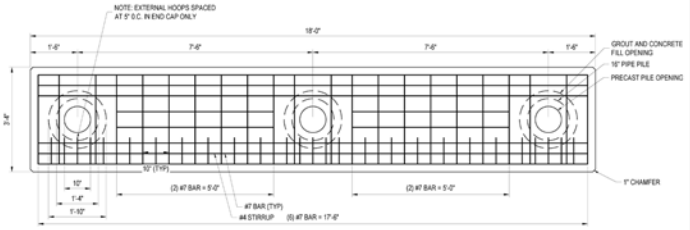
1" = 1'-0"

H.B. FLEMING, INC.	
LAKE CHAMPLAIN COMMUNITY SAILING	
PIER & CONCRETE DETAILS	
TEC ASSOCIATES	
SCALE NOTED	DATE 7/5/2023
RB | 12/13/2023 | 24" x 36" | 22320-1 | GWA | GWA | 3 OF 8	



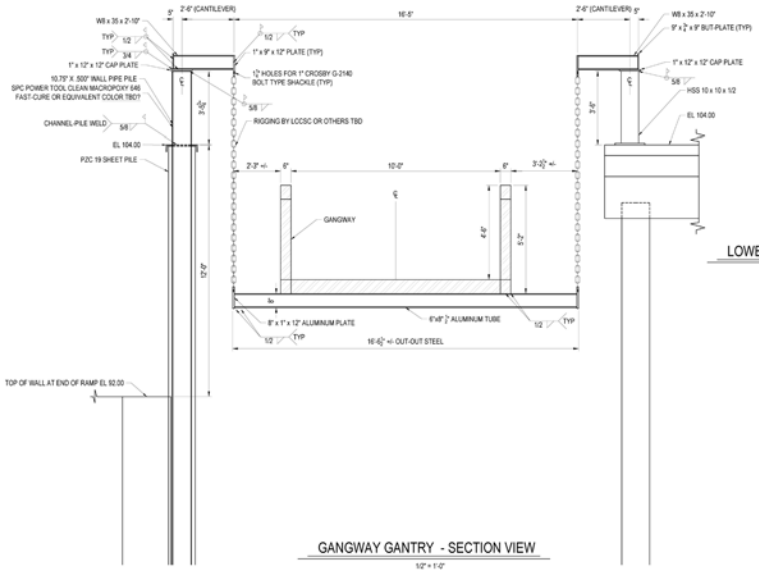
BOTTOM PRE-CAST CAP REINFORCEMENT - PLAN VIEW

3/4" = 1'-0"



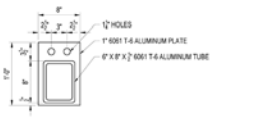
TOP PRE-CAST CAP REINFORCEMENT - PLAN VIEW

3/4" = 1'-0"



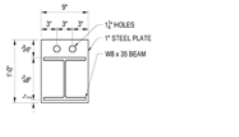
GANGWAY GANTRY - SECTION VIEW

1/2" = 1'-0"



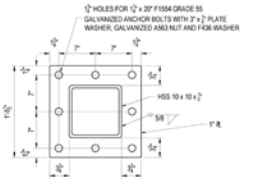
LOWER GANGWAY GANTRY BEAM END DETAIL

1-1/2" = 1'-0"



UPPER GANGWAY GANTRY BEAM END DETAIL

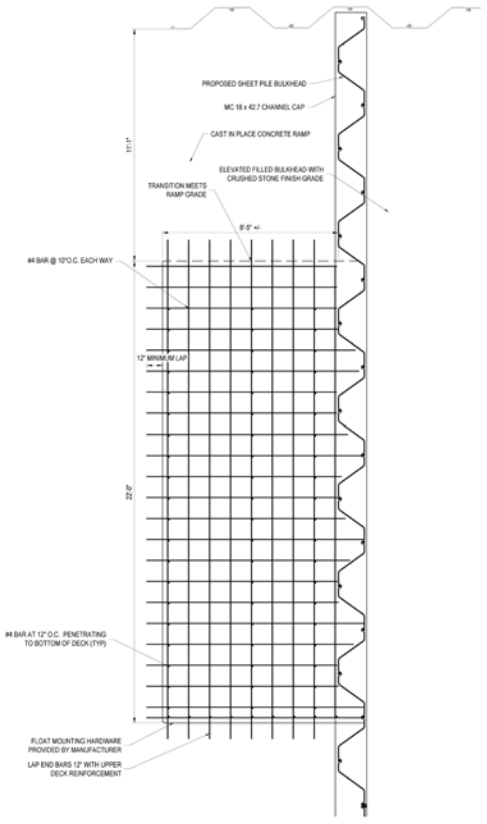
1-1/2" = 1'-0"



GANTRY BASE PLATE DETAIL - TOP VIEW

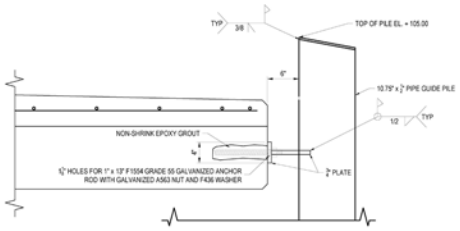
1-1/2" = 1'-0"

H.B. FLEMING, INC.	
LAKE CHAMPLAIN COMMUNITY SAILING	
GANGWAY GANTRY & CONCRETE DETAILS	
TEC ASSOCIATES	
SCALE NOTED	DATE 7/5/2023
RB | 12/13/2023 | 24" x 36" | 22320-1 | GWA | GWA | 4 OF 8	

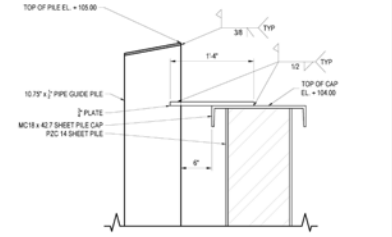


BOAT RAMP FLOAT TRANSITION - PLAN VIEW

1/2" = 1'-0"

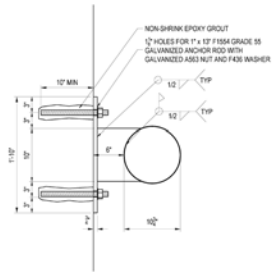


DECK TO GUIDE PILE CONNECTION - SECTION VIEW



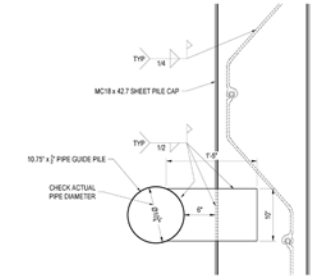
CHANNEL CAP TO GUIDE PILE CONNECTION - SECTION VIEW

1 1/2" = 1'-0"



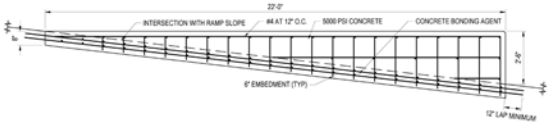
DECK TO GUIDE PILE CONNECTION - PLAN VIEW

1 1/2" = 1'-0"



CHANNEL CAP TO GUIDE PILE CONNECTION - PLAN VIEW

1 1/2" = 1'-0"



BOAT RAMP FLOAT TRANSITION - SECTION VIEW

1/2" = 1'-0"

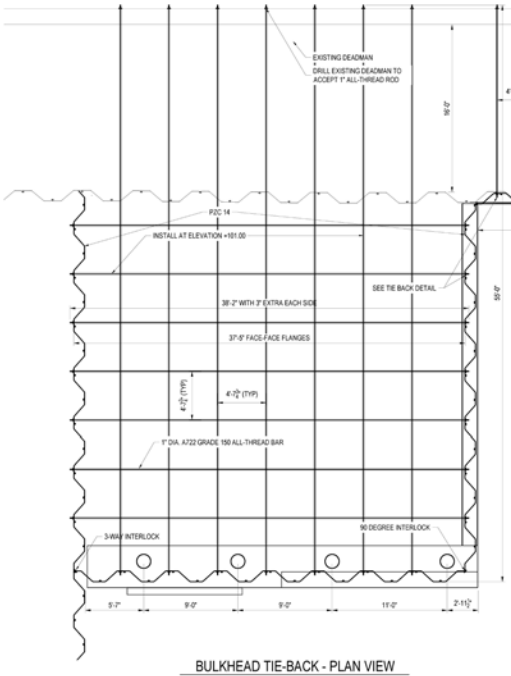
H.B. FLEMING, INC.

LAKE CHAMPLAIN COMMUNITY SAILING
CONCRETE AND GUIDE PILE DETAILS

TEC ASSOCIATES

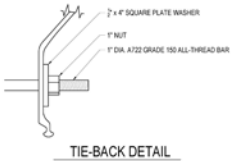
SCALE NOTED | DATE 7/5/2023

RB | 12/13/2023 | 24" x 36" | 22320-1 | GWA | GWA | 5 OF 8



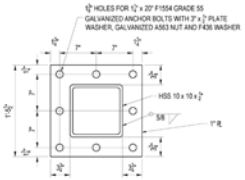
BULKHEAD TIE-BACK - PLAN VIEW

1/4" = 1'-0"



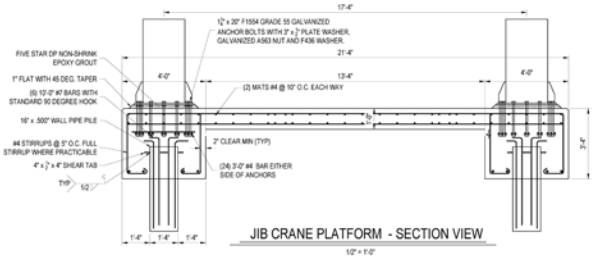
TIE-BACK DETAIL

3" = 1'-0"



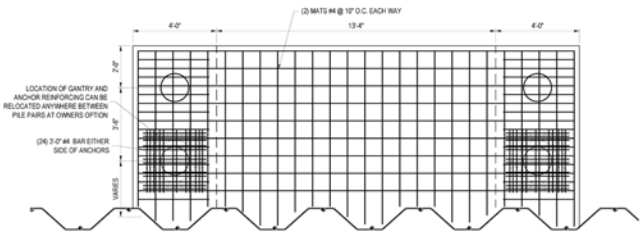
GANTRY BASE PLATE DETAIL - TOP VIEW

1-1/2" = 1'-0"



JIB CRANE PLATFORM - SECTION VIEW

1/2" = 1'-0"



JIB CRANE PLATFORM - PLAN VIEW

1/2" = 1'-0"

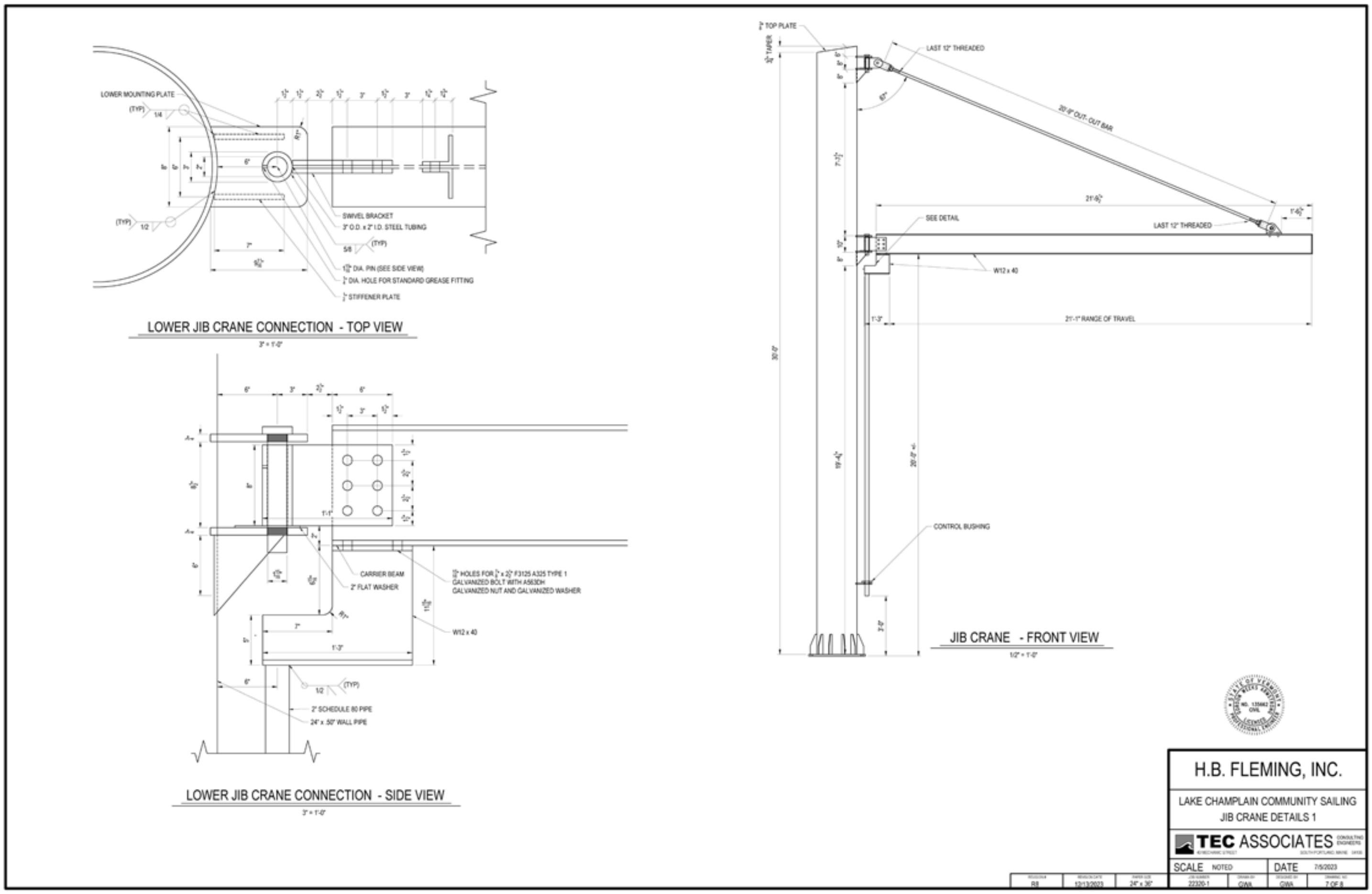
H.B. FLEMING, INC.

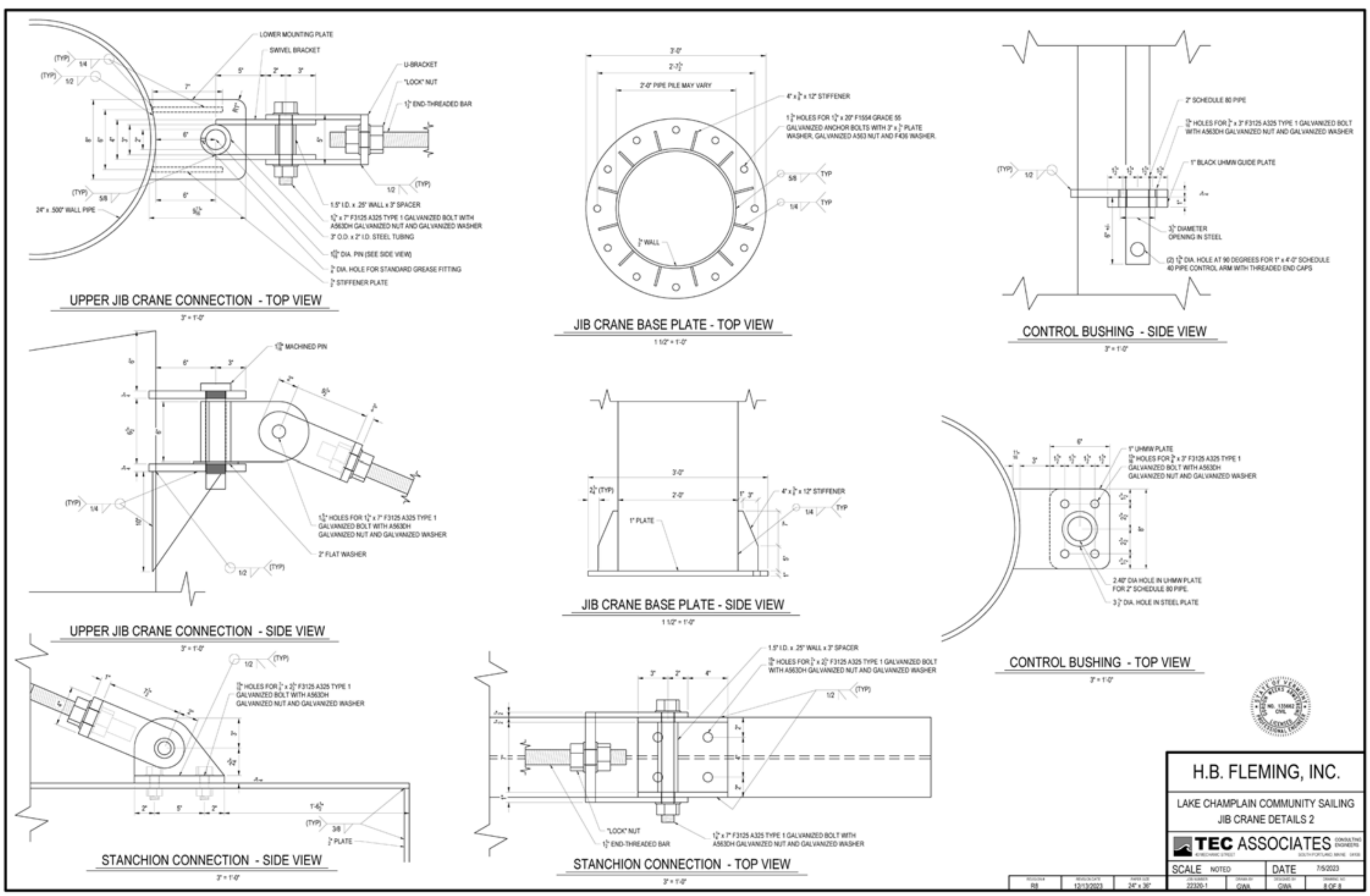
LAKE CHAMPLAIN COMMUNITY SAILING
TIE-BACK & CONCRETE DETAILS

TEC ASSOCIATES

SCALE NOTED | DATE 7/5/2023

RB | 12/13/2023 | 24" x 36" | 22320-1 | GWA | GWA | 6 OF 8


LOWER JIB CRANE CONNECTION - TOP VIEW
3" = 1'-0"
LOWER JIB CRANE CONNECTION - SIDE VIEW
3" = 1'-0"
JIB CRANE - FRONT VIEW
1/2" = 1'-0"
LAST 12" THREADED
20'-8" OUT.-OUT BAR
SEE DETAIL
W12 x 40
21'-1" RANGE OF TRAVEL
CONTROL BUSHING
SWIVEL BRACKET
3" O.D. x 2" I.D. STEEL TUBING
CARRIER BEAM
2" FLAT WASHER
2" SCHEDULE 80 PIPE
24" x .50" WALL PIPE
H.B. FLEMING, INC.
LAKE CHAMPLAIN COMMUNITY SAILING
JIB CRANE DETAILS 1
TEC ASSOCIATES
SCALE NOTED
DATE 7/5/2023
22320-1
7 OF 8


UPPER JIB CRANE CONNECTION - TOP VIEW
3" = 1'-0"
UPPER JIB CRANE CONNECTION - SIDE VIEW
3" = 1'-0"
STANCHION CONNECTION - SIDE VIEW
3" = 1'-0"
JIB CRANE BASE PLATE - TOP VIEW
1 1/2" = 1'-0"
JIB CRANE BASE PLATE - SIDE VIEW
1 1/2" = 1'-0"
STANCHION CONNECTION - TOP VIEW
3" = 1'-0"
CONTROL BUSHING - SIDE VIEW
3" = 1'-0"
CONTROL BUSHING - TOP VIEW
3" = 1'-0"
LOWER MOUNTING PLATE
SWIVEL BRACKET
U-BRACKET
"LOCK" NUT
1.5" I.D. x .25" WALL x 3" SPACER
3" O.D. x 2" I.D. STEEL TUBING
2" SCHEDULE 80 PIPE
1" BLACK UHMW GUIDE PLATE
1" UHMW PLATE
H.B. FLEMING, INC.
LAKE CHAMPLAIN COMMUNITY SAILING
JIB CRANE DETAILS 2
TEC ASSOCIATES
SCALE NOTED
DATE 7/5/2023
22320-1
8 OF 8

PROJECT UNDERSTANDING

UNDERSTANDING

Based on the RFP, the goal of this project is to site and design a non-motorized paddle craft dock that will create public access between Goodrich Park and the York River. We understand the following objectives to be necessary to achieving the project goal:

- To design for canoe, kayak and other paddle craft users excluding power boat traffic
- To site an American with Disabilities Act compliant design that minimizes disturbance to the marine, wetland and upland environments and connects to existing circulation at Goodrich Park
- To create a welcoming space that encourages passive interaction with the York River and its shoreland
- To comply with all local, state and federal Shoreland zoning and construction regulations, including those required for a Wild & Scenic River
- To present designs that promote climate resilience and adaptation through the implementation of interactive living shoreline strategies
- To engage with Town staff, the York River Access Ad Hoc Committee and members of the community to better understand needs and opportunities
- To create a set of Certified State of Maine engineered stamped plans and designs to support future permitting efforts

APPROACH

The following pages describe our approach in detail. Our proposed scope of work reflects the goals and objectives laid out in the RFP, and are outlined in (4) distinct tasks.

We propose a timeline of 6 months to complete the work (see Schedule). While this is a tight timeline, VIEWSHED believes the work can be completed. The Town should be aware that sometimes public engagement needs to be adjusted which may have an impact on timelines.

The project will begin with a review of existing conditions, base materials and regulatory requirements, culminating in a kick-off meeting and topographic survey on-site (Task 1). The design process will begin with a series of sketched layout alternatives and a design charrette with the Town and YAAHC (Task 2). With a chosen layout and siting, the design will be refined and presented to the public for outreach and feedback from the community (Task 3). The final design will be codified into a stamped construction document set that will outline the details of the design for the purposes of permitting, bidding and construction (Task 4).

As the prime contractor and project manager, VIEWSHED will maintain consistent communication with the Town's project manager and Harbor Committee. We will provide regular updates regarding the progression of work and milestone deliverables. Should any issues or delays occur, we will immediately communicate with the Town to identify the problem and potential solutions. VIEWSHED will manage our team's workflow, including that of our subconsultant TEC Associates, to ensure the timeliness and quality of our collective work products and communication.

SCOPE OF SERVICES

TASK 0. PROJECT MANAGEMENT

VIEWSHED will provide project management over the duration of the project (March 2025 - August 2025) and will be the point of contact for all communication with the project team.

Throughout the project, VIEWSHED will host bi-weekly meetings with Town staff to check-in on project progress, review the overall schedule and receive feedback on design updates. To conserve fee and promote efficiency, these meetings will be held remotely when possible, though several in-person meetings have been accounted for.

In addition, VIEWSHED seeks to work closely with the York River Access Ad Hoc Committee (YRAAHC) throughout the project. To promote project understanding and design feedback, we will host monthly meetings with the YRAAHC, scheduled to coincide with major project milestones. These meetings will be held remotely, with several key in-person meetings accounted for.

TASK 0 DELIVERABLES

- Regular correspondence over phone and email
- Meeting Minutes (PDF)

TASK 1. PROJECT SETUP

1.1 Material Gathering, Base Mapping & Research

VIEWSHED will begin the project by compiling base materials and reviewing relevant regulatory information to create a foundation for the project. We will host an initial introductory meeting with Town staff and the YRAAHC to facilitate the retrieval of data and relevant information for the project. Materials could include:

- Existing Survey Information
- Geospatial Data Sets
- Environmental Reports
- Permitting Considerations
- Recent Relevant Construction Plans

In addition, the VIEWSHED team will review recent and relevant planning documents. We anticipate the following documents and studies as a baseline:

- Economic Resilience Assessment and Plan for Coastal York County (2022)
- York Comprehensive Plan (2022)
- York Climate Action Plan (2022)
- Vulnerability Assessments for the Towns of Kittery, York, Ogunquit, Wells, Kennebunk, and Kennebunkport (2021)
- 2020 Maine Won't Wait Climate Action Plan
- York River Wild & Scenic River Study (2020)
- York Harbor/River Capacity Study (2019)

1.2 Kick-Off Meeting & Site Analysis

This task will culminate in a Kick-Off Meeting held on-site in late March with Town staff, the YRAAHC, and members of the community. This will give the consultant team the opportunity to meet relevant stakeholders and receive a tour of the site and its surrounding trails.

While on-site, VIEWSHED will capture photographs, key measurements and site conditions to support the base material and mapping process.

1.3 Topographic Survey

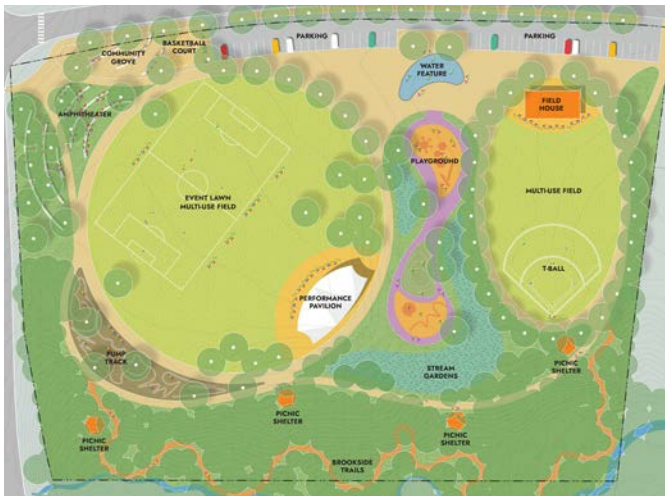
Around the time of the Kick-Off meeting, TEC Engineers will conduct a topographic survey of the site. This proposal assumes that a Boundary Survey of the site already exists, and that any additional surveying would build on this information.

TEC would complete the survey using a TOPCON Hiper VR and FC-6000 Data Collector. Work will be completed on a day with a mid-day low tide, during a lower than average tidal elevation. TEC will survey down to the low tide line and into shallow subtidal water as practicable. The survey will be the basis foe establishing the Highest Astronomical Tide (HAT), Mean Lower Low Water (MLLW) and Mean Higher High Water (MHHW) lines and the coastal wetland delineation needed for permitting. The final survey will include:

- All Topography (1' Contours)
- Major Structures
- Existing Boundaries
- Visible Utilities
- Other Points of Interest

TASK 1 DELIVERABLES

- Summary of Previous Plans (PDF)
- Regulatory Roadmap (PDF)
- Project Base Mapping
- Kick-Off Meeting Minutes (PDF)
- Topographic Survey



Design Layout Alternative (1 of 3)
Former Rockport Elementary Park Master Plan

TASK 2. LAYOUT ALTERNATIVES

2.1 Layout Alternative Design & Planning

With foundational information in-hand, the consultant team will begin the planning and design process through the creation of several layout alternatives. These designs will begin as sketches, looking at options for dock infrastructural placement, access and circulation from the existing site, and topographic and water-level considerations.

It will be important to understand the site's vulnerabilities to erosion, sea-level rise and upland flooding to promote a design with minimal impact on the surrounding environment that will be resilient to the impacts of climate change.

2.2 Design Charrette with Town & YRAAHC

The VIEWSHED team will consolidate these concepts into several distinct design alternatives that will be visualized for the purposes of a Design Charrette.

The in-person charrette will include members of Town staff and the YRAAHC, and will give VIEWSHED the opportunity to share initial concepts and receive interactive design feedback and recommendations from the group. We find these drawing sessions invaluable in consolidating ideas into a final design strategy that utilizes the input from the Town and community to promote the overall project objectives.

TASK 2 DELIVERABLES

- Sketch Design Concepts
- (2-3) Illustrated Design Alternatives
- Design Charrette Takeaways (PDF)

VIEWSHED Facilitated
Design Charrette Events

TASK 3. DESIGN DEVELOPMENT

3.1 Design Refinement & Material Specification

Following the Design Charrette, we will coordinate with the Town and YRAAHC to develop a final concept design that will begin to refine grading, drainage, material and planting specifications.

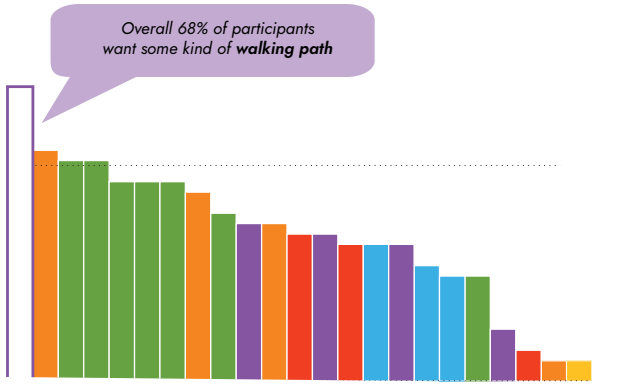
At this time the Consultant team will propose materials and plants to support a climate resilient design. We will rely on past work and living shoreline techniques from Maine Department of Environmental Protection to create a novel approach to establishing a resilient and adaptive design. Approaches along the river may include saltmarsh restoration, oyster-shell sills, coir log wave attenuation, and slope-benching for marsh migration. On the upland slope, approaches may include log terracing, live-stakes and living waddles, and slope-supportive planting to prevent erosion.

Additionally, we will begin to detail the grading and drainage required to promote ADA accessibility, existing site connectivity, and low-impact development to ensure the dock design meets all project objectives.

3.2 Preliminary Cost Estimation

With design refinements in place, it will be important to conduct an initial cost estimation to ensure that the final design and material selection is in-line with the budget goals of the Town. The Consultant team will rely on relevant past construction projects and updated material costs to create a rough cost framework for the project. This will facilitate the final material selection process and assist in fundraising goals for the project.

Photorealistic Design Rendering
Bath Front & Elm Streetscape



Public Design Charrette & Engagement Responses
Mayo Mill Dam Feasibility Study, Dover-Foxcroft, ME

3.3 Public Presentation & Workshop

VIEWSHED will host an in-person event to engage the York community, introduce the project and present design updates to members of the public. The presentation will conclude with a community workshop that will invite participants to comment on the designs, present considerations for the project, and propose spatial and material recommendations for the design team, all through interactive activities.

To facilitate the engagement process, VIEWSHED will create realistic visualizations of the proposed design and supporting graphics to better connect with the community. These resources will be provided to the Town and YRAAHC for any additional engagement and fundraising opportunities that are not included in the Consultant scope of work.

Following the engagement event, VIEWSHED will sort and share workshop responses to the Town and YRAAHC to help guide final design refinement.

TASK 3 DELIVERABLES

- Meeting Presentation & Maps (PDF)
- Interactive Engagement Tools
- Synthesis of Workshop & Online Survey (PDF)

TASK 4. CONSTRUCTION DOCUMENTATION

In this final task, the Consultant team will create a technical construction document set for the final design. These drawings will be stamped by a Maine Licensed Engineer & Landscape Architect, and will be the primary documents for permitting, bidding and construction.

Based on the RFP, it is our assumption that permitting, bidding and construction administration will not be included in the Consultant Scope of Work. The Consultant team would be available to assist in these efforts through an additional project scope.

Given our current project understanding, the following sheets would be included in the final Construction Document set:

- Construction Notes & Specifications
- Site Overview & Existing Conditions
- Demolition, Excavation & Site Work Plan
- Materials & Layout Plan
- Grading & Drainage Plan
- Lighting Plan (if necessary)
- Planting Plan
- Key Construction Details
- Key Sections & Elevations (as needed)

4.1 50% Construction Document Set

The Consultant team will work towards an initial Construction Document submission that represents 50% of the final drawings. The drawing set will be submitted to the Town and YRAAHC for review. Following the review period, the team will host a meeting to receive comments and revisions to facilitate the remainder of work.

4.2 100% Construction Document Set

The Consultant team will integrate Town comments and revisions into a finalized Construction Document submission that represents 100% of the final drawings. The final set will be stamped by a Maine Licensed Engineer and Landscape Architect.

4.3 Final Presentation & Submittal

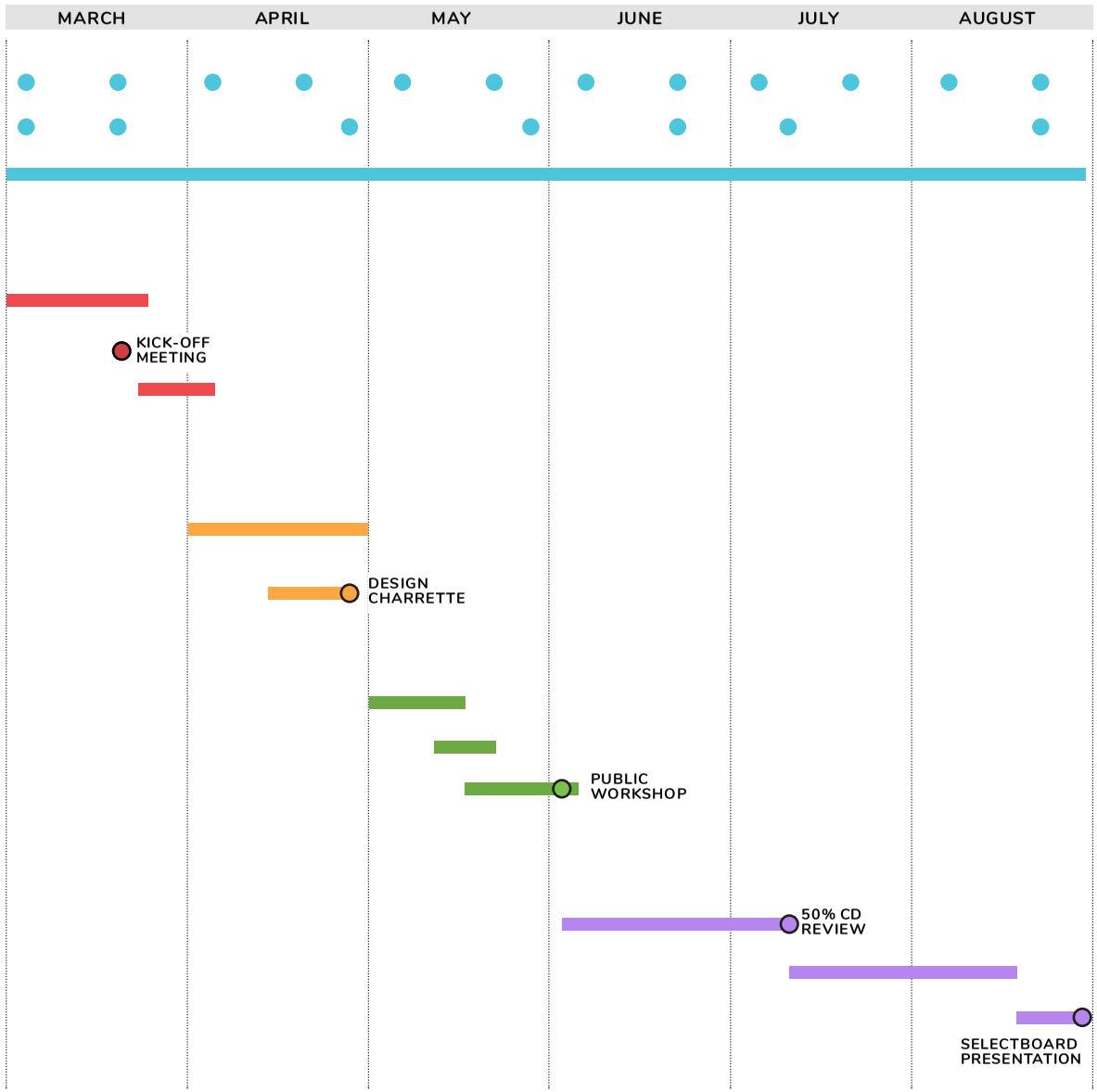
Pending final approval from the YRAAHC, the Consultant team will present the final paddle craft dock design to the York Selectboard for their consideration and comment at an in-person meeting.

Following their approval, we will formally submit the final Construction Document set to the Town in addition to other documents and graphics developed throughout the project. VIEWSHED will maintain contact with the Town for any additional needs.

PROJECT TASK & SCHEDULE MATRIX

We propose to complete the project over a 6 month period (March 2025 - August 2025) to allow for a robust planning and design process that incorporates feedback from the York River Access Ad Hoc Committee and an inclusive public engagement process. Our team will work with the Town and YRAAHC to amend the schedule and timing of milestones to develop a project time that best serves the project and York community.

Task 0: Project Management	
0.1 Town Coordination (Bi-Weekly Meeting)	21 hrs
0.2 YRAAHC Coordination (Monthly Meeting)	17 hrs
0.3 General Project Administration	11 hrs
Task 1: Project Setup	
1.1 Material Gathering, Base Mapping & Research	22 hrs
1.2 Kick-Off Meeting & Site Analysis	15 hrs
1.3 Topographic Survey	18 hrs
Task 2: Layout Alternatives	
2.3 Layout Alternative Design & Planning	24 hrs
2.4 Design Charrette with Town & YRAAHC	22 hrs
Task 3: Design Development	
3.1 Design Refinement & Material Specification	43 hrs
3.2 Preliminary Cost Estimation	11 hrs
3.3 Public Presentation & Workshop	30 hrs
Task 4: Construction Documentation	
4.1 50% Construction Document Set	76 hrs
4.2 100% Construction Document Set	70 hrs
4.3 Final Presentation & Submittal	18 hrs



PROJECT BUDGET

The following cost proposal includes estimates for each task in the Scope of Work. This final fixed price fee will be treated as a "Not To Exceed" amount.

COST PER TASK

TASK	
TASK 0. Project Management	**$ 5,588**
TASK 1. Information Gathering	**$ 7,058**
TASK 2. Layout Alternatives	**$ 5,600**
TASK 3. Design Development	**$ 22,820**
TASK 4. Construction Documentation	**$ 20,167**
Additional Costs: Travel & Engagement Tools	**$ 1,000**
TOTAL	**$ 49,719**











VIEWSHED