Weston & Sampson

westonandsampson.com

55 Walkers Brook Drive, Suite 100
Reading, MA 01867
tel: 978.532.1900

Wetlands Major Impact Application

October 2022

Prescott Park
Phase 1A Improvements

Marcy Street
Portsmouth, NH

Weston & Sampson

55 Walkers Brook Drive, Suite 100, Reading, MA 01867
Tel: 978.532.1900

October 24, 2022

NHDES Shoreland Program
29 Hazen Drive
PO Box 95
Concord, NH 03302-0095

Re: Wetlands Major Impact Application Submission
Phase 1A Improvements
Prescott Park, Portsmouth NH

To whom it may concern:

On behalf of the City of Portsmouth, Weston & Sampson Engineers, Inc. is hereby enclosing one (1) copy of the Wetlands Major Impact application for your review with regards to the proposed Phase 1A improvements at Prescott Park.

Along with the required NHDES forms and project narrative, additional information for this application is included in the following appendices:

Appendix A:	Minor and Major Projects
Appendix B:	Army Corps
Appendix C:	Maps
Appendix D:	NHB
Appendix E:	IPAC
Appendix F:	Section 106
Appendix G:	Abutters List and Notice
Appendix H:	Photos
Appendix I:	Wetland Delineation Report
Appendix J:	Functional Assessment
Appendix K:	Vulnerability Assessment
Appendix L:	Mitigation
Appendix M:	Deeds
Appendix N:	Request for Concurrent Processing
Appendix O:	Seawall Assessment
Appendix P:	Master Plan
Appendix Q:	Plans

Per Env-Wt 313.05 Weston & Sampson on behalf of the City of Portsmouth is requesting concurrent processing for the Wetlands and Shoreland submissions for the proposed Phase 1A improvements to Prescott Park.

A check in the amount of $11,992 made payable to Treasurer – State of NH has also been included to cover the application fee.

If you have any questions regarding this submittal, please contact me at 978-573-5802.

Very truly yours,

WESTON & SAMPSON

Devin Herrick, CWS
Project Environmental Scientist

STANDARD DREDGE AND FILL
WETLANDS PERMIT APPLICATION

Water Division/Land Resources Management
Wetlands Bureau

Check the Status of your Application

RSA/Rule: RSA 482-A/Env-Wt 100-900

APPLICANT'S NAME: City of Portsmouth **TOWN NAME:** Portsmouth

Administrative Use Only	Administrative Use Only	Administrative Use Only	File No.:
			Check No.:
			Amount:
			Initials:

A person may request a waiver of the requirements in Rules Env-Wt 100-900 to accommodate situations where strict adherence to the requirements would not be in the best interest of the public or the environment but is still in compliance with RSA 482-A. A person may also request a waiver of the standards for existing dwellings over water pursuant to RSA 482-A:26, III(b). For more information, please consult the Waiver Request Form.

SECTION 1 - REQUIRED PLANNING FOR ALL PROJECTS (Env-Wt 306.05; RSA 482-A:3, I(d)(2))

Please use the Wetland Permit Planning Tool (WPPT), the Natural Heritage Bureau (NHB) DataCheck Tool, the Aquatic Restoration Mapper, or other sources to assist in identifying key features such as: priority resource areas (PRAs), protected species or habitats, coastal areas, designated rivers, or designated prime wetlands.

Has the required planning been completed?	☒ Yes ☐ No
Does the property contain a PRA? If yes, provide the following information:	☒ Yes ☐ No
• Does the project qualify for an Impact Classification Adjustment (e.g. NH Fish and Game Department (NHF&G) and NHB agreement for a classification downgrade) or a Project-Type Exception (e.g. Maintenance or Statutory Permit-by-Notification (SPN) project)? See Env-Wt 407.02 and Env-Wt 407.04.	☐ Yes ☒ No
• Protected species or habitat? ○ If yes, species or habitat name(s): ○ NHB Project ID #: NHB22-0970	☐ Yes ☒ No
• Bog?	☐ Yes ☒ No
• Floodplain wetland contiguous to a tier 3 or higher watercourse?	☐ Yes ☒ No
• Designated prime wetland or duly-established 100-foot buffer?	☐ Yes ☒ No
• Sand dune, tidal wetland, tidal water, or undeveloped tidal buffer zone?	☒ Yes ☐ No
Is the property within a Designated River corridor? If yes, provide the following information: • Name of Local River Management Advisory Committee (LAC): • A copy of the application was sent to the LAC on Month: Day: Year:	☐ Yes ☒ No

For dredging projects, is the subject property contaminated? - If yes, list contaminant:	☐ Yes ☐ No
Is there potential to impact impaired waters, class A waters, or outstanding resource waters?	☐ Yes ☒ No
For stream crossing projects, provide watershed size (see WPPT or Stream Stats):	

SECTION 2 - PROJECT DESCRIPTION (Env-Wt 311.04(i))

Provide a **brief** description of the project and the purpose of the project, outlining the scope of work to be performed and whether impacts are temporary or permanent. DO NOT reply “See attached"; please use the space provided below.

The proposed project is the initial phase of proposed improvements to Prescott Park in Portsmouth NH. Due to its location and age Prescott Park is in danger of being impacted by global climate change and sea level rise. The City of Portsmouth is proposing to take actions to make Prescott Park more resilient while accomodating the needs of the citizens and visitors, such as the annual Prescott Park Arts Festival. Proposed improvements include removal of pavement, installation of utilities, demolition of "garage" and "lean to" structures, relcoation of the Shaw building, site regrading, and roadway resurfacing. This proposed work will result in temporary and permanent impacts to Piscataqua River bank, tidal waters and the tidal buffer zone.

SECTION 3 - PROJECT LOCATION

Separate wetland permit applications must be submitted for each municipality within which wetland impacts occur.

ADDRESS: Mary Street

TOWN/CITY: Portsmouth

TAX MAP/BLOCK/LOT/UNIT: 0104-0001-0000, 0104-0003-0003, 0104-0003-0002, 0104-0003-0000 and 0104-0005-0000

US GEOLOGICAL SURVEY (USGS) TOPO MAP WATERBODY NAME: Piscataqua River
☐ N/A

(Optional) LATITUDE/LONGITUDE in decimal degrees (to five decimal places): 43° 4'36.32"° North
70°45'5.62"° West

SECTION 4 - APPLICANT (DESIRED PERMIT HOLDER) INFORMATION (Env-Wt 311.04(a))

If the applicant is a trust or a company, then complete with the trust or company information.

NAME: City of Portsmouth - Peter Rice

MAILING ADDRESS: 680 Peverly Hill Road

TOWN/CITY: Portsmouth | STATE: NH | ZIP CODE: 03801

EMAIL ADDRESS: phrice@cityofportsmouth.com

FAX: | PHONE: (603) 427-1530

ELECTRONIC COMMUNICATION: By initialing here: , I hereby authorize NHDES to communicate all matters relative to this application electronically.

SECTION 5 - AUTHORIZED AGENT INFORMATION (Env-Wt 311.04(c))

☐ N/A

LAST NAME, FIRST NAME, M.I.: Weston & Sampson Engineers

COMPANY NAME: Weston & Sampson Engineers

MAILING ADDRESS: 55 Walkers Brook Drive, Suite 100

TOWN/CITY: Reading | STATE: MA | ZIP CODE: 01867

EMAIL ADDRESS: herrick.devin@wseinc.com

FAX: | PHONE: 978-573-5802

ELECTRONIC COMMUNICATION: By initialing here DKH, I hereby authorize NHDES to communicate all matters relative to this application electronically.

SECTION 6 - PROPERTY OWNER INFORMATION (IF DIFFERENT THAN APPLICANT) (Env-Wt 311.04(b))

If the owner is a trust or a company, then complete with the trust or company information.

☐ Same as applicant

NAME: City of Portsmouth

MAILING ADDRESS: PO BOX 628

TOWN/CITY: Portsmouth | STATE: NH | ZIP CODE: 03802

EMAIL ADDRESS: phrice@cityofportsmouth.com

FAX: | PHONE: (603) 427-1530

ELECTRONIC COMMUNICATION: By initialing here , I hereby authorize NHDES to communicate all matters relative to this application electronically.

SECTION 7 - RESOURCE-SPECIFIC CRITERIA ESTABLISHED IN Env-Wt 400, Env-Wt 500, Env-Wt 600, Env-Wt 700, OR Env-Wt 900 HAVE BEEN MET (Env-Wt 313.01(a)(3))

Describe how the resource-specific criteria have been met for each chapter listed above (please attach information about stream crossings, coastal resources, prime wetlands, or non-tidal wetlands and surface waters):
For resource-specific crtieria please see attached Project Narrative.

SECTION 8 - AVOIDANCE AND MINIMIZATION

Impacts within wetland jurisdiction must be avoided to the maximum extent practicable (Env-Wt 313.03(a)).* Any project with unavoidable jurisdictional impacts must then be minimized as described in the Wetlands Best Management Practice Techniques For Avoidance and Minimization and the Wetlands Permitting: Avoidance, Minimization and Mitigation Fact Sheet. For minor or major projects, a functional assessment of all wetlands on the project site is required (Env-Wt 311.03(b)(10)).*

Please refer to the application checklist to ensure you have attached all documents related to avoidance and minimization, as well as functional assessment (where applicable). Use the Avoidance and Minimization Checklist, the Avoidance and Minimization Narrative, or your own avoidance and minimization narrative.

**See Env-Wt 311.03(b)(6) and Env-Wt 311.03(b)(10) for shoreline structure exemptions.*

SECTION 9 - MITIGATION REQUIREMENT (Env-Wt 311.02)

If unavoidable jurisdictional impacts require mitigation, a mitigation pre-application meeting must occur at least 30 days but not more than 90 days prior to submitting this Standard Dredge and Fill Permit Application.

Mitigation Pre-Application Meeting Date: Month: 7 Day: 13 Year: 2022

(☐ N/A - Mitigation is not required)

SECTION 10 - THE PROJECT MEETS COMPENSATORY MITIGATION REQUIREMENTS (Env-Wt 313.01(a)(1)c)

Confirm that you have submitted a compensatory mitigation proposal that meets the requirements of Env-Wt 800 for all permanent unavoidable impacts that will remain after avoidance and minimization techniques have been exercised to the maximum extent practicable: ☒ I confirm submittal.

(☐ N/A – Compensatory mitigation is not required)

SECTION 11 - IMPACT AREA (Env-Wt 311.04(g))

For each jurisdictional area that will be/has been impacted, provide square feet (SF) and, if applicable, linear feet (LF) of impact, and note whether the impact is after-the-fact (ATF; i.e., work was started or completed without a permit).

For intermittent and ephemeral streams, the linear footage of impact is measured along the thread of the channel. *Please note, installation of a stream crossing in an ephemeral stream may be undertaken without a permit per Rule Env-Wt 309.02(d), however other dredge or fill impacts should be included below.*

For perennial streams/rivers, the linear footage of impact is calculated by summing the lengths of disturbances to the channel and banks.

Permanent impacts are impacts that will remain after the project is complete (e.g., changes in grade or surface materials).

Temporary impacts are impacts not intended to remain (and will be restored to pre-construction conditions) after the project is completed.

JURISDICTIONAL AREA		PERMANENT			TEMPORARY		
		SF	LF	ATF	SF	LF	ATF
Wetlands	Forested Wetland			☐			☐
	Scrub-shrub Wetland			☐			☐
	Emergent Wetland			☐			☐
	Wet Meadow			☐			☐
	Vernal Pool			☐			☐
	Designated Prime Wetland			☐			☐
	Duly-established 100-foot Prime Wetland Buffer			☐			☐
Surface Water	Intermittent / Ephemeral Stream			☐			☐
	Perennial Stream or River			☐			☐
	Lake / Pond			☐			☐
	Docking - Lake / Pond			☐			☐
	Docking - River			☐			☐
Banks	Bank - Intermittent Stream			☐			☐
	Bank - Perennial Stream / River	65	38	☐	1,236	2,021	☐
	Bank / Shoreline - Lake / Pond			☐			☐
Tidal	Tidal Waters	14	5	☐			☐
	Tidal Marsh			☐			☐
	Sand Dune			☐			☐
	Undeveloped Tidal Buffer Zone (TBZ)			☐			☐
	Previously-developed TBZ	22,387		☐	5,278		☐
	Docking - Tidal Water			☐			☐
TOTAL		22,466	43		**6,514**	**2,021**	

SECTION 12 - APPLICATION FEE (RSA 482-A:3, I)

☐ **MINIMUM IMPACT FEE**: Flat fee of $400.

☐ **NON-ENFORCEMENT RELATED, PUBLICLY-FUNDED AND SUPERVISED RESTORATION PROJECTS, REGARDLESS OF IMPACT CLASSIFICATION:** Flat fee of $400 (refer to RSA 482-A:3, 1(c) for restrictions).

☒ **MINOR OR MAJOR IMPACT FEE:** Calculate using the table below:

Permanent and temporary (non-docking):	28,980 SF	× $0.40 =	$ 11,592
Seasonal docking structure:	SF	× $2.00 =	$
Permanent docking structure:	SF	× $4.00 =	$
Projects proposing shoreline structures (including docks) add $400 =			$ 400
		Total =	$ 11,992
The application fee for minor or major impact is the above calculated total or $400, whichever is greater =			$ 11,992

SECTION 13 - PROJECT CLASSIFICATION (Env-Wt 306.05)

Indicate the project classification.

☐ Minimum Impact Project ☐ Minor Project ☒ Major Project

SECTION 14 - REQUIRED CERTIFICATIONS (Env-Wt 311.11)

Initial each box below to certify:

Initials:	To the best of the signer's knowledge and belief, all required notifications have been provided.
Initials:	The information submitted on or with the application is true, complete, and not misleading to the best of the signer's knowledge and belief.
Initials:	The signer understands that: • The submission of false, incomplete, or misleading information constitutes grounds for NHDES to: 1. Deny the application. 2. Revoke any approval that is granted based on the information. 3. If the signer is a certified wetland scientist, licensed surveyor, or professional engineer licensed to practice in New Hampshire, refer the matter to the joint board of licensure and certification established by RSA 310-A:1. • The signer is subject to the penalties specified in New Hampshire law for falsification in official matters, currently RSA 641. • The signature shall constitute authorization for the municipal conservation commission and the Department to inspect the site of the proposed project, except for minimum impact forestry SPN projects and minimum impact trail projects, where the signature shall authorize only the Department to inspect the site pursuant to RSA 482-A:6, II.
Initials:	If the applicant is not the owner of the property, each property owner signature shall constitute certification by the signer that he or she is aware of the application being filed and does not object to the filing.

SECTION 15 - REQUIRED SIGNATURES (Env-Wt 311.04(d); Env-Wt 311.11)

SIGNATURE (OWNER):	PRINT NAME LEGIBLY: Pete Rice	DATE: 10/5/21
SIGNATURE (APPLICANT, IF DIFFERENT FROM OWNER):	PRINT NAME LEGIBLY:	DATE:
SIGNATURE (AGENT, IF APPLICABLE):	PRINT NAME LEGIBLY: Devin Herrick	DATE: 10/22/2021

SECTION 16 - TOWN / CITY CLERK SIGNATURE (Env-Wt 311.04(f))

As required by RSA 482-A:3, I(a)(1), I hereby certify that the applicant has filed four application forms, four detailed plans, and four USGS location maps with the town/city indicated below.

TOWN/CITY CLERK SIGNATURE:	PRINT NAME LEGIBLY:
TOWN/CITY:	DATE:

DIRECTIONS FOR TOWN/CITY CLERK:
Per RSA 482-A:3, I(a)(1)

1. IMMEDIATELY sign the original application form and four copies in the signature space provided above.
2. Return the signed original application form and attachments to the applicant so that the applicant may submit the application form and attachments to NHDES by mail or hand delivery.
3. IMMEDIATELY distribute a copy of the application with one complete set of attachments to each of the following bodies: the municipal Conservation Commission, the local governing body (Board of Selectmen or Town/City Council), and the Planning Board.
4. Retain one copy of the application form and one complete set of attachments and make them reasonably accessible for public review.

DIRECTIONS FOR APPLICANT:
Submit the original permit application form bearing the signature of the Town/City Clerk, additional materials, and the application fee to NHDES by mail or hand delivery at the address at the bottom of this page. Make check or money order payable to “Treasurer – State of NH”.

NHDES-W-06-075

TIDAL SHORELINE STABILIZATION
PROJECT-SPECIFIC WORKSHEET
FOR STANDARD APPLICATION

Water Division/Land Resources Management
Wetlands Bureau
Check the Status of your Application

RSA/Rule: RSA 482-A/ Env-Wt 609

This worksheet summarizes the criteria and requirements for a Standard Permit for "Tidal Shoreline Stabilization" projects in tidal areas as outlined in Chapter Env-Wt 600. In addition to the project-specific criteria and requirements on this worksheet, all Standard Applications must meet the criteria and requirements listed in the Standard Dredge and Fill Wetlands Permit Application Form (NHDES-W-06-012) and the Coastal Resource Worksheet (NHDES-W-06-079).

SECTION 1 - APPLICATION REQUIREMENTS (Env-Wt 609.02)

Applications for tidal shoreline stabilization projects shall demonstrate that:

☒ The technique or combinations of techniques is based on best available scientific and engineering practices.

☒ The proposed technique or combination of techniques addresses:

- Results of the avoidance and minimization narrative required in Env-Wt 311.07, the avoidance, minimization and mitigation demonstration required in Env-Wt 313.03 and Env-Wt 313.04, the coastal functional assessment (CFA) required in Env-Wt 603.04, and the project design narrative required in Env-Wt 603.06,
- Any causes of erosion that can be identified,
- The degree or extent of erosion,
- Relative exposure based on shoreline geometry, shore orientation, intensity of boat traffic, influence of adjacent structures, storm surge, and extreme precipitation events,
- Potential sea-level rise and vulnerability assessment under Env-Wt 603.05,
- Potential marsh migration as a result of sea-level rise and
- The design requirements of Env-Wt 514.04.

An application for a tidal shoreline stabilization shall include the following information:

☒ Tidal shoreline stabilization shall be accomplished using living shoreline techniques, per Env-Wt 609.04(b), unless the applicant demonstrates that a living shoreline is not practicable.

Applicants proposing to install new rip-rap shall include the following information with the application:

☒ Evidence of erosion that cannot be stabilized solely with a soft stabilization design.

☒ A description of anticipated turbulence, flows, restricted space, fetch or similar factors that render vegetative and diversion methods physically impractical.

☒ An assessment of the potential for the proposed rip-rap to erode the shoreline of neighboring properties, based on an examination of the shoreline and modeling based on tides, average wave height and force, and the energy absorption of deflection or the proposed rip-rap.

☒ Specification of minimum and maximum stone sizes, existing contours and final proposed contours, the volume of rip-rap to be used, the minimum and maximum rip-rap thickness, and the type and thickness of bedding for the stone.

☒ Cross-section and plan views of the proposed installation.

☒ The relationship of the project to fixed points of reference, abutting properties, and features of the natural shoreline.

SECTION 2 - APPROVAL CRITERIA (Env-Wt 607.07; Env-Wt 607.08; Env-Wt 609.01; Env-Wt 609.09)

Applications for tidal shoreland stabilization projects shall:

☒ Maintain or enhance the natural process functions of the shoreline as the critical transition zone between the intertidal zone and upland tidal buffer zone/sand dune regimes.

☒ Provide wildlife habitat while providing protection against coastal hazards.

☒ Be compatible with the existing natural land cover and its functions.

☒ Address the known causes of erosion.

☒ Avoid adverse impacts to near shore ecosystem processes, habitats, and adjacent shoreline.

The department shall not approve any tidal shoreline stabilization plan that proposes to install new rip-rap unless the applicant demonstrates that:

☐ Anticipated turbulence, flows, restricted space, fetch or similar factors render soft stabilization methods physically impractical, and

☐ Natural areas or naturalized soft shoreline stabilization on neighboring properties will not be damaged by the placement of the proposed rip-rap, or

☐ Rip-rap is a component used as a sill to stabilize the toe, but is not the primary or dominant component of a living shoreline stabilization design.

The department shall not approve any tidal shoreline stabilization plan that proposes to install a wall unless:

☐ The wall is required to protect public infrastructure in situations where softer stabilization technique is shown to be impracticable.

SECTION 3 - DESIGN & CONSTRUCTION REQUIREMENTS (Env-Wt 609.05; Env-Wt 609.06)

Living shoreline design plans shall:

☐ Be prepared and stamped by a professional engineer and reviewed relative to delineations of wetlands and stamped by a certified wetland scientist in accordance with the "Guidance for Considering the Use of Living Shorelines" (National Oceanic and Atmospheric Administration, 2015).

☐ Be prepared to show that the project will:

- Use native vegetation, sand fill, and limited stone or wood as specified in Env-Wt 609.06 to provide shoreline stabilization and protection,
- Mimic the natural landscape and leave natural vegetation intact to the greatest extent practicable,
- If practicable, be based on the location of the highest observable tide line, water turbulence and soil conditions, add vegetation to existing sand beaches or dune or construct vegetated sand dunes,
- Design the sill to the lowest elevation possible that still ensure stabilization of the toe of the living shoreline,
- Maintain the shoreline's ability to absorb and mitigate storm impacts and adapt to the landward progression of the sea,
- Minimize or prevent wave reflection toward abutting properties,
- If space and soil conditions allow, cut back unstable banks to a flatter slope, seed and replant with native, non-invasive trees and shrubs, and
- Provide habitat for wildlife and aquatic species.

☐ Large wood debris and natural rock that is comparable to the natural-occurring rock found in the vicinity of the project may be incorporated into a soft tidal shoreline stabilization design as matrix material for a bio-engineering bank stabilization technique.

Living shoreline techniques shall be required if the project is to replace an existing stabilization structure that:

☐ Has not functioned as required by Env-Wt 609.0, or

☐ Is not an existing legal structure.

SECTION 4 - MAINTENANCE & REPAIR (Env-Wt 609.03; Env-Wt 609.08)

Applications for repair or rehabilitation of existing tidal shoreland stabilization structures shall include an analysis by the engineer or qualified coastal professional to rate the conditions of the existing structure and the purpose for the repair based on the following:

☒ The degree of damage or extent of deterioration, as applicable, such as missing components, cracking, or weeping with erosion.

☒ Whether opportunities exist to use soft bank stabilization components or a combination of soft and hard components.

☒ The ability of the structure to withstand coastal flood risk in accordance with the vulnerability assessment required by Env-Wt 603.05.

SECTION 5 - PROJECT CLASSIFICATION (Env-Wt 609.10; Env-Wt 609.11)

Refer to Env-Wt 609.10 and Env-Wt 609.11 for project classification**.**

NHDES-W-06-076

PROTECTED TIDAL ZONE
PROJECT-SPECIFIC WORKSHEET
FOR STANDARD APPLICATION

Water Division/Land Resources Management
Wetlands Bureau

Check the Status of your Application

RSA/Rule: RSA 482-A/ Env-Wt 610

This worksheet summarizes the criteria and requirements for a Standard Permit for impact in the "Protected Tidal Zone", one of the six specific project types in tidal area described in Chapter Env-Wt 600. In addition to the project-specific criteria and requirements on this worksheet, all Standard Applications must meet the criteria and requirements listed in the Standard Application form (NHDES-W-06-012) and the Coastal Resource Worksheet.

SECTION 1 - APPLICATION REQUIREMENTS FOR PROTECTED TIDAL ZONE AND REQUIRED ATTACHMENTS (Env-Wt 610.04)

The following plans and other information shall be submitted with applications for work within the protected tidal zone:

- ☒ Existing and proposed contours at 2-foot intervals measured from the Highest Observable Tide Line (HOTL);
- ☒ If any portion of the subject parcel is located in a regulatory floodplain, the location of the 100-year flood boundary zone, and water elevation as shown on the applicable Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map;
- ☒ All of applicable local and state setbacks;
- ☒ The dimensions and locations of all:
  - ☒ Existing and proposed structures;
  - ☐ Existing and proposed impervious areas;
  - ☒ Existing and proposed disturbed areas;
  - ☒ Areas to remain in an unaltered state;
  - ☒ Existing cleared areas, such as gardens, lawns, and paths; and
  - ☒ Proposed temporary impacts associated with the completion of the project;
- ☒ Proposed methods of erosions and siltation controls, identified graphically and labeled on a plan, or otherwise annotated as needed for clarity;
- ☒ A plan of any planting(s) proposed in the waterfront buffer, showing the proposed locations(s) and Latin names or common names of proposed species;
- ☒ If applicable, the location of an existing or proposed 6-foot wide foot path to the waterbody or a temporary access path;
- ☒ For any project proposing that the impervious area be at least 15% but not more than 20% within the protected tidal zone, a statement signed by the applicant certifying that the impervious area is not more than 20%
- ☒ For any project proposing that impervious area be greater than 20% within the protected tidal zone, plans for a stormwater management system that will infiltrate increased stormwater from development provided that if impervious area is or is proposed to be greater than 30%, the stormwater management systems shall be designed by a professional engineer;
- ☒ For any project involving pervious surfaces, a plan with specifications of how those surfaces will be maintained; and
- ☒ All other relevant features necessary to clearly define both existing conditions and the proposed project.

SECTION 2 - APPROVAL CRITERIA (Env-Wt 313.01)

☒ An application for structure construction within the protected tidal zone shall comply with Env-Wt 313.01.

SECTION 3 - DESIGN & CONSTRUCTION REQUIREMENTS (Env-Wt 610.03)

The construction of structures within the protected tidal zone shall comply with:

☒ The standards described in FEMA P-55, Coastal Construction Manual: Principles and Practices of Planning, Siting, Designing, Constructing and Maintaining Residential Buildings in Coastal Areas, 4th edition (2011); and

☒ Local resiliency planning ordinances.

SECTION 4 - PROTECTED TIDAL ZONE RESTRICTIONS (Env-Wt 610.05- 610.13)

☒ The restrictions identified in RSA 483-B:9, II shall apply to the protected tidal zone;

☒ The provisions of RSA 483-B:9, V(a) related to the maintenance of a waterfront buffer shall apply to the protected tidal zone within 50 feet of the HOTL;

☒ Accessory structures in the waterfront buffer shall comply with the applicable provisions of Env-Wq 1400;

☒ The provisions of RSA 483-B:9, V(b) related to the maintenance of a woodland buffer shall apply to the protected tidal zone within 150 feet of the HOTL;

☒ The provisions of RSA 483-B:9, V(c) related to individual sewage disposal systems shall apply to the protected tidal zone;

☒ The provisions of RSA 483-B:9, V(d) related to erosion and siltation shall apply to the protected tidal zone;

☒ The provisions of RSA 483-B:9, V(e) related to minimum lots and residential development shall apply to the protected tidal zone;

☒ The provisions of RSA 483-B:9, V(f) related to minimum lots and non-residential development shall apply to the protected tidal zone; and

☒ The provisions of RSA 483-B:9 V(g) related to impervious surfaces shall apply to the protected tidal zone.

SECTION 5 - PROJECT CLASSIFICATION (Env-Wt 610.17)

(a) A major project shall be:

(1) Any dredging, filling, or construction activity, or any combination thereof, that is proposed to:

a. Occur within 100 feet of the HOTL; and

b. Alter any tidal shoreline bank, tidal flat, wetlands, surface water, or undeveloped uplands; or

(2) A project that would be major based on an aggregation of projects under Env-Wt 400.

(b) A minor project shall be any dredging, filling, or construction activity, or any combination thereof, that:

(1) Involves work within 75 feet of a saltmarsh in the developed upland tidal buffer;

(2) Is not a major project; and

(3) Will disturb 3,000 square feet (SF) or more but less than 10,000 SF in the developed upland tidal buffer.

(c) A minimum impact project shall be any dredging, filling, or construction activity, or any combination thereof, that:

(1) Is in a previously developed upland area;

(2) Is within 100 feet of the HOTL; and

(3) Will disturb less than 3,000 SF.

NHDES-W-06-079

COASTAL RESOURCE WORKSHEET

Water Division/Land Resources Management
Wetlands Bureau

Check the Status of your Application

RSA/Rule: RSA 482-A/ Env-Wt 600

APPLICANT LAST NAME, FIRST NAME, M.I.: **City of Portsmouth**

This worksheet may be used to present the information required for projects in coastal areas, in addition to the information required for Lower-Scrutiny Approvals, Expedited Permits, and Standard Permits under Env-Wt 603.01.

Please refer to Env-Wt 605.03 for impacts requiring compensatory mitigation.

SECTION 1 - REQUIRED INFORMATION (Env-Wt 603.02; Env-Wt 603.06; Env-Wt 603.09)

The following information is required for projects in coastal areas.

Describe the purpose of the proposed project, including the overall goal of the project, the core project purpose consisting of a concise description of the facilities and work that could impact jurisdictional areas, and the intended project outcome. Specifically identify all natural resource assets in the area proposed to be impacted and include maps created through a data screening in accordance with Env-Wt 603.03 (refer to Section 2) and Env-Wt 603.04 (refer to Section 3) as attachments.

See Attached Project Description

For standard permit projects, provide:

☒ A Coastal Functional Assessment (CFA) report in accordance with Env-Wt 603.04 (refer to Section 3).

☒ A vulnerability assessment in accordance with Env-Wt 603.05 (refer to Section 4).

Explain all recommended methods and other considerations to protect the natural resource assets during and as a result of project construction in accordance with Env-Wt 311.07, Env-Wt 313, and Env-Wt 603.04.

See Appendices J and K

Provide a narrative showing how the project meets the standard conditions in Env-Wt 307 and the approval criteria in Env-Wt 313.01.

See Attached Project Description

Provide a project design narrative that includes the following:

☒ A discussion of how the proposed project:

- Uses best management practices and standard conditions in Env-Wt 307;
- Meets all avoidance and minimization requirements in Env-Wt 311.07 and Env-Wt 313.03;
- Meets approval criteria in Env-Wt 313.01;
- Meets evaluation criteria in Env-Wt 313.01(c);
- Meets CFA requirements in Env-Wt 603.04; and
- Considers sea-level rise and potential flooding evaluated pursuant to Env-Wt 603.05;

☒ A construction sequence, erosion/siltation control methods to be used, and a dewatering plan; and

☒ A discussion of how the completed project will be maintained and managed.

Once completed the propsoed project will remain as part of Prescott Park which is mainatined and managed through the City fo Portsmouth.

☒ Provide design plans that meet the requirements of Env-Wt 603.07 (refer to Section 5);

☒ Provide water depth supporting information required by Env-Wt 603.08 (refer to Section 6); and

☒ For any major project that proposes to construct a structure in tidal waters/wetlands or to extend an existing structure seaward, provide a statement from the Pease Development Authority Division of Ports and Harbors (DP&H) chief harbormaster, or designee, for the subject location relative to the proposed structure's impact on navigation. If the proposed structure might impede existing public passage along the subject shoreline on foot or by non-motorized watercraft, the applicant shall explain how the impediments have been minimized to the greatest extent practicable.

The proposed outfall is located within tidal waters. The location fo this outfall was selected due to the existing seawall. Once complete the proposed outfall will not impede public passage along the shoreline.

SECTION 2 - DATA SCREENING (Env-Wt 603.03, in addition to Env-Wt 306.05)

Please use the Wetland Permit Planning Tool, or any other database or source, to indicate the presence of:

☒ Existing salt marsh and salt marsh migration pathways;

☒ Eelgrass beds;

☒ Documented shellfish sites;

☒ Projected sea-level rise; and

☒ 100-year floodplain.

Conduct data screening as described to identify documented essential fish habitat, and tides and currents that may be impacted by the proposed project, by using the following links:

☒ National Oceanic and Atmospheric Administration (NOAA) Tides & Currents; and

☐ NOAA Essential Fish Habitat Mapper.

☒ Verify or correct the information collected from the data screenings by conducting an on-site assessment of the subject property in accordance with Env-Wt 406 and Env-Wt 603.04.

SECTION 3 - COASTAL FUNCTIONAL ASSESSMENT/ AVOIDANCE AND MINIMIZATION (Env-Wt 603.04; Env-Wt 605.01; Env-Wt 605.02; Env-Wt 605.03)

Projects in coastal areas shall:

☒ Not impair the navigation, recreation, or commerce of the general public; and

☒ Minimize alterations in prevailing currents.

An applicant for a permit for work in or adjacent to tidal waters/wetlands or the tidal buffer zone shall demonstrate that the following have been avoided or minimized as required by Env-Wt 313.04:

☒ Adverse impacts to beach or tidal flat sediment replenishment;

☒ Adverse impacts to the movement of sediments along a shore;

☒ Adverse impacts on a tidal wetland’s ability to dissipate wave energy and storm surge; and

☒ Adverse impacts of project runoff on salinity levels in tidal environments.

For standard permit applications submitted for minor or major projects:

☒ Attach a CFA based on the data screening information and on-site evaluation required by Env-Wt 603.03. The CFA for tidal wetlands or tidal waters shall be:

- Performed by a qualified coastal professional; and
- Completed using one of the following methods:

  a. The US Army Corps of Engineers (USACE) Highway Methodology Workbook, dated 1993, together with the USACE New England District *Highway Methodology Workbook Supplement*, dated 1999; or

  b. An alternative scientifically-supported method with cited reference and the reasons for the alternative method substantiated.

For any project that would impact tidal wetlands, tidal waters, or associated sand dunes, the applicant shall:

☒ Use the results of the CFA to select the location of the proposed project having the least impact to tidal wetlands, tidal waters, or associated sand dunes;

☒ Design the proposed project to have the least impact to tidal wetlands, tidal waters, or associated sand dunes;

☒ Where impact to wetland and other coastal resource functions is unavoidable, limit the project impacts to the least valuable functions, avoiding and minimizing impact to the highest and most valuable functions; and

☒ Include on-site minimization measures and construction management practices to protect coastal resource areas.

Projects in coastal areas shall use results of this CFA to:

☒ Minimize adverse impacts to finfish, shellfish, crustacean, and wildlife;

☒ Minimize disturbances to groundwater and surface water flow;

☒ Avoid impacts that could adversely affect fish habitat, wildlife habitat, or both; and

☒ Avoid impacts that might cause erosion to shoreline properties.

SECTION 4 - VULNERABILITY ASSESSMENT (Env-Wt 603.05)

Refer to the New Hampshire Coastal Flood Risk Summary Part 1: Science and New Hampshire Coastal Flood Risk Summary Part II: Guidance for Using Scientific Projections or other best available science to:

Determine the time period over which the project is designed to serve.

See Appendix K

Identify the project's relative risk tolerance to flooding and potential damage or loss likely to result from flooding to buildings, infrastructure, salt marshes, sand dunes and other valuable coastal resource areas.

See Appendix K

Reference the projected sea-level rise (SLR) scenario that most closely matches the end of the project design life and the project's tolerance to risk or loss.

See Appendix K

Identify areas of the proposed project site subject to flooding from SLR.

See Appendix K

Identify areas currently located within the 100-year floodplain and subject to coastal flood risk.

See Appendix K

Describe how the project design will consider and address the selected SLR scenario within the project design life, including in the design plans.

See Appendix K

Where there are conflicts between the project's purpose and the vulnerability assessment results, schedule a pre-application meeting with the department to evaluate design alternatives, engineering approaches, and use of the best available science.

☒ Pre-application meeting date held: **7/13/2022**

SECTION 5 - DESIGN PLANS (Env-Wt 603.07, in addition to Env-Wt 311)

Submit design plans for the project in both plan and elevation views that clearly depict and identify all required elements.

The plan view shall depict the following:

☒ The engineering scale used, which shall be no larger than one inch equals 50 feet;

☒ The location of tidal datum lines depicted as lines with the associated elevation noted, based on North American Vertical Datum of 1988 (NAVD 88), derived from https://tidesandcurrents.noaa.gov/datum_options.html, as described in Section 6.

☒ An imaginary extension of property boundary lines into the waterbody and a 20-foot setback from those property line extensions;

☒ The location of all special aquatic sites at or within 100 feet of the subject property;

☒ Existing bank contours;

☒ The name and license number, if applicable, of each individual responsible for the plan, including:

a. The agent for tidal docking structures who determined elevations represented on plans; and

b. The qualified coastal professional who completed the CFA report and located the identified resources on the plan;

☒ The location and dimensions of all existing and proposed structures and landscape features on the property;

☒ Tidal datum(s) with associated elevations noted, based on NAVD 88; and

☒ Location of all special aquatic sites within 100-feet of the property.

The elevation view shall depict the following:

☒ The nature and slope of the shoreline;

☒ The location and dimensions of all proposed structures, including permanent piers, pilings, float stop structures, ramps, floats, and dolphins; and

☒ Water depths depicted as a line with associated elevation at highest observable tide, mean high tide, and mean low tide, and the date and tide height when the depths were measured. Refer to Section 6 for more instructions regarding water depth supporting information.

See specific design and plan requirements for certain types of coastal projects:

- Overwater structures (Env-Wt 606).
- Dredging activities (Env-Wt 607).
- Tidal beach maintenance (Env-Wt 608).
- Tidal shoreline stabilization (Env-Wt 609).
- Protected tidal zone (Env-Wt 610).
- Sand Dunes (Env-Wt 611).

SECTION 6 - WATER DEPTH SUPPORTING INFORMATION REQUIRED (Env-Wt 603.08)

Using current predicted NOAA tidal datum for the location, and tying field measurements to NAVD 88, field observations of at least three tide events, including at least one minus tide event, shall be located to document the range of the tide in the proposed location showing the following levels:

☒ Mean lower low water;
☒ Mean low water;
☒ Mean high water;
☒ Mean tide level;
☒ Mean higher high water;
☒ Highest observable tide line; and
☒ Predicted sea-level rise as identified in the vulnerability assessment in Env-Wt 603.05.

The following data shall be presented in the application project narrative to support how water depths were determined:

☒ The date, time of day, and weather conditions when water depths were recorded; and
☒ The name and license number of the licensed land surveyor who conducted the field measurements.

For tidal stream crossing projects, provide:

☒ Water depth information to show how the tier 4 stream crossing is designed to meet Env-Wt 904.07(c) and (d).

For repair, rehabilitation or replacement of tier 4 stream crossings:

☒ Demonstrate how the requirements of Env-Wt 904.09 are met.

SECTION 7 - GENERAL CRITERIA FOR TIDAL BEACHES, TIDAL SHORELINE, AND SAND DUNES (Env-Wt 604.01)

Any person proposing a project in or on a tidal beach, tidal shoreline, or sand dune, or any combination thereof, shall evaluate the proposed project based on:

☒ The standard conditions in Env-Wt 307;
☒ The avoidance and minimization requirements in Env-Wt 311.07 and Env-Wt 313.03;
☒ The approval criteria in Env-Wt 313.01;
☒ The evaluation criteria in Env-Wt 313.05;
☒ The project specific criteria in Env-Wt 600;
☒ The CFA required by Env-Wt 603.04; and
☒ The vulnerability assessment required by Env-Wt 603.05.

New permanent impacts to sand dunes that provide coastal storm surge protection for protected species or habitat shall not be allowed except:

☐ To protect public safety; and
☐ Only if constructed by a state agency, coastal resiliency project, or for a federal homeland security project.

Projects in or on a tidal beach, tidal shoreline, or sand dune shall support integrated shoreline management that:

☒ Optimizes the natural function of the shoreline, including protection or restoration of habitat, water quality, and self-sustaining stability to flooding and storm surge; and
☒ Protects upland infrastructure from coastal hazards with a preference for living shorelines over hardened shoreline practices.

SECTION 8 - GENERAL CRITERIA FOR TIDAL BUFFER ZONES (Env-Wt 604.02)

The 100-foot statutory limit on the extent of the tidal buffer zone shall be measured horizontally. Any person proposing a project in or on an undeveloped tidal buffer zone shall evaluate the proposed project based on:

☒ The standard conditions in Env-Wt 307;

☒ The avoidance and minimization requirements in Env-Wt 311.07 and Env-Wt 313.03;

☒ The approval criteria in Env-Wt 313.01;

☒ The evaluation criteria in Env-Wt 313.05;

☒ The project specific criteria in Env-Wt 600;

☒ The CFA required by Env-Wt 603.04; and

☒ The vulnerability assessment required by Env-Wt 603.05.

Projects in or on a tidal buffer zone shall preserve the self-sustaining ability of the buffer area to:

☒ Provide habitat values;

☒ Protect tidal environments from potential sources of pollution;

☒ Provide stability of the coastal shoreline; and

☒ Maintain existing buffers intact where the lot has disturbed area defined under RSA 483-B:4, IV.

SECTION 9 - GENERAL CRITERIA FOR TIDAL WATERS/WETLANDS (Env-Wt 604.03)

Except as allowed under Env-Wt 606, permanent new impacts to tidal wetlands shall be allowed only to protect public safety or homeland security. Evaluation of impacts to tidal wetlands and tidal waters shall be based on:

☒ The standard conditions in Env-Wt 307;

☒ The avoidance and minimization requirements in Env-Wt 311.07 and Env-Wt 313.03;

☒ The approval criteria in Env-Wt 313.01;

☒ The evaluation criteria in Env-Wt 313.05;

☒ The project specific criteria in Env-Wt 600;

☒ The CFA required by Env-Wt 603.04; and

☒ The vulnerability assessment required by Env-Wt 603.05.

Projects in tidal surface waters or tidal wetlands shall:

☒ Optimize the natural function of the tidal wetland, including protection or restoration of habitat, water quality, and self-sustaining stability to storm surge;

☒ Be designed with a preference for living shorelines over hardened stabilization practices; and

☒ Be limited to public infrastructure or restoration projects that are in the interest of the general public, including a road, a bridge, energy infrastructure, or a project that addresses predicted sea-level rise and coastal flood risk.

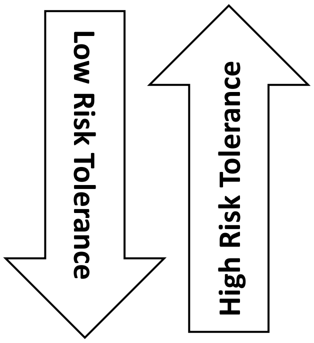
SECTION 10 – GUIDANCE

Your application must follow the New Hampshire Coastal Risk and Hazards Commission's Guiding Principles or other best available science. Below are some of these guidance principles:

- Incorporate science-based coastal flood risk projections into planning;
- Apply risk tolerance* to assessment, planning, design, and construction;
- Protect natural resources and public access;
- Create a bold vision, start immediately, and respond incrementally and opportunistically as projected coastal flood risks increase over time; and
- Consider the full suite of actions including effectiveness and consequences of actions.

*Risk tolerance is a project's willingness to accept a higher or lower probability of flooding impacts. The diagram below gives examples of project with lower and higher risk tolerance:

Critical infrastructures, historic sites, essential ecosystems, and high value assets typically have lower risk tolerance, and thus should be planned, designed, and constructed using higher coastal flood risk projections.



Sheds, pathways, and small docks typically have higher risk tolerance and thus may be planned, designed, and constructed using less protective coastal flood risk projections.

Project Narrative

Background

Prescott Park is a city-owned, 10-acre, public park located in downtown historic Portsmouth with over 1,150 linear feet of Piscataqua River waterfront. One of the city's most beloved spaces, the park hosts many thousands of visitors each year for regular daily use, a seasonal performing arts festival, and other annual events. Yet, the park is the neighborhood's lowest point and gateway for flooding today. As the impacts of climate change-driven sea level rise and intensifying storms becomes more severe, Prescott Park and many of Portsmouth's most important historic resources nearby are vulnerable. Partnering with Weston & Sampson, the city began its planning efforts in 2016 to develop a master plan that allows the park to function better, to strengthen its role as an arts venue, and to reduce overall flooding. Through an implementation study, the team developed a comprehensive resiliency strategy was critically important to the park's proposed improvements. Collectively, these improvements will mitigate flooding impacts for the entire neighborhood in the future.

Long Term Planning

The proposed resiliency strategy to mitigate flooding impacts at Prescott Park is three-fold: 1) **protect** the park along its seawall edge (install tide gates and raise the seawall); 2) **retreat** critical infrastructure (raise and shift significant buildings to a higher elevation); and 3) **accommodate** for flooding (regrade the central lawn and increase storm drain sizes to hold 300,000 gallons of stored water during peak storm events).

PROTECT

PROTECT THE PARK BY IMPROVING SEAWALL INFRASTRUCTURE, ADDING TIDE GATES, AND MANAGING ONSITE STORMWATER

RETREAT

RETREAT FROM SEA LEVEL RISE BY RAISING & SHIFTING THE SHAW TO A HIGHER ELEVATION TOWARDS MARCY STREET

ACCOMMODATE

ACCOMMODATE FOR FLOODING BY CREATING TEMPORARY ABOVE GROUND STORMWATER HOLDING DURING PEAK STORM EVENTS

Figure 1: Resiliency Strategy Diagram

Given the magnitude of these improvements, it is not practicable to implement all the components of this resiliency strategy at a single time. Instead, the proposed Prescott Park improvements will be implemented in several Phases over an extended time period. The exact timeline and scope of each of these phases will be determined based on funding availability. However, a general breakdown of the proposed phasing of the project is as follows:

Figure 2: Master Plan Proposed Phasing Plan (above). Revised limits of Phase 1 and Phase 1A (below).

<u>Phase 1:</u>

Proposed improvements for Phase 1A and 1B include:

Phase 1A (Current Application Submission):

- Removal of asphalt pavement on Water Street.
- Trenching and installation of new sewer, water, gas, and storm water infrastructure under Water Street. Connect stormwater through to the Piscataqua and make it operational. Addition of a tide gate.
- Demolition of the “Garage” and “Lean-To” structures, back filling of the existing foundations.
- Lifting and relocation of the Shaw building onto its new foundation. Excavate for and place new foundations for the Shaw building.
- A long sloping lawn (approx. +3’ high will exist along the entire length of the Phase 1A work line, to accommodate the new grade change, and until the remaining phases are implemented.
- Backfilling of Water Street to a new elevation matching the grade at Liberty Lawn.
- Resurfacing of Water Street and final landscape restoration within the limit of work. The “feathering” of the landscape into existing surfaces that are remaining for future phases.
- Installation of pedestrian lighting within the limit of work. Installation of conduit for future lighting is included in the base contract, no matter if this is included.

Removal of existing chain link fencing and installation of new guardrail along the existing seawall, from the flagpole to Mechanic Street

- Repairs to the existing seawall, including re-pointing, spot repairs, and vegetation removal

Phase 1B:

- Construction of a granite-block terraced seawall along the Piscataqua River
- Regrading of the performance lawn for above-ground stormwater holding capacity during storm events
- New and upgraded storm drainage and utilities; installation of new tide gates on new and existing lines
- Pedestrian circulation and pathway accessibility upgrades
- Landscape restoration associated with these upgrades to the park

Current Scope

This current permitting application focuses on Phase 1A of the proposed Prescott Park as outlined above.

Figure 3: Proposed Phase 1A Limits. This image should be used to refence the general location of Phase 1A only. Any other proposed changes to the landscape and/or buildings will be addressed in future permitting efforts.)

Specifically, improvements include the following:

Rehabilitation of Existing Seawall

Prescott Park is separated by the Piscataqua River via a seawall made of several different material types. This existing seawall is composed of stacked blocks with mortar, stacked stone with mortar, and steel bulkhead segments which have been installed and repaired at different times throughout the park's history. This proposed phase of improvements includes rehabilitation of the existing seawall components which start at the southeastern edge of the park and continue northwest until the public docks.

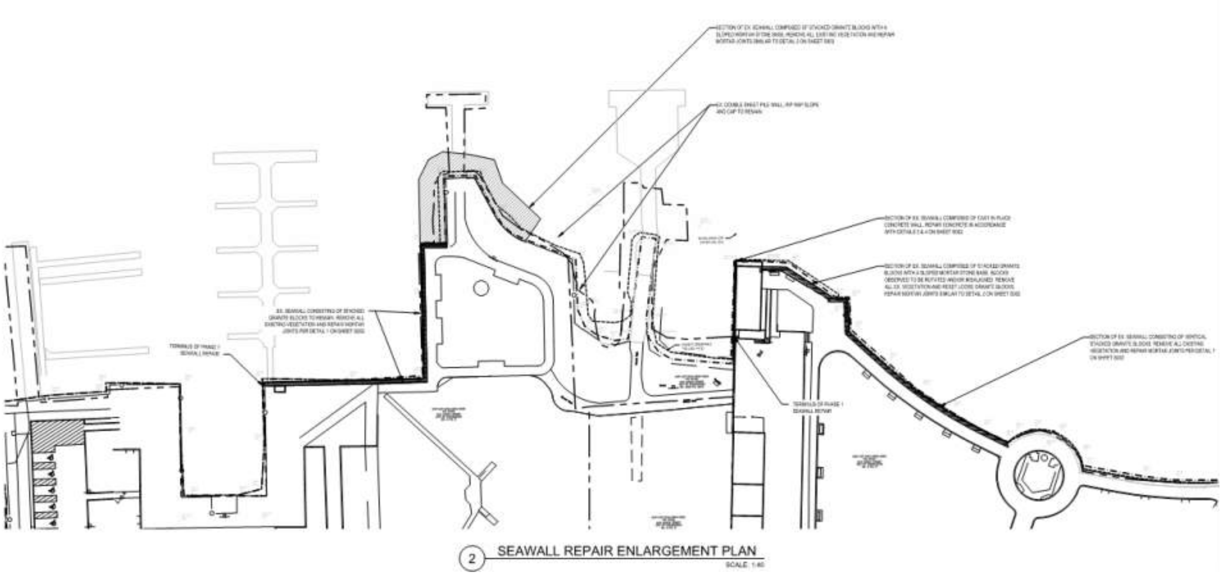


Figure 4: Section of Seawall Repair Plan From Plan Sheet S001

A seawall assessment was completed by Weston & Sampson Engineers in 2017 (See Appendix O) which indicates that intermittent repointing and mortar repairs to the quaywalls are needed. Quaywall is a term used for a retaining wall which used for mooring and berthing floating vessels which speaks to the current and historic uses of the park space. To complete the proposed repairs, the retaining wall must be cleaned of the existing vegetative growth. This vegetative growth is composed of common species including knotted wrack (*Ascophyllum nodosum*), bladder wrack (*Fucus vesiculosis*) and sea lettuce (*Ulva lactuca*). No salt marsh vegetation or eelgrass has been found in these areas. Per conversations with the Army Corps and NHDES, this proposed vegetation removal is being considered a temporary impact due to the rapid re-growth rate of these species. The potential to save the removed vegetation for "re-seeding" of the retaining walls was investigated but no feasible method was found due to the water velocities and wave impacts associated with the Piscataqua River. All of the proposed repair work will occur above the Mean Low Water line and will be conducted by hand utilizing boats for access. No dewatering of the area is proposed. The existing vegetation will be removed by hand and/or via mechanical means (ex. pressure washing) depending on wall conditions but no chemical means of vegetation removal will be utilized. Impacts for vegetation removal account for 771 linear feet of temporary impact to the seawall (river bank).

In addition to the mortar repairs, several of the large granite blocks which make up the cap to the existing retaining wall have shifted. These shifted granite blocks are intermittently spaces along the length of the retaining wall. The project proposed to realign these granite blocks to their pre-existing condition. Impacts for repointing and mortar repairs account for 771 linear feet of temporary impact to the seawall (river bank).

Relocation of the Shaw Building

There are two historic buildings located on the Prescott Park property: the Sheafe Warehouse (Sheafe) and the Shaw Warehouse (Shaw).

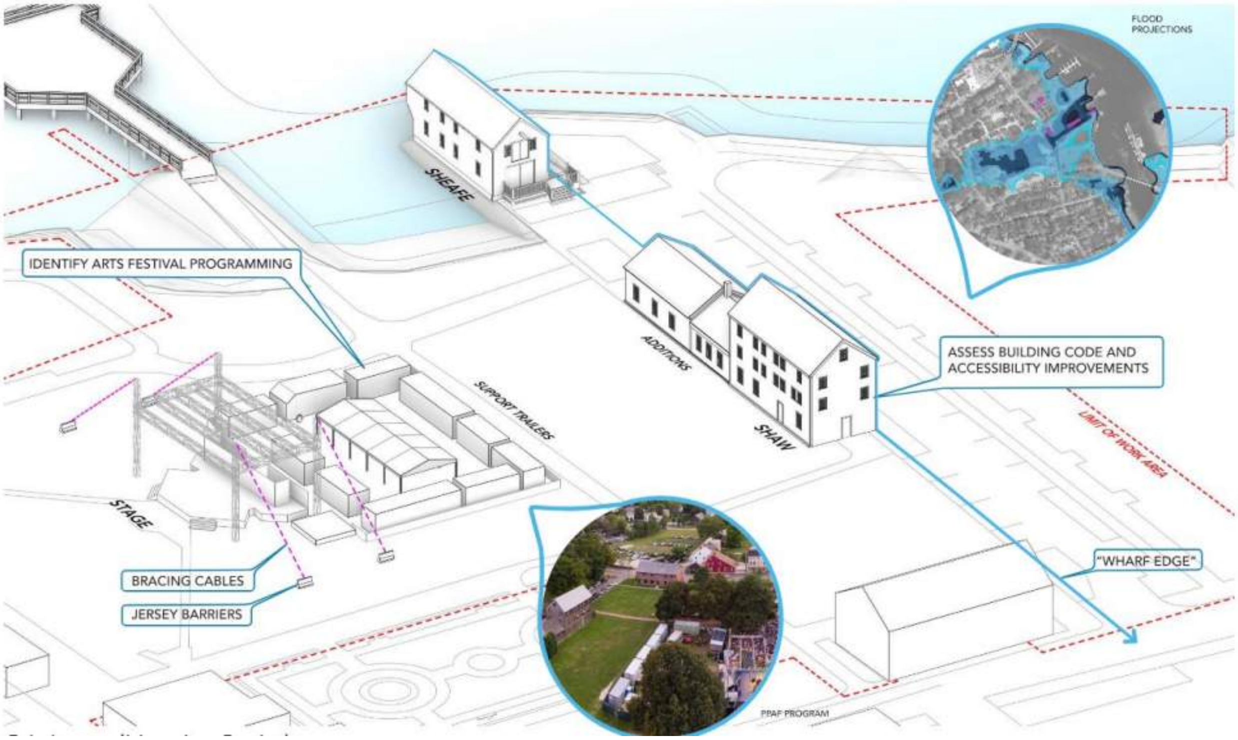


Figure 5: Existing Building Locations, as shown during an Arts Festival Season

While the Sheafe is located at an elevated position the Shaw is lower in the landscape and vulnerable to flooding damage. Consequently, we are proposing to relocate and elevate the Shaw further south towards Marcy Street to protect this valuable historic resource.

According to the New Hampshire Division of Historical Resources (DHR) eligibility documentation, the Shaw is eligible for both the National and State Register of Historic Places. According to the DHR inventory documents, the Shaw originally stood on Shaw's Wharf. Both the warehouse and the wharf were built by Abraham Shaw between 1806 and 1813. In later years (circa 1900 and 1987 respectively) Lean-to and Garage additions were added to the north side of the Shaw. As noted in the *NH Division of Historical Resources Determination of Eligibility, dated March 15, 2011*, in reference to both the Garage and Lean-To - "these later additions are of no particular historical value, but the Shaw Warehouse main building is an excellent example of the sturdy waterfront warehouses required to store and process large cargos of the early 19th century". Weston & Sampson is working with a preservation architect as well as the DHR to ensure that this historic building is being moved in keeping with all required federal protective measures. The City of Portsmouth's Historic District Commission provided a Certificate of Approval for the proposed work (See Appendix F).

The proposed relocation of the Shaw would move the building approximately 77ft to the north along its existing axis adjacent to Water Street. It is critical to keep the Shaw building in the same general orientation due to the position of the historic wharf. Within this scope of work, the Lean-To and Garage will be demolished, the Shaw Building will be lifted up and moved closer to Marcy Street, effectively relocating it out of its vulnerable location within the flood zone and placed on a new foundation; and a full exterior renovation will be completed due to the needed structural reinforcement. The interior will be mothballed with methods a part of the U.S. Department of the Interior National Park Service's Mothballing of Historic Buildings. Each exterior façade of the Shaw building will include repairs. Proposed renovations generally include the following:

- New painted wood lined gutters and leaders
- New cedar shingle roofing with copper flashing
- New painted wood windows, casings and sills
- New painted wood corner boards and rakes
- New western red cedar shake shingles
- Demolition of the existing bathroom doors and replace with new painted wood window system.
- New reinforced concrete and stone foundation system with reinforced concrete slab. Option to salvage stone for reuse with new foundation. Stone condition to be field verified.
- Existing heavy timber structural frame to remain. Include structural repairs as required by the structural engineer.
- All planned materials for the renovation are to match existing materials with improvements as noted.

Future improvements within the Shaw will occur to make is useable once again once funding becomes available. Impacts associated with the relocation of the Shaw have been included in the impact calculations for work in the previously developed tidal buffer zone which accounts for a cumulative 22,387 SF of permanent impact and 5,278 SF of temporary impact.

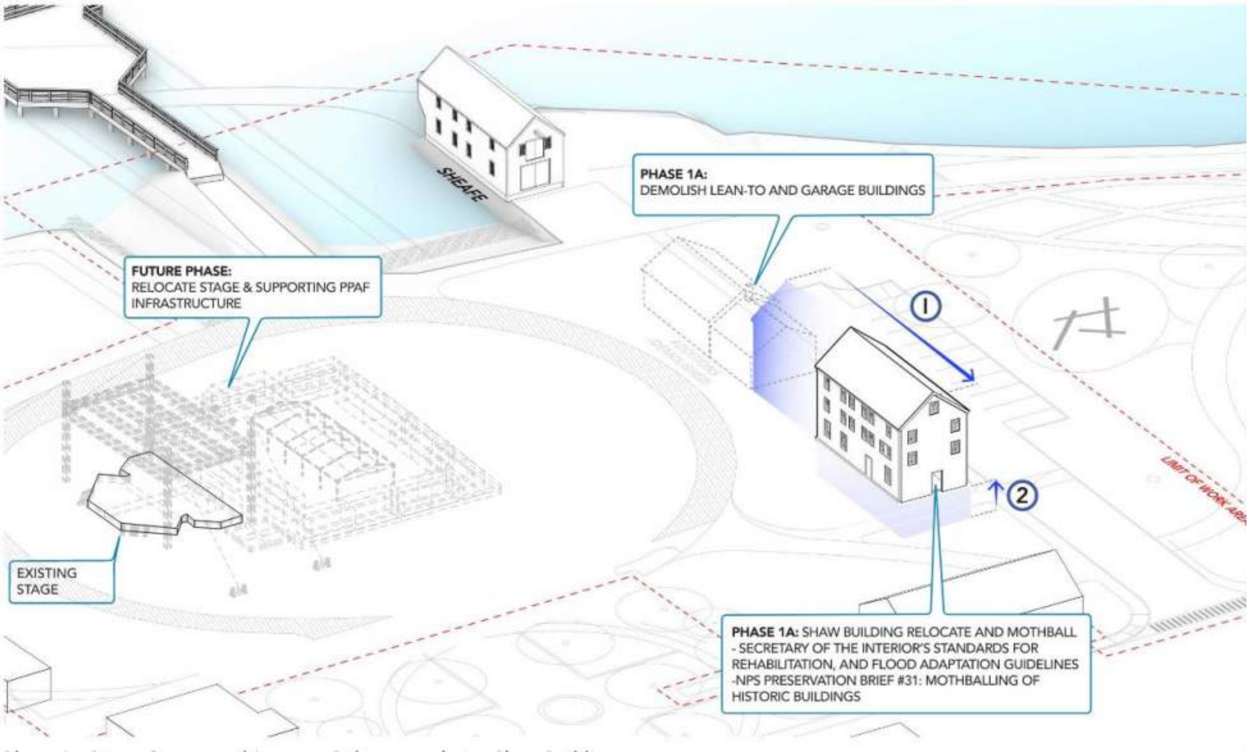


Figure 6: Demolish Garage and Lean-to, Relocate and Raise the Shaw Building

Storm Drainage and Utilities

Today, Prescott Park's aging infrastructure does not adequately mitigate flooding in the park and surrounding neighborhood. This challenge will only become more pronounced as forecasted sea level rise continues and intense rainfall events increase in frequency. For the present day 25-year, 24-hour design storm, most flooding occurs upgradient of Prescott Park, with only minor flooding within the park itself thanks to its dry wells. This trend remains true for future predictions through mid-century. By late 21st century (2090-2100), however, the pattern of flooding for the 25-year, 24-hour storm is expected to change significantly as sea level rise impacts the tidally influenced Piscataqua and surcharges the park's drainage systems through its several outfalls.

To combat this future flooding, improvements to the stormwater drainage and associated utilities are necessary. Through proposed regrading and updated stormwater infrastructure along Water Street at the Shaw, water will be collected into the proposed 24-inch-diameter stormwater culvert and associated catch basins. Much of the larger regrading efforts in the park will occur in future phases including the construction of a bowl-shaped performance lawn which will provide storage for 300,000 gallons of stored water during peak storm events. During this proposed permitting effort, the stormwater infrastructure along Water Street will be installed to divert water from new catch basins and in preparation for these future improvements to the park. Two new catch basins are proposed within the 100-foot tidal buffer zone (See Attached Plans, Appendix Q). Impacts associated with the storm drainage and utilities have been included in the impact calculations for work in the previously developed tidal buffer zone which accounts for a cumulative 22,387 SF of permanent impact and 5,278 SF of temporary impact.

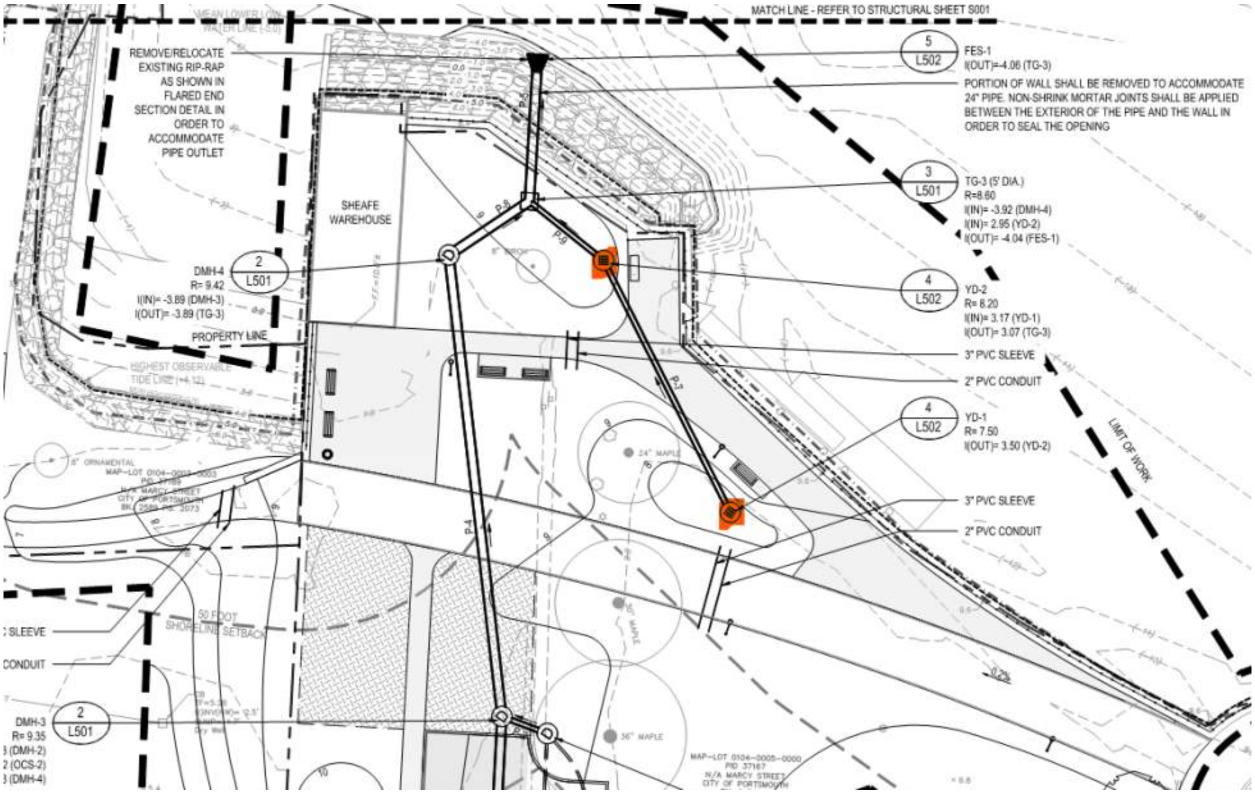


Figure 7: Proposed Catch Basins from Plan Sheet L141

To allow the newly proposed stormwater culvert to drain into the Piscataqua, a new culvert outfall is proposed. This proposed outfall will be located south of the Sheafe Warehouse where currently seawall exists. The proposed 24-inch-diameter stormwater culvert will discharge through the existing seawall where a flared end will be installed to prevent erosion. 14 square feet (SF) of permanent impact will be required within the Piscataqua River To install the outfall and flared end structure. This is the only permanent impact proposed to the Piscataqua River as a result of this Phase 1A permitting submission. Impacts associated with the new outfall account for 14 SF and 5 linear feet (LF) of permanent impact.

Additional utilities to be updated along Water Street include the sewer lines, water lines, gas lines and electrical. These utility improvements will serve to prepare the park for the currently proposed improvements and future phases of work (See Attached Plans, Appendix Q). Impacts associated with the utilities have been included in the impact calculations for work in the previously developed tidal buffer zone which accounts for a cumulative 22,387 SF of permanent impact and 5,278 SF of temporary impact.

Tide Gate

Under the current conditions in Prescott Park, during storm events water can back up into the stormwater drainage outfalls from the Piscataqua River. This means that overland flow from the storm events is not able to effectively drain into the stormwater system, leaving the park and adjacent neighborhood is subject to flooding concerns. Since more frequent, high intensity storms are predicted in the future, this proposal includes installation of a tide gate in the proposed 24-inch-diameter stormwater culvert.

Figure 8: Proposed Tide Gate From Plan Sheet L141

This type of proposed tide gate is installed using a manhole (hatch) for access and within the stormwater culvert. Utilizing this technology, the tide gate will only permit flow in only one direction. This means that as water levels rise in the Piscataqua seawater is prevented from backing up into the stormwater system while stormwater drainage is still allowed to flow towards the new outfall. There will be no direct impacts to the Piscataqua River as a result of this tide gate installation.

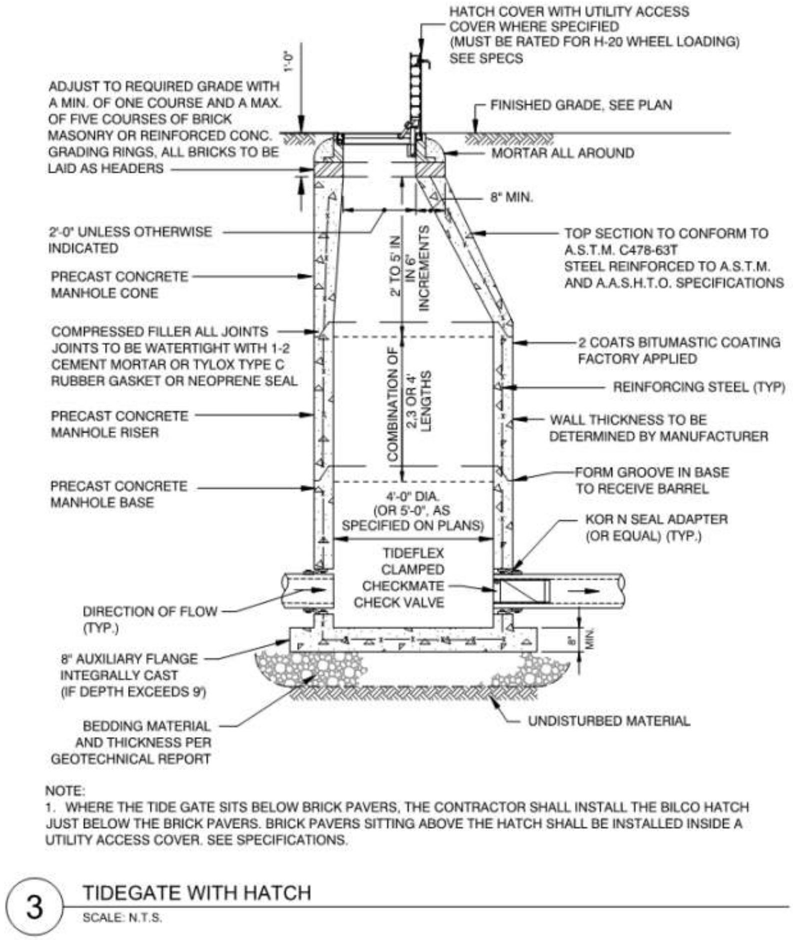


Figure 9: Proposed Tide Gate from Plan Sheet L501

Impacts associated with the tide gate installation have been included in the impact calculations for work in the previously developed tidal buffer zone which accounts for a cumulative 22,387 SF of permanent impact and 5,278 SF of temporary impact.

Site Regrading

A major goal of the proposed Prescott Park Master Plan is to promote pedestrian and greenspace connectivity throughout the entire park. Given the park sits on what was a former working waterfront and the park is an assemblage of properties acquired over time, Water Street has become a physical break between the southeastern and northwestern portions of the park. The elevational change on the southern side of Water Street accentuates this disconnect. The southeastern half of Prescott Park (Lot 0104-0005-0000) is approximately 3 feet higher in elevation than the remaining northwestern half of the park. This grade change means that the only way to smoothly transition from one half of the park to the other is via a narrow set of stairs or ramp located at the end of Water Street adjacent to the Sheafe. The proposed Phase 1A efforts seek to link these two halves of the park by raising the grades along Water Street and the Shaw. Elevating Water Street will allow for a wide, accessible pathway to be added in front of the Sheafe and along the Piscataqua, thereby connecting the two halves of the park. The proposed regrading of Water Street will also provide the necessary space below Water Street for a new and improved stormwater drainage ‘preferential pathway' that can handle larger flows. The proposed regrading will feather into the existing park contours so that use of the park will not be interrupted between the phases of the park improvements.

Future regrading will be needed when the granite-block terraced seawall is installed in Phase 1B, which is needed under the 'protection' category of our resiliency interventions needed at Prescott Park. As part of Phase 1A, there is just one location (immediate west of the Sheafe) where the seawall elevation will need to be raised three feet to accommodate the proposed grade changes. This vertical extension of the seawall will occur within the footprint of the existing wall and will result in 33 linear feet of permanent impact to the bank of the river (shown in green below).

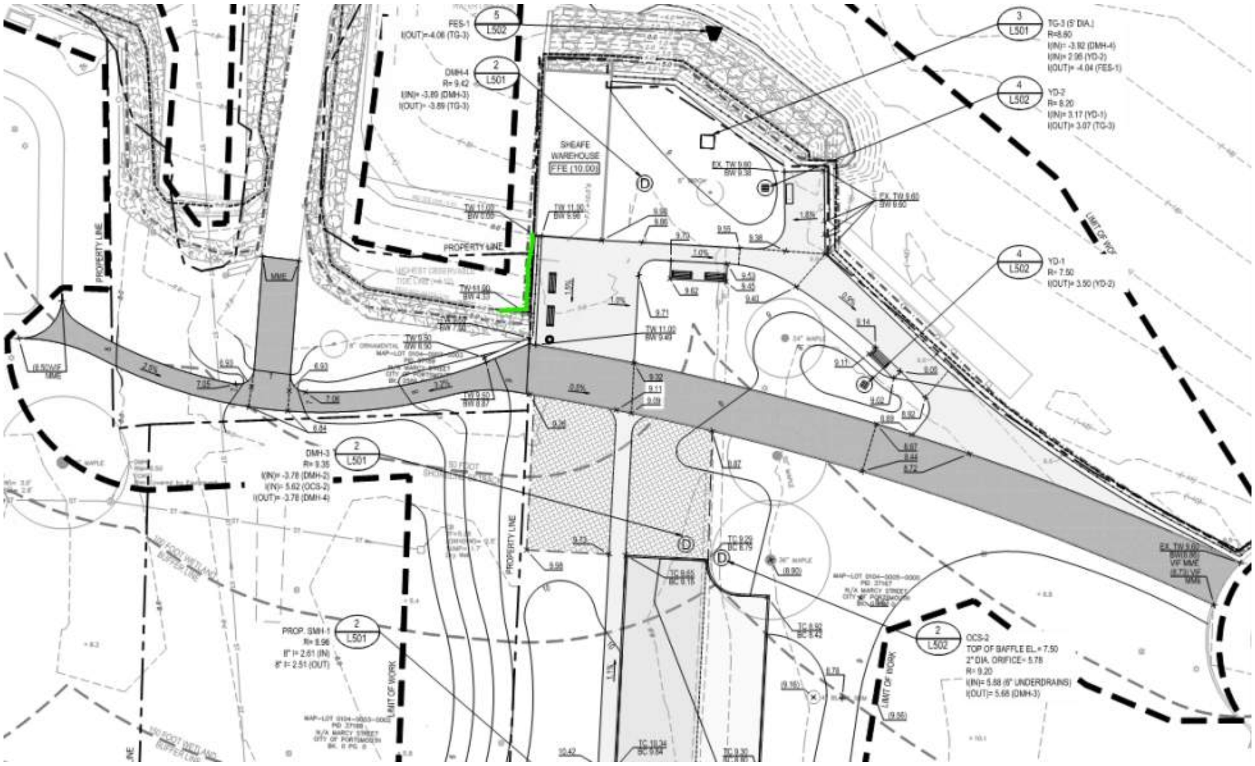


Figure 10: Proposed Vertical Wall Extension From Plan Sheet L140

Impacts associated with the site regrading have been included in the impact calculations for work in the previously developed tidal buffer zone which accounts for a cumulative 22,387 SF of permanent impact and 5,278 SF of temporary impact.

Reconfiguration of Water Street Parking

Parking within the Prescott Park property is extremely limited. The current parking configuration on Water Street is parallel spots along both sides of the road before reaching a dead end at the Sheafe. This current parking configuration is extremely challenging to maneuver and creates a visual barrier between the two halves of the park. The Phase 1A park improvements include upgrades to the proposed parking on Water Street which will allow for traditional "head in" parking spaces with no public parallel spaces which will allow for better circulation along the roadway. Concentrating the parking improves sightlines across the park and more accurately mimics a historic wharf configuration. To limit the amount of impervious area on sight, the newly proposed parking spaces will utilize porous pavement.

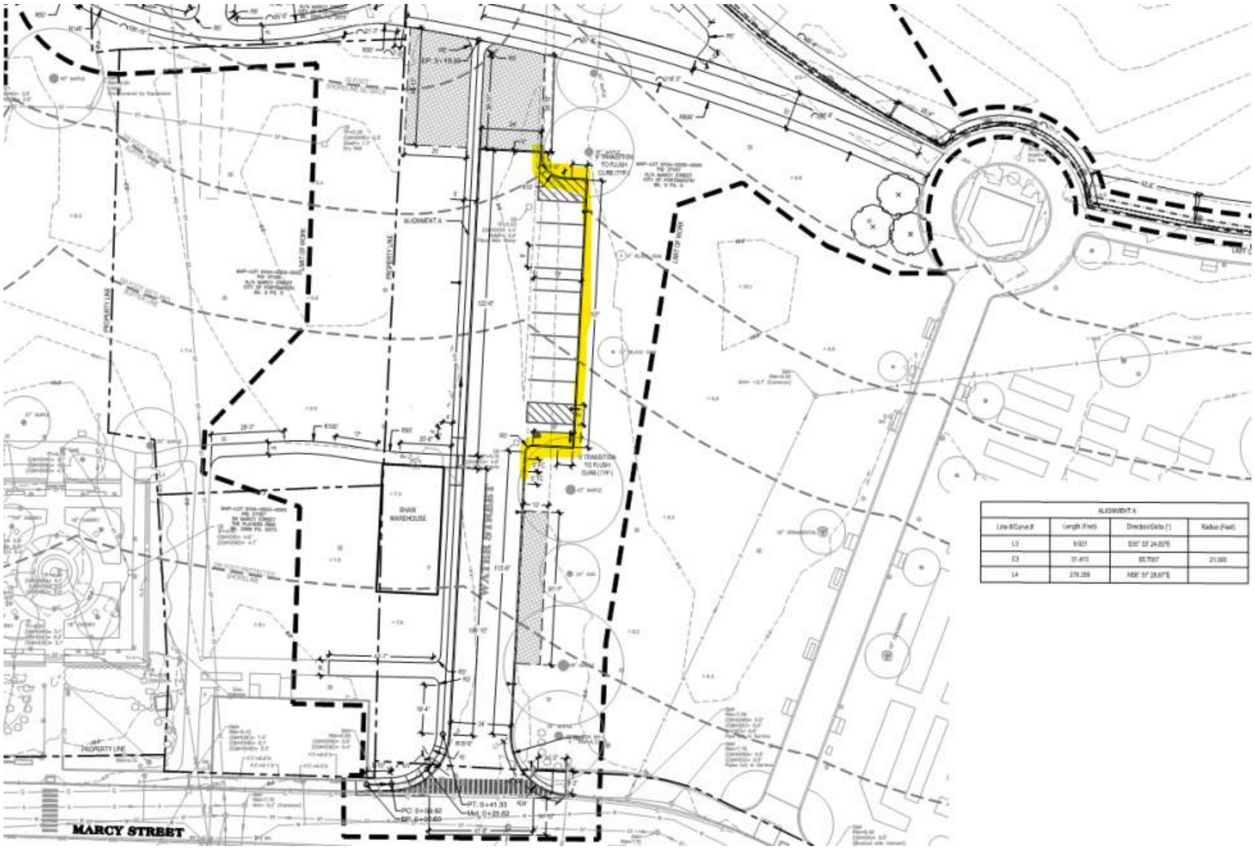


Figure 11: Proposed Parking from Plan Sheet L130

Landscape Restoration

It is important to the City that Prescott Park remain a useable and aesthetically pleasing space between construction phases. As a result, upon the completion of the proposed Phase 1A construction all open areas will be re-seeded to allow for grass re-growth. This will keep infiltration within the park space high and allow for continuous vegetative cover. No tree removal is proposed as part of the Phase 1A effort.

Environmental Considerations - Standard Dredge and Fill Wetlands Permit

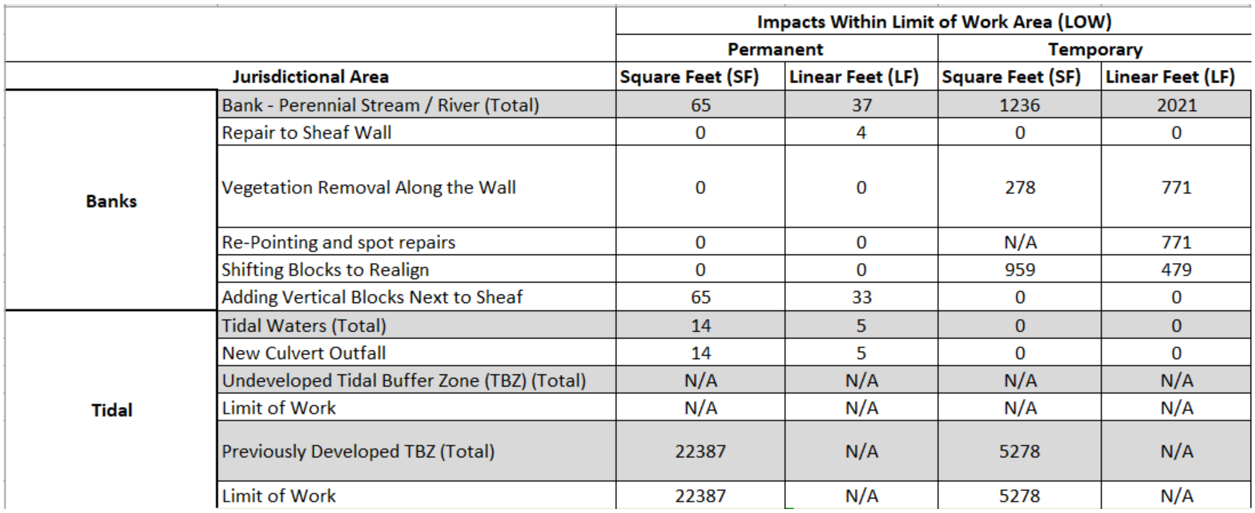
Project Classification

The proposed project is being submitted as a Major Impact Project due to the following.

Per Env-Wt 610.17(a) "*a major project shall be: (1) Any dredging, filling, or construction activity, or any combination thereof, that is proposed to: a. Occur within 100 feet of the HOTL; and b. Alter any tidal shoreline bank, tidal flat, wetlands, surface water, or undeveloped uplands*."

The Piscataqua River is a tidal water and as such is considered a “Priority Resource Area” (PRA) according to Env-Wt 103.66. Per Env-Wt 407.02 (a) “*a project that impacts a PRA and that does not qualify for a project-type exception (PTE) under Env-Wt 407.04 shall be classified as a major project regardless of the size of the impact*.”

Impact Calculations



		Impacts Within Limit of Work Area (LOW)			
		Permanent		**Temporary**	
	Jurisdictional Area	**Square Feet (SF)**	**Linear Feet (LF)**	**Square Feet (SF)**	**Linear Feet (LF)**
Banks	Bank - Perennial Stream / River (Total)	65	37	1236	2021
	Repair to Sheaf Wall	0	4	0	0
	Vegetation Removal Along the Wall	0	0	278	771
	Re-Pointing and spot repairs	0	0	N/A	771
	Shifting Blocks to Realign	0	0	959	479
	Adding Vertical Blocks Next to Sheaf	65	33	0	0
Tidal	Tidal Waters (Total)	14	5	0	0
	New Culvert Outfall	14	5	0	0
	Undeveloped Tidal Buffer Zone (TBZ) (Total)	N/A	N/A	N/A	N/A
	Limit of Work	N/A	N/A	N/A	N/A
	Previously Developed TBZ (Total)	22387	N/A	5278	N/A
	Limit of Work	22387	N/A	5278	N/A

Table 1: Impact Calculation Breakdown

Methods, Timing, and Manner

An explanation as to methods, timing, and manner as to how the project will meet standard permit conditions specified in Env-Wt 307.

Env-Wt 307.02 Requirements for Coverage Under State General Permits.

The proposed project does include work that is in areas under the jurisdiction of the U.S. Army Corps of Engineers (US ACE). The project shall comply with all conditions of the applicable state general permit.

Env-Wt 307.03 Protection of Water Quality Required.

Prior to the commencement of any work on site erosion control measures will be installed in accordance with the manufacturer’s recommended specifications to prevent any unwanted migration of sediment into the adjacent Piscataqua River. Proposed erosion control measures include straw wattles around the limits of excavation. These erosion control measures shall be maintained so as to ensure continued effectiveness in minimizing erosion and retaining sediment on-site during and after construction;

Env-Wt 307.04 Protection of Fisheries and Breeding Areas Required.

No work shall produce suspended sediment in jurisdictional areas that provide value as bird migratory areas or fish and shellfish spawning or nursery areas.

Env-Wt 307.05 Protection Against Invasive Species Required.
Any heavy machinery on site shall be inspected for and cleaned of all vegetative matter by a method and in a location that prevents the spread of the vegetative matter to jurisdictional areas. To prevent the use of soil or seed stock containing nuisance or invasive species, the contractor responsible for work shall follow the Invasive Plant BMPs.

Env-Wt 307.06 Protection of Rare, Threatened or Endangered Species and Critical Habitat.
Per the NHB Data Check the project will not jeopardize the continued existence of a threatened or endangered species, a species proposed for listing as threatened or endangered, or designated or proposed critical habitat.

Env-Wt 307.07 Consistency Required with Shoreland Water Quality Protection Act.
All development activities associated with this project shall be conducted in compliance with applicable requirements of RSA 483-B and Env-Wq 1400 during and after construction.

Env-Wt 307.08 Protection of Designated Prime Wetlands and Duly-Established 100-Foot Buffers.
No prime wetland or associated buffer zones are present on site.

Env-Wt 307.10 Dredging Activity Conditions.
No dredging proposed.

Env-Wt 307.11 Filling Activity Conditions.
All fill used on site shall be clean sand, gravel, rock, or other material that meets the project's specifications for its use; and does not contain any material that could contaminate surface or groundwater or otherwise adversely affect the ecosystem in which it is used.

Env-Wt 307.12 Restoring Temporary Impacts; Site Stabilization.
Within 3 days of final grading or temporary suspension of work in an area that is in or adjacent to surface waters, all exposed soil areas shall be stabilized by seeding and mulching, if during the growing season; or mulching with tackifiers on slopes less than 3:1 or netting and pinning on slopes steeper than 3:1 if not within the growing season. If any temporary impact area that is stabilized with seeding or plantings does not have at least 75% successful establishment of wetlands vegetation after 2 growing seasons, the area shall be replanted or reseeded, as applicable;

Env-Wt 307.13 Property Line Setbacks.
Dredging, filling, or construction activity within a jurisdictional area, that is covered by an LSA or for which a standard permit is required shall occur at least 10 feet from an abutting property line.

Env-Wt 307.14 Rock Removal.
No rock removal is proposed.

Env-Wt 307.15 Use of Heavy Equipment in Wetlands.
Heavy equipment shall not be operated in any jurisdictional area unless specifically authorized in the permit for the project.

Env-Wt 307.16 Adherence to Approved Plans Required.
For any project for which plans were submitted and an SPN, PBN, LSA, EXP, or standard permit was issued, all work on the project shall be done in accordance with the approved plans.

Env-Wt 307.17 Unpermitted Activities.
No work will be done without a permit in violation of RSA 482-A:3:

Env-Wt 307.18 Reports.
No follow up reporting is proposed.

Mitigation

This proposed project includes permanent impacts to a PRA, tidal surface water (Piscataqua River) and Tidal Buffer Zone which indicates that compensatory mitigation needs to be evaluated. A mitigation meeting was held on 7/13/2022 with representatives from the NHDES, City of Portsmouth, and the Army Corps of Engineers. During this meeting, it was determined that the only impacts that would require compensatory mitigation are the permanent impacts to tidal waters which account for 14 SF. See Appendix L for additional information on compensatory mitigation. Per discussion with the Mitigation Coordinator we acknowledge this submission is after the 90-day post meeting window and a second mitigation meeting was deemed unnecessary since no project changes have occurred since the meeting in July.

Project Specific Criteria

Attached to this submission please find the project specific worksheets for tidal shoreline stabilization and the protected tidal zone.

PART Env-Wt 609 TIDAL SHORELINE STABILIZATION

Env-Wt 609.01 Tidal Shoreline Stabilization Requirements. Tidal shoreline stabilization projects shall:

(a) *Maintain or enhance the natural process functions of the shoreline as the critical transition zone between the intertidal zone and upland tidal buffer zone/sand dune regimes;*
This project proposes to maintain the existing conditions associated with the shoreline on site. Existing conditions include a seawall that separates the upland and Piscataqua River.

(b) *Provide wildlife habitat while providing protection against coastal hazards;*
The existing seawall is home to a variety of aquatic vegetation species including knotted wrack (*Ascophyllum nodosum*), bladder wrack (*Fucus vesiculosis*) and sea lettuce (*Ulva lactuca*). These vegetation species provide wildlife habitat for certain invertebrates. The proposed vegetation removal associated with this project is considered a temporary impact as the regrowth associated with these species is rapid. Upon completion of the seawall repairs the vegetation will be allowed to re-grow and return to existing conditions.

(c) *Be compatible with the existing natural land cover and its functions;*
Existing land cover consists of an urban park space and the Piscataqua River. Proposed conditions will not result in any significant changes to these land cover types or their functions.

(d) *Address the known causes of erosion; and*
No erosion present. Mortar repairs and repointing are maintenance that is needed periodically.

(e) *Avoid adverse impacts to nearshore ecosystem processes and habitats and adjacent shoreline.*
The only permanent impacts associated with this project are 14 SF for a new culvert outfall. This culvert outfall will be located within an existing seawall. No adverse impacts to nearshore ecosystem processes and habitats are anticipated as part of this permanent impact.

Env-Wt 609.02 Hierarchy of Tidal Shoreline Stabilization Methods.

This project includes the In-kind maintenance/in-kind repair of an existing installation that is partially exposed at low tide. No work will occur below the mean low water level.

Env-Wt 609.03 Analysis of Existing Structure Conditions Required. As part of an application to repair or rehabilitate an existing tidal shoreline stabilization structure, the engineer or qualified coastal professional shall rate the condition of the existing structure and the purpose for repair based on the following:

(a) *The degree of damage or extent of deterioration, as applicable, such as missing components, cracking, or weeping with erosion;*
No erosion present. Mortar repairs and repointing are maintenance that is needed periodically. See Appendix O Seawall Assessment.

(b) *Whether the existing installation has functioned as intended;*
The existing seawall is functioning as intended. Only temporary maintenance/repairs are proposed.

(c) *Whether opportunities exist to use soft bank stabilization components or a combination of soft and hard components; and*

For this phase of work no opportunity exists for soft bank stabilization. The seawall associated with Prescott Park is a high vertical structure which supports the adjacent developed park space. A hard retaining wall is necessary To maintain the existing park.

(d) *The ability of the structure to withstand coastal flood risk in accordance with the vulnerability assessment required by Env-Wt 603.05.*
Prescott Park is vulnerable to coastal flooding and sea level rise. The proposed project is the initial phase in a long term improvement plan for the park which seeks to protect the local infrastructure from these risks.

PART Env-Wt 610 PROTECTED TIDAL ZONE

Env-Wt 610.01 Applicability. This part shall apply to the tidal buffer zone established in RSA 482-A and to all protected shoreland in coastal areas established by RSA 483-B, referred to collectively as the protected tidal zone.

See attached project specific worksheet for the protected tidal zone.

APPENDIX A

NHDES-W-06-013

STANDARD DREDGE AND FILL
WETLANDS PERMIT APPLICATION
ATTACHMENT A: MINOR AND MAJOR PROJECTS

Water Division/Land Resources Management
Wetlands Bureau

Check the Status of your Application

RSA/ Rule: RSA 482-A/ Env-Wt 311.10; Env-Wt 313.01(a)(1); Env-Wt 313.03

APPLICANT'S NAME: **City of Portsmouth** **TOWN NAME:** Portsmouth

Attachment A is required for *all minor and major projects*, and must be completed *in addition* to the Avoidance and Minimization Narrative or Checklist that is required by Env-Wt 307.11.

For projects involving construction or modification of non-tidal shoreline structures over areas of surface waters having an absence of wetland vegetation, only Sections I.X through I.XV are required to be completed.

PART I: AVOIDANCE AND MINIMIZATION

In accordance with Env-Wt 313.03(a), the Department shall not approve any alteration of any jurisdictional area unless the applicant demonstrates that the potential impacts to jurisdictional areas have been avoided to the maximum extent practicable and that any unavoidable impacts have been minimized, as described in the Wetlands Best Management Practice Techniques For Avoidance and Minimization.

SECTION I.I - ALTERNATIVES (Env-Wt 313.03(b)(1))

Describe how there is no practicable alternative that would have a less adverse impact on the area and environments under the Department's jurisdiction.

PRACTICABLE MEANS AVAILABLE AND CAPABLE OF BEING DONE AFTER TAKING INTO CONSIDERATION COST, EXISTING TECHNOLOGY AND LOGISTICS IN LIGHT OF OVERALL PROJECT PURPOSES (ENV-WT 103.62).

Prescott Park is a highly developed and managed park space owned by the City of Portsmouth. The City is seeking to make improvements to the park because it is an incredibly valuable City resource that attracts a large volume of visitors and it is vulnerable to flooding. There is no practicable method for making improvements to the park without impact to areas under the Wetland Bureaus jurisdiction due to the close proximity of the Piscataqua River.

Due to the aforementioned large volume of public use, logistics, and overall costs of the proposed improvements, the project needs to be completed in phases. The work associated with this current phase (Phase 1A) will not result in any tree removal, will not increase impervious area and will have only 14 SF of permanent impact to tidal waters which will take place along an already disturbed retaining wall.

Prescott Park is separated by the Piscataqua River via a seawall made of several different material types. This proposed phase of improvements includes rehabilitation of the existing seawall. To complete the proposed repairs, the retaining wall must be cleaned of the existing vegetative growth. This temporary impact is unavoidable as the repairs cannot be completed without the removal of the vegetation. Impacts have been minimized by conducting all of the proposed removal by boats and above the Mean Low Water line. No dewatering of the area is proposed.

SECTION I.II - MARSHES (Env-Wt 313.03(b)(2))

Describe how the project avoids and minimizes impacts to tidal marshes and non-tidal marshes where documented to provide sources of nutrients for finfish, crustacean, shellfish, and wildlife of significant value.

This proposed project will not have any impact to tidal or non-tidal marshes.

SECTION I.III - HYDROLOGIC CONNECTION (Env-Wt 313.03(b)(3))

Describe how the project maintains hydrologic connections between adjacent wetland or stream systems.

Prescott Park is located adjacent to the Piscataqua River. This proposed project does not have any other adjacent wetlands or stream systems with hydrologic connections to the Piscataqua.

SECTION I.IV - JURISDICTIONAL IMPACTS (Env-Wt 313.03(b)(4))

Describe how the project avoids and minimizes impacts to wetlands and other areas of jurisdiction under RSA 482-A, especially those in which there are exemplary natural communities, vernal pools, protected species and habitat, documented fisheries, and habitat and reproduction areas for species of concern, or any combination thereof.

Due to the close proximity of the Piscataqua River, there is possible way to make improvements to Prescott Park while avoiding impact to upland areas under the Wetland Bureaus jurisdiction (tidal buffer zone). In order to minimize any possible detrimental impacts to the tidal buffer zone proposed pathways have been specifically located to avoid impacts to existing trees, pervious technology is being utilized to promote infiltration, and the project as a whole seeks to protect the park and surrounding areas from flooding.

A small amount of permanent impact is proposed below the reference line within a tidal water (Piscataqua River) in order to install a new stormwater outfall totaling 14 SF. This outfall is necessary to accommodate the flooding prevention improvements proposed within the park. The impacts associated within the tidal water have been minimized to the maximum extent possible by using a small footprint locating the proposed outfall within an existing, manmade retaining wall.

Prescott Park is separated by the Piscataqua River via a seawall made of several different material types. This proposed phase of improvements includes rehabilitation of the existing seawall. To complete the proposed repairs, the retaining wall must be cleaned of the existing vegetative growth. This temporary impact is unavoidable as the repairs cannot be completed without the removal of the vegetation. Impacts have been minimized by conducting all of the proposed removal by boats and above the Mean Low Water line. No dewatering of the area is proposed.

There are no vernal pools located on site and the NHB data check indicated that the proposed project is not anticipated to impact and rare/endangered species or habitats.

SECTION I.V - PUBLIC COMMERCE, NAVIGATION, OR RECREATION (Env-Wt 313.03(b)(5))

Describe how the project avoids and minimizes impacts that eliminate, depreciate or obstruct public commerce, navigation, or recreation.

Prescott Park is a major tourist destination for the City of Portsmouth, not only for its access to the water, but also due to the large number of public events hosted there each year. The proposed project phasing will allow continued use of the park by the public throughout the improvements so as not to impact public commerce and recreation. Ultimately the proposed improvements for Prescott Park will protect the park from flood damage and allow the park to continue to serve the citizens of Portsmouth and its many visitors.

SECTION I.VI - FLOODPLAIN WETLANDS (Env-Wt 313.03(b)(6))

Describe how the project avoids and minimizes impacts to floodplain wetlands that provide flood storage.

There are no floodplain wetlands located within the proposed project area. The proposed resiliency strategy to mitigate flooding impacts at Prescott Park is three-fold: 1) protect the park along its seawall edge (install tide gates and raise the seawall); 2) retreat critical infrastructure (raise and shift significant buildings to a higher elevation); and 3) accommodate for flooding (regrade the central lawn and increase storm drain sizes to hold 300,000 gallons of stored water during peak storm events). This increase to flood storage and improved handling of flooding conditions will make the surrounding area more resilient.

SECTION I.VII - RIVERINE FORESTED WETLAND SYSTEMS AND SCRUB-SHRUB – MARSH COMPLEXES (Env-Wt 313.03(b)(7))

Describe how the project avoids and minimizes impacts to natural riverine forested wetland systems and scrub-shrub – marsh complexes of high ecological integrity.

This proposed project will not have any impact to riverine forested wetlands or scrub-shrub marsh complexes.

SECTION I.VIII - DRINKING WATER SUPPLY AND GROUNDWATER AQUIFER LEVELS (Env-Wt 313.03(b)(8))

Describe how the project avoids and minimizes impacts to wetlands that would be detrimental to adjacent drinking water supply and groundwater aquifer levels.

The proposed project will not have any impacts to wetlands adjacent to drinking water supplies or aquifers. The proposed project is located along the Piscataqua River which is tidal and does not supply drinking water. This proposed project does involve the use of pervious technologies which will aid in improved infiltration within the park.

SECTION I.IX - STREAM CHANNELS (Env-Wt 313.03(b)(9))

Describe how the project avoids and minimizes adverse impacts to stream channels and the ability of such channels to handle runoff of waters.

Proposed impacts to the Piscataqua River channel include permanent impact for the installation of a culvert outfall, temporary impact for seawall repairs, temporary impact for vegetation removal to support seawall repairs, and permanent impact to the bank for a small vertical extension of seawall.

A seawall assessment was completed by Weston & Sampson Engineers in 2017 which indicates that intermittent repointing and mortar repairs to the seawall are needed. This seawall supports the entire park so repairs must be completed for the safety of the public. There is no way to complete these repairs without temporary impact for vegetation removal and mortaring. These impacts have been minimized by utilizing spot repairs only where necessary. To complete the proposed repairs, the retaining wall must be cleaned of the existing vegetative growth. This temporary impact is unavoidable as the repairs cannot be completed without the removal of the vegetation. Impacts have been minimized by conducting all of the proposed removal by boats and above the Mean Low Water line. No dewatering of the area is proposed.

There is just one location (immediate west of the Sheafe) where the seawall elevation will need to be raised three feet to accommodate the proposed grade changes. This vertical extension of the seawall will occur within the footprint of the existing wall and will result in 33 linear feet of permanent impact to the bank of the river. This impact is necessary to allow for the grade changes which will make the park more resilient to flooding. These impacts have been minimized by utilizing the existing wall footprint and not going any closer to the river.

The proposed work to Prescott Park will not impact the Piscataqua Rivers ability to handle runoff of waters.

SECTION I.X - SHORELINE STRUCTURES - CONSTRUCTION SURFACE AREA (Env-Wt 313.03(c)(1))

Describe how the project has been designed to use the minimum construction surface area over surface waters necessary to meet the stated purpose of the structures.

A small amount of permanent impact is proposed below the reference line within a surface water (Piscataqua River) in order to install a new stormwater outfall totaling 14 SF. This outfall is necessary to accommodate the flooding prevention improvements proposed within the park. The impacts associated within the surface water have been minimized to the maximum extent possible by using a small footprint locating the proposed outfall within an existing, manmade retaining wall.

The proposed temporary impacts associated with vegetation removal will utilize the minimum construction surface area over surface waters by avoiding any dewatering and utilizing boats for access.

SECTION I.XI - SHORELINE STRUCTURES - LEAST INTRUSIVE UPON PUBLIC TRUST (Env-Wt 313.03(c)(2))

Describe how the type of construction proposed is the least intrusive upon the public trust that will ensure safe docking on the frontage.

These proposed improvements to Prescott Park will not result in any loss of existing docking available along the frontage.

SECTION I.XII - SHORELINE STRUCTURES – ABUTTING PROPERTIES (Env-Wt 313.03(c)(3))

Describe how the structures have been designed to avoid and minimize impacts on ability of abutting owners to use and enjoy their properties.

The only new shoreline structures proposed include the addition of a stormwater outfall within the exsting seawall and the small vertical extension of the existing seawall adjacent to the Sheafe Warehouse. Both of these structures have been designed with the smallest footprint possible to avoid unecessary impacts to the existing seawall. These impacts are located near the center of the Prescott Park property far from aby abutters and will not impact the ability for any abutter to use and/or enjoy their property.

SECTION I.XIII - SHORELINE STRUCTURES – COMMERCE AND RECREATION (Env-Wt 313.03(c)(4))

Describe how the structures have been designed to avoid and minimize impacts to the public's right to navigation, passage, and use of the resource for commerce and recreation.

The only new shoreline structures proposed include the addition of a stormwater outfall within the exsting seawall and the small vertical extension of the existing seawall adjacent to the Sheafe Warehouse. Both of these structures have been designed with the smallest footprint possible to avoid unecessary impacts to the existing seawall. Since both of these proposed structures are located on/within the existing seawall there is no impact to the public's right to navigation passage. The use of the seawall for commerce/rescreation may be temporarily impacted by construction but will return to the same existing condition upon completion.

SECTION I.XIV - SHORELINE STRUCTURES – WATER QUALITY, AQUATIC VEGETATION, WILDLIFE AND FINFISH HABITAT (Env-Wt 313.03(c)(5))

Describe how the structures have been designed, located, and configured to avoid impacts to water quality, aquatic vegetation, and wildlife and finfish habitat.

A seawall assessment was completed by Weston & Sampson Engineers in 2017 which indicates that intermittent repointing and mortar repairs to the seawall are needed. This seawall supports the entire park so repairs must be completed for the safety of the public. There is no way to complete these repairs without temporary impact for vegetation removal and mortaring. These impacts have been minimized by utilizing spot repairs only where necessary. To complete the proposed repairs, the retaining wall must be cleaned of the existing vegetative growth. This temporary impact is unavoidable as the repairs cannot be completed without the removal of the vegetation. Impacts have been minimized by conducting all of the proposed removal by boats and above the Mean Low Water line. No dewatering of the area is proposed.

This vegetative growth is composed of common species including knotted wrack (Ascophyllum nodosum), bladder wrack (Fucus vesiculosis) and sea lettuce (Ulva lactuca). No salt marsh vegetation or eelgrass has been found in these areas. Per conversations with the Army Corps and NHDES, this proposed vegetation removal is being considered a temporary impact due to the rapid re-growth rate of these species. The potential to save the removed vegetation for "re-seeding" of the retaining walls was investigated but no feasible method was found due to the water velocities and wave impacts associated with the Piscataqua River.

Once vegetation regrowth is complete the seawall will be returned to existing conditions. As a result no impact to wildlife and finfish habitat is proposed.

SECTION I.XV - SHORELINE STRUCTURES – VEGETATION REMOVAL, ACCESS POINTS, AND SHORELINE STABILITY (Env-Wt 313.03(c)(6))

Describe how the structures have been designed to avoid and minimize the removal of vegetation, the number of access points through wetlands or over the bank, and activities that may have an adverse effect on shoreline stability.

A seawall assessment was completed by Weston & Sampson Engineers in 2017 which indicates that intermittent repointing and mortar repairs to the seawall are needed. This seawall supports the entire park so repairs must be completed for the safety of the public. There is no way to complete these repairs without temporary impact for vegetation removal and mortaring. These impacts have been minimized by utilizing spot repairs only where necessary. To complete the proposed repairs, the retaining wall must be cleaned of the existing vegetative growth. This temporary impact is unavoidable as the repairs cannot be completed without the removal of the vegetation. Impacts have been minimized by conducting all of the proposed removal by boats and above the Mean Low Water line. No dewatering of the area is proposed.

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This proposed work will not alter the numer of access points over the bank.

PART II: FUNCTIONAL ASSESSMENT

REQUIREMENTS

Ensure that project meets the requirements of Env-Wt 311.10 regarding functional assessment (Env-Wt 311.04(j); Env-Wt 311.10).

FUNCTIONAL ASSESSMENT METHOD USED:
US ACE Highway Methodology

NAME OF CERTIFIED WETLAND SCIENTIST (FOR NON-TIDAL PROJECTS) OR QUALIFIED COASTAL PROFESSIONAL (FOR TIDAL PROJECTS) WHO COMPLETED THE ASSESSMENT: DEVIN HERRICK

DATE OF ASSESSMENT: 9/9/2021

Check this box to confirm that the application includes a NARRATIVE ON FUNCTIONAL ASSESSMENT:
☒

For minor or major projects requiring a standard permit without mitigation, the applicant shall submit a wetland evaluation report that includes completed checklists and information demonstrating the RELATIVE FUNCTIONS AND VALUES OF EACH WETLAND EVALUATED. Check this box to confirm that the application includes this information, if applicable:
☒

Note: The Wetlands Functional Assessment worksheet can be used to compile the information needed to meet functional assessment requirements.

APPENDIX B

US Army Corps
of Engineers®
New England District

New Hampshire General Permits (GPs)
Appendix B - Corps Secondary Impacts Checklist
(for inland wetland/waterway fill projects in New Hampshire)

1. Attach any explanations to this checklist. Lack of information could delay a Corps permit determination.
2. All references to "work" include all work associated with the project construction and operation. Work includes filling, clearing, flooding, draining, excavation, dozing, stumping, etc.
3. See GC 5, regarding single and complete projects.
4. Contact the Corps at (978) 318-8832 with any questions.

1. Impaired Waters	Yes	No
1.1 Will any work occur within 1 mile upstream in the watershed of an impaired water? See http://des.nh.gov/organization/divisions/water/wmb/section401/impaired_waters.htm to determine if there is an impaired water in the vicinity of your work area.*	X	
2. Wetlands	Yes	No
2.1 Are there are streams, brooks, rivers, ponds, or lakes within 200 feet of any proposed work?	X	
2.2 Are there proposed impacts to SAS, special wetlands. Applicants may obtain information from the NH Department of Resources and Economic Development Natural Heritage Bureau (NHB) DataCheck Tool for information about resources located on the property at https://www2.des.state.nh.us/nhb_datacheck/. The book Natural Community Systems of New Hampshire also contains specific information about the natural communities found in NH.		X
2.3 If wetland crossings are proposed, are they adequately designed to maintain hydrology, sediment transport & wildlife passage?	N/A	
2.4 Would the project remove part or all of a riparian buffer? (Riparian buffers are lands adjacent to streams where vegetation is strongly influenced by the presence of water. They are often thin lines of vegetation containing native grasses, flowers, shrubs and/or trees that line the stream banks. They are also called vegetated buffer zones.)		X
2.5 The overall project site is more than 40 acres?		X
2.6 What is the area of the previously filled wetlands?	Unknown	
2.7 What is the area of the proposed fill in wetlands?	14SF	
2.8 What is the % of previously and proposed fill in wetlands to the overall project site?	<1%	
3. Wildlife	Yes	No
3.1 Has the NHB & USFWS determined that there are known occurrences of rare species, exemplary natural communities, Federal and State threatened and endangered species and habitat, in the vicinity of the proposed project? (All projects require an NHB ID number & a USFWS IPAC determination.) NHB DataCheck Tool: https://www2.des.state.nh.us/nhb_datacheck/ USFWS IPAC website: https://ecos.fws.gov/ipac/location/index	X	

3.2 Would work occur in any area identified as either “Highest Ranked Habitat in N.H.” or “Highest Ranked Habitat in Ecological Region”? (These areas are colored magenta and green, respectively, on NH Fish and Game’s map, “2010 Highest Ranked Wildlife Habitat by Ecological Condition.”) Map information can be found at: • PDF: https://wildlife.state.nh.us/wildlife/wap-high-rank.html. • Data Mapper: www.granit.unh.edu. • GIS: www.granit.unh.edu/data/downloadfreedata/category/databycategory.html.		X
3.3 Would the project impact more than 20 acres of an undeveloped land block (upland, wetland/waterway) on the entire project site and/or on an adjoining property(s)?		X
3.4 Does the project propose more than a 10-lot residential subdivision, or a commercial or industrial development?		X
3.5 Are stream crossings designed in accordance with the GC 21?	N/A	
4. Flooding/Floodplain Values	Yes	No
4.1 Is the proposed project within the 100-year floodplain of an adjacent river or stream?	X	
4.2 If 4.1 is yes, will compensatory flood storage be provided if the project results in a loss of flood storage?		X
5. Historic/Archaeological Resources		
For a minimum, minor or major impact project - a copy of the Request for Project Review (RPR) Form (www.nh.gov/nhdhr/review) with your DES file number shall be sent to the NH Division of Historical Resources as required on Page 11 GC 8(d) of the GP document**	X	

*Although this checklist utilizes state information, its submittal to the Corps is a Federal requirement.

** If your project is not within Federal jurisdiction, coordination with NH DHR is not required under Federal law.

APPENDIX C

<BOL>Path:</BOL> C:\Users\batchelder.devin\OneDrive - WESTON & SAMPSON ENGINEERS, Inc\Desktop\Wetland Delineation\GIS\Maps\Wetland Field Map.mxd <BOL>User:</BOL> Herrick.Devin <BOL>Saved:</BOL> 3/23/2022 1:47:50 PM <BOL>Opened:</BOL> 3/23/2022 1:49:10 PM

Legend

● Wetland Flags

🟩 Top of Bank

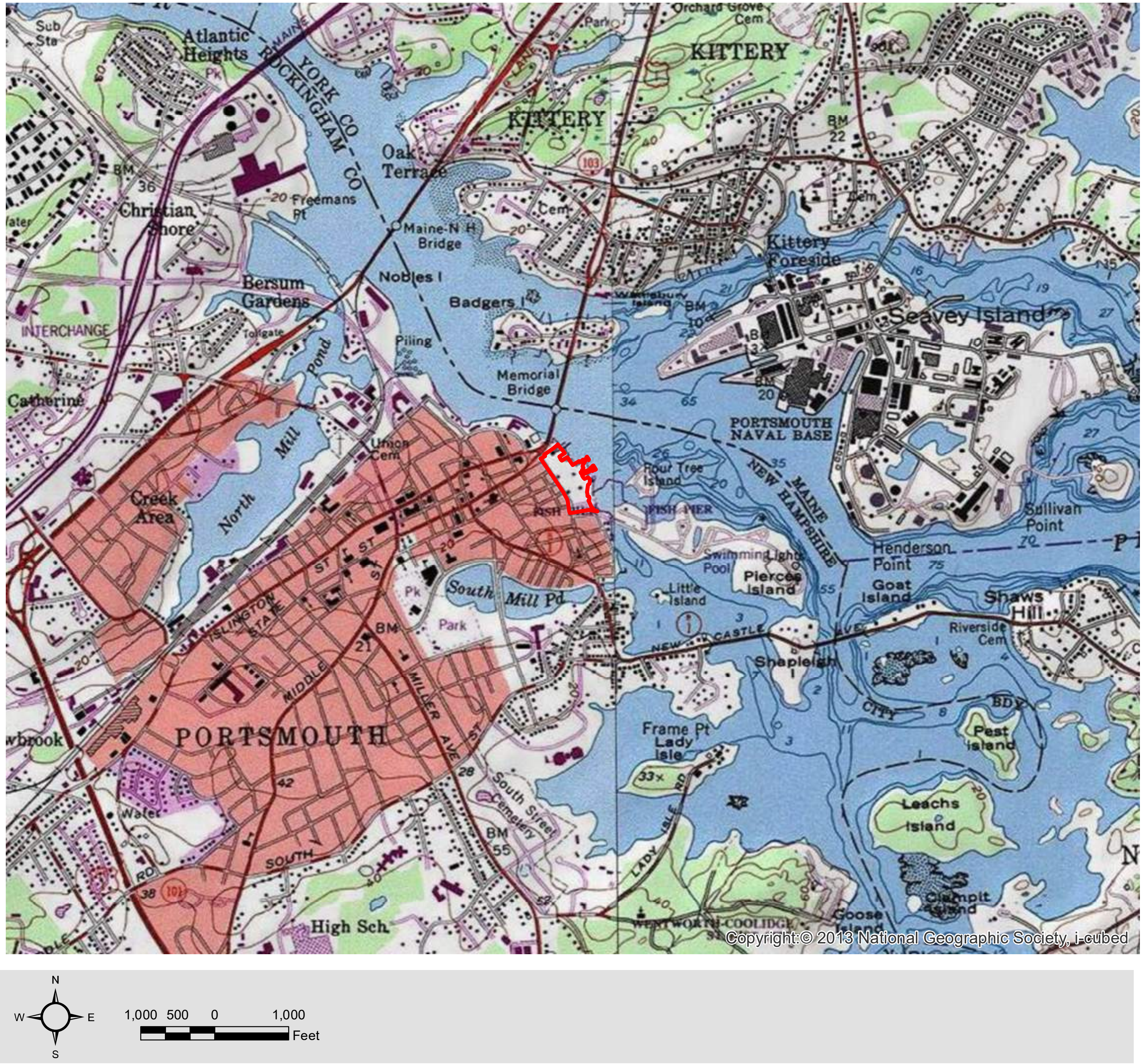
🟥 Investigation Area

FIGURE 1

Prescott Park
Portsmouth NH

Wetland Field Map

Weston & Sampson



Legend

🟥 Investigation Area

FIGURE 2

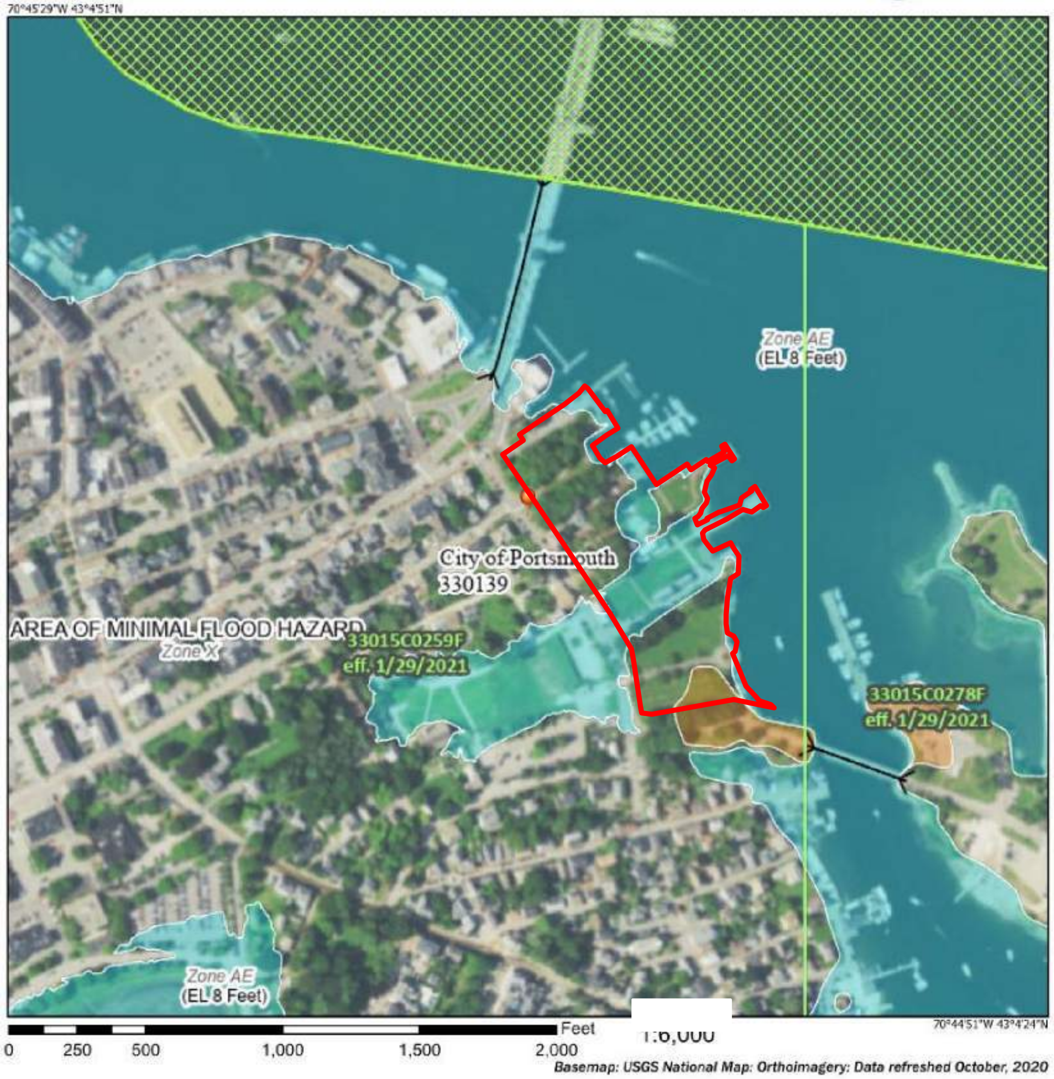
Prescott Park
Portsmouth NH

USGS Topographic Map

Weston & Sampson

National Flood Hazard Layer FIRMette

FEMA



Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS	🟦	Without Base Flood Elevation (BFE) *Zone A, V, A99*
		With BFE or Depth *Zone AE, AO, AH, VE, AR*
	▨	Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD	🟧	0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
	▨	Future Conditions 1% Annual Chance Flood Hazard *Zone X*
	▨	Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
	▨	Area with Flood Risk due to Levee *Zone D*
OTHER AREAS	NO SCREEN	Area of Minimal Flood Hazard *Zone X*
	☐	Effective LOMRs
	🟧	Area of Undetermined Flood Hazard *Zone D*
GENERAL STRUCTURES	- — - -	Channel, Culvert, or Storm Sewer
	ιιιιιιι	Levee, Dike, or Floodwall
OTHER FEATURES	(B) 20.2 / 17.5	Cross Sections with 1% Annual Chance Water Surface Elevation
	- - - -	Coastal Transect
	~~ 513 ~~~	Base Flood Elevation Line (BFE)
	━	Limit of Study
	━	Jurisdiction Boundary
	-- — -- —	Coastal Transect Baseline
	- —	Profile Baseline
	—	Hydrographic Feature
MAP PANELS	☐	Digital Data Available
	☐	No Digital Data Available
	☒	Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 3/23/2022 at 3:45 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Legend

🟥 Investigation Area

FIGURE 3

Prescott Park
Portsmouth NH

FEMA Map

Weston & Sampson

<BOL>Path:</BOL> C:\Users\batchelder.devin\OneDrive - WESTON & SAMPSON ENGINEERS, Inc\Desktop\Wetland Delineation\GIS\Maps\Designated River.mxd <BOL>User:</BOL> Herrick.Devin <BOL>Saved:</BOL> 3/23/2022 3:53:09 PM <BOL>Opened:</BOL> 3/23/2022 3:53:27 PM

NH Designated River Map

3/23/2022, 3:28:52 PM

Designated_Rivers_Web - Designated_Rivers_24k_Buffer_Quartermile

🟥 Subject to SWQPA

☐ Municipalities (borders)

1:144,448

0 0.75 1.5 3 mi

0 1.25 2.5 5 km

© OpenStreetMap (and) contributors, CC-BY-SA

ArcGIS Web AppBuilder

Map data © OpenStreetMap contributors, CC-BY-SA |

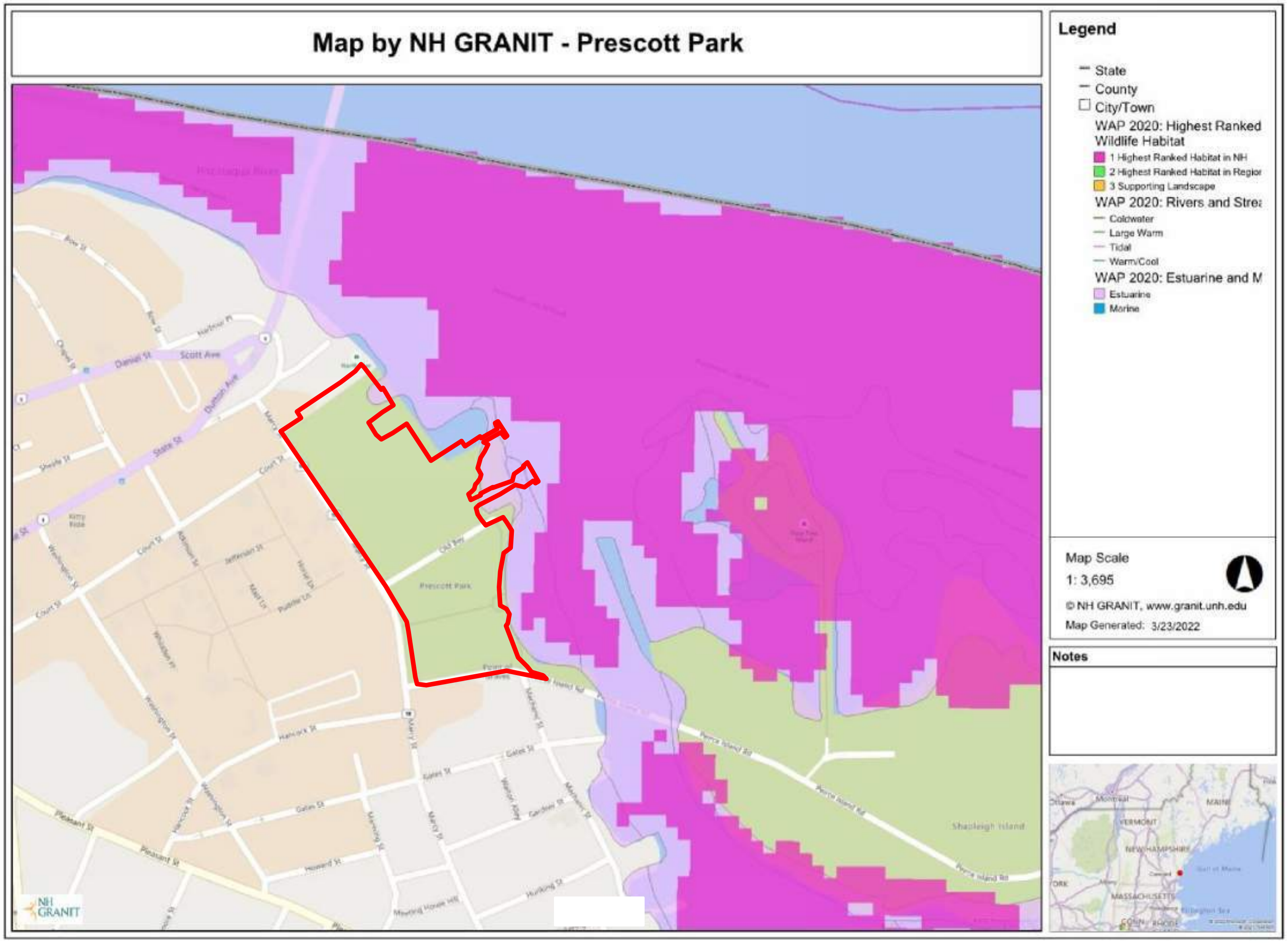
FIGURE 4

Prescott Park
Portsmouth

Designated River Map

Weston & Sampson

<BOL>Path:</BOL> C:\Users\batchelder.devin\OneDrive - WESTON & SAMPSON ENGINEERS, Inc\Desktop\Wetland Delineation\GIS\Maps\WAP 1.mxd   <BOL>User:</BOL> Herrick.Devin   <BOL>Saved:</BOL> 3/23/2022 3:04:50 PM   <BOL>Opened:</BOL> 3/23/2022 3:05:25 PM



Legend

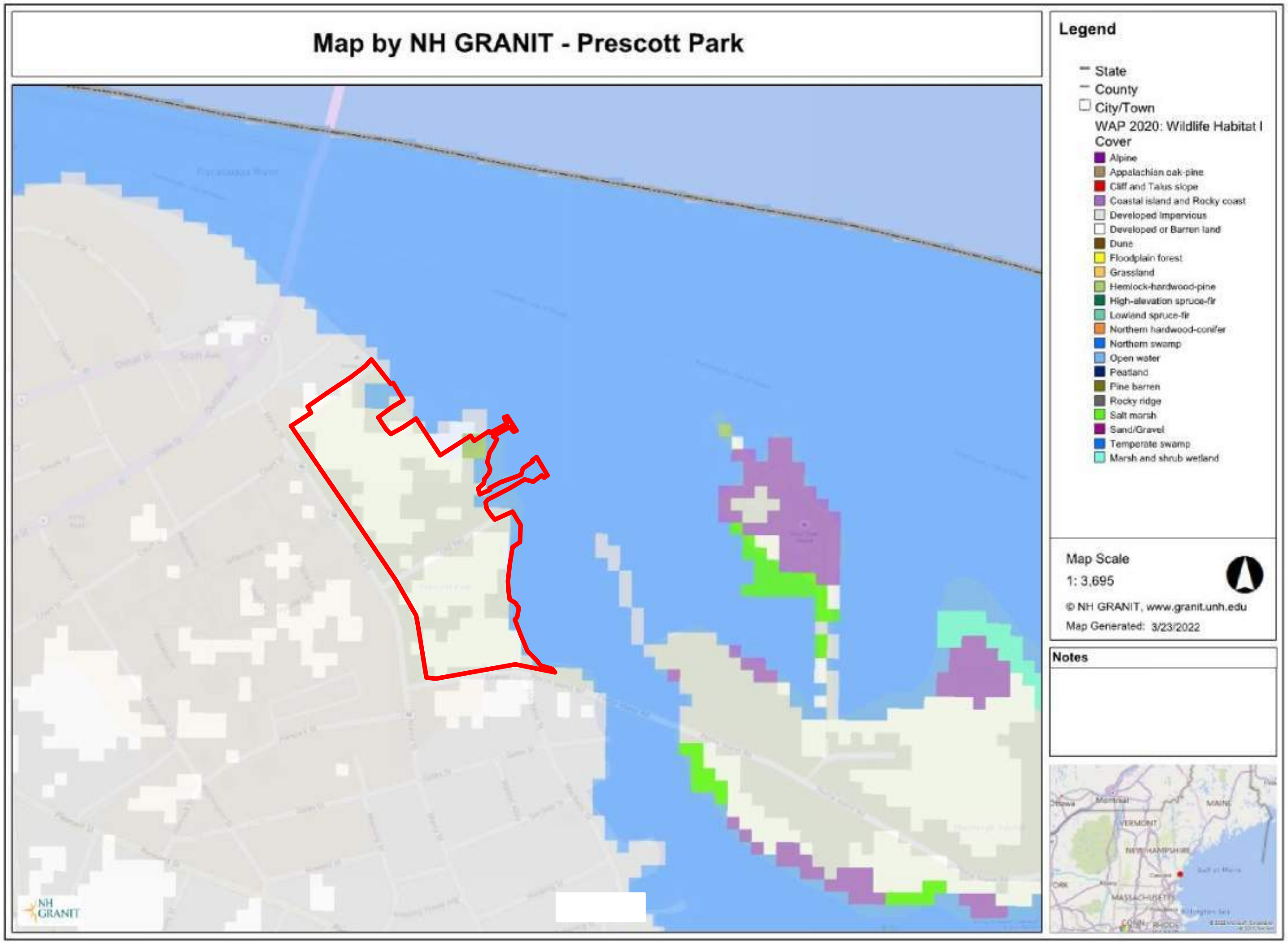
▭ Investigation Area

FIGURE 5.1

Prescott Park
Portsmouth NH

WAP Highest Ranked and
Aquatic Habitat

Weston & Sampson



Legend

🟥 Investigation Area

FIGURE 5.2

Prescott Park
Portsmouth NH

WAP Habitat Land
Cover

Weston & Sampson

Your Organization | Eelgrass Beds and Shellfish Sites

1: 13,902

Legend

Parcels

- ☐ Parcel Polygons
- 🟪 Attributes for Additional Lines

— Additional Lines

🟩 Aquaculture Sites - 2015

🟪 Eelgrass 2017

▨ Oyster Restoration Sites

⬚ City/Town

Sand Dunes

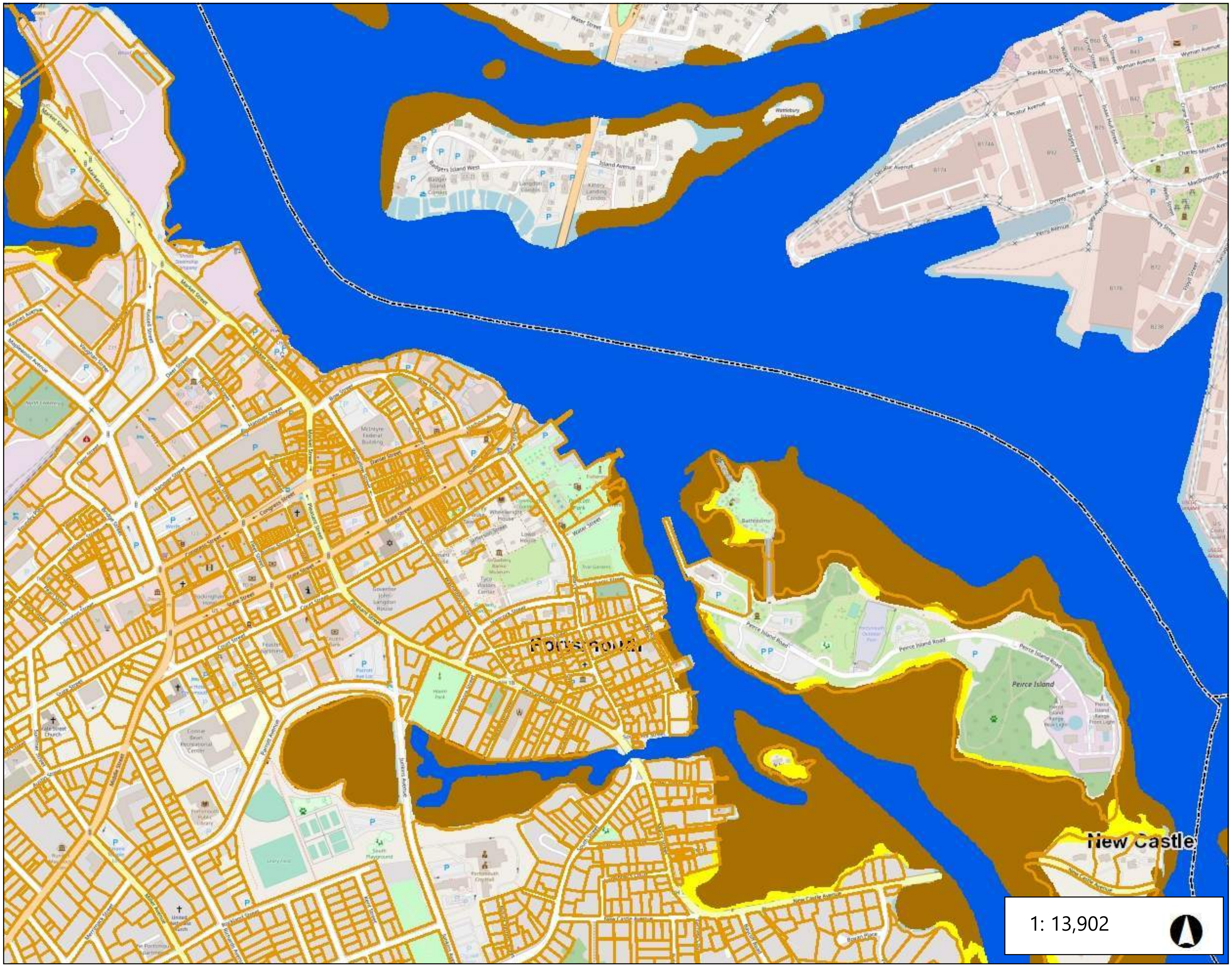
- 🟦 backdune
- 🟪 foredune
- 🟫 interdune
- 🟩 other

Notes

0.4 0 0.22 0.4 Miles

WGS_1984_Web_Mercator_Auxiliary_Sphere

Your Organization | Salt Marsh Migration Pathways - Initial Conditions



Legend

Parcels

- ☐ Parcel Polygons
- 🟪 Attributes for Additional Lines

— Additional Lines

🟩 Aquaculture Sites - 2015

⬚ City/Town

Initial Conditions (2014)

- 🟩 Freshwater wetland
- 🟧 Tidal wetland
- 🟥 Transitional salt marsh
- 🟨 Salt marsh
- 🟫 Mud flat
- ⬜ Inland open water
- 🟦 Tidal water

Sand Dunes

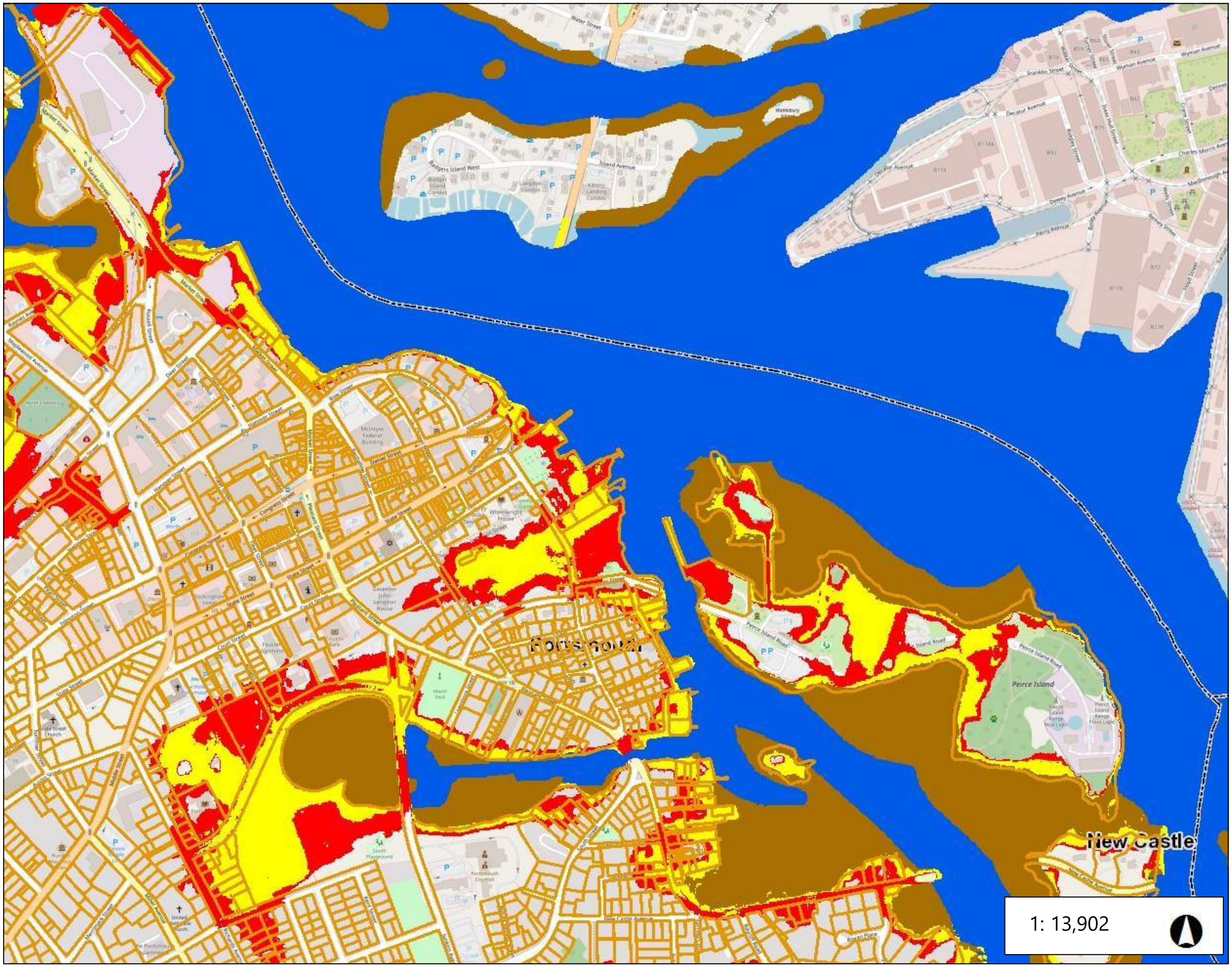
- 🟦 backdune
- 🟪 foredune
- 🟫 interdune
- 🟩 other

Notes

0.4 0 0.22 0.4 Miles

WGS_1984_Web_Mercator_Auxiliary_Sphere

Your Organization | Salt Marsh Migration Pathways - 1.2 Meter Rise by 2100



Legend

Parcels

☐ Parcel Polygons

🟪 Attributes for Additional Lines

— Additional Lines

🟩 Aquaculture Sites - 2015

⬚ City/Town

Predicted Marsh Migration 210

🟩 Freshwater wetland

🟧 Tidal wetland

🟥 Transitional salt marsh

🟨 Salt marsh

🟫 Mud flat

🟦 Inland open water

🟦 Tidal water

Sand Dunes

🟦 backdune

🟪 foredune

🟫 interdune

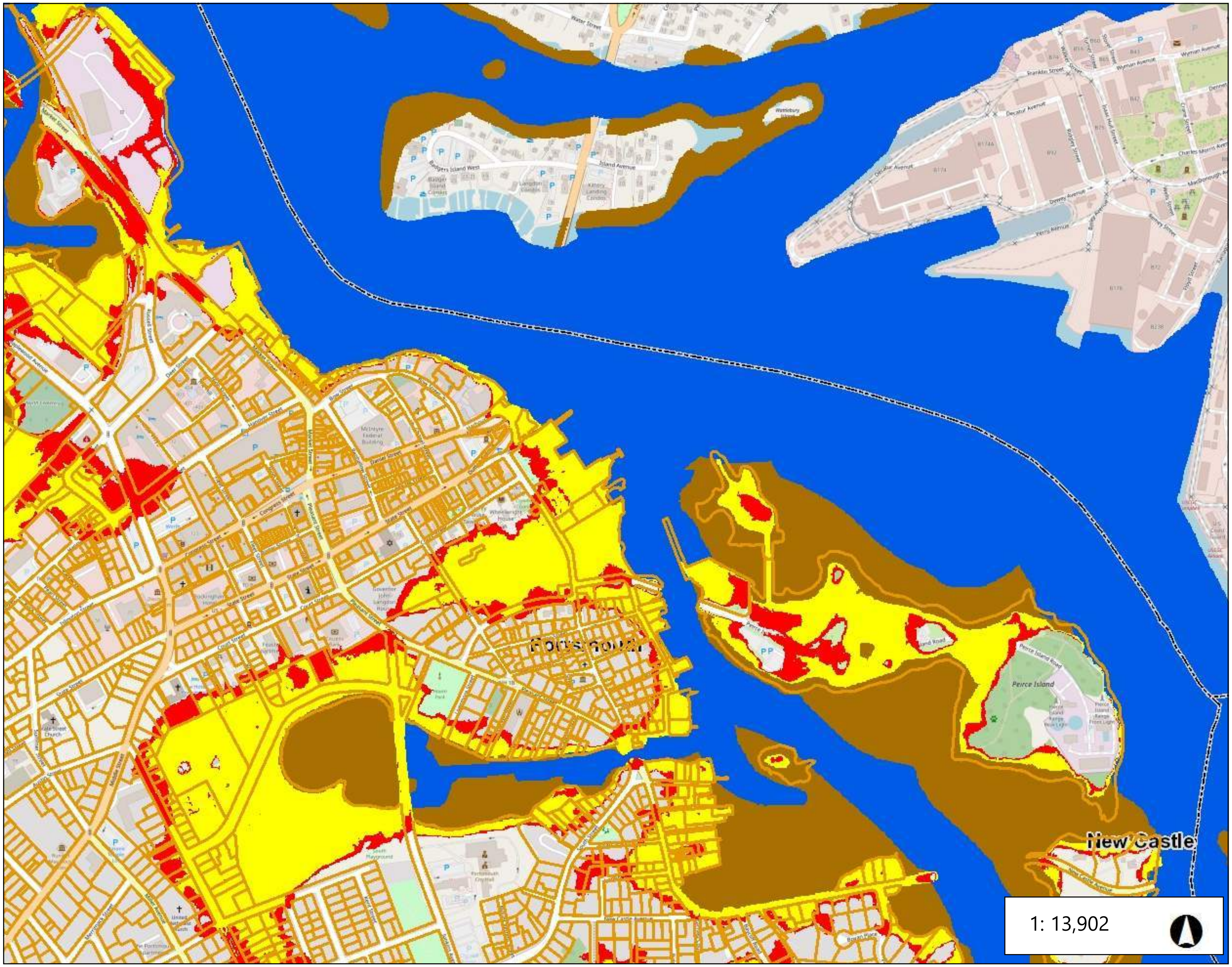
🟩 other

Notes

0.4 0 0.22 0.4 Miles

WGS_1984_Web_Mercator_Auxiliary_Sphere

Your Organization | Salt Marsh Migration Pathways - 2 Meter Rise by 2100



Legend

Parcels

- ☐ Parcel Polygons
- 🟪 Attributes for Additional Lines

— Additional Lines

🟩 Aquaculture Sites - 2015

⬚ City/Town

Predicted Marsh Migration 210

- 🟩 Freshwater wetland
- 🟧 Tidal wetland
- 🟥 Transitional salt marsh
- 🟨 Salt marsh
- 🟫 Mud flat
- 🟦 Inland open water
- 🟦 Tidal water

Sand Dunes

- 🟦 backdune
- 🟪 foredune
- 🟫 interdune
- 🟩 other

0.4 0 0.22 0.4 Miles

WGS_1984_Web_Mercator_Auxiliary_Sphere

Notes

Your Organization | FEMA

Legend

Parcels
- □ Parcel Polygons
- 🟪 Attributes for Additional Lines

— **Additional Lines**

🟩 **Aquaculture Sites - 2015**

FEMA Floodplains
- 🟦 1 pct. Annual Chance Flood Hazar
- ▨ Floodway
- 🟧 0.2 pct. Annual Chance Flood Haza
- 🟨 Area of Undetermined Flood Hazar
- ▨ Area Protected by Levee

⬚ **City/Town**

Sand Dunes
- 🟦 backdune
- 🟪 foredune
- 🟫 interdune
- 🟩 other

Notes

0.4 0 0.22 0.4 Miles

WGS_1984_Web_Mercator_Auxiliary_Sphere

Datums for 8419870, Seavey Island ME

NOTICE: All data values are relative to the NAVD88.

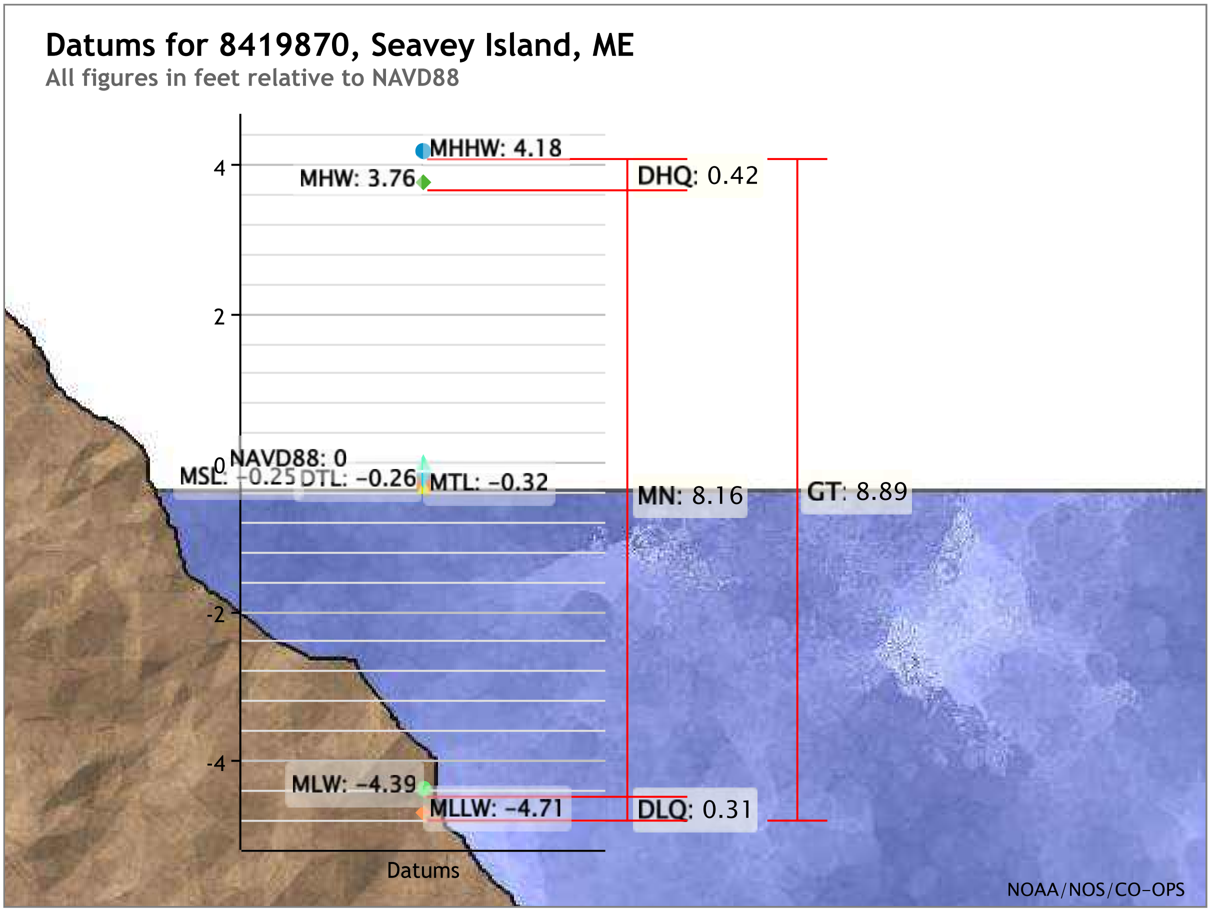
Elevations on NAVD88

Station: 8419870, Seavey Island, ME
Status: Accepted (Dec 6 2021)
Units: Feet
Control Station: 8418150 Portland, ME
T.M.: 0
Epoch: (/datum_options.html#NTDE) 1983-2001
Datum: NAVD88

Datum	Value	Description
MHHW (/datum_options.html#MHHW)	4.18	Mean Higher-High Water
MHW (/datum_options.html#MHW)	3.76	Mean High Water
MTL (/datum_options.html#MTL)	-0.32	Mean Tide Level
MSL (/datum_options.html#MSL)	-0.25	Mean Sea Level
DTL (/datum_options.html#DTL)	-0.26	Mean Diurnal Tide Level
MLW (/datum_options.html#MLW)	-4.39	Mean Low Water
MLLW (/datum_options.html#MLLW)	-4.71	Mean Lower-Low Water
NAVD88 (/datum_options.html)	0.00	North American Vertical Datum of 1988
STND (/datum_options.html#STND)	-6.98	Station Datum
GT (/datum_options.html#GT)	8.89	Great Diurnal Range
MN (/datum_options.html#MN)	8.16	Mean Range of Tide

Datum	Value	Description
DHQ (/datum_options.html#DHQ)	0.42	Mean Diurnal High Water Inequality
DLQ (/datum_options.html#DLQ)	0.31	Mean Diurnal Low Water Inequality
HWI (/datum_options.html#HWI)	3.92	Greenwich High Water Interval (in hours)
LWI (/datum_options.html#LWI)	10.04	Greenwich Low Water Interval (in hours)
Max Tide (/datum_options.html#MAXTIDE)	7.89	Highest Observed Tide
Max Tide Date & Time (/datum_options.html#MAXTIDEDT)	02/07/1978 10:42	Highest Observed Tide Date & Time
Min Tide (/datum_options.html#MINTIDE)	-7.98	Lowest Observed Tide
Min Tide Date & Time (/datum_options.html#MINTIDEDT)	11/30/1955 00:00	Lowest Observed Tide Date & Time
HAT (/datum_options.html#HAT)	5.87	Highest Astronomical Tide
HAT Date & Time	11/15/2016 16:18	HAT Date and Time
LAT (/datum_options.html#LAT)	-6.51	Lowest Astronomical Tide
LAT Date & Time	01/14/2036 23:00	LAT Date and Time

Tidal Datum Analysis Periods
07/01/2020 - 06/30/2021



Datums for 8419870, Seavey Island, ME

All figures in feet relative to NAVD88

Showing datums for

8419870 Seavey Island, ME

Datum

NAVD88

Data Units ● Feet

○ Meters

Epoch ● Present (1983-2001)

○ Superseded (1960-1978)

Submit

Show nearby stations

Products available at 8419870 Seavey Island, ME

TIDES/WATER LEVELS

Water Levels (/waterlevels.html?id=8419870)

NOAA Tide Predictions (/noaatidepredictions.html?id=8419870)

Harmonic Constituents (/harcon.html?id=8419870)

Sea Level Trends (/sltrends/sltrends_station.shtml?id=8419870)

Datums (/datums.html?id=8419870)

Bench Mark Sheets (/benchmarks.html?id=8419870)

Extreme Water Levels (/est/est_station.shtml?stnid=8419870)

Reports (/reports.html?id=8419870)

METEOROLOGICAL/OTHER

Meteorological Observations (/met.html?id=8419870)

Water Temp/Conductivity

PORTS®

Portsmouth PORTS® (/ports/index.html?port=pm)

PORTS® product page for Seavey Island (/ports/ports.html?id=8419870)

OPERATIONAL FORECAST SYSTEMS

Gulf of Maine (/ofs/gomofs/gomofs.html)

OFS product page for Seavey Island

INFORMATION

Station Home Page (/stationhome.html?id=8419870)

Data Inventory (/inventory.html?id=8419870)

Measurement Specifications (/measure.html)

Website Owner: Center for Operational Oceanographic Products and Services

National Oceanic and Atmospheric Administration (http://www.noaa.gov)
National Ocean Service (http://oceanservice.noaa.gov)
Privacy Policy (/privacy.html)
Disclaimer (/disclaimers.html)
Take Our Survey (/survey.html)
Freedom of Information Act (https://www.noaa.gov/foia-freedom-of-information-act)
Contact Us (/contact.html)

EFH Mapper Report

EFH Data Notice

Essential Fish Habitat (EFH) is defined by textual descriptions contained in the fishery management plans developed by the regional fishery management councils. In most cases mapping data can not fully represent the complexity of the habitats that make up EFH. This report should be used for general interest queries only and should not be interpreted as a definitive evaluation of EFH at this location. A location-specific evaluation of EFH for any official purposes must be performed by a regional expert. Please refer to the following links for the appropriate regional resources.

Greater Atlantic Regional Office
Atlantic Highly Migratory Species Management Division

Query Results

Degrees, Minutes, Seconds: Latitude = 43º 4' 38" N, Longitude = 71º 14' 57" W
Decimal Degrees: Latitude = 43.077, Longitude = -70.751

The query location intersects with spatial data representing EFH and/or HAPCs for the following species/management units.

*** WARNING ***

Please note under "Life Stage(s) Found at Location" the category "ALL" indicates that all life stages of that species share the same map and are designated at the queried location.

EFH

Link	Data Caveats	Species/Management Unit	Lifestage(s) Found at Location	Management Council	FMP
📄	?	Atlantic Sea Scallop	ALL	New England	Amendment 14 to the Atlantic Sea Scallop FMP
📄	?	Atlantic Wolffish	ALL	New England	Amendment 14 to the Northeast Multispecies FMP
📄	?	Winter Flounder	Eggs Juvenile Larvae/Adult	New England	Amendment 14 to the Northeast Multispecies FMP
📄	?	Little Skate	Juvenile Adult	New England	Amendment 2 to the Northeast Skate Complex FMP
📄	?	Atlantic Herring	Juvenile Adult Larvae	New England	Amendment 3 to the Atlantic Herring FMP
📄	?	Atlantic Cod	Larvae Adult Eggs	New England	Amendment 14 to the Northeast Multispecies FMP

Link	Data Caveats	Species/Management Unit	Lifestage(s) Found at Location	Management Council	FMP
📄	?	Pollock	Juvenile Eggs Larvae	New England	Amendment 14 to the Northeast Multispecies FMP
📄	?	Red Hake	Adult Eggs/Larvae/Juvenile	New England	Amendment 14 to the Northeast Multispecies FMP
📄	?	Windowpane Flounder	Adult Larvae Eggs Juvenile	New England	Amendment 14 to the Northeast Multispecies FMP
📄	?	Winter Skate	Juvenile	New England	Amendment 2 to the Northeast Skate Complex FMP
📄	?	Smooth Skate	Juvenile	New England	Amendment 2 to the Northeast Skate Complex FMP
📄	?	White Hake	Adult Eggs Juvenile	New England	Amendment 14 to the Northeast Multispecies FMP
📄	?	Thorny Skate	Juvenile	New England	Amendment 2 to the Northeast Skate Complex FMP
📄	?	Bluefin Tuna	Adult	Secretarial	Amendment 10 to the 2006 Consolidated HMS FMP: EFH
📄	?	Atlantic Mackerel	Eggs Larvae Juvenile	Mid-Atlantic	Atlantic Mackerel, Squid,& Butterfish Amendment 11
📄	?	Bluefish	Adult Juvenile	Mid-Atlantic	Bluefish
📄	?	Atlantic Butterfish	Adult	Mid-Atlantic	Atlantic Mackerel, Squid,& Butterfish Amendment 11

Salmon EFH

No Pacific Salmon Essential Fish Habitat (EFH) were identified at the report location.

HAPCs

Link	Data Caveats	HAPC Name	Management Council
📄	?	Inshore 20m Juvenile Cod	New England

EFH Areas Protected from Fishing

No EFH Areas Protected from Fishing (EFHA) were identified at the report location.

Spatial data does not currently exist for all the managed species in this area. The following is a list of species or management units for which there is no spatial data.
****For links to all EFH text descriptions see the complete data inventory: open data inventory -->**

Spatial data does not currently exist for all the managed species in this area. The following is a list of species or management units for which there is no spatial data.
****For links to all EFH text descriptions see the complete data inventory: open data inventory -->**

All spatial data is currently available for the Mid-Atlantic and New England councils,
Secretarial EFH,
Bigeye Sand Tiger Shark,
Bigeye Sixgill Shark,
Caribbean Sharpnose Shark,
Galapagos Shark,
Narrowtooth Shark,
Sevengill Shark,
Sixgill Shark,
Smooth Hammerhead Shark,
Smalltail Shark


Prescott Park
Portsmouth NH
N
400 ft
Google Earth

APPENDIX D

New Hampshire Natural Heritage Bureau
NHB DataCheck Results Letter

To: Devin Batchelder, Weston & Sampson Engineering
55 Walkers Brook Drive

Reading, MA 01857

From: NH Natural Heritage Bureau
Date: 3/28/2022 (valid until 3/28/2023)
Re: Review by NH Natural Heritage Bureau of request submitted 3/11/2022
Permits: NHDES - Shoreland Standard Permit, NHDES - Wetland Standard Dredge & Fill - Major

NHB ID: **NHB22-0970** **Applicant:** Devin Batchelder

Location: Portsmouth
Marcy Street

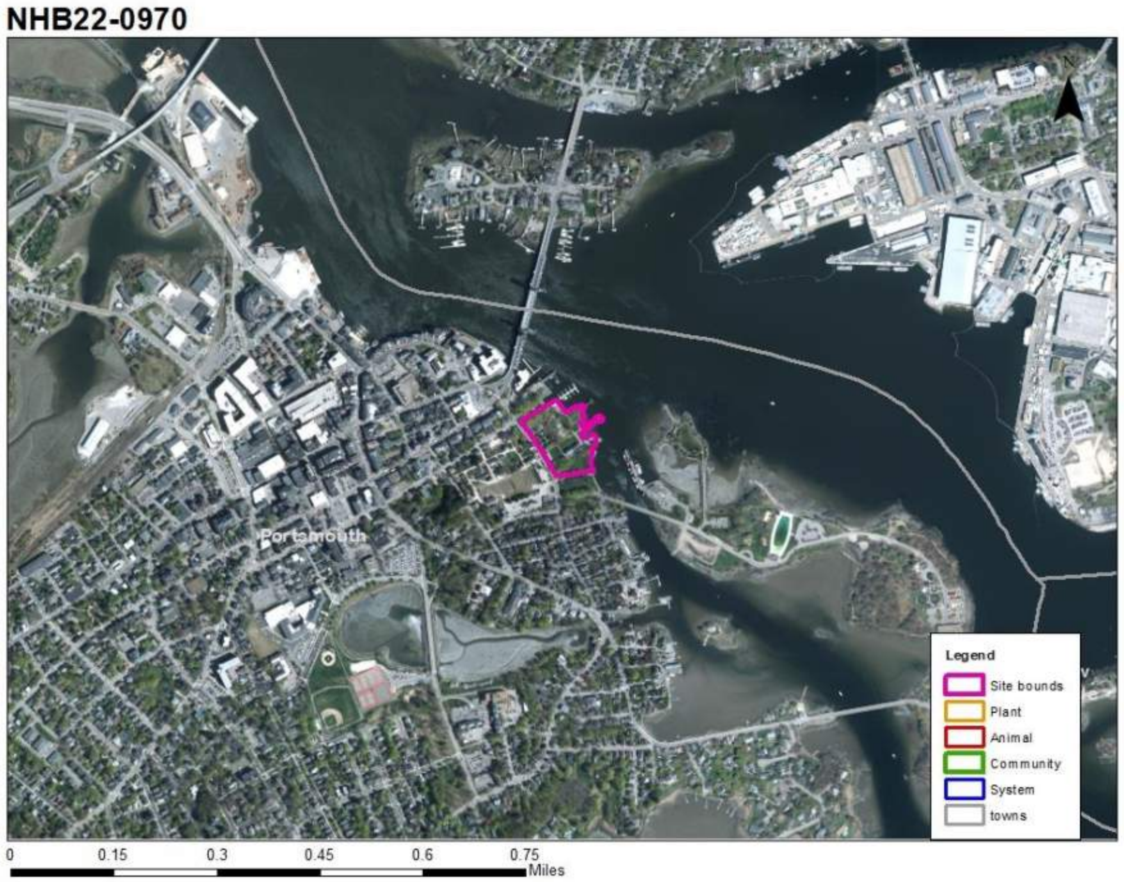
Project Description: This proposed project is a restoration effort at Prescott Park in Portsmouth. Impacts will be within the developed park, along the existing seawalls and the installation of a new stacked block wall which will remove rip rap from within the tidal zone and restore tidal flats.

The NH Natural Heritage database has been checked by staff of the NH Natural Heritage Bureau and/or the NH Nongame and Endangered Species Program for records of rare species and exemplary natural communities near the area mapped below. The species considered include those listed as Threatened or Endangered by either the state of New Hampshire or the federal government.

It was determined that, although there was a NHB record (e.g., rare wildlife, plant, and/or natural community) present in the vicinity, we do not expect that it will be impacted by the proposed project. This determination was made based on the project information submitted via the NHB Datacheck Tool on 3/11/2022 9:41:16 AM, and cannot be used for any other project.

Based on the information submitted, no further consultation with the NH Fish and Game Department pursuant to Fis 1004 is required.

MAP OF PROJECT BOUNDARIES FOR: **NHB22-0970**



APPENDIX E

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
Phone: (603) 223-2541 Fax: (603) 223-0104
http://www.fws.gov/newengland

In Reply Refer To:
Project code: 2022-0023088
Project Name: Prescott Park Redevelopment

March 23, 2022

Subject: Verification letter for the 'Prescott Park Redevelopment' project under the January 5, 2016, Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-eared Bat and Activities Excepted from Take Prohibitions.

Dear Devin Herrick:

The U.S. Fish and Wildlife Service (Service) received on March 23, 2022 your effects determination for the 'Prescott Park Redevelopment' (the Action) using the northern long-eared bat (*Myotis septentrionalis*) key within the Information for Planning and Consultation (IPaC) system. This IPaC key assists users in determining whether a Federal action is consistent with the activities analyzed in the Service's January 5, 2016, Programmatic Biological Opinion (PBO). The PBO addresses activities excepted from "take"[1] prohibitions applicable to the northern long-eared bat under the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.).

Based upon your IPaC submission, the Action is consistent with activities analyzed in the PBO. The Action may affect the northern long-eared bat; however, any take that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o). Unless the Service advises you within 30 days of the date of this letter that your IPaC-assisted determination was incorrect, this letter verifies that the PBO satisfies and concludes your responsibilities for this Action under ESA Section 7(a)(2) with respect to the northern long-eared bat.

Please report to our office any changes to the information about the Action that you submitted in IPaC, the results of any bat surveys conducted in the Action area, and any dead, injured, or sick northern long-eared bats that are found during Action implementation. If the Action is not completed within one year of the date of this letter, you must update and resubmit the information required in the IPaC key.

This IPaC-assisted determination allows you to rely on the PBO for compliance with ESA Section 7(a)(2) only for the northern long-eared bat. It **does not** apply to the following ESA-protected species that also may occur in the Action area:

- Roseate Tern *Sterna dougallii dougallii* Endangered

If the Action may affect other federally listed species besides the northern long-eared bat, a proposed species, and/or designated critical habitat, additional consultation between you and this Service office is required. If the Action may disturb bald or golden eagles, additional coordination with the Service under the Bald and Golden Eagle Protection Act is recommended.

---

[1] Take means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct [ESA Section 3(19)].

Action Description

You provided to IPaC the following name and description for the subject Action.

1. Name

Prescott Park Redevelopment

2. Description

The following description was provided for the project 'Prescott Park Redevelopment':

> This proposed project is a restoration effort at Prescott Park in Portsmouth. Impacts will be within the developed park, along the existing seawalls and the installation of a new stacked block wall which will remove rip rap from within the tidal zone and restore tidal flats. Timing TBD. No tree removal is proposed as part of this project.

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@43.0767995,-70.75160018576182,14z

Determination Key Result

This Federal Action may affect the northern long-eared bat in a manner consistent with the description of activities addressed by the Service's PBO dated January 5, 2016. Any taking that may occur incidental to this Action is not prohibited under the final 4(d) rule at 50 CFR §17.40(o). Therefore, the PBO satisfies your responsibilities for this Action under ESA Section 7(a)(2) relative to the northern long-eared bat.

Determination Key Description: Northern Long-eared Bat 4(d) Rule

This key was last updated in IPaC on May 15, 2017. Keys are subject to periodic revision.

This key is intended for actions that may affect the threatened northern long-eared bat.

The purpose of the key for Federal actions is to assist determinations as to whether proposed actions are consistent with those analyzed in the Service's PBO dated January 5, 2016.

Federal actions that may cause prohibited take of northern long-eared bats, affect ESA-listed species other than the northern long-eared bat, or affect any designated critical habitat, require ESA Section 7(a)(2) consultation in addition to the use of this key. Federal actions that may affect species proposed for listing or critical habitat proposed for designation may require a conference under ESA Section 7(a)(4).

Determination Key Result

This project may affect the threatened Northern long-eared bat; therefore, consultation with the Service pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.) is required. However, based on the information you provided, this project may rely on the Service's January 5, 2016, *Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-Eared Bat and Activities Excepted from Take Prohibitions* to fulfill its Section 7(a)(2) consultation obligation.

Qualification Interview

1. Is the action authorized, funded, or being carried out by a Federal agency?

   Yes

2. Have you determined that the proposed action will have "no effect" on the northern long-eared bat? (If you are unsure select "No")

   No

3. Will your activity purposefully **Take** northern long-eared bats?

   No

4. [Semantic] Is the project action area located wholly outside the White-nose Syndrome Zone?

   Automatically answered
   No

5. Have you contacted the appropriate agency to determine if your project is near a known hibernaculum or maternity roost tree?

   Location information for northern long-eared bat hibernacula is generally kept in state Natural Heritage Inventory databases – the availability of this data varies state-by-state. Many states provide online access to their data, either directly by providing maps or by providing the opportunity to make a data request. In some cases, to protect those resources, access to the information may be limited. A web page with links to state Natural Heritage Inventory databases and other sources of information on the locations of northern long-eared bat roost trees and hibernacula is available at www.fws.gov/midwest/endangered/mammals/nleb/nhisites.html.

   Yes

6. Will the action affect a cave or mine where northern long-eared bats are known to hibernate (i.e., hibernaculum) or could it alter the entrance or the environment (physical or other alteration) of a hibernaculum?

   No

7. Will the action involve Tree Removal?

   No

Project Questionnaire

If the project includes forest conversion, report the appropriate acreages below. Otherwise, type '0' in questions 1-3.

1. Estimated total acres of forest conversion:

0

2. If known, estimated acres of forest conversion from April 1 to October 31

0

3. If known, estimated acres of forest conversion from June 1 to July 31

0

If the project includes timber harvest, report the appropriate acreages below. Otherwise, type '0' in questions 4-6.

4. Estimated total acres of timber harvest

0

5. If known, estimated acres of timber harvest from April 1 to October 31

0

6. If known, estimated acres of timber harvest from June 1 to July 31

0

If the project includes prescribed fire, report the appropriate acreages below. Otherwise, type '0' in questions 7-9.

7. Estimated total acres of prescribed fire

0

8. If known, estimated acres of prescribed fire from April 1 to October 31

0

9. If known, estimated acres of prescribed fire from June 1 to July 31

0

If the project includes new wind turbines, report the megawatts of wind capacity below. Otherwise, type '0' in question 10.

10. What is the estimated wind capacity (in megawatts) of the new turbine(s)?

0

IPaC User Contact Information

Agency: Portsmouth city
Name: Devin Herrick
Address: 55 Walkers Brook Drive, Suite 100
City: Reading
State: MA
Zip: 01867
Email herrick.devin@wseinc.com
Phone: 9782703122

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
Phone: (603) 223-2541 Fax: (603) 223-0104
http://www.fws.gov/newengland

In Reply Refer To:
Project Code: 2022-0023088
Project Name: Prescott Park Redevelopment

March 23, 2022

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

Please review this letter each time you request an Official Species List, we will continue to update it with additional information and links to websites may change.

About Official Species Lists

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Federal and non-Federal project proponents have responsibilities under the Act to consider effects on listed species.

The enclosed species list identifies threatened, endangered, proposed, and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested by returning to an existing project's page in IPaC.

Endangered Species Act Project Review

Please visit the "**New England Field Office Endangered Species Project Review and Consultation**" website for step-by-step instructions on how to consider effects on listed species and prepare and submit a project review package if necessary:

https://www.fws.gov/newengland/endangeredspecies/project-review/index.html

NOTE Please do not use the **Consultation Package Builder** tool in IPaC except in specific situations following coordination with our office. Please follow the project review guidance on our website instead and reference your **Project Code** in all correspondence.

Additional Info About Section 7 of the Act
Under section 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to determine whether projects may affect threatened and endangered species and/or designated critical habitat. If a Federal agency, or its non-Federal representative, determines that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Federal agency also may need to consider proposed species and proposed critical habitat in the consultation. 50 CFR 402.14(c)(1) specifies the information required for consultation under the Act regardless of the format of the evaluation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

In addition to consultation requirements under Section 7(a)(2) of the ESA, please note that under sections 7(a)(1) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species. Please contact NEFO if you would like more information.

Candidate species that appear on the enclosed species list have no current protections under the ESA. The species' occurrence on an official species list does not convey a requirement to consider impacts to this species as you would a proposed, threatened, or endangered species. The ESA does not provide for interagency consultations on candidate species under section 7, however, the Service recommends that all project proponents incorporate measures into projects to benefit candidate species and their habitats wherever possible.

Migratory Birds

In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see:

https://www.fws.gov/birds/policies-and-regulations.php

Please feel free to contact us at **newengland@fws.gov** with your **Project Code** in the subject line if you need more information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat.

Attachment(s): Official Species List

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
(603) 223-2541

Project Summary

Project Code:	2022-0023088
Event Code:	None
Project Name:	Prescott Park Redevelopment
Project Type:	Recreation - Maintenance / Modification
Project Description:	This proposed project is a restoration effort at Prescott Park in Portsmouth. Impacts will be within the developed park, along the existing seawalls and the installation of a new stacked block wall which will remove rip rap from within the tidal zone and restore tidal flats. Timing TBD.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@43.0767995,-70.75160018576182,14z

Counties: Rockingham County, New Hampshire

Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Birds

NAME	STATUS
Roseate Tern *Sterna dougallii dougallii* Population: Northeast U.S. nesting population No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2083	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

IPaC User Contact Information

Agency:	Portsmouth city
Name:	Devin Herrick
Address:	55 Walkers Brook Drive, Suite 100
City:	Reading
State:	MA
Zip:	01867
Email	herrick.devin@wseinc.com
Phone:	9782703122

APPENDIX F

NH DHR RPR - Phase 1A Prescott Park Improvements

7016 1370 0001 7157 1302

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10/24/2022

NH Division of Historical Resources
State Historic Preservation Office
Attention: Review & Compliance
19 Pillsbury Street
Concord, NH 03301-3570

for Instructions

Please mail the completed form and required material to:

New Hampshire Division of Historical Resources
State Historic Preservation Office
Attention: Review & Compliance
19 Pillsbury Street, Concord, NH 03301-3570

DHR Use Only
R&C # ______________
Log In Date ____ / ____ / ____
Response Date ____ / ____ / ____
Sent Date ____ / ____ / ____

Request for Project Review by the New Hampshire Division of Historical Resources

☒ This is a new submittal
☐ This is additional information relating to DHR Review & Compliance (R&C) #:

GENERAL PROJECT INFORMATION

Project Title Prescott Park Improvements - Phase 1A

Project Location Marcy Streey

City/Town Portsmouth Tax Map 104 Lot # 1, 3. 3-2, 3-3 and 5

NH State Plane - Feet Geographic Coordinates: Easting 1228721.21 Northing 211564.35
(See RPR Instructions and R&C FAQs for guidance.)

Lead Federal Agency and Contact *(if applicable)* Army Corps
(Agency providing funds, licenses, or permits)
Permit Type and Permit or Job Reference # General Permit

State Agency and Contact *(if applicable)* NHDES

Permit Type and Permit or Job Reference # Wetlands & Shoreland

APPLICANT INFORMATION

Applicant Name City of Portsmouth - Peter Rice

Mailing Address 680 Peverly Hill Road Phone Number (603) 427-1530

City Portsmouth State NH Zip 03801 Email phrice@cityofportsmouth.com

CONTACT PERSON TO RECEIVE RESPONSE

Name/Company Devin Herrick/Weston & Sampson Engineers

Mailing Address 55 Walkers Brook Drive, Suite 100 Phone Number (978) 573-5802

City Reading State MA Zip 01867 Email herrick.devin@wseinc.com

This form is updated periodically. Please download the current form at www.nh.gov/nhdhr/review. Please refer to the Request for Project Review Instructions for direction on completing this form. Submit one copy of this project review form for each project for which review is requested. Please include a self-addressed stamped envelope. Project submissions will not be accepted via facsimile or e-mail. This form is required. Review request form must be complete for review to begin. Incomplete forms will be sent back to the applicant without comment. Please be aware that this form may only initiate consultation. For some projects, additional information will be needed to complete the Section 106 review. All items and supporting documentation submitted with a review request, including photographs and publications, will be retained by the DHR as part of its review records. Items to be kept confidential should be clearly identified. For questions regarding the DHR review process and the DHR's role in it, please visit our website at: www.nh.gov/nhdhr/review or contact the R&C Specialist at marika.s.labash@dncr.nh.gov or 603.271.3558.

PROJECTS CANNOT BE PROCESSED WITHOUT THIS INFORMATION

Project Boundaries and Description

☒ Attach the Project Mapping ***using EMMIT or relevant portion of a 7.5' USGS Map.*** *(See RPR Instructions and R&C FAQs for guidance.)*

☒ Attach a detailed narrative description of the proposed project.

☒ Attach a site plan. The site plan should include the project boundaries and areas of proposed excavation.

☒ Attach photos of the project area (overview of project location and area adjacent to project location, and specific areas of proposed impacts and disturbances.) *(Informative photo captions are requested.)*

☒ A DHR records search must be conducted to identify properties within or adjacent to the project area. Provide records search results via EMMIT or in **Table 1**. *(Blank table forms are available on the DHR website.)* Please note, using EMMIT Guest View for an RPR records search does not provide the necessary information needed for DHR review.
EMMIT or in-house records search conducted on 10/20/2022.

Architecture

Are there any buildings, structures (bridges, walls, culverts, etc.) objects, districts or landscapes within the project area? ☒ Yes ☐ No
If no, skip to Archaeology section. If yes, submit all of the following information:

Approximate age(s): 200 years

☒ Photographs of ***each*** resource or streetscape located within the project area, with captions, along with a mapped photo key. (Digital photographs are accepted. All photographs must be clear, crisp and focused.)

☒ If the project involves rehabilitation, demolition, additions, or alterations to existing buildings or structures, provide additional photographs showing detailed project work locations. (i.e. Detail photo of windows if window replacement is proposed.)

Archaeology

Does the proposed undertaking involve ground-disturbing activity? ☒ Yes ☐ No
If yes, submit all of the following information:

☒ Description of current and previous land use and disturbances.

☒ Available information concerning known or suspected archaeological resources within the project area (such as cellar holes, wells, foundations, dams, etc.)

Please note that for many projects an architectural and/or archaeological survey or other additional information may be needed to complete the Section 106 process.

DHR Comment/Finding Recommendation *This Space for Division of Historical Resources Use Only*

☐ Insufficient information to initiate review. ☐ Additional information is needed in order to complete review.

☐ No Potential to cause Effects ☐ No Historic Properties Affected ☐ No Adverse Effect ☐ Adverse Effect

Comments:____

If plans change or resources are discovered in the course of this project, you must contact the Division of Historical Resources as required by federal law and regulation.

Authorized Signature: ____________________________ Date: ____________

Project Narrative

Background

Prescott Park is a city-owned, 10-acre, public park located in downtown historic Portsmouth with over 1,150 linear feet of Piscataqua River waterfront. One of the city's most beloved spaces, the park hosts many thousands of visitors each year for regular daily use, a seasonal performing arts festival, and other annual events. Yet, the park is the neighborhood's lowest point and gateway for flooding today. As the impacts of climate change-driven sea level rise and intensifying storms becomes more severe, Prescott Park and many of Portsmouth's most important historic resources nearby are vulnerable. Partnering with Weston & Sampson, the city began its planning efforts in 2016 to develop a master plan that allows the park to function better, to strengthen its role as an arts venue, and to reduce overall flooding. Through an implementation study, the team developed a comprehensive resiliency strategy was critically important to the park's proposed improvements. Collectively, these improvements will mitigate flooding impacts for the entire neighborhood in the future.

Long Term Planning

The proposed resiliency strategy to mitigate flooding impacts at Prescott Park is three-fold: 1) **protect** the park along its seawall edge (install tide gates and raise the seawall); 2) **retreat** critical infrastructure (raise and shift significant buildings to a higher elevation); and 3) **accommodate** for flooding (regrade the central lawn and increase storm drain sizes to hold 300,000 gallons of stored water during peak storm events).

Figure 1: Resiliency Strategy Diagram

Given the magnitude of these improvements, it is not practicable to implement all the components of this resiliency strategy at a single time. Instead, the proposed Prescott Park improvements will be implemented in several Phases over an extended time period. The exact timeline and scope of each of these phases will be determined based on funding availability. However, a general breakdown of the proposed phasing of the project is as follows:

Figure 2: Master Plan Proposed Phasing Plan (above). Revised limits of Phase 1 and Phase 1A (below).

Phase 1:

Proposed improvements for Phase 1A and 1B include:

Phase 1A (Current Application Submission):

- Removal of asphalt pavement on Water Street.
- Trenching and installation of new sewer, water, gas, and storm water infrastructure under Water Street. Connect stormwater through to the Piscataqua and make it operational. Add a tide gate.
- Demolition of the “Garage” and “Lean-To” structures, back filling of the existing foundations.
- Lifting and relocation of the Shaw building onto its new foundation. Excavate for and place new foundations for the Shaw building.
- A long sloping lawn (approx. +3’ high will exist along the entire length of the Phase 1A work line, to accommodate the new grade change, and until the remaining phases are implemented.
- Backfilling of Water Street to a new elevation matching the grade at Liberty Lawn.
- Resurfacing of Water Street and final landscape restoration within the limit of work. The “feathering” of the landscape into existing surfaces that are remaining for future phases.
- Installation of pedestrian lighting within the limit of work (Add Alternate). Installation of conduit for future lighting is included in the base contract, no matter if this Add Alternate is included.

Removal of existing chain link fencing and installation of new guardrail along the existing seawall, from the flagpole to Mechanic Street (Add Alternate)

- Repairs to the existing seawall, including re-pointing, spot repairs, and vegetation removal (Add Alternate)

Phase 1B:

- Construction of a granite-block terraced seawall along the Piscataqua River
- Regrading of the performance lawn for above-ground stormwater holding capacity during storm events
- New and upgraded storm drainage and utilities; installation of new tide gates on new and existing lines
- Pedestrian circulation and pathway accessibility upgrades
- Landscape restoration associated with these upgrades to the park

Current Scope

This current permitting application focuses on Phase 1A of the proposed Prescott Park as outlined above.

Figure 3: Proposed Phase 1A Limits. This image should be used to refence the general location of Phase 1A only. Any other proposed changes to the landscape and/or buildings will be addressed in future permitting efforts.)

Specifically, improvements include the following:

Rehabilitation of Existing Seawall

Prescott Park is separated by the Piscataqua River via a seawall made of several different material types. This existing seawall is composed of stacked blocks with mortar, stacked stone with mortar, and steel bulkhead segments which have been installed and repaired at different times throughout the park's history. This proposed phase of improvements includes rehabilitation of the existing seawall components which start at the southeastern edge of the park and continue northwest until the public docks.

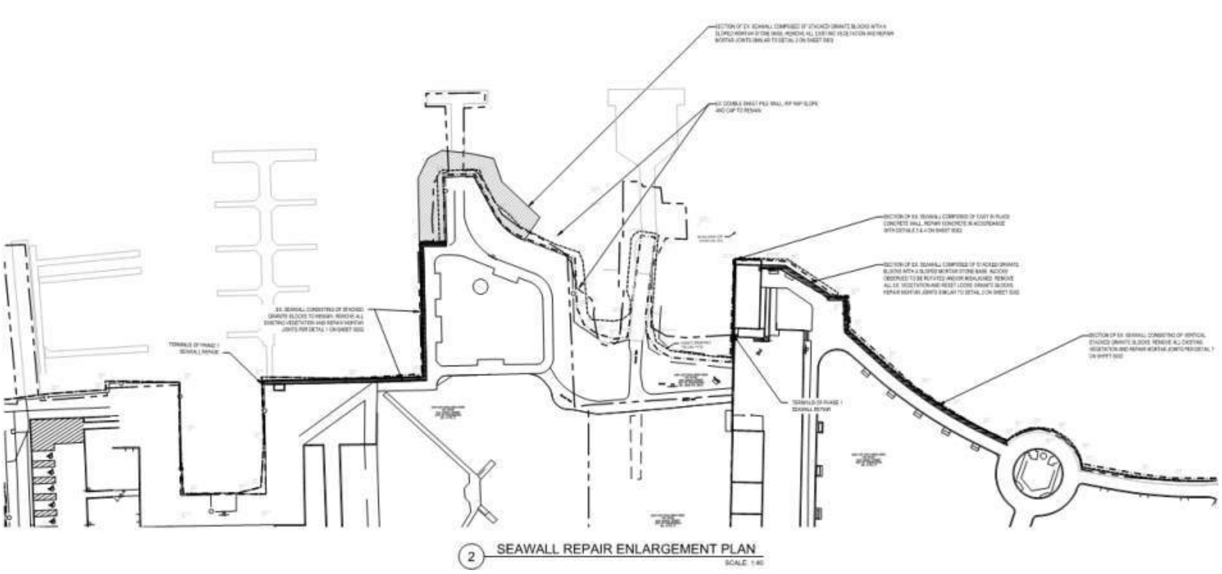


Figure 4: Section of Seawall Repair Plan From Plan Sheet S001

A seawall assessment was completed by Weston & Sampson Engineers in 2017 (See Appendix O) which indicates that intermittent repointing and mortar repairs to the quaywalls are needed. Quaywall is a term used for a retaining wall which used for mooring and berthing floating vessels which speaks to the current and historic uses of the park space. To complete the proposed repairs, the retaining wall must be cleaned of the existing vegetative growth. This vegetative growth is composed of common species including knotted wrack (*Ascophyllum nodosum*), bladder wrack (*Fucus vesiculosis*) and sea lettuce (*Ulva lactuca*). No salt marsh vegetation or eelgrass has been found in these areas. Per conversations with the Army Corps and NHDES, this proposed vegetation removal is being considered a temporary impact due to the rapid re-growth rate of these species. The potential to save the removed vegetation for "re-seeding" of the retaining walls was investigated but no feasible method was found due to the water velocities and wave impacts associated with the Piscataqua River. All of the proposed repair work will occur above the Mean Low Water line and will be conducted by hand utilizing boats for access. No dewatering of the area is proposed. The existing vegetation will be removed by hand and/or via mechanical means (ex. pressure washing) depending on wall conditions but no chemical means of vegetation removal will be utilized. Impacts for vegetation removal account for 771 linear feet of temporary impact to the seawall (river bank).

In addition to the mortar repairs, several of the large granite blocks which make up the cap to the existing retaining wall have shifted. These shifted granite blocks are intermittently spaces along the length of the retaining wall. The project proposed to realign these granite blocks to their pre-existing condition. Impacts for repointing and mortar repairs account for 771 linear feet of temporary impact to the seawall (river bank).

Relocation of the Shaw Building

There are two historic buildings located on the Prescott Park property: the Sheafe Warehouse (Sheafe) and the Shaw Warehouse (Shaw).

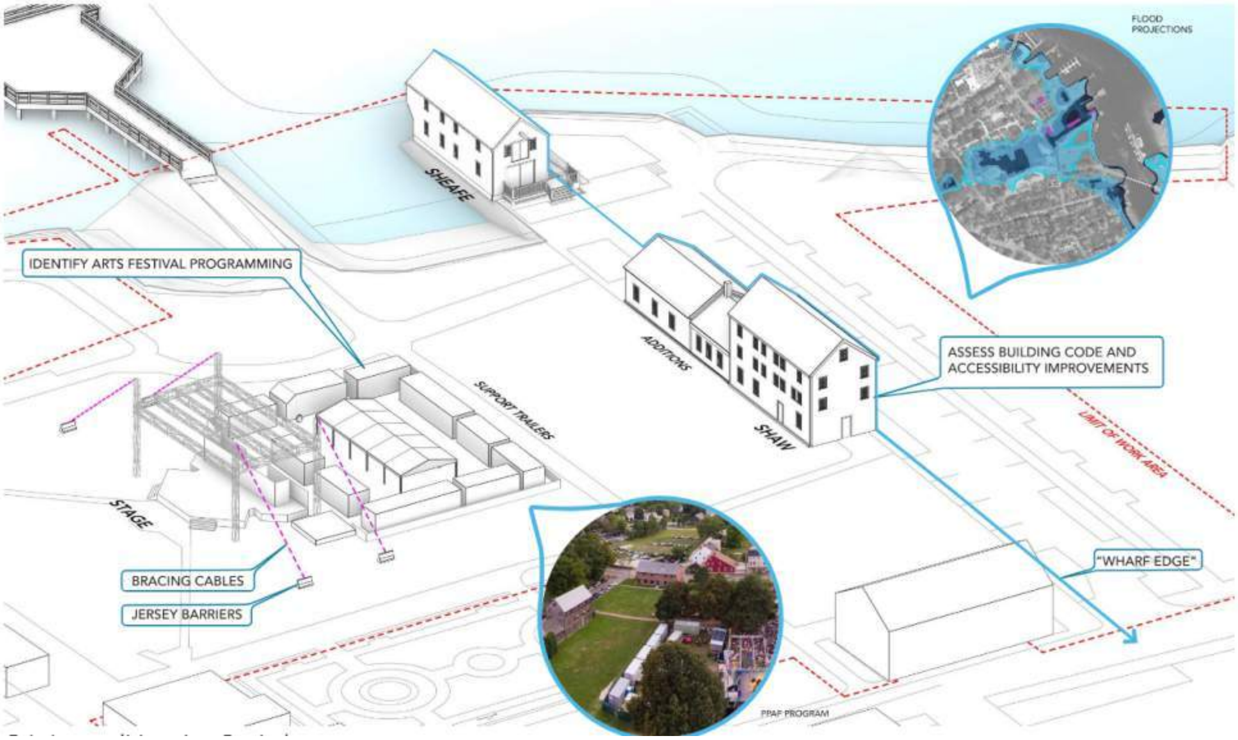


Figure 5: Existing Building Locations, as shown during an Arts Festival Season

While the Sheafe is located at an elevated position the Shaw is lower in the landscape and vulnerable to flooding damage. Consequently, we are proposing to relocate and elevate the Shaw further south towards Marcy Street to protect this valuable historic resource.

According to the New Hampshire Division of Historical Resources (DHR) eligibility documentation, the Shaw is eligible for both the National and State Register of Historic Places. According to the DHR inventory documents, the Shaw originally stood on Shaw's Wharf. Both the warehouse and the wharf were built by Abraham Shaw between 1806 and 1813. In later years (circa 1900 and 1987 respectively) Lean-to and Garage additions were added to the north side of the Shaw. As noted in the *NH Division of Historical Resources Determination of Eligibility, dated March 15, 2011*, in reference to both the Garage and Lean-To - "these later additions are of no particular historical value, but the Shaw Warehouse main building is an excellent example of the sturdy waterfront warehouses required to store and process large cargos of the early 19th century". Weston & Sampson is working with a preservation architect as well as the DHR to ensure that this historic building is being moved in keeping with all required federal protective measures. The City of Portsmouth's Historic District Commission provided a Certificate of Approval for the proposed work (See Appendix F).

The proposed relocation of the Shaw would move the building approximately 77ft to the north along its existing axis adjacent to Water Street. It is critical to keep the Shaw building in the same general orientation due to the position of the historic wharf. Within this scope of work, the Lean-To and Garage will be demolished, the Shaw Building will be lifted up and moved closer to Marcy Street, effectively relocating it out of its vulnerable location within the flood zone and placed on a new foundation; and a full exterior renovation will be completed due to the needed structural reinforcement. The interior will be mothballed with methods a part of the U.S. Department of the Interior National Park Service's Mothballing of Historic Buildings. Each exterior façade of the Shaw building will include repairs. Proposed renovations generally include the following:

- New painted wood lined gutters and leaders
- New cedar shingle roofing with copper flashing
- New painted wood windows, casings and sills
- New painted wood corner boards and rakes
- New western red cedar shake shingles
- Demolition of the existing bathroom doors and replace with new painted wood window system.
- New reinforced concrete and stone foundation system with reinforced concrete slab. Option to salvage stone for reuse with new foundation. Stone condition to be field verified.
- Existing heavy timber structural frame to remain. Include structural repairs as required by the structural engineer.
- All planned materials for the renovation are to match existing materials with improvements as noted.

Future improvements within the Shaw will occur to make is useable once again once funding becomes available. Impacts associated with the relocation of the Shaw have been included in the impact calculations for work in the previously developed tidal buffer zone which accounts for a cumulative 22,387 SF of permanent impact and 5,278 SF of temporary impact.

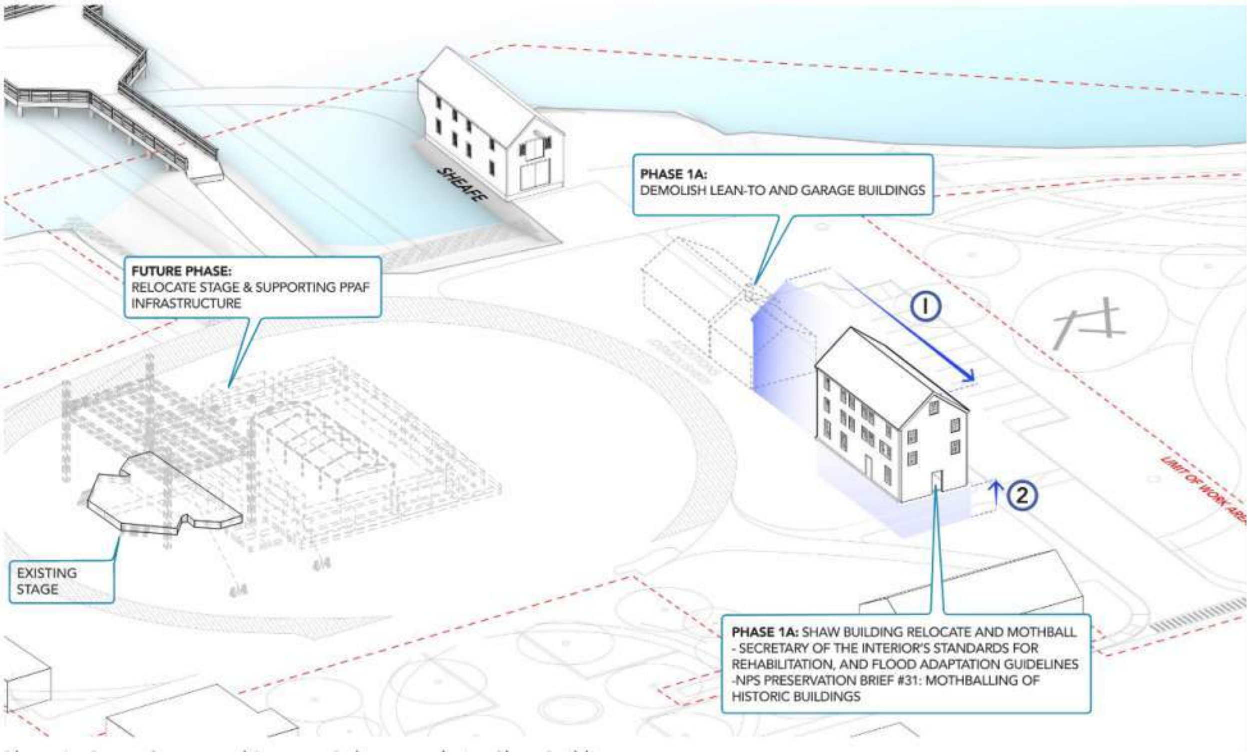


Figure 6: Demolish Garage and Lean-to, Relocate and Raise the Shaw Building

Storm Drainage and Utilities

Today, Prescott Park's aging infrastructure does not adequately mitigate flooding in the park and surrounding neighborhood. This challenge will only become more pronounced as forecasted sea level rise continues and intense rainfall events increase in frequency. For the present day 25-year, 24-hour design storm, most flooding occurs upgradient of Prescott Park, with only minor flooding within the park itself thanks to its dry wells. This trend remains true for future predictions through mid-century. By late 21st century (2090-2100), however, the pattern of flooding for the 25-year, 24-hour storm is expected to change significantly as sea level rise impacts the tidally influenced Piscataqua and surcharges the park's drainage systems through its several outfalls.

To combat this future flooding, improvements to the stormwater drainage and associated utilities are necessary. Through proposed regrading and updated stormwater infrastructure along Water Street at the Shaw, water will be collected into the proposed 24-inch-diameter stormwater culvert and associated catch basins. Much of the larger regrading efforts in the park will occur in future phases including the construction of a bowl-shaped performance lawn which will provide storage for 300,000 gallons of stored water during peak storm events. During this proposed permitting effort, the stormwater infrastructure along Water Street will be installed to divert water from new catch basins and in preparation for these future improvements to the park. Two new catch basins are proposed within the 100-foot tidal buffer zone (See Attached Plans, Appendix Q). Impacts associated with the storm drainage and utilities have been included in the impact calculations for work in the previously developed tidal buffer zone which accounts for a cumulative 22,387 SF of permanent impact and 5,278 SF of temporary impact.

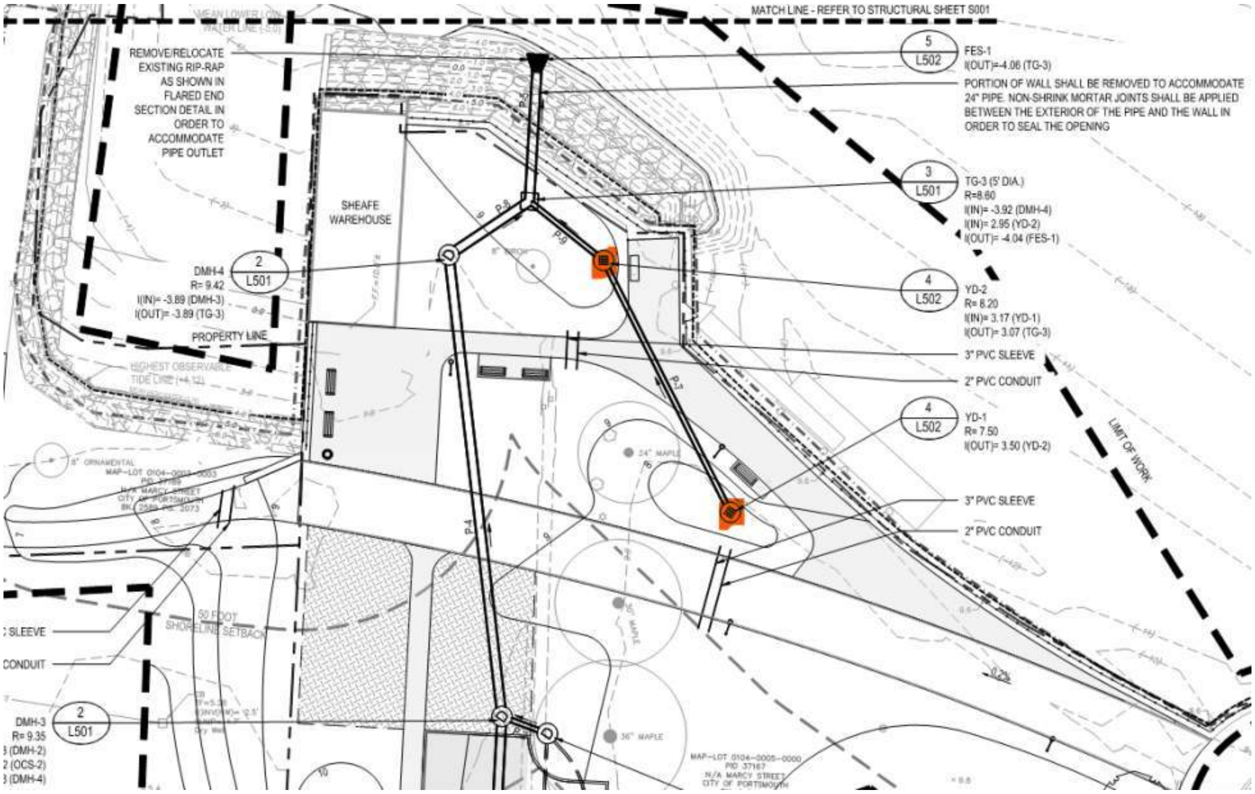


Figure 7: Proposed Catch Basins from Plan Sheet L141

To allow the newly proposed stormwater culvert to drain into the Piscataqua, a new culvert outfall is proposed. This proposed outfall will be located south of the Sheafe Warehouse where currently seawall exists. The proposed 24-inch-diameter stormwater culvert will discharge through the existing seawall where a flared end will be installed to prevent erosion. 14 square feet (SF) of permanent impact will be required within the Piscataqua River To install the outfall and flared end structure. This is the only permanent impact proposed to the Piscataqua River as a result of this Phase 1A permitting submission. Impacts associated with the new outfall account for 14 SF and 5 linear feet (LF) of permanent impact.

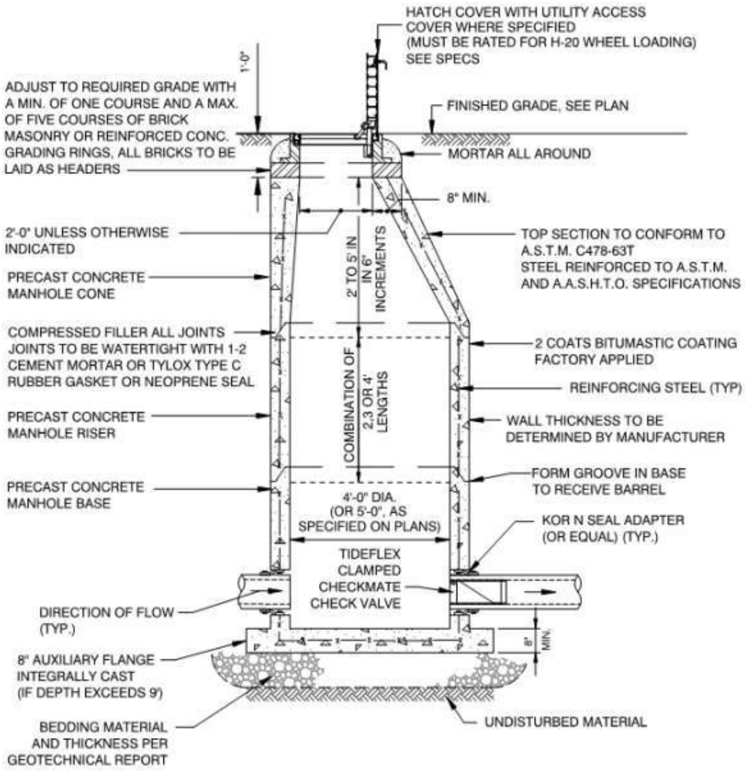
Additional utilities to be updated along Water Street include the sewer lines, water lines, gas lines and electrical. These utility improvements will serve to prepare the park for the currently proposed improvements and future phases of work (See Attached Plans, Appendix Q). Impacts associated with the utilities have been included in the impact calculations for work in the previously developed tidal buffer zone which accounts for a cumulative 22,387 SF of permanent impact and 5,278 SF of temporary impact.

Tide Gate

Under the current conditions in Prescott Park, during storm events water can back up into the stormwater drainage outfalls from the Piscataqua River. This means that overland flow from the storm events is not able to effectively drain into the stormwater system, leaving the park and adjacent neighborhood is subject to flooding concerns. Since more frequent, high intensity storms are predicted in the future, this proposal includes installation of a tide gate in the proposed 24-inch-diameter stormwater culvert.

Figure 8: Proposed Tide Gate From Plan Sheet L141

This type of proposed tide gate is installed using a manhole (hatch) for access and within the stormwater culvert. Utilizing this technology, the tide gate will only permit flow in only one direction. This means that as water levels rise in the Piscataqua seawater is prevented from backing up into the stormwater system while stormwater drainage is still allowed to flow towards the new outfall. There will be no direct impacts to the Piscataqua River as a result of this tide gate installation.



NOTE:
1. WHERE THE TIDE GATE SITS BELOW BRICK PAVERS, THE CONTRACTOR SHALL INSTALL THE BILCO HATCH JUST BELOW THE BRICK PAVERS. BRICK PAVERS SITTING ABOVE THE HATCH SHALL BE INSTALLED INSIDE A UTILITY ACCESS COVER. SEE SPECIFICATIONS.

3 TIDEGATE WITH HATCH
SCALE: N.T.S.

Figure 9: Proposed Tide Gate from Plan Sheet L501

Impacts associated with the tide gate installation have been included in the impact calculations for work in the previously developed tidal buffer zone which accounts for a cumulative 22,387 SF of permanent impact and 5,278 SF of temporary impact.

Site Regrading

A major goal of the proposed Prescott Park Master Plan is to promote pedestrian and greenspace connectivity throughout the entire park. Given the park sits on what was a former working waterfront and the park is an assemblage of properties acquired over time, Water Street has become a physical break between the southeastern and northwestern portions of the park. The elevational change on the southern side of Water Street accentuates this disconnect. The southeastern half of Prescott Park (Lot 0104-0005-0000) is approximately 3 feet higher in elevation than the remaining northwestern half of the park. This grade change means that the only way to smoothly transition from one half of the park to the other is via a narrow set of stairs or ramp located at the end of Water Street adjacent to the Sheafe. The proposed Phase 1A efforts seek to link these two halves of the park by raising the grades along Water Street and the Shaw. Elevating Water Street will allow for a wide, accessible pathway to be added in front of the Sheafe and along the Piscataqua, thereby connecting the two halves of the park. The proposed regrading of Water Street will also provide the necessary space below Water Street for a new and improved stormwater drainage 'preferential pathway' that can handle larger flows. The proposed regrading will feather into the existing park contours so that use of the park will not be interrupted between the phases of the park improvements.

Future regrading will be needed when the granite-block terraced seawall is installed in Phase 1B, which is needed under the 'protection' category of our resiliency interventions needed at Prescott Park. As part of Phase 1A, there is just one location (immediate west of the Sheafe) where the seawall elevation will need to be raised three feet to accommodate the proposed grade changes. This vertical extension of the seawall will occur within the footprint of the existing wall and will result in 33 linear feet of permanent impact to the bank of the river (shown in green below).

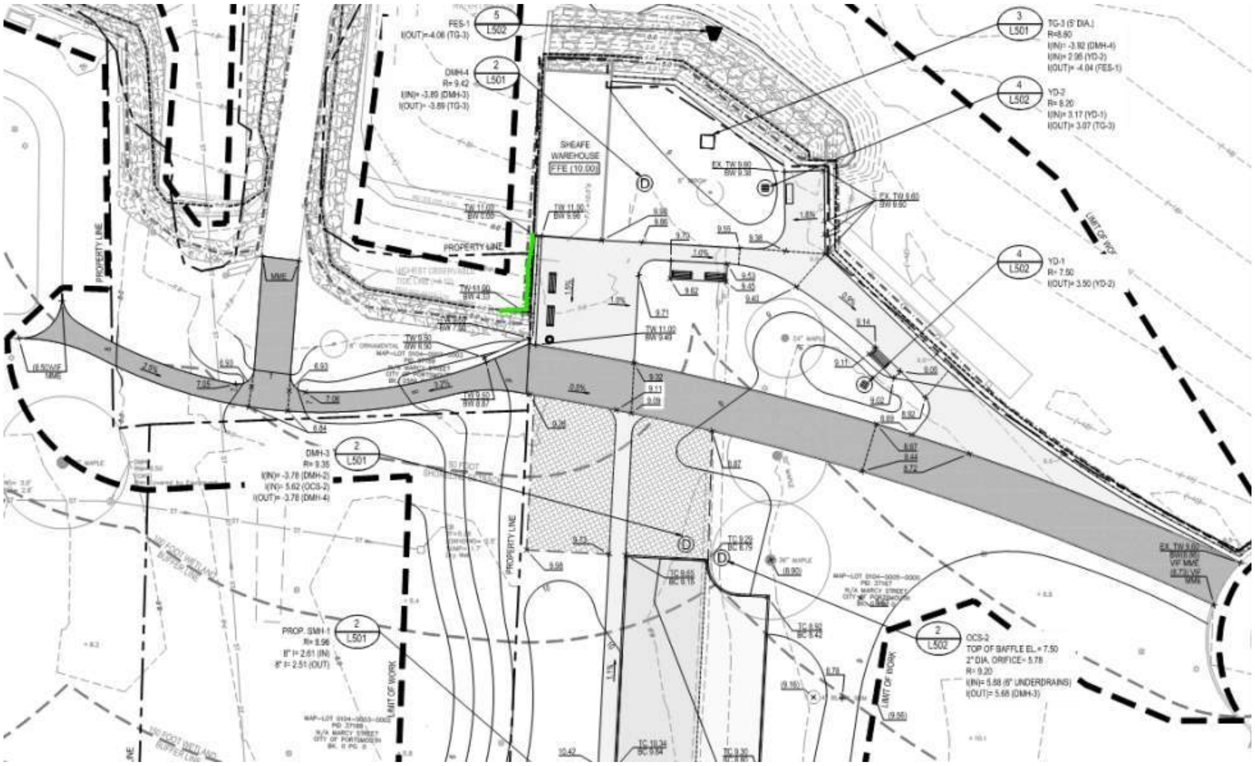


Figure 10: Proposed Vertical Wall Extension From Plan Sheet L140

Impacts associated with the site regrading have been included in the impact calculations for work in the previously developed tidal buffer zone which accounts for a cumulative 22,387 SF of permanent impact and 5,278 SF of temporary impact.

Reconfiguration of Water Street Parking

Parking within the Prescott Park property is extremely limited. The current parking configuration on Water Street is parallel spots along both sides of the road before reaching a dead end at the Sheafe. This current parking configuration is extremely challenging to maneuver and creates a visual barrier between the two halves of the park. The Phase 1A park improvements include upgrades to the proposed parking on Water Street which will allow for traditional "head in" parking spaces with no public parallel spaces which will allow for better circulation along the roadway. Concentrating the parking improves sightlines across the park and more accurately mimics a historic wharf configuration. To limit the amount of impervious area on sight, the newly proposed parking spaces will utilize porous pavement.

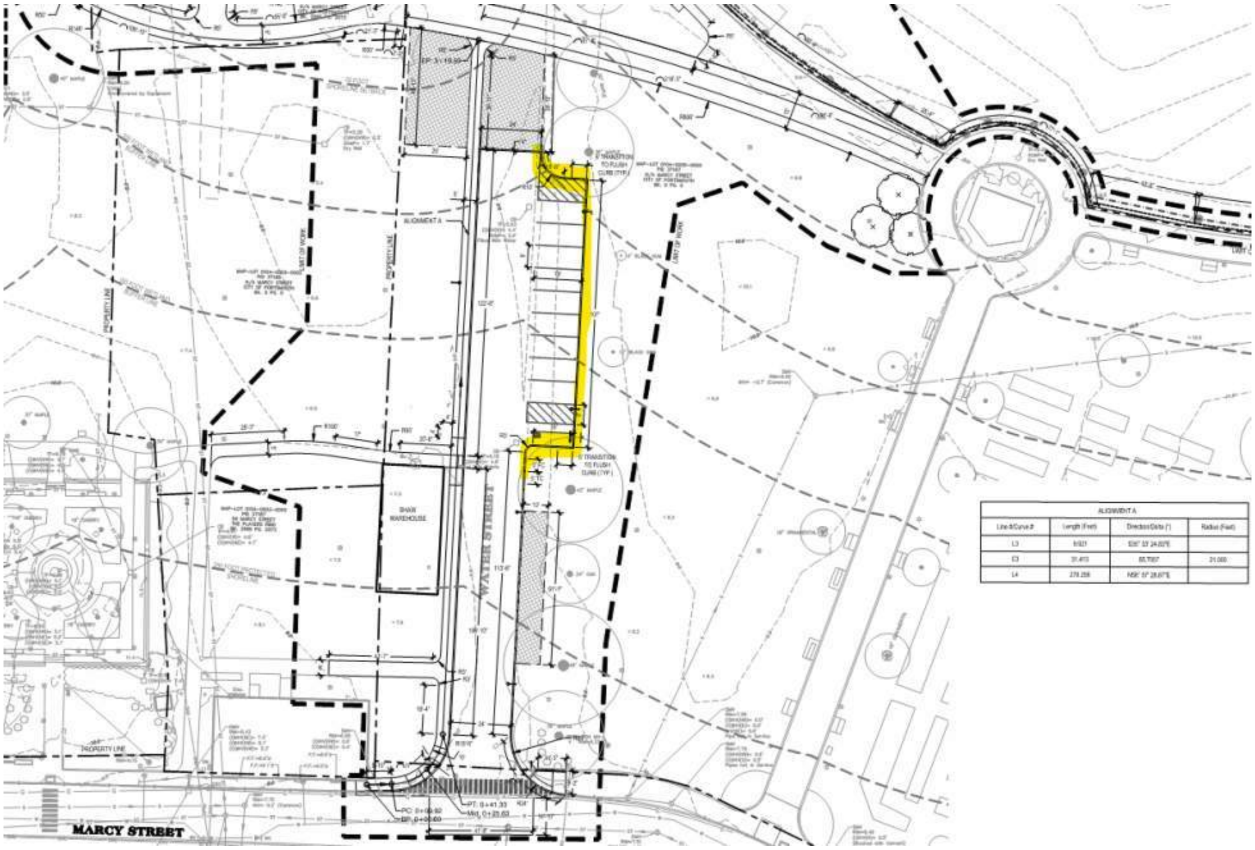


Figure 11: Proposed Parking from Plan Sheet L130

Landscape Restoration

It is important to the City that Prescott Park remain a useable and aesthetically pleasing space between construction phases. As a result, upon the completion of the proposed Phase 1A construction all open areas will be re-seeded to allow for grass re-growth. This will keep infiltration within the park space high and allow for continuous vegetative cover. No tree removal is proposed as part of the Phase 1A effort.

Project Review & Compliance (Section 106)

Since a large component of this proposed project involves ground disturbance and moving a historic building (Shaw Warehouse) pre application consultations with the Division of Historic Resources (DHR) staff Nadine Miller and David Trubey have been ongoing.

Belowground Review

As a part of these consultations a combined Phase 1A/1B archaeological investigation of the proposed project area has been approved (see attached plan and approval). The fieldwork has been completed and a report from the archaeologist will be forwarded to the DHR as soon as it is available.

Aboveground Review

The proposed project has included the use of a preservation architect to ensure the relocation of the Shaw and the mothballing process are done correctly. Additionally, the proposed project has gone before the City of Portsmouth's Historic District Commission and they have provided a Certificate of Approval for the proposed work (See Attached).

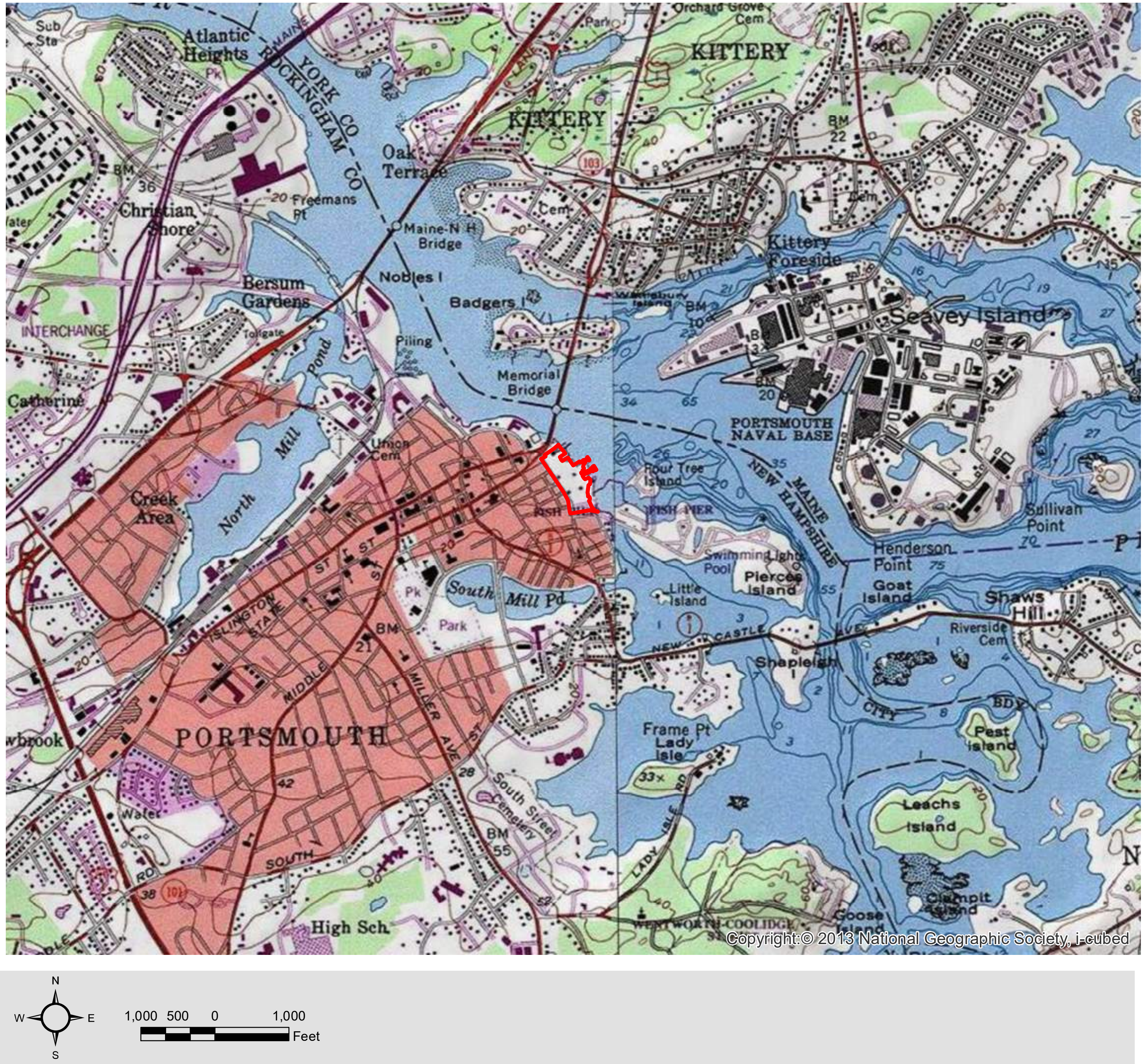
DHR Records Search

October 21, 2022

Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community

Inventory #	Property Name	Address	Town	SR Listing Date	NR Listing Date	DOE Date Reviewed	Eligibilities	HABS Year	HAER Year	NH Property Doc Year	Doc Id
POR-0CTS	Court Street		Portsmouth				Eligible National Register district				
POR0113	Portsmouth Marine Railway	105 Marcy Street	Portsmouth	10/30/2006		6/14/2006	State Register eligible, individually				
POR0127	Sheafe Warehouse	107 Marcy Street	Portsmouth	10/24/2011		3/23/2011	National Register eligible, individually; State Register eligible, individually	1937			HABS-0007
POR0128	Shaw Warehouse	Marcy Street, Prescott Park	Portsmouth	10/24/2011		3/23/2011	National Register eligible, individually; State Register eligible, individually				
POR0163	Strawbery Banke Historic District	Bounded by Court, Marcy, Hancock & Washington Sts.	Portsmouth		6/20/1975						
POR0174	Portsmouth Downtown Historic District	multiple locations	Portsmouth		6/19/2017						
POR0180	Cullen House	186 Marcy Street	Portsmouth					1961			HABS-0087
POR0181	Daniel Bailey House	139 Manning Street	Portsmouth					1961			HABS-0082
POR0182	Drisco House	65-67 Charles Street	Portsmouth					1983			HABS-0088
POR0184	Captain Thomas Hough House	25 Liberty Street (Horse Lane)	Portsmouth					1983			HABS-0091

Path: \\wse03.local\WSE\Projects\NH\Portsmouth, NH\Prescott Park Phase 1\Permitting\Shoreland PBN\GIS\Maps\USGS Template.mxd **User:** Herrick.Devin **Saved:** 10/4/2022 1:51:18 PM **Opened:** 10/4/2022 1:51:51 PM



Legend

🟥 Prescott Park Boundaries

FIGURE 1

Prescott Park
Portsmouth NH

USGS Topographic Map

Weston & Sampson

Photo 1: Prescott Park Facing North 9/9/2022

Photo 2: Rip Rap Bank 9/9/2022

Photo 3: Piscataqua River 9/9/2022

Photo 4: Seawall Southeast Extent of Property 9/9/2022

Photo 5: Shifted Blocks 9/9/2022

Photo 6: Public Docks 9/9/2022

Photo 7: Existing Stage 9/9/2022

Photo 8: Sheafe Warehouse 9/9/2022

Photo 9: Shaw Warehouse, Garage and Lean-to 9/9/2022

Photo 10: Approx Location of Proposed Outfall 9/9/2022

Photo 11: End of Water Street 9/9/2022

Photo 12: Water Street and Shaw Warehouse Facing Northeast 10/4/2022

Photo 13: Proposed Location Trench 1 Facing South 10/4/2022

Photo 14: Proposed Location Trench 2 Facing West 10/4/2022

Photo 15: Proposed Location Trench 3 Facing West 10/4/2022

Photo 16: Proposed Location Trench 4 Facing West 10/4/2022

From: Trubey, David
To: Herrick, Devin; Miller, Nadine
Cc: Bethoney, Cassie; jcofelice@iac-llc.net
Subject: RE: Phase 1A/1B Scope Review - Prescott Park
Date: Tuesday, August 30, 2022 9:22:19 AM
Attachments: image001.png

Good morning Devin,

The NH Division of Historical Resources (DHR) has reviewed the scope of work submitted to your firm for the Prescott Park Phase 1 Improvements Combined Phase IA/IB survey by Independent Archaeological Consulting. The DHR finds the proposal to be well-researched and concurs with the proposed methodology, including the use of mechanical trenching to assess the potential for deeply-buried archaeological deposits.

If you have any questions regarding this email, please don't hesitate to contact me.

Sincerely,

David

From: Herrick, Devin <Herrick.Devin@wseinc.com>
Sent: Friday, August 26, 2022 3:22 PM
To: Trubey, David <david.w.trubey@dncr.nh.gov>; Miller, Nadine <nadine.m.miller@dncr.nh.gov>
Cc: Bethoney, Cassie <BethoneyC@wseinc.com>; jcofelice@iac-llc.net
Subject: RE: Phase 1A/1B Scope Review - Prescott Park

Hello David and Nadine,

I hope you are well! We have received a proposal to conduct the Phase 1A/Phase 1B archaeological evaluation of the proposed initial phase of the Prescott Park rehabilitation.

Attached please find the proposed scope of work. This includes trenching in the areas deemed to be sensitive based on research of the sites history and previous shovel test pits done in 2016. It was felt that this trenching methodology would provide the most comprehensive archaeological investigation.

We are hoping to get your approval of this proposed scope as we would like to get the archaeology team scheduled. We are planning to submit a Request for Project Review in the next few weeks.

I will be out of the office for the next two weeks, I would be happy to answer any questions you may have when I return. In the meantime you can contact Cassie Bethoney who is the project manager (cc'd here).

Thank you!

Devin

Devin Herrick (Batchelder), CWS *(she/her)*
Project Environmental Scientist
Direct: 978-573-5802
Cell: 978-270-3122

Weston & Sampson
55 Walkers Brook Drive, Suite 100
Reading, MA 01867 (HQ)
tel: 978-532-1900 ext. 2117

westonandsampson.com

IAC
Independent Archaeological Consulting, LLC

August 3, 2022

Cassie Bethoney, RLA
Project Manager/Landscape Architecture
85 Devonshire Street, 3rd Floor
Boston, MA 02109

Re: City of Portsmouth: Prescott Park Phase 1 Improvements
Combined Phase IA/IB Scope of Work

Dear Ms. Bethoney,

Please consider this combined Phase IA archeological sensitivity assessment/Phase IB intensive archaeological investigation scope of work for the City of Portsmouth Prescott Park Phase 1 Improvements project in Portsmouth (Rockingham County), New Hampshire. Project plans call for ground disturbing activity related to the following tasks:

- Removal of asphalt pavement on Water Street.
- Trenching and installation of new sewer, water, gas, and storm water infrastructure under Water Street. Connect stormwater through to the Piscataqua and make it operational.
- Demolition of the “Garage” and “Lean-To” structures, back filling of the existing foundations, and relocation of their functions to the Lacava Wharf Barn. This will provide an area for temporary trailers to house Prescott Park Art Festival's office operations, if off-site space is not available, until Shaw is restored and ready for re-occupancy.
- Lifting and relocation of the Shaw building onto its new foundation. Excavate for and place new foundations for the Shaw building.
- A long sloping lawn (approx. +3’ high) will exist along the entire length of the Phase 1A work line, to accommodate the new grade change, and until the remaining phases are implemented.
- Backfilling of Water Street to a new elevation matching the grade at Liberty Lawn.
- Resurfacing of Water Street and final landscape restoration within the limit of work. The “feathering” of the landscape into existing surfaces that are remaining for future phases.

The Phase IA archaeological sensitivity assessment provides the first opportunity for an archaeologist to review project impacts in relation to potential archaeological resources. The objective of the Phase IA assessment is to provide the client with a review of a project area that evaluates whether archaeological resources are ***known*** to be present, or are ***likely*** to be present (i. e., the area is “sensitive”). The Phase IA study consists of a series of steps, including:

- A New Hampshire Division of Historical Resources (NHDHR) site file search (via NHDHRs online data base – EMMIT), to learn whether any sites are known within 5.0 km (3.0 miles) of the project area.
- Review of historic Portsmouth maps (including, but not limited to the Hales 1813, Sanborn 1892, 1920, and 1956 maps) onto existing conditions and proposed site plans of the project area provided by Weston & Sampson (2022) to assess the likelihood of remaining resources given the changes to the landscape over time.
- Site inspection to view existing conditions of the project area, to identify obvious disturbances or features (such as roadways, paths, ornamental plantings/trees, and extant buildings) in relation to probable historic resource locations. ***Based on the results of the Phase IA walkover survey, we may reduce our proposed Phase IB level of effort or modify the proposed location of our trenches.***
- Report preparation will offer the client a full rendering of background research completed, development of the site predictive model, results of the site inspection, and recommendations about further archaeological survey, if needed.

These elements of research satisfy the requirements of compliance with Section 106 of the National Historic Preservation Act.

To develop our proposed Phase IA/IB testing strategy, IAC prepared overlays of the historic maps (Hales 1813, Sanborn 1892, 1920, and 1956) onto existing conditions and proposed site plans of the project area provided by Weston & Sampson (2022). These overlays provided a means to assess the likelihood of intact resources given the changes to the landscape over time (Attachments 2-5). The Hales (1813) map, for instance shows that the water's edge once cut deeply into the shoreline, and that slightly more than half of the area within the project boundaries was open water (see Attachment 3). Other areas, however, were covered with the Ayres and Shaws wharves and/or warehouses, and remnants of these may remain in portions of the survey area. The Sanborn (1892, 1920 and 1956) maps indicate filling and construction on the newly manufactured land continued into the first half of the twentieth century. In addition to wharves and warehouses, other potential historic resources within the project footprint include architectural remnants and/or cultural deposits associated with domestic residences, barns, outbuildings, (such as sheds and garages), privies, shops and features related to the 1850s marine railway.

In 2016, IAC completed a Phase IB intensive archaeological investigation in ancillary impact areas associated with Portsmouth's Wastewater Treatment Facility upgrade project (Wheeler, et. al 2016). Portions of this project area overlap the proposed Prescott Park Phase I Improvements impact area. The 2016 project included the hand excavation of shovel test pits (STPs) in the grassy lawn east of the "Player's Ring" building, which exposed numerous layers of compact fill. Since it is highly likely that any remnants of the marine railway, outbuildings, wharf and warehouse shown on historic maps in this area are deeply buried, IAC proposes to mechanically excavate a series of trenches to assess archaeological integrity and to confirm the presence or absence of archaeological features and/or deposits (see Attachment 2). The trenches will be excavated by either the City of Portsmouth Public Works Departments or another subcontractor and will be monitored and documented by an archaeologist. Depending on the Phase IA walkover survey results, the locations of the trenches may be shifted to avoid utilities or other extant features such trees, ornamental planting sidewalks. If archaeological resources are identified and hand testing is warranted, IAC has earmarked 20 of the 40 proposed shovel test pits (STPs) for this portion of the project area.

To date, no archaeological survey has been conducted along the southern edge of Water Street and aerial images dating to the 1960s suggest this portion of the park was not as heavily impacted by industrial land use as other parts of the waterfront (Attachment 6). To confirm the presence or absence of archaeological resources within this area, IAC proposes to hand excavate STPs, each measuring 0.5 m by 0.5 m (1.6 ft by 1.6 ft), with all soils screened through ¼" mesh for the retrieval of artifacts. Shovel test pits are placed at 8-m (26-ft) intervals, however, if we encounter a feature or cultural deposit, we may bracket test pits at intervals of 4-m (13-ft). For the Phase IB scope of work for the present project, IAC proposes the excavation of up to 20 of the 40 proposed STPs in this test area (see Attachment 2).

Based on our previous work in Prescott Park, we anticipate high artifact yields. All artifacts will be brought to IAC's laboratory in Dover for processing (washing and cataloging). Lab work continues with the creation of computer-generated site plans and the analysis of soil profiles as well as the distribution of artifacts among testholes.

If the Phase IB investigation demonstrates the presence of resources in the project area, IAC will provide recommendations in our report about whether further (Phase II) archaeological survey and/or construction phase monitoring is advised. If a site is discovered, the scope includes the preparation of a site form to be submitted to the New Hampshire Division of Historical Resources. As per NHDHR's 2020 Archaeological Curation Guidelines, the proposal includes a fee of $350 per artifact box (per cubic foot) for review and long-term curation of archaeological materials due to NHDHR on the date of accession. IAC will prepare the artifact collections and required paperwork for transfer to NHDHR per the 2020 guidelines. All reports will be submitted to NHDHR on archival-quality paper and will be accompanied with a bibliography form.

The IAC team will be headed by Jessica Cofelice, MA, RPA. Ms. Cofelice meets and exceeds the Secretary of Interior 36-CFR-61 standards for professional archaeologist, and she has more than 10 years of experience in northern New England contract archaeology. Archaeological Specialists will all have a minimum of a B.A. in Anthropology or related field, or at least five years of field experience.

Altogether, we are proposing a not-to-exceed amount of for the Phase IB survey (Attachment 1). To facilitate Weston & Sampson's project schedule, we can draft an end-of-field report for NHDHR to begin the review process while we complete the full Phase IB report.

If you have any questions about the proposal, please do not hesitate to contact Jessica Cofelice at jcofelice@iac-llc.net or by phone at 603-430-2970 (office) or 603-380-2263 (cell).

Please do not hesitate to contact me with any questions or concerns.

Sincerely,

Jessica A. Cofelice

Jessica Cofelice MA, RPA

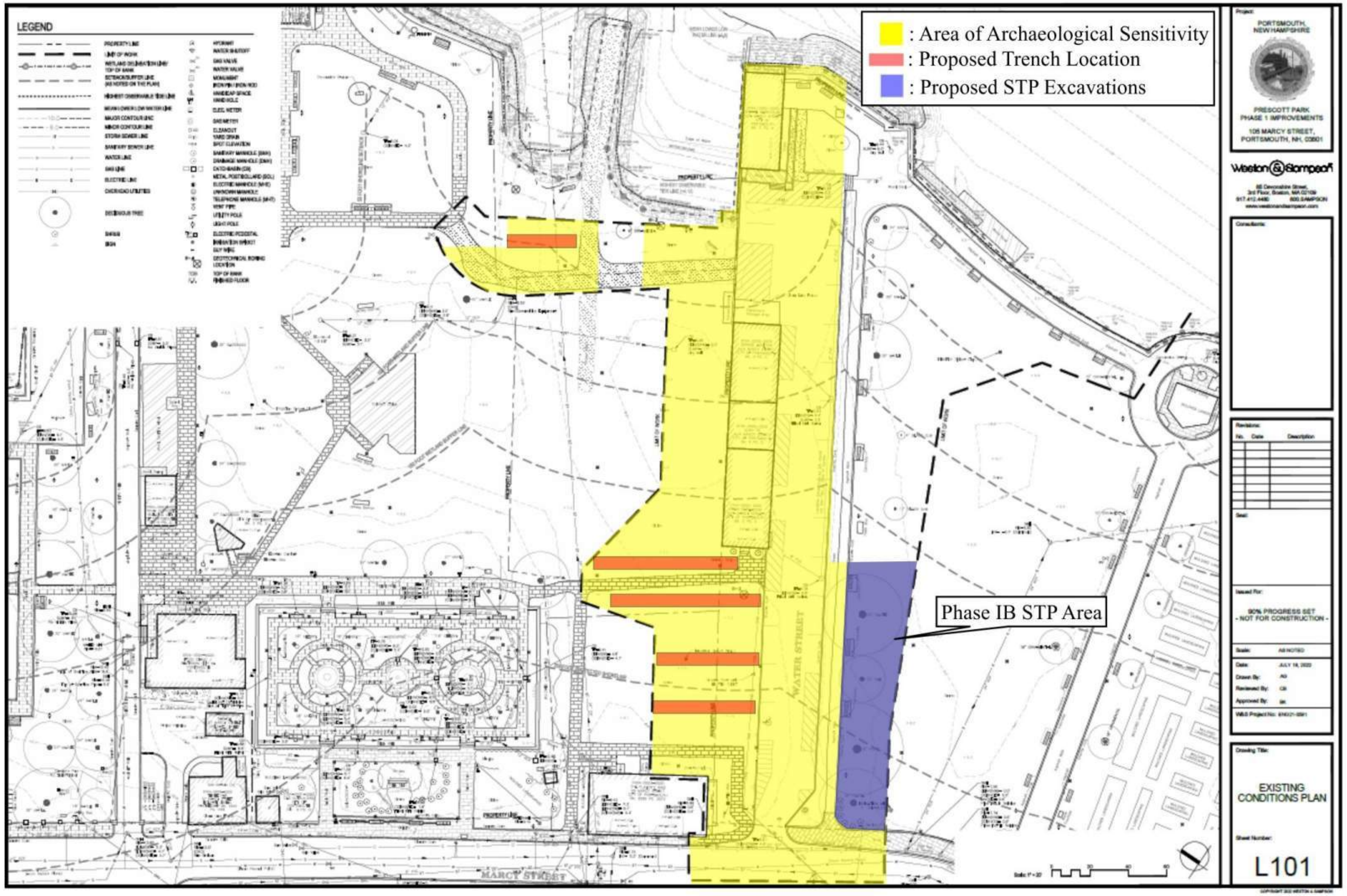
REFERENCES

Hales, J. G.
1813 *Map of the Compact Port of the Town of Portsmouth in the State of New Hampshire*. T. Wightman, Boston.

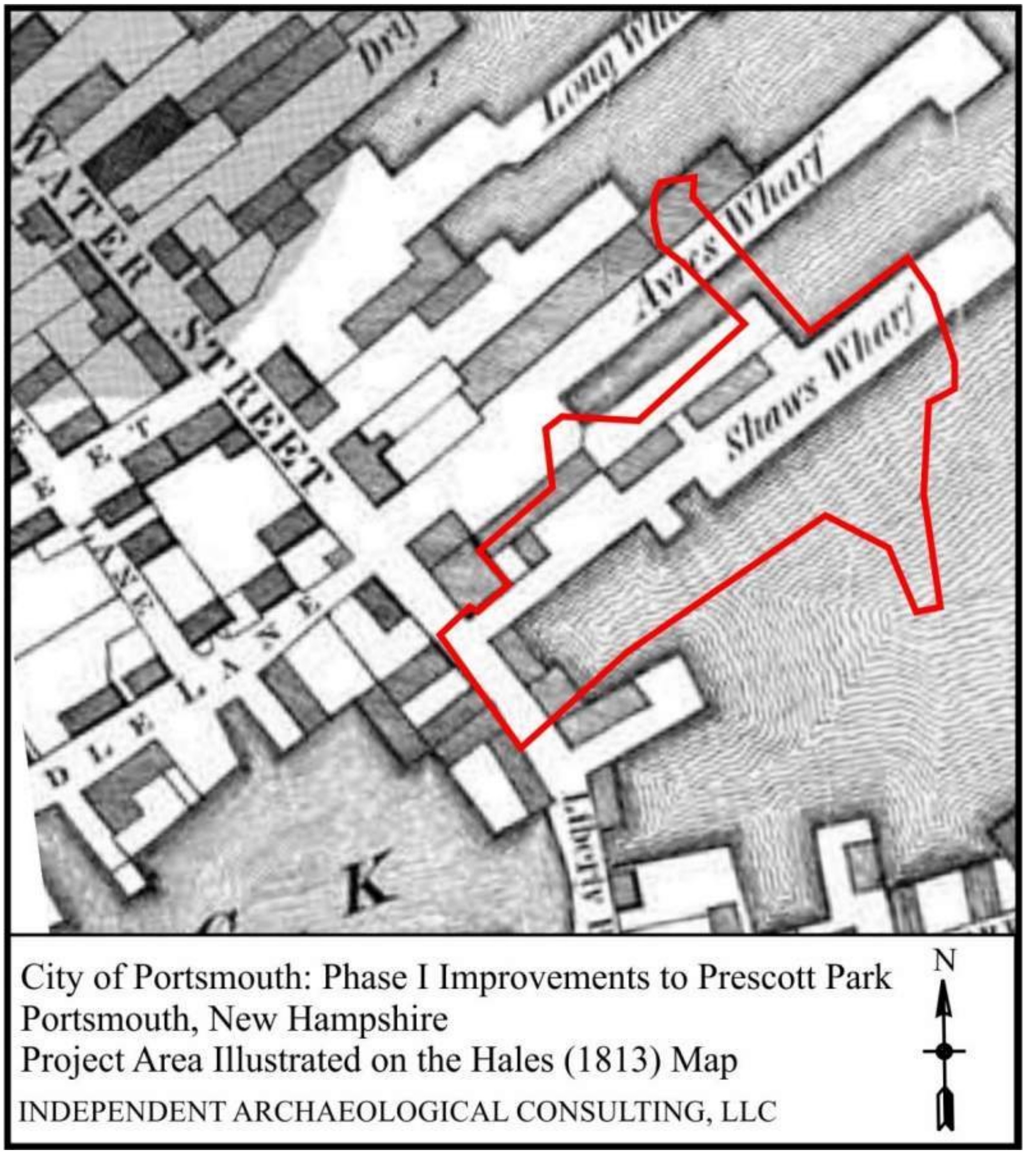
Robinson, J. Dennis
2007 Strawbery Banke: A Seaport Museum 400 Years in the Making. Peter E. Randall Publisher, LLC, Portsmouth, New Hampshire.

Sanborn Map and Publishing Company
1892 Portsmouth, N.H. Sanborn Map and Publishing Co., New York.
1920 Portsmouth, N.H. Sanborn Map and Publishing Co., New York.
1956 Portsmouth, N.H. Sanborn Map and Publishing Co., New York.

Wheeler, Kathleen, Jessica Cofelice and Ellen Marlatt
2016 *Phase IA Archaeological Sensitivity Assessment and Phase IB Intensive Archaeological Investigation Ancillary Impacts to Wastewater Treatment Facility Upgrade, Peirce Island, Portsmouth (Rockingham County), New Hampshire.* Report submitted to AECOM, Wakefield, Massachusetts.

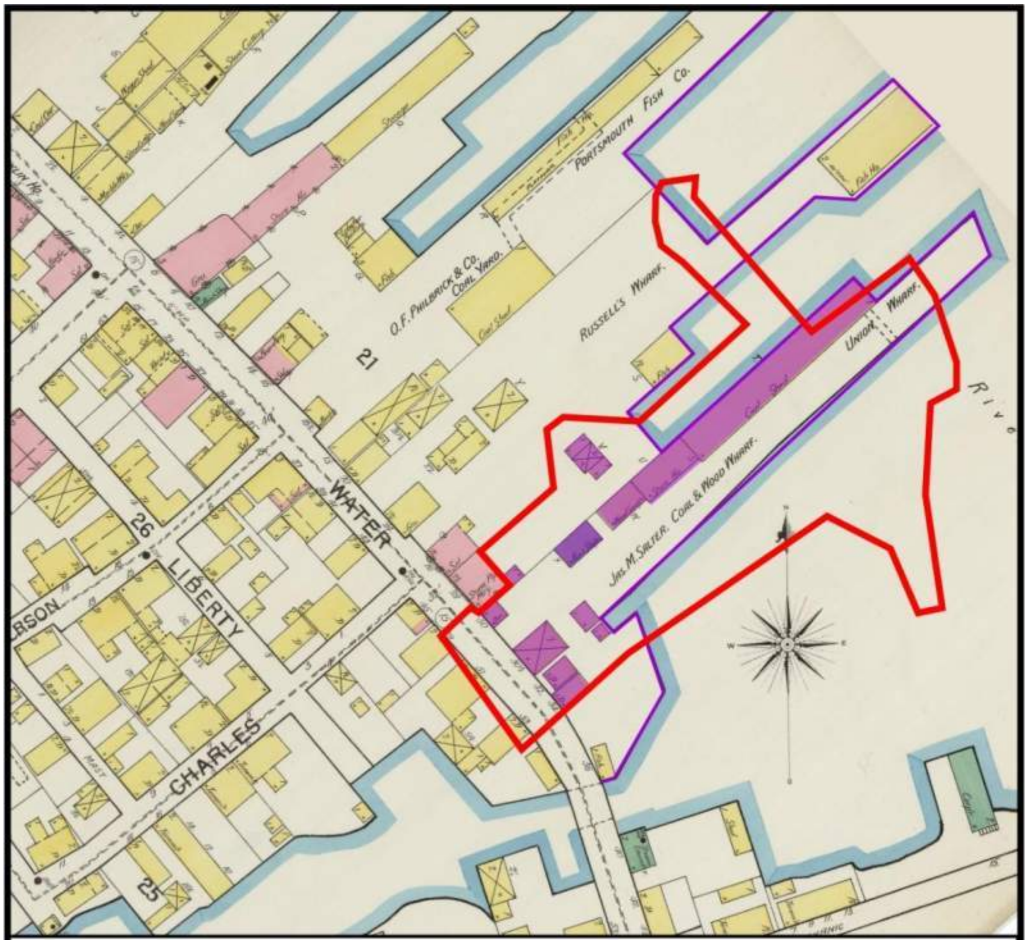


Attachment 2. Archaeologically sensitive portion of project area and Phase IB testing locations illustrated on existing conditions plan (modified from Weston & Sampson 2022).



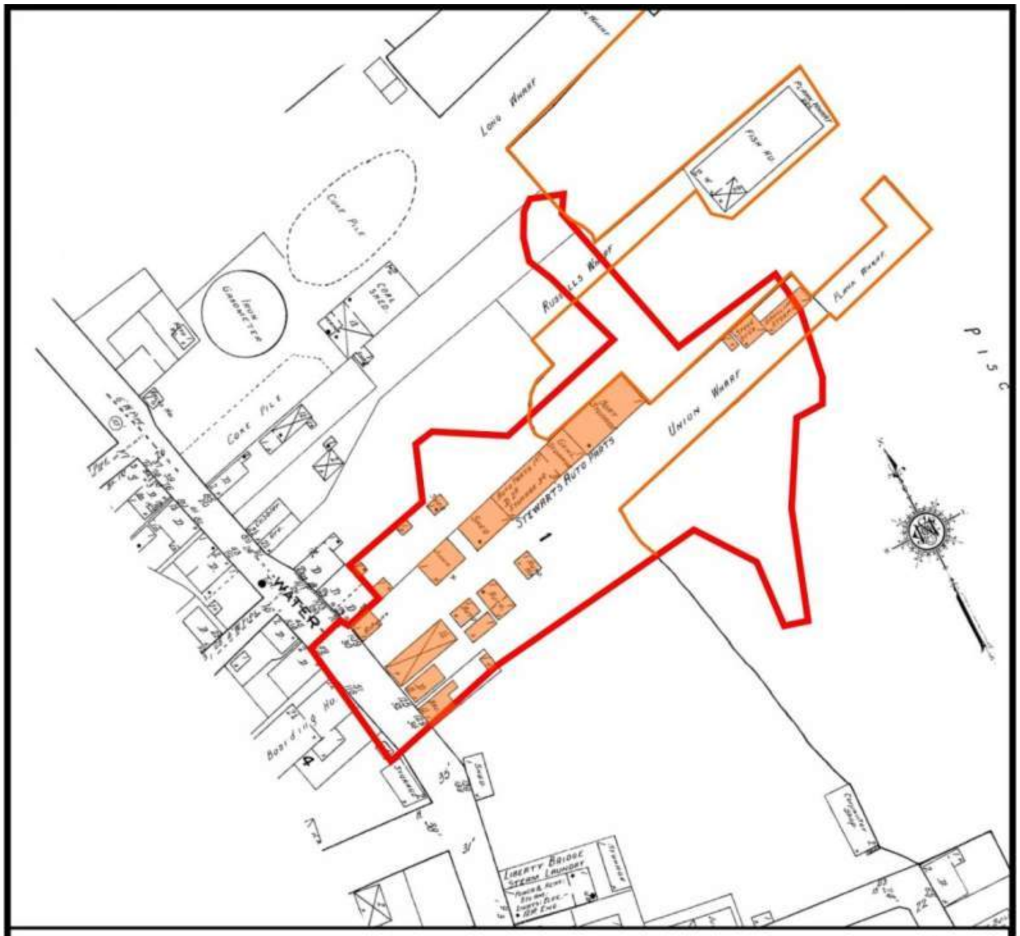
City of Portsmouth: Phase I Improvements to Prescott Park
Portsmouth, New Hampshire
Project Area Illustrated on the Hales (1813) Map
INDEPENDENT ARCHAEOLOGICAL CONSULTING, LLC

Attachment 3. Proposed project area illustrated on the Hales (1813) map of Portsmouth.



City of Portsmouth: Phase I Improvements to Prescott Park
Portsmouth, New Hampshire
Project Area Illustrated on the Sanborn (1892) Map
INDEPENDENT ARCHAEOLOGICAL CONSULTING, LLC

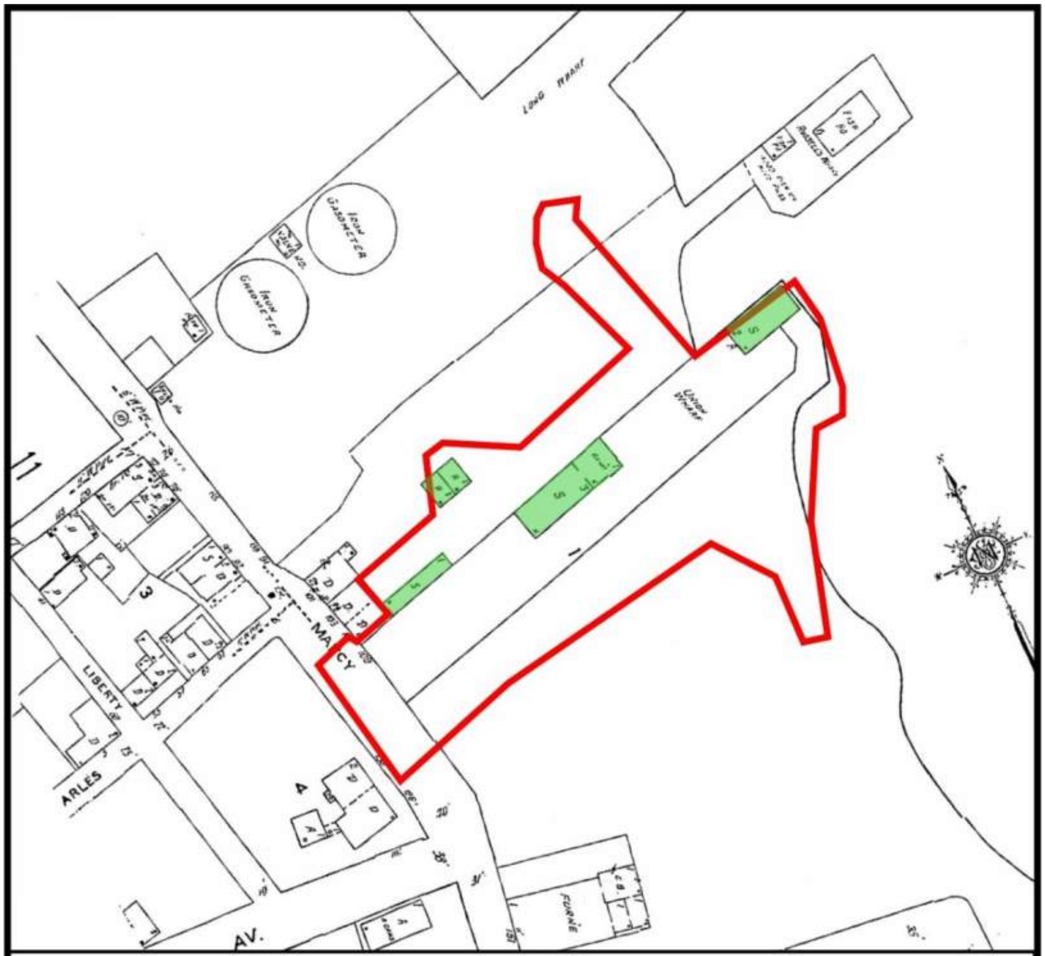
Attachment 4. Proposed project area illustrated on the Sanborn (1892) map of Portsmouth.



City of Portsmouth: Phase I Improvements to Prescott Park
Portsmouth, New Hampshire
1920 Resources Illustrated on Aerial Image
INDEPENDENT ARCHAEOLOGICAL CONSULTING, LLC

N

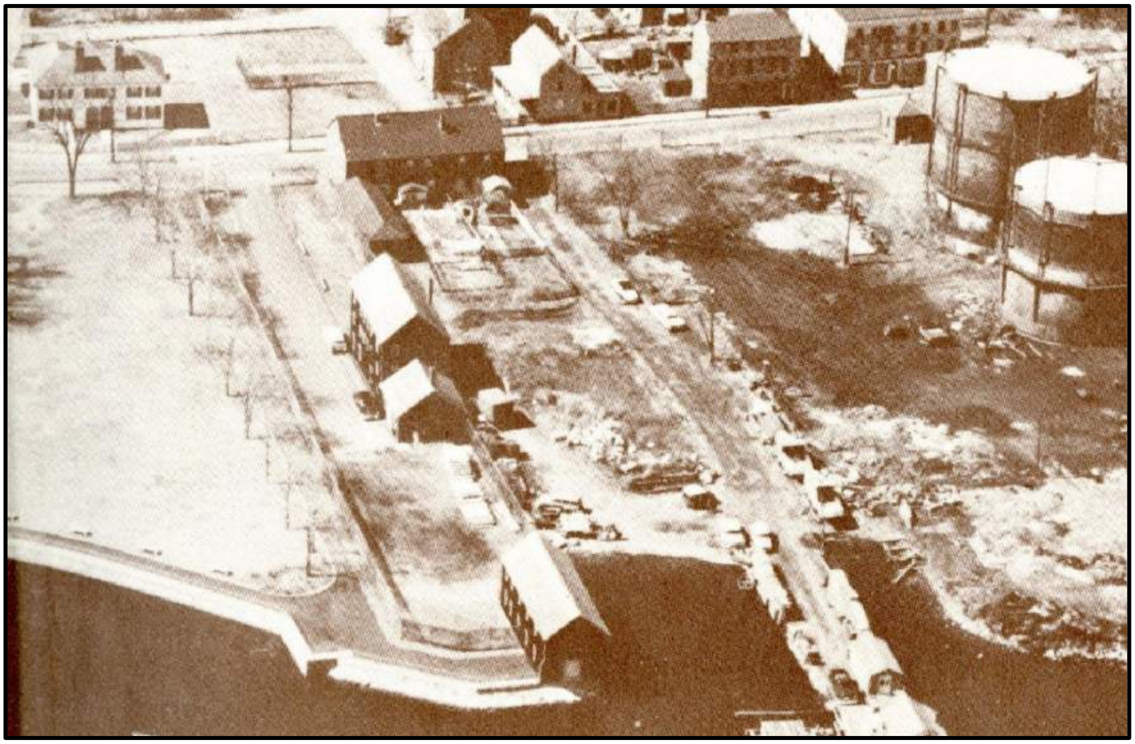
Attachment 5. Proposed project area illustrated on the Sanborn (1920) map of Portsmouth.



City of Portsmouth: Phase I Improvements to Prescott Park
Portsmouth, New Hampshire
Project Area Illustrated on the Sanborn (1956) Map
INDEPENDENT ARCHAEOLOGICAL CONSULTING, LLC

N

Attachment 6. Proposed project area illustrated on the Sanborn (1956) map of Portsmouth.



Attachment 7. Aerial image of Portsmouth taken in 1963 showing park under construction.

CITY OF PORTSMOUTH

Planning Department
1 Junkins Avenue
Portsmouth, New Hampshire 03801
(603) 610-7216

HISTORIC DISTRICT COMMISSION

October 17, 2022

City of Portsmouth
Attn: Department of Public Works
1 Junkins Avenue
Portsmouth, NH 03801

RE: **Certificate of Approval for property located at 0 Marcy Street (Prescott Park) LU-22-188**

Dear Owner:

The Historic District Commission, at its regularly scheduled meeting of **Wednesday, October 05, 2022**, considered your application for the partial demolition of an existing structure (the rear portion of the Shaw Warehouse), the relocation of the remaining structure closer to Marcy Street, and renovations to an existing structure (complete exterior modifications) as per plans on file in the Planning Department. Said property is shown on Assessor Map 104, Lot 5 and lies within the Municipal and Historic Districts. As a result of said consideration, the Commission voted to **grant** the Certificate of Approval as presented.

Findings of Fact

A. Purpose and Intent
The proposed application meets the following objective(s) of the Historic District (as provided in Section 10.631.20 of the Zoning Ordinance):
-Conservation and enhancement of property values.

B. Review Criteria
The proposed application also meets the following review criteria of the Historic District (as provided in Section 10.635.70 of the Zoning Ordinance):
-Relation to historic and architectural value of existing structures.

The Commission's decision may be appealed up to thirty (30) days after the vote. Any action taken by the applicant pursuant to the Commission's decision during this appeal period shall be at the applicant's risk. Please contact the Planning Department for more details about the appeals process.

Approvals may also be required from other City Committees or Boards. Once all required approvals have been received, applicant is responsible for applying for and securing a building permit from the Inspection Department prior to starting any project work.

This approval shall expire unless a building permit is issued within a period of one (1) year from the date granted by the Historic District Commission unless an extension is granted by the Commission in accordance with Section 10.636.70 of the Zoning Ordinance.

Please note that any changes or modifications to this application require review and approval from the Commission prior to implementation and additional fees may apply.

The minutes and audio recording of this meeting are available by contacting the Planning Department.

Very truly yours,

Nicholas J. Cracknell, AICP, Principal Planner
for Jonathan Wyckoff, Chairman of the Historic District Commission

cc: Shanti Wolph, Chief Building Inspector
Rosann Maurice-Lentz, City Assessor

Joe Almeida, Facilities Manager, City of Portsmouth
Cassandra Bethoney, Weston and Sampson

APPENDIX G

Abutter Notification Letters - Prescott Park Phase 1A

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10/21/2022

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142 Portsmouth Ave
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10/21/2022

Ten State Street LLC
PO Box 284
Stratham, NH 03885

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10/21/2022

Safro Jeanne M Marital Trust (50%)
Dipilato Gary L Marital Trust (50%)
10 State ST #3
Portsmouth, NH 03801

for Instructions

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10/21/2022

Portsmouth Waterfront LLC
PO Box 432
Stratham, NH 03885

for Instructions

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☐ Adult Signature Restricted Delivery $
Postage
$

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10/21/2022

Riverfront NH LLC
PO Box 432
Stratham, NH 03885

for Instructions

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☐ Return Receipt (electronic) $
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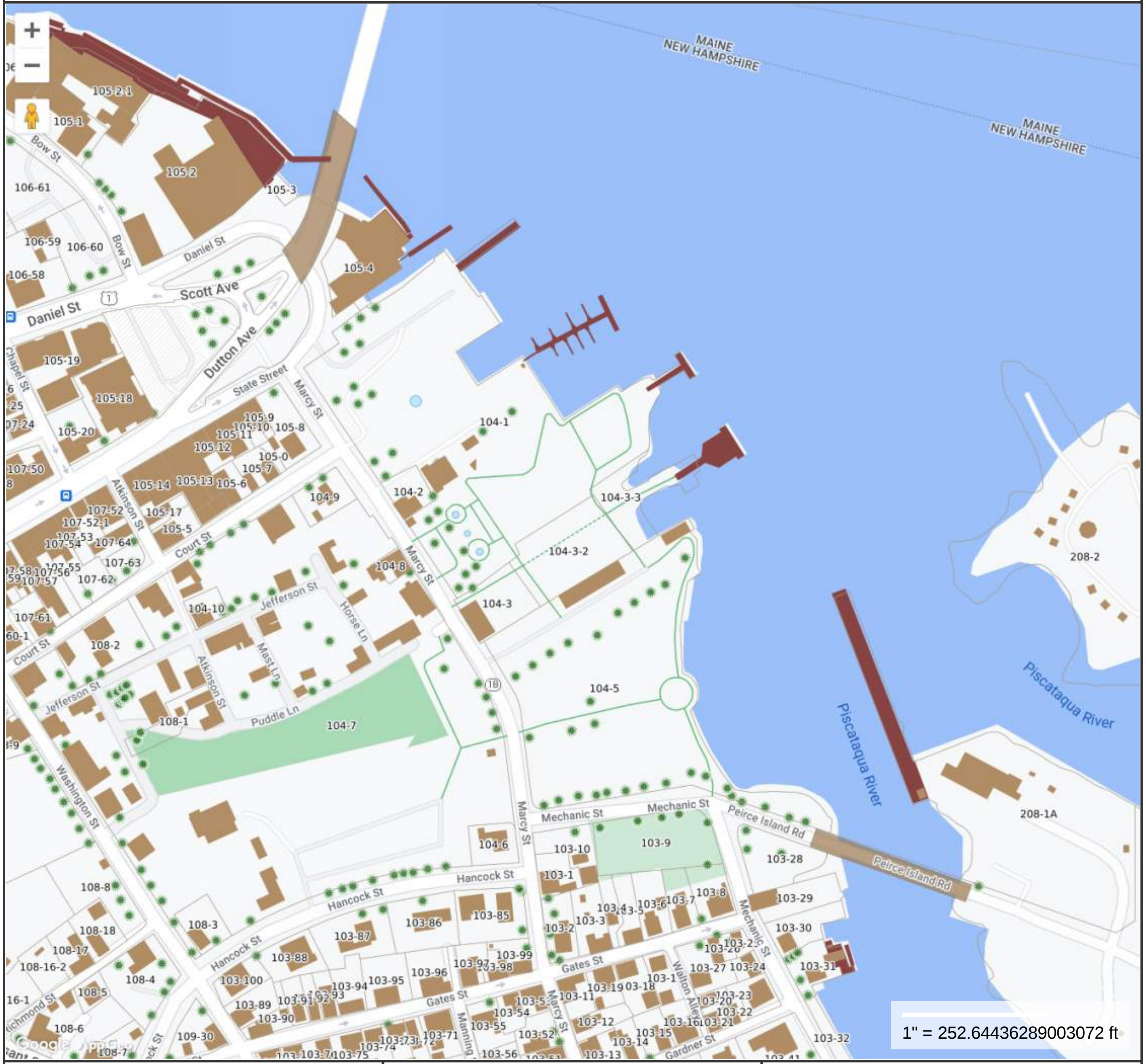
10/21/2022

Holgate Limited Partnership
130 Central Ave
Dover, NH 03820

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

Assessors Map



1" = 252.64436289003072 ft

MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT

City of Portsmouth, NH makes no claims and no warranties, expressed or implied, concerning the validity or accuracy of the GIS data presented on this map.

Geometry updated 09/21/2022
Data updated 3/9/2022

Print map scale is approximate. Critical layout or measurement activities should not be done using this resource.

ABUTTER NOTIFICATION OF NHDES WETLANDS PERMIT APPLICATION

Via Certified Mail

October 21, 2022

Holgate Limited Partnership
130 Central Ave
Dover, NH 03820

RE: NHDES Wetlands Permit Application
Prescott Park
Marcy Street
Portsmouth
Tax Map: 104, Lots: 1, 3, 3-2, 3-3 and 5

Dear Abutter:

This letter is to inform you that a Wetlands Permit Application will be filed with the NH Department of Environmental Services (DES) Wetland Bureau for a Wetlands Permit associated with the above referenced project for work to make improvements to Prescott Park. Under state law RSA 482-A:3 I (d)(1), I am required to notify you via certified mail about the application, which proposes work abutting your property.

Once it is filed, the permit application, including plans that show the proposed project will be available for viewing at the City Clerk's Office in Portsmouth or at the NHDES offices by scheduling a file review by calling (603) 271-2919.

If you have questions, you may contact Devin Herrick with Weston & Sampson Engineers at the contact information provided below.

Sincerely,

Devin Herrick

Devin Herrick, CWS
Project Environmental Scientist
Weston & Sampson
55 Walkers Brook Drive, Suite 100
Reading, MA 01867 (HQ)
tel: 978-532-1900 ext. 2117

cc: NHDES Wetlands Bureau

ABUTTER NOTIFICATION
OF
NHDES WETLANDS PERMIT APPLICATION

Via Certified Mail

October 21, 2022

Riverfront NH LLC
PO Box 432
Stratham, NH 03885

RE: NHDES Wetlands Permit Application
Prescott Park
Marcy Street
Portsmouth
Tax Map: 104, Lots: 1, 3, 3-2, 3-3 and 5

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ABUTTER NOTIFICATION OF NHDES WETLANDS PERMIT APPLICATION

Via Certified Mail

October 21, 2022

Portsmouth Waterfront LLC
PO Box 432
Stratham, NH 03885

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Prescott Park
Marcy Street
Portsmouth
Tax Map: 104, Lots: 1, 3, 3-2, 3-3 and 5

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ABUTTER NOTIFICATION
OF
NHDES WETLANDS PERMIT APPLICATION

Via Certified Mail

October 21, 2022

Safro Jeanne M Marital Trust (50%)
Dipilato Gary L Marital Trust (50%)
10 State ST #3
Portsmouth, NH 03801

RE: NHDES Wetlands Permit Application
Prescott Park
Marcy Street
Portsmouth
Tax Map: 104, Lots: 1, 3, 3-2, 3-3 and 5

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cc: NHDES Wetlands Bureau

ABUTTER NOTIFICATION
OF
NHDES WETLANDS PERMIT APPLICATION

Via Certified Mail

October 21, 2022

Ten State Street LLC
PO Box 284
Stratham, NH 03885

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Prescott Park
Marcy Street
Portsmouth
Tax Map: 104, Lots: 1, 3, 3-2, 3-3 and 5

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ABUTTER NOTIFICATION
OF
NHDES WETLANDS PERMIT APPLICATION

Via Certified Mail

October 21, 2022

Ten State Street LLC
142 Portsmouth Ave
Stratham, NH 03885

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Prescott Park
Marcy Street
Portsmouth
Tax Map: 104, Lots: 1, 3, 3-2, 3-3 and 5

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55 Walkers Brook Drive, Suite 100
Reading, MA 01867 (HQ)
tel: 978-532-1900 ext. 2117

cc: NHDES Wetlands Bureau

Abutters List – Wetlands Standard Dredge and Fill Wetlands Permit Application

Env-Wt 102.04 "Abutting property" means any property immediately contiguous to the property on which a project has occurred or is proposed, provided that:

> *(a) The term does not include any property that is separated by a public road from the property on which a project has occurred or is proposed, or that is more than ¼-mile from the limits of the work or proposed work;*
>
> *(b) For any project located on the shoreline of a surface water body, the term includes any property within 100 feet of the shoreline impact in any direction;*
>
> *(c) For any project that will impact a watercourse, the term includes any property within 100 feet upstream or downstream of the impact area; and*
>
> *(d) If an abutting property is owned in whole or in part by the person who undertook the work or is proposing to undertake the work, or is necessary to meet a frontage requirement, the term includes the next contiguous property, subject to the ¼-mile limitation.*

Mblu	0104/ 0002/ 0000/ /
Location	57 MARCY ST
Owner	HOLGATE LIMITED PARTNERSHIP
Address	130 CENTRAL AVE, DOVER, NH 03820

Mblu	0105/ 0004/ 0001/ /
Location	10 STATE ST #A
Owner	RIVERFRONT NH LLC
Address	PO BOX 432, STRATHAM, NH 03885

Mblu	0105/ 0004/ 0002/ /
Location	10 STATE ST #B
Owner	PORTSMOUTH WATERFRONT LLC
Address	PO BOX 432, STRATHAM, NH 03885

Mblu	0105/ 0004/ 0003/ /
Location	10 STATE ST #C
Owner	SAFRO JEANNE M MARITAL TRUST (50%)
Co-Owner	DIPILATO GARY L MARITAL TRUST (50%)
Address	10 STATE ST #3, PORTSMOUTH, NH 03801

Mblu	0105/ 0004/ 0004/ /
Location	10 STATE ST #D
Owner	TEN STATE STREET LLC
Address	PO BOX 284, STRATHAM, NH 03885

Mblu	0105/ 0004/ 0005/ /
Location	10 STATE ST
Owner	TEN STATE STREET LLC
Address	142 PORTSMOUTH AVE, STRATHAM, NH 03885

APPENDIX H

Photo 1: Prescott Park Facing North 9/9/2022

Photo 2: Rip Rap Bank 9/9/2022

Photo 3: Piscataqua River 9/9/2022

Photo 4: Seawall Southeast Extent of Property 9/9/2022

Photo 5: Shifted Blocks 9/9/2022

Photo 6: Public Docks 9/9/2022

Photo 7: Existing Stage 9/9/2022

Photo 8: Sheafe Warehouse 9/9/2022

Photo 9: Shaw Warehouse, Garage and Lean-to 9/9/2022

Photo 10: Approx Location of Proposed Outfall 9/9/2022

Photo 11: End of Water Street 9/9/2022

APPENDIX I

westonandsampson.com

55 Walkers Brook Drive, Suite 100
Reading, MA 01867
tel: 978.532.1900

Wetland Delineation Report

September 2021

Prescott Park
Portsmouth, NH

Wetland Delineation Conducted By:
Devin Batchelder, CWS

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https://westonandsampson-my.sharepoint.com/personal/herrick_devin_wseinc_com/Documents/Desktop/Wetland Delineation/Wetland Delineation Report/2 NH Wetlands Report Body.docx

1.0 SITE DESCRIPTION

On September 9th, 2021, a wetland delineation was conducted at Prescott Park in Portsmouth, NH. This investigation area is located within a developed and maintained park space adjacent to Marcy Street. Please see Figure 1 (Wetlands Field Map) and Figure 2 (USGS Topographic Map) of this report for the investigation area.

Wetland areas including, a tidal perennial stream bank, were identified and flagged in the field using pink flagging by a Weston & Sampson employee who is a NH Certified Wetland Scientist trained in the wetland delineation process using the US Army Corps of Engineers Wetland Delineation methodology (Federal Delineation Method) utilizing the “Wetlands Delineation Manual”, Technical Report Y-87-1, US ACE, January 1987, and the “Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Northcentral and Northeast Region”, Version 2.0, US ACE, January 2012. Further descriptions of these wetland resource areas are presented in the following sections.

2.0 DELINEATION OF WETLAND RESOURCES

2.1 Site Observations

A Weston & Sampson NH Certified Wetland Scientist (CWS), trained in the US Army Corps of Engineers Wetland Delineation methodology (Federal Delineation Method), observed the following jurisdictional wetland resources at the site subject to (or potentially subject to) regulation under RSA 482-A Fill and Dredge in Wetlands:

- Tidal Perennial Stream Bank (Tidal Waters)
- Tidal Buffer Zone

Field data were recorded on US Army Corps of Engineers (ACOE) Wetland Determination Data Forms. See Appendix A for completed data forms and Appendix B for site photographs.

2.2 Wetland Delineation Methodology

A wetland delineation was conducted in accordance with New Hampshire Administrative Code Env-Wt 406 Delineation and Classification of Jurisdictional Areas utilizing the Federal Delineation Method. Per Env-Wt 103.02 "Federal Delineation Method" is defined as "the method in "Wetlands Delineation Manual", Technical Report Y-87-1, US ACE, January 1987, and the "Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Northcentral and Northeast Region", Version 2.0, US ACE, January 2012".

The Federal Delineation Method identifies wetlands based on the presence of hydrophytic vegetation, hydric soils, and wetlands hydrology. Pink flags with distinct flag numbers are left in the field to show wetland limits. Vegetation, hydrology and soils are assessed in both wetland and upland areas to accurately place the wetland limits at each site. The percentage of vegetative species was estimated by creating sample plots. Sample plot radius for trees, saplings, shrubs, groundcover and woody vine strata was 30', 15', 15', 5' and 30', respectively. After creating the sample plot areas, the percent basal area coverage of each species within the monitoring plot was recorded. Using these field observations, the percent dominance of each species within its stratum was calculated. The 50/20 Rule was then used to determine dominance. Dominant species were considered the most abundant plant species (when ranked in descending order of abundance and cumulatively totaled) that immediately exceeds

50% of the total dominance measure (basal area) for the stratum, plus any additional species comprising 20% or more of the total dominance measure for the stratum. Once the dominant species were determined, they were treated equally to determine the presence of hydrophytic vegetation. If the number of dominant species with a Wetland Indicator Status of FAC (excluding FAC-), FACW or OBL is greater than, or equal to, the number of remaining dominant species, the area was considered a jurisdictional wetland resource area based on vegetation.

A soil sample from each wetland sample plot is also taken. Each soil sample goes to a depth of at least 12-24 inches. The soil is characterized to determine if the soil sample is considered a hydric (wetland) soil. Soil samples, including mottles, are characterized based on color using Munsell Soil-Color charts as a color reference and Env-Wt 301(c) as described above.

The general area is then assessed for hydrologic conditions, including, but not limited to, site inundation, depth to free water, depth of soil saturation, water marks, drift lines, sediment deposits, and water stained leaves.

2.3 Perennial Stream - Tidal Surface Water

Per Env-Wt 103.53 “Perennial stream” means “a watercourse that is in the groundwater table for most of the year and so has groundwater as its primary source of water for stream flow, with runoff from rainfall and snowmelt as a supplemental source of water, so that it contains flowing water year-round during a typical year. Perennial streams are delineated by identifying the limit of the bank and the ordinary high water mark on each side of the watercourse (Env-Wt 406.04(a))”. Per Env-Wt 102.15 “Bank” means “the transitional slope adjacent to the edge of a surface water body, the upper limit of which is usually defined by a break in slope, or for a wetland, where a line delineated in accordance with Env-Wt 400 indicates a change from wetland to upland.” Wetland flags left in the field were hung at the break in slope.

Based on the current mapping available from the United States Geological Survey (USGS) the perennial stream identified within the investigation area is the Piscataqua River. The Piscataqua River in Portsmouth is a Tidal Surface Water. Per Env-Wt 602.58 “Tidal surface water” means any surface water that is subject to the ebb and flow of the tide. The Reference Line for coastal waters per RSA 483-B:4, XVII. Is “the highest observable tide line, which means a line defining the furthest landward limit of tidal flow, not including storm events, which can be recognized by indicators such as the presence of a strand line of flotsam and debris, the landward margin of salt tolerant vegetation, or a physical barrier that blocks further flow of the tide.” The highest observable tide line (HOTL) means “a line defining the farthest landward limit of tidal flow, not including storm events, that can be recognized by indicators such as the presence of a strand line of flotsam and debris, the landward margin of salt-tolerant vegetation, or a physical barrier that blocks inland flow of the tide” (Env-Wt 602.23). The majority of the stream bank is composed of a seawall. Where the seawall (physical barrier) was not present the physical indicators of the HOTL were evident by the presence of the wrack/strand line. Several locations along the wrack/strand line were marked with GPS to get an average HOTL elevation of 4.12’ NAVD88. This elevation was not flagged in the field.

Wetland flags left in the field included:

- Top of Bank (TOB)-A1 through TOB-A63 (TOB “A” Series)

Perennial streams are considered to be “Surface Waters of the State” (RSA 485-A:2, XIV) and as such at the state level they are regulated by the Fill and Dredge in Wetlands Act (RSA 482-A).

Utilizing the New Hampshire hydrography dataset archived by the Geographically Referenced Analysis and Information Transfer System (GRANIT) the Piscataqua River identified within the investigation area is a seventh order stream. Since the Piscataqua River is a fourth order stream or higher is considered a “public water“ per RSA 483-B:4, XVI and is subject to the Shoreland Water Quality Protection Act (RSA 483-B).

2.4 Developed Tidal Buffer Zone

Per Env-Wt 602.52 the tidal buffer zone means “the area identified in RSA 482-A:4, I as bordering on tidal waters within 100 feet of the highest observable tide line, which can contain banks, upland areas, bogs, salt marsh, swamps, meadows, flats, or other lowlands subject to tidal action.” This investigation area does include land within 100 feet of the highest observable tide line of the Piscataqua River. The entire investigation area is located within the developed Prescott Park Property. This investigation area is considered developed based on Env-Wt 602.12 which indicates thar developed upland “means an upland area on a lot within the tidal buffer zone or sand dune where:

(a) The natural soil and vegetation characteristics on more than 50% of the lot have been legally altered

and have not returned to a natural state;

(b) If the lot is in a tidal buffer zone, developed lots abut at least 2 sides of the lot;

(c) If the lot is in a dune slack area, the lot is surrounded on 4 sides by developed lots or roadways;

(d) If the lot is in a dune, the back side of a fore dune is within the line of encroachment and the lot is surrounded on 3 sides by developed lots or roadways; and

(e) At least one of the following is true:

> *(1) The lot has legally been filled or excavated in whole or in part, whether prior to jurisdiction or pursuant to a permit or other authorization;*
>
> *(2) The lot contains at least one paved or graded area that is, has been, or will be used for vehicular*
> *parking or traffic; or*
>
> *(3) One or more residential or commercial buildings has been built on the lot.*

Prescott Park is a managed park space in which all of the natural vegetation has been altered and not returned to a natural state. The park was given to the City in 1954. As such, the investigation area would be considered previously developed tidal buffer zone.

2.5 Other Protected Areas

Weston & Sampson created Environmental Resources Maps (see Figures 3-5) of the site to determine the presence of other protected areas. These areas included:

- Priority Resource Area (PRA)
- Designated River Segment/Corridor
- Prime Wetlands
- FEMA 100 Year Floodplain
- Wildlife Action Plan

Priority Resource Area (PRA)

Per Env-Wt 103.66 “Priority resource area (PRA) means “a jurisdictional area that:

> *(a) Has documented occurrences of protected species or habitat;*
>
> *(b) Is a bog;*
>
> *(c) Is a floodplain wetland contiguous to a tier 3 or higher watercourse;*

(d) Is a designated prime wetlands;

(e) Is a duly-established 100-foot buffer of a designated prime wetlands;

(f) Is a sand dune, tidal wetland, tidal water, or undeveloped tidal buffer zone; or

(g) Is any combination of (a) through (f), above.

The Piscataqua River is a tidal water and would be considered a PRA.

Designated River Segment/Corridor

The New Hampshire Rivers Management and Protection Program (RMPP) was established in 1988 with the passage of RSA 483 to protect certain rivers, called Designated Rivers, for their outstanding natural and cultural resources. The New Hampshire Department of Environmental Services RMPP maintains a NH Designated River Corridor Web Map viewer showing all of the jurisdictional designated river segments. The Designated River corridor is defined as the river and the land area located within a distance of 1,320 feet (1/4 mile) of the normal high water mark or to the landward extent of the 100 year floodplain of a designated river as designated by the Federal Emergency Management Agency, whichever distance is larger.

A map of the investigation area utilizing the NH Designated River Corridor Web Map viewer is shown in Figure 4. There are no designated river segments or corridors located within the investigation area.

Prime Wetlands

Per RSA 482-A:15.1(a) Any municipality, by its conservation commission, or, in the absence of a conservation commission, the planning board, or, in the absence of a planning board, the local governing body, may undertake to designate, map, and document prime wetlands lying within its boundaries, or if such areas lie only partly within its boundaries, then that portion lying within its boundaries. The conservation commission, planning board, or governing body shall give written notice to the owner of the affected land and all abutters 30 days prior to the public hearing, before designating any property as prime wetlands.

The investigation area does not contain any designated any prime wetlands.

FEMA 100 Year Floodplain

The Federal Emergency Management Agency (FEMA) has designated a series of zones which area defined according to varying levels of flood risk. Per FEMA a flood is any relatively high streamflow overtopping the natural or artificial banks in any reach of a stream. The 100-year floodplain is the zone with a 1% annual chance of flooding. FEMA Flood Insurance Rate Maps (FIRM) were created online from the FEMA website to determine if there is a 100-year flood zone at the site.

See Figure 3 for FIRM map. Based on FEMA flood maps the investigation area is partially located within the 100-year floodplain.

Wildlife Action Plan

In 2020 an update was completed of the New Hampshire Fish and Game Wildlife Action Plan. According to the NH Fish and Game the aim of the Wildlife Action Plan seeks to “identify species in greatest need of conservation, habitats that are at the greatest risk, as well as land uses and activities that present the greatest threats to wildlife and habitat.” The NH Wildlife Action Plan includes three sets of mapping data available for use by stakeholders:

1. Habitat Land Cover Map: which shows where the different types of wildlife habitat are located throughout the state.
2. Highest Ranked Habitat by Ecological Condition Map: which shows where habitats in the best ecological condition in the state are located, based on biodiversity, arrangement of habitat types on the landscape, and lack of human impacts.
3. Aquatic Habitats Map: which provides an assessment of surface water habitats.

After learning what habitat may be present within a proposed project area the Wildlife Action Plan informs stakeholders about strategies for managing and protecting wildlife. The data from these maps is available on the Geographically Referenced Analysis and Information Transfer System (GRANIT) viewer.

The investigation area was investigated on the GRANIT viewer and two maps were produced (Figures 5.1 and 5.2). According to the Habitat Land Cover data the investigation area is mostly within Northern developed impervious or barren area with the adjacent open water of the Piscataqua River. The Highest Ranked Habitat by Ecological Condition data indicates the investigation area is adjacent to highest ranking habitat which is located in the Piscataqua River. Finally, the Aquatic Habitats data shows that the Piscataqua River is estuarine.

3.0 SUMMARY

On September 9th, 2021, a wetland delineation was conducted at Prescott Park in Portsmouth, NH. A single perennial tidal stream was identified and flagged at the site.

Additional environmental mapping was conducted using NH Granit data layers and FEMA FIRM mapping. This additional mapping indicates that the Piscataqua River is a tidal water and would be considered a PRA and contains highest ranking habitat. Portions of the site are located within the 100-year flood zone.

4.0 REFERENCES

United States Department of Agriculture, Natural Resources Conservation Service. *2018. Field Indicators of Hydric Soils in the United States, Version 8.2.* L. M. Vasilas, G. W. Hurt, and J.F. Berkowitz (eds.). USDA, NRCS, in cooperation with the National Technical Committee for Hydric Soils.

USACOE, January 1987, Corps of Engineers Wetlands Delineation Manuel, Wetlands Research Program Technical Report Y-87-1.

FEMA Flood Map Service Center, online at msc.fema.gov/portal Assessed on 1/30/2021.
Tiner, Jr., Ralph W., 2005, Field Guide to Nontidal Wetland Identification

New England Hydric Soils Technical Committee, 2019, Version 4, *Field Indicator of Identifying Hydric Soils in New England*. New England Interstate Water Pollution Control Commission, Lowell, MA.

Legend

● Wetland Flags

🟩 Top of Bank

🟥 Investigation Area

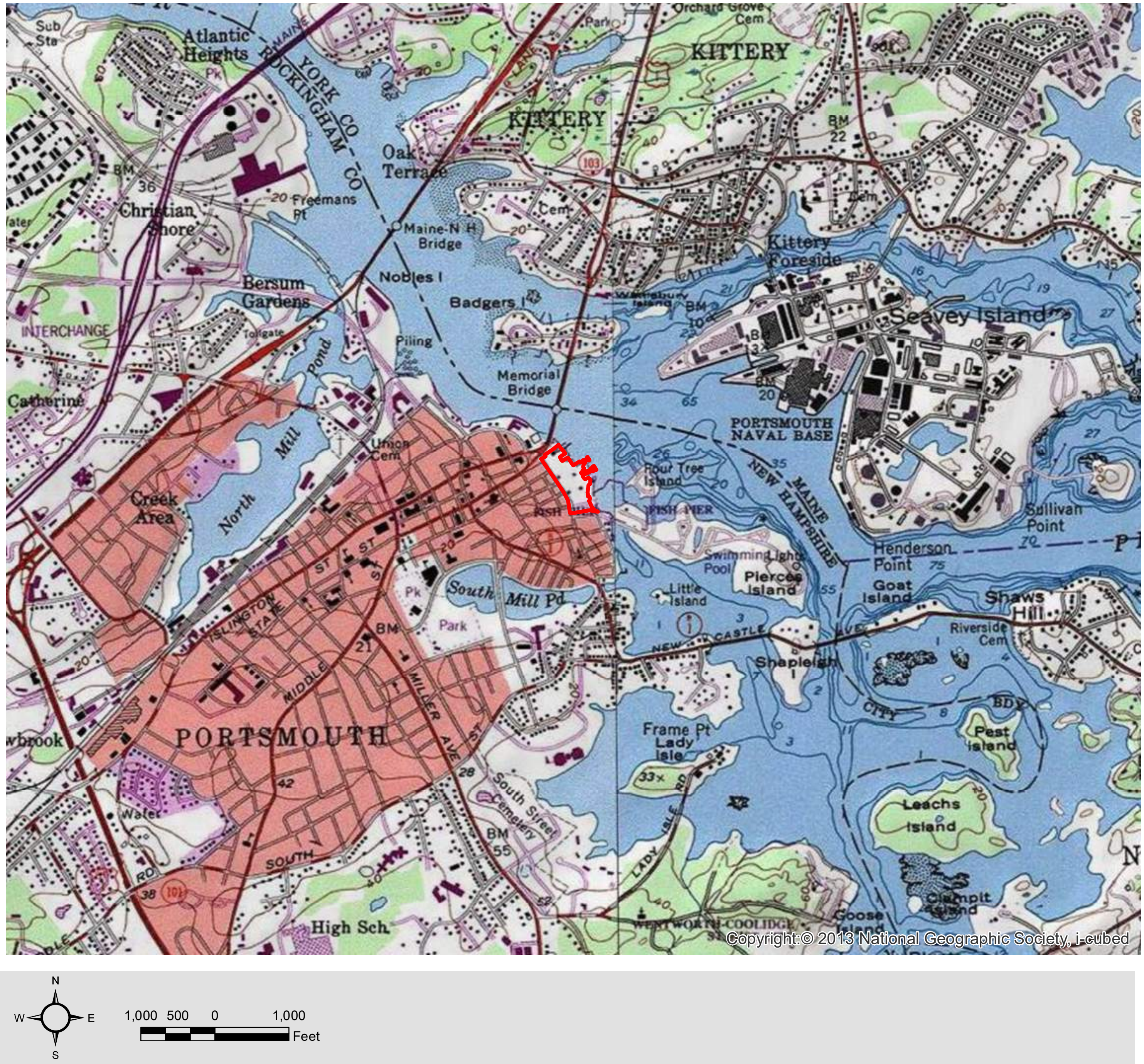
FIGURE 1

Prescott Park
Portsmouth NH

Wetland Field Map

Weston & Sampson

<BOL>Path:</BOL> C:\Users\batchelder.devin\OneDrive - WESTON & SAMPSON ENGINEERS, Inc\Desktop\Wetland Delineation\GIS\Maps\USGS Template.mxd   <BOL>User:</BOL> Herrick.Devin   <BOL>Saved:</BOL> 3/23/2022 1:50:33 PM   <BOL>Opened:</BOL> 3/23/2022 1:50:50 PM



Copyright:© 2013 National Geographic Society, i-cubed

Legend

🟥 Investigation Area

FIGURE 2

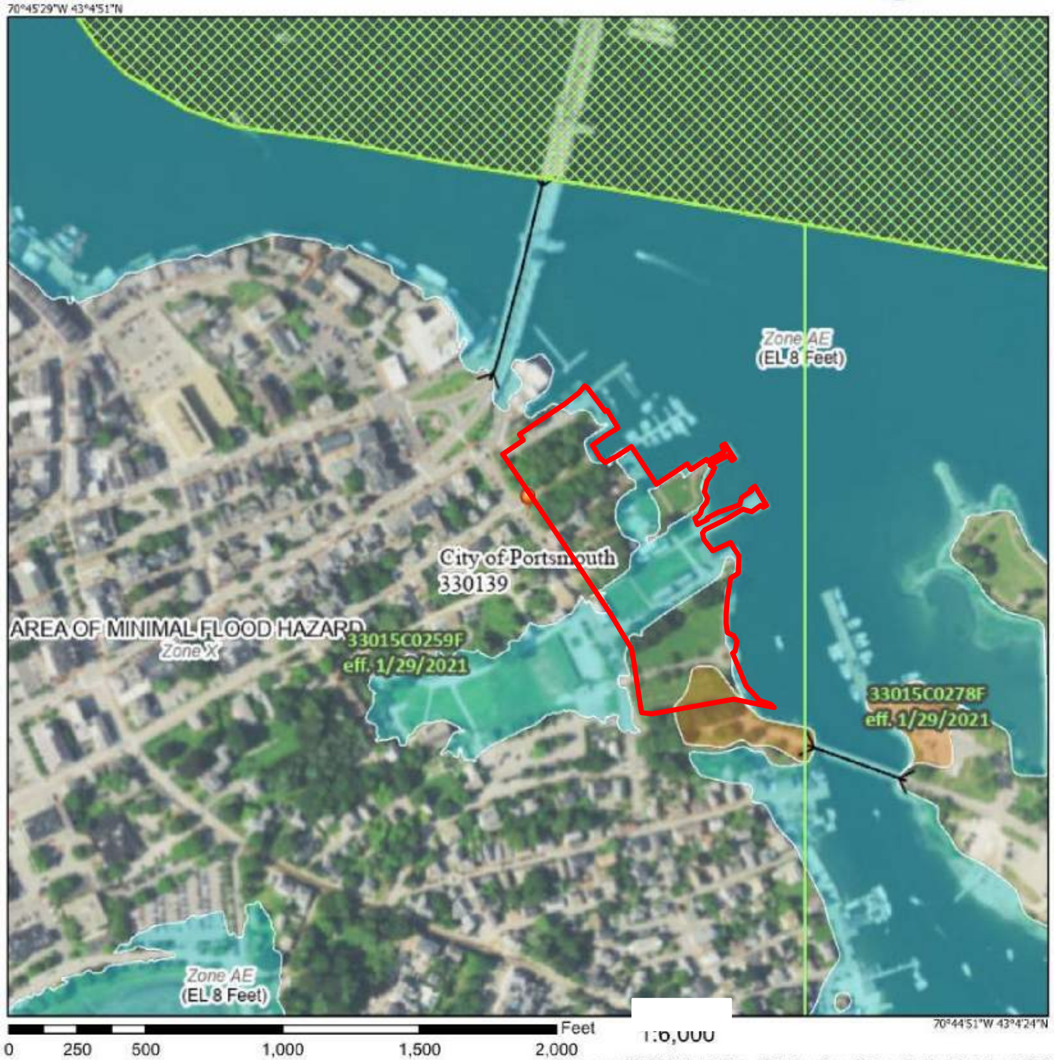
Prescott Park
Portsmouth NH

USGS Topographic Map

Weston & Sampson

National Flood Hazard Layer FIRMette

FEMA



Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS	🟦	Without Base Flood Elevation (BFE) *Zone A, V, A99*
		With BFE or Depth *Zone AE, AO, AH, VE, AR*
	▨	Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD	🟧	0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
	▨	Future Conditions 1% Annual Chance Flood Hazard *Zone X*
	▨	Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
	▨	Area with Flood Risk due to Levee *Zone D*
OTHER AREAS	NO SCREEN	Area of Minimal Flood Hazard *Zone X*
	▭	Effective LOMRs
	🟧	Area of Undetermined Flood Hazard *Zone D*
GENERAL STRUCTURES	- — - -	Channel, Culvert, or Storm Sewer
	I I I I I I I	Levee, Dike, or Floodwall
OTHER FEATURES	(B) 20.2 17.5	Cross Sections with 1% Annual Chance Water Surface Elevation
	- — — —	Coastal Transect
	~~ 513 ~~~	Base Flood Elevation Line (BFE)
	―	Limit of Study
	―	Jurisdiction Boundary
	--- ---	Coastal Transect Baseline
	- ―	Profile Baseline
	―	Hydrographic Feature
MAP PANELS	▨	Digital Data Available
	☐	No Digital Data Available
	☒	Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 3/23/2022 at 3:45 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Legend

🟥 Investigation Area

FIGURE 3

Prescott Park
Portsmouth NH

FEMA Map

Weston & Sampson

<BOL>Path:</BOL> C:\Users\batchelder.devin\OneDrive - WESTON & SAMPSON ENGINEERS, Inc\Desktop\Wetland Delineation\GIS\Maps\Designated River.mxd <BOL>User:</BOL> Herrick.Devin <BOL>Saved:</BOL> 3/23/2022 3:53:09 PM <BOL>Opened:</BOL> 3/23/2022 3:53:27 PM

NH Designated River Map

3/23/2022, 3:28:52 PM

Designated_Rivers_Web - Designated_Rivers_24k_Buffer_Quartermile

🟥 Subject to SWQPA

☐ Municipalities (borders)

1:144,448

0 0.75 1.5 3 mi

0 1.25 2.5 5 km

© OpenStreetMap (and) contributors, CC-BY-SA

ArcGIS Web AppBuilder

Map data © OpenStreetMap contributors, CC-BY-SA |

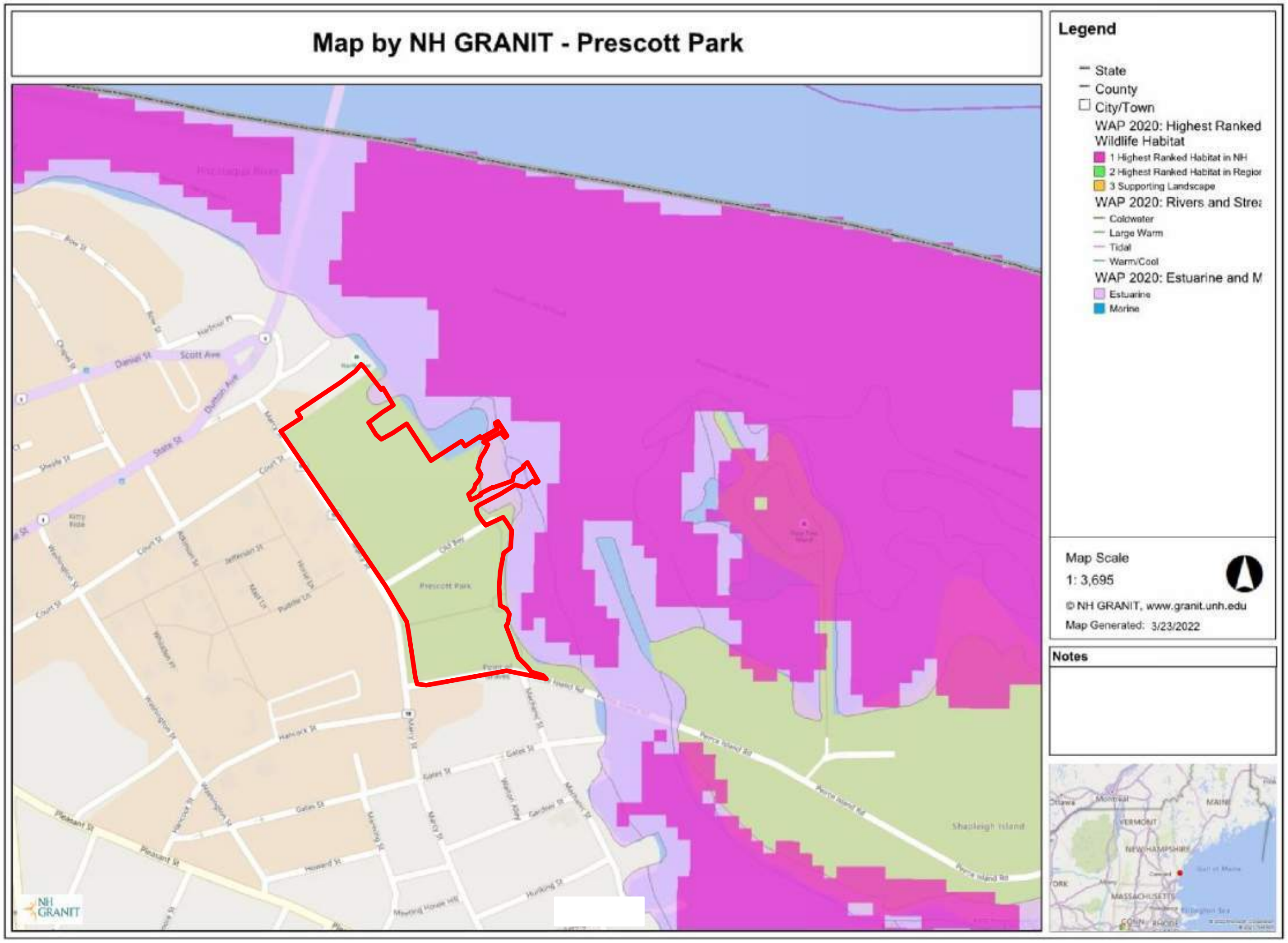
FIGURE 4

Prescott Park
Portsmouth

Designated River Map

Weston & Sampson

<BOL>Path:</BOL> C:\Users\batchelder.devin\OneDrive - WESTON & SAMPSON ENGINEERS, Inc\Desktop\Wetland Delineation\GIS\Maps\WAP 1.mxd <BOL>User:</BOL> Herrick.Devin <BOL>Saved:</BOL> 3/23/2022 3:04:50 PM <BOL>Opened:</BOL> 3/23/2022 3:05:25 PM



Legend

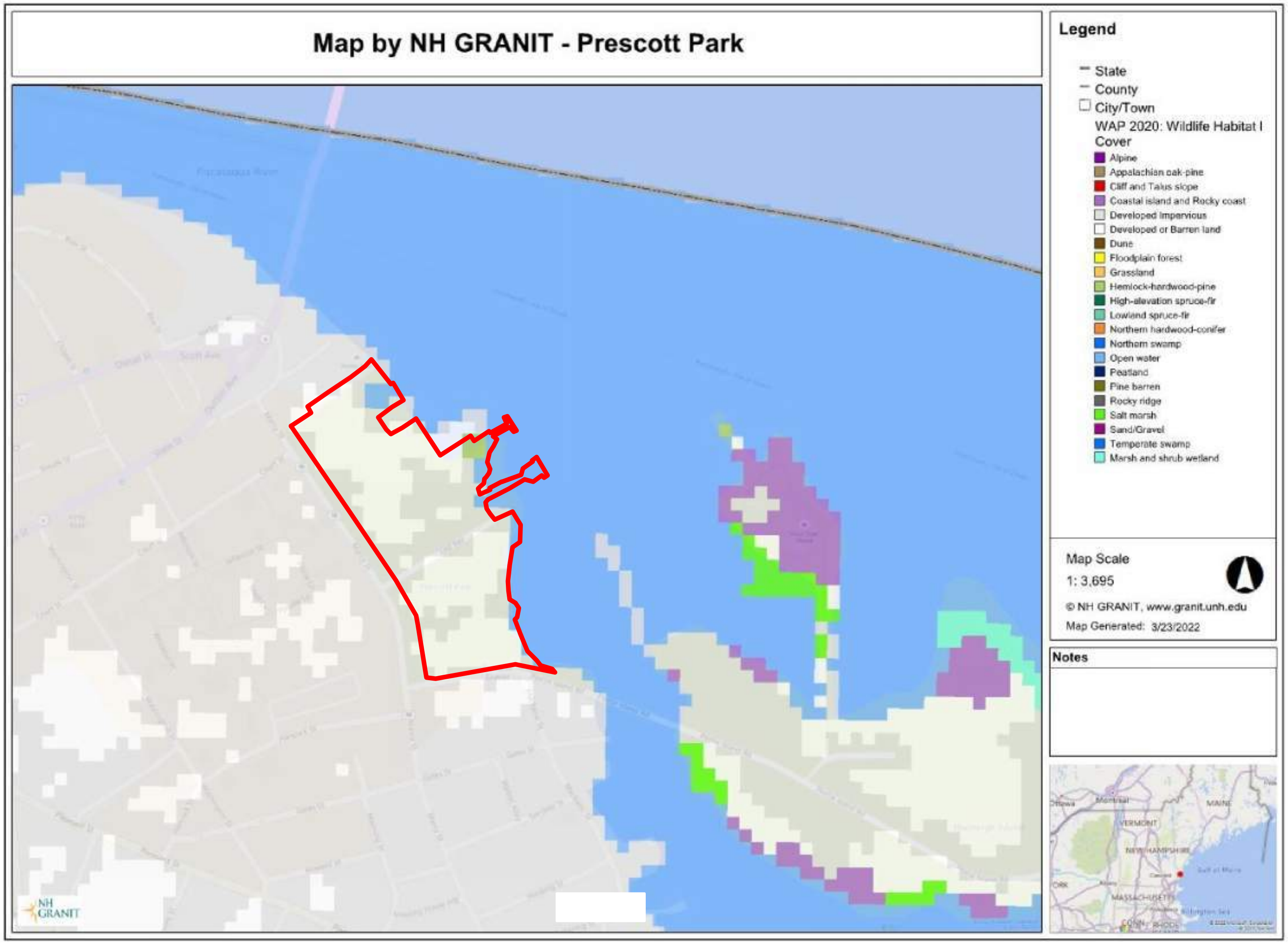
🟥 Investigation Area

FIGURE 5.1

Prescott Park
Portsmouth NH

WAP Highest Ranked and
Aquatic Habitat

Weston & Sampson



Legend

🟥 Investigation Area

FIGURE 5.2

Prescott Park
Portsmouth NH

WAP Habitat Land
Cover

Weston & Sampson

APPENDIX A

Site Photographs

Photo 1: Prescott Park Facing North

Photo 2: Rip Rap Bank

Photo 3: Seawall

Photo 4: Piscataqua River

APPENDIX J

Weston & Sampson

westonandsampson.com

55 Walkers Brook Drive, Suite 100
Reading, MA 01867
tel: 978.532.1900

Functional Assessment

September 2021

Prescott Park
Phase 1A Improvements

Marcy Street
Portsmouth, NH

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APPENDICES

1.0 INTRODUCTION

In accordance with Env-Wt 603.04 Coastal Functional Assessment "*(a) For minor or major standard permit applications, the applicant shall submit a CFA report that is based on the data screening information and on-site evaluation required by Env-Wt 603.03"*. The proposed Phase 1A improvements to Prescott Park in Portsmouth NH requires the submission of a major impact wetlands permit. As a result, a Certified Wetland Scientist (CWS) from Weston & Sampson completed a functional assessment in order to evaluate how the wetlands on site will be affected by the proposed alteration.

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2.0 SITE DESCRIPTION

Prescott Park is located on Marcy Street in Portsmouth NH at a Latitude of 43.076922° N and Longitude of -70.751575° W. An aerial locus map and USGS locus map are attached.

Prescott Park is a city-owned, 10-acre, public park located in downtown historic Portsmouth with over 1,150 linear feet of Piscataqua River waterfront. One of the city's most beloved spaces, the park hosts many thousands of visitors each year for regular daily use, a seasonal performing arts festival, and other annual events. Yet, the park is the neighborhood's lowest point and gateway for flooding today. As the impacts of climate change-driven sea level rise and intensifying storms becomes more severe, Prescott Park and many of Portsmouth's most important historic resources nearby are vulnerable. Partnering with Weston & Sampson, the city began its planning efforts in 2016 to develop a master plan that allows the park to function better, to strengthen its role as an arts venue, and to reduce overall flooding. Through an implementation study, the team developed a comprehensive resiliency strategy was critically important to the park's proposed improvements. Collectively, these improvements will mitigate flooding impacts for the entire neighborhood in the future.

The proposed resiliency strategy to mitigate flooding impacts at Prescott Park is three-fold: 1) protect the park along its seawall edge (install tide gates and raise the seawall); 2) retreat critical infrastructure (raise and shift significant buildings to a higher elevation); and 3) accommodate for flooding (regrade the central lawn and increase storm drain sizes to hold 300,000 gallons of stored water during peak storm events).

Given the magnitude of these improvements, it is not practicable to implement all the components of this resiliency strategy at a single time. Instead, the proposed Prescott Park improvements will be implemented in several Phases over an extended time period. The exact timeline and scope of each of these phases will be determined based on funding availability. A general breakdown of the proposed Phase 1A of the project is as follows:

- Removal of asphalt pavement on Water Street.
- Trenching and installation of new sewer, water, gas, and storm water infrastructure under Water Street. Connect stormwater through to the Piscataqua and make it operational. Addition of a tide gate.
- Demolition of the "Garage" and "Lean-To" structures, back filling of the existing foundations.
- Lifting and relocation of the Shaw building onto its new foundation. Excavate for and place new foundations for the Shaw building.
- A long sloping lawn (approx. +3' high will exist along the entire length of the Phase 1A work line, to accommodate the new grade change, and until the remaining phases are implemented.
- Backfilling of Water Street to a new elevation matching the grade at Liberty Lawn.
- Resurfacing of Water Street and final landscape restoration within the limit of work. The "feathering" of the landscape into existing surfaces that are remaining for future phases.
- Installation of pedestrian lighting within the limit of work. Installation of conduit for future lighting is included in the base contract, no matter if this is included.

Removal of existing chain link fencing and installation of new guardrail along the existing seawall, from the flagpole to Mechanic Street

- Repairs to the existing seawall, including re-pointing, spot repairs, and vegetation removal

The Piscataqua River is immediately adjacent to Prescott Park and has two wetland classification types based on the Cowardin Classification system:

E2US3/EM1N:

System **Estuarine (E)** : The Estuarine System consists of deepwater tidal habitats and adjacent tidal wetlands that are usually semienclosed by land but have open, partly obstructed, or sporadic access to the open ocean, and in which ocean water is at least occasionally diluted by freshwater runoff from the land. The salinity may be periodically increased above that of the open ocean by evaporation. Along some low-energy coastlines, there is appreciable dilution of sea water. Offshore areas with typical estuarine plants and animals, such as red mangroves (Rhizophora mangle) and eastern oysters (Crassostrea virginica), are also included in the Estuarine System.

Subsystem **Intertidal (2)** : The substrate in these habitats is flooded and exposed by tides; includes the associated splash zone.

Class **Unconsolidated Shore (US)** : Includes all wetland habitats having two characteristics: (1) unconsolidated substrates with less than 75 percent areal cover of stones, boulders or bedrock and; (2) less than 30 percent areal cover of vegetation. Landforms such as beaches, bars, and flats are included in the Unconsolidated Shore class.

Subclass **Mud (3)** : The unconsolidated particles smaller than stones are predominantly silt and clay, although coarser sediments or organic material may be intermixed.

Split Class **Emergent (EM)** : Characterized by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens. This vegetation is present for most of the growing season in most years. These wetlands are usually dominated by perennial plants.

Split Subclass **Persistent (1)** : Dominated by species that normally remain standing at least until the beginning of the next growing season. This subclass is found only in the Estuarine and Palustrine systems.

Water Regime **Regularly Flooded (N)** : Tides alternately flood and expose the substrate at least once daily.

E1UBL:

System **Estuarine (E)** : The Estuarine System consists of deepwater tidal habitats and adjacent tidal wetlands that are usually semienclosed by land but have open, partly obstructed, or sporadic access to the open ocean, and in which ocean water is at least occasionally diluted by freshwater runoff from the land. The salinity may be periodically increased above that of the open ocean by evaporation. Along some low-energy coastlines, there is appreciable dilution of sea water. Offshore areas with typical estuarine plants and animals, such as red mangroves (Rhizophora mangle) and eastern oysters (Crassostrea virginica), are also included in the Estuarine System.

Subsystem **Subtidal (1)** : The substrate in these habitats is continuously covered with tidal water (i.e., located below extreme low water).

Class **Unconsolidated Bottom (UB)** : Includes all wetlands and deepwater habitats with at least 25% cover of particles smaller than stones (less than 6-7 cm), and a vegetative cover less than 30%.

Water Regime **Subtidal (L)** : Tidal salt water continuously covers the substrate.

3.0 METHODOLOGY

Wetlands on site were evaluated using the Army Corps of Engineers Highway Methodology Workbook Supplement, Wetland Functions and Values, A Descriptive Approach (Highway Methodology). The approach outlined in the Highway Methodology includes a qualitative description of the physical characteristics of the wetlands, identifies the functions and values exhibited, and uses "best professional judgement” for the basis of the conclusions.

Within the Highway Methodology “Functions” are defined as:

> *Self-sustaining properties of a wetland ecosystem that exist in the absence of society. Functions result from both living and non-living components of a specific wetland. These include all processes necessary for the self-maintenance of the wetland ecosystem such as primary production and nutrient cycling. Therefore, functions relate to the ecological significance of wetland properties without regard to subjective human values.*

“Values” are defined as:

> *Benefits that derive from either one or more functions and the physical characteristics associated with a wetland. Most wetlands have corresponding societal value. This is recognized in various federal, state, and local wetland legislation that was enacted to protect these resources. The value of a particular wetland function, or combination thereof, is based on human judgment of the worth, merit, quality, or importance attributed to those functions.*

To utilize the Highway Methodology the workbook indicates that the “evaluator first determines if a wetland is suitable for particular functions and values and why. Then a determination is made if any functions and/or values are principal and why. Functions and values can be principal if they are an important physical component of a wetland ecosystem and/or are considered of special value to society, from a local, regional, and/or national perspective”.

Within the Highway Methodology guidance document there are 13 functions and values. According to the workbook these functions and values “are considered by the Regulatory Branch for any Section 404 wetland permit (outlined further below in Section 4.0). These are not necessarily the only wetland functions and values possible, nor are they so precisely defined as to be unalterable. However, they do represent the best working "palette" of descriptors which can be used to paint an objective representation of the wetland resources associated with a proposed project”.

A list of considerations/qualifiers for each function/value can be found within the Highway Methodology and is attached. Additional data sources including aerial photos, topographic maps, GIS data, and additional remote sensing data sources were utilized during desktop review to obtain information about the considerations/qualifiers. These considerations/qualifiers were utilized to determine the suitability of each function/value and to determine the principal functions/values of the wetland complex on site.

4.0 WETLAND FUNCTIONS AND VALUES ASSESSMENT

In accordance with The Highway Methodology described above, wetland functions and values have been qualitatively evaluated for the wetland complex on site. Notes outlining the aspects of the qualifiers/considerations for each of the 13 functions and values are discussed below (Sections 4.1 through 4.13).

The completed Wetland Function-Value Evaluation Form can be found in **Appendix A** and a summary of the suitable and principal functions-values for the wetland complex has been presented in the Wetland Functions and Values Summary Table (Section 4.14).

4.1 Groundwater Recharge/Discharge

This function considers the potential for the wetland to serve as a groundwater recharge and/or discharge area. It refers to the fundamental interaction between wetlands and aquifers, where there is potential for the wetland to contribute water to an aquifer (recharge) or to function as a groundwater discharge area.

The wetland complex on site is associated with a single perennial, tidal river called the Piscataqua River. The Piscataqua is 12 miles in length beginning at the confluence of the Salmon Falls River and Cocheco River and terminating in the Atlantic Ocean. According to NHDES One Stop wells do exist downstream of the Piscataqua River on New Castle Island. Soil mapping available for the area indicates that the soils in the area are composed of Urban land and Urban land-Canton complex, 3 to 15 percent slopes. Depth to restrictive layer in these soils is more than 80 inches. No piezometer data is available for the area. The Piscataqua River is an impaired water body suggesting lower water quality. The area is surrounded by development and industry which likely contributes to the impairment.

Suitability Conclusion: No. Given the tidal nature of this Piscataqua interaction with wetlands is high but interactions with aquifers is low. Low water quality.

4.2 Floodflow Alteration

This function considers the effectiveness of the wetland in reducing flood damage by attenuating floodwaters for prolonged periods following precipitation and snow melt events.

Area of the Piscataqua is small relative to its watershed. Prescott Park is located in the lower portion of the watershed. Not much effective flood storage above the river in the immediate vicinity of Prescott Park. The watershed in the immediate vicinity of Prescott Park is urban and contains a high percentage of impervious area. No hydric soils present which would absorb/detain water. The Piscataqua is a flat area that is capable of flood storage and during flood events the river will retain higher volumes of water. Variable water levels are present within the river. Valuables properties are located near the floodplain and adjacent to the river. The watershed has a history of flooding causing economic loss.

Suitability Conclusion: Yes. The Piscataqua River does not provide long term attenuation, but it does serve to move floodwaters away from valuable properties and historic Portsmouth. Floodflow Alteration is a principal function of the Piscataqua River on site.

4.3 Fish and Shellfish Habitat (Marine)

This function considers the effectiveness or importance of seasonal or permanent waterbodies associated with the wetlands in question for fish and shellfish habitat.

Potential for the presence of mudflats nearby but not located within proposed work area. Piscataqua river is suitable spawning habitat. Commercially or recreationally important species are present and suitable habitat exists. The Piscataqua supports prey for higher trophic level marine organisms and provides migratory habitat for anadromous fish. The Piscataqua River is Essential Fish Habitat.

<u>Suitability Conclusion:</u> Yes. Although no direct observation of fish or shellfish were made on site, the Piscataqua is Essential Fish Habitat and suitable for many species. Fish and Shellfish Habitat (Marine) is a principal function of the Piscataqua River on site.

4.4 Sediment/Toxicant Retention

This function reduces or prevents degradation of water quality. It relates to the effectiveness of the wetland as a trap for sediments, toxicants, or pathogens in runoff water from surrounding uplands or upstream eroding wetland areas.

Limited sources of excess sediment upstream including urban roadways. Toxicants in the watershed are present from local industry and urban development. Deepwater habitat is present in the Piscataqua but the water has high velocity. Fine grained organic soils are present. Water retention time is short due to high velocities and constant tidal fluctuations. According to NHDES One Stop wells do exist downstream of the Piscataqua River on New Castle Island. River edge is intermittently aerobic due to tidal fluctuations. No water/vegetation interspersion. No dense vegetation present.

<u>Suitability Conclusion:</u> Yes. The Piscataqua is not heavily vegetated and has high velocity flows. The river may provide some minor trapping of sediments but due to short water retention time this function is limited.

4.5 Nutrient Removal/Retention/Transformation

This function considers the effectiveness of the wetland as a trap for nutrients in runoff water from surrounding uplands or contiguous wetlands and the ability of the wetland to process these nutrients into other forms or trophic levels. One aspect of this function is to prevent ill effects of nutrients entering aquifers or surface waters such as ponds, lakes, streams, rivers, or estuaries.

The area of the wetland complex is small relative to the contributing watershed based on information available from USGS Stream Stats. Deep water habitat present but with limited opportunities for sediment trapping. Sources of excess nutrients upstream include urban development. Fine grained soils are present. No emergent vegetation present. Water moves quickly through the wetland with limited opportunity for nutrient removal.

<u>Suitability Conclusion:</u> Yes. Deepwater habitat provides some ability to trap nutrients however this is limited due to high velocity. Lack of dense vegetation and thick organic material means limited plant uptake and/or attenuation in sediment.

4.6 Production Export

This function evaluates the effectiveness of the wetland to produce food or usable products for humans or other living organisms.

Only vegetation present is seaweed which does not accumulate and cause detritus development. Economically/commercially used fish found within the Piscataqua. Higher trophic level consumers are utilizing the river. Aquatic vegetation present but only a few species. No large amounts of organic plant material present for “flushing”. High production levels occurring, however, no visible signs of export (assumes export is attenuated).

<u>Suitability Conclusion:</u> Yes. The Piscataqua River is able to produce food or usable products for humans or other living organisms.

4.7 Sediment/Shoreline Stabilization

This function considers the effectiveness of a wetland to stabilize stream banks and shorelines against erosion.

No evidence of erosion, however seawall repairs to mortar are needed. No significant topographic gradient present. Potential sediment sources include nearby urban development and industry. No wetlands bordering the river in the area of Prescott Park. High velocity flows are present. Open water fetch is present, as is boating activity. No bordering dense vegetation, bordered by seawalls.

<u>Suitability Conclusion:</u> Yes. While the streambanks are capable of preventing erosion, the significant amount of human development in the form of seawalls mean that erosion potential is limited by the design life of the structures.

4.8 Wildlife Habitat

This function considers the effectiveness of the wetland to provide habitat for various types and populations of animals typically associated with wetlands and the wetland edge. Both resident and/or migrating species are considered.

Adjacent urban land use has degraded the upland and cut off overland access to other potential wetlands. Wildlife food sources are present within the Piscataqua. No dense vegetation (except seaweed), deep marsh or vegetated shallows are present. High degree of species diversity is present within the river. This evaluation methodology is not well suited to looking at aquatic wildlife habitat. Although water quality within the river is poor the Piscataqua still provides valuable aquatic habitat.

<u>Suitability Conclusion:</u> Yes. Despite adjacent development, the Piscataqua River is a crucial aquatic habitat. Wildlife habitat is a principal function of the Piscataqua River on site.

4.9 Recreation

This value considers the suitability of the wetland and associated watercourses to provide recreational opportunities such as hiking, canoeing, boating, fishing, hunting, and other active or passive recreational activities. Consumptive opportunities consume or diminish the plants, animals, or other resources that *are intrinsic to the wetland. Non-consumptive opportunities do not consume or diminish these resources of the wetland.*

This portion of the Piscataqua River is associated with Prescott Park which is a popular public park. Fishing is available from the banks of the river. No hunting is permitting and hiking is not feasible due to urban location, however walking trails are present. The river is a valuable wildlife habitat despite poor water quality. Access to the water is present for boating via public docks. Watercourse is wide enough for powered and non-powered boating, however non-powered boating may not be advisable due to heavy boat traffic and high velocities. Off road parking and access is available via the City of Portsmouth.

Suitability Conclusion: Yes. Publicly accessible park space with plentiful opportunities for recreation. Recreation is a principal function of the Piscataqua River on site.

4.10 Educational/Scientific Value

This function considers the suitability of the wetland as a site for an "outdoor classroom" or as a location for scientific study or research.

NHB report indicates that rare species/habitats have potential to be present on site or nearby. The adjacent urban development has caused disturbance to the Piscataqua River. The river is valuable wildlife habitat. Off road parking and easy access for walking is available. Direct access to a perennial stream is present. Site is currently used for educational activities surrounding the historic nature of Portsmouth including the Sheafe and Shaw Warehouses as well as tours on the Gundalow.

Suitability Conclusion: Yes. Public space with access to the waterfront. Educational activities available which speak to historic uses of the waterfront. Educational/Scientific Value is a principal function of the Piscataqua River on site.

4.11 Uniqueness/Heritage

This value considers the effectiveness of the wetland or its associated waterbodies to provide certain special values. These may include archaeological sites, critical habitat for endangered species, its overall health and appearance, its role in the ecological system of the area, its relative importance as a typical wetland class for this geographic location. These functions are clearly valuable wetland attributes relative to aspects of public health, recreation, and habitat diversity.

Upland surrounding the Piscataqua near Prescott Park is primarily urban and under continues development. Only a single type of wetland (perennial stream) is present on site. No dense vegetation or interspersion present. Site is accessible and has parking nearby. Half an acre of open water or 200 feet of stream is visible from the primary viewing locations. Overall view of the river is available from the surrounding upland. Low water quality present however opportunities for wildlife viewing within the river do exist. Historic buildings on site include the Sheafe and Shaw Warehouses. Archaeological work has been conducted within Prescott Park. NHB report indicates that rare species/habitats have potential to be present on site or nearby.

Suitability Conclusion: Yes. Unique historical features present on site. Highly aesthetic views of the waterfront. Uniqueness/Heritage is a principal function of the Piscataqua River on site.

4.12 Visual Quality/Aesthetics

This value relates to the visual and aesthetic qualities of the wetland.

Only perennial stream present on site. Highly developed upland contrast with views of the river

Suitability Conclusion: Yes. Perennial stream provides contrast to development. Adjacent upland development prevents principal function for visual quality/aesthetics.

4.13 Endangered Species Habitat

This function considers the suitability of the wetland or associated watersheds to support rare, threatened, or endangered species.

NHB report indicates that rare species/habitats have potential to be present on site or nearby.

Suitability Conclusion: Yes. NHB report indicates that rare species/habitats have potential to be present on site or nearby.

4.14 Conclusion

The following table provides a summary of the suitable and principal functions of the wetlands delineated on the Site.

Table 1. Wetland Functions and Values Summary

Functions and Values	Wetland Complex
Groundwater Recharge/Discharge	N
Floodflow Alteration	S
Fish and Shellfish Habitat	S, P
Sediment/Toxicant Retention	S, P
Nutrient Removal	S
Production Export	S
Sediment/Shoreline Stabilization	S
Wildlife Habitat	S, P
Recreation	S, P
Education/Scientific Value	S, P
Uniqueness/Heritage	S, P
Visual Quality/Aesthetics	S
Endangered Species Habitat	S

Legend:

S = Suitable Function/Value

P = Principal Function/Value

N = Not Suitable

Based on the functional assessment provided, the suitable functions/values of the Piscataqua River on site include Floodflow Alteration, Fish and Shellfish Habitat, Sediment/Toxicant Retention, Nutrient Removal, Production Export, Sediment/Shoreline Stabilization, Wildlife Habitat, Recreation, Educational/Scientific Value, Uniqueness/Heritage, Visual Quality/Aesthetics, and Endangered Species Habitat. The principal functions/values of the Piscataqua River on site include Floodflow Alteration, Fish and Shellfish Habitat, Wildlife Habitat, Recreation, Educational/Scientific Value, and Uniqueness/Heritage.

5.0 REFERENCES

Cowardin, 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Fish and Wildlife Service Publication Number FWS/OBS-79/31; Cowardin, L.M., Carter, V., Golet, F.C., and LaRoe, E.T., 1979.

NEHSTC, 1998. "Field Indicators for Identifying Hydric Soils in New England (2nd version)", New England Hydric Soils Technical Committee; New England Interstate Water Pollution Control Commission. Wilmington, MA; 1998.

USACE, 1993. The Highway Methodology Workbook; U.S. Army Corps of Engineers, New England Division. 28pp (NAEEP-360-1-30). 1993.

USACE, 1999. The Highway Methodology Workbook Supplement; U.S. Army Corps of Engineers, New England Division. 32pp (NAEEP-360-1-30a). September 1999.

APPENDIX A

Wetland Function-Value Evaluation Form

Wetland Function-Value Evaluation Form

Total area of wetland 12 linear miles Human made? No Is wetland part of a wildlife corridor? Yes or a "habitat island"? No

Adjacent land use Park, Roadway, Residential Distance to nearest roadway or other development On Site

Dominant wetland systems present E2US3/EM1N, E1UBL Contiguous undeveloped buffer zone present None

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? Lower

How many tributaries contribute to the wetland? 1 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. Wetland Complex

Latitude 43° 4'36.71"N Longitude 70°45'5.62"W

Prepared by: DKH Date 9/9/2021

Wetland Impact:
Type Akteration Area 14SF

Evaluation based on:
Office X Field X

Corps manual wetland delineation completed? Y x N

Function/Value	Suitability Y / N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	N	1,2,7,15		Wetland associated with tidal watercourse. Wells downstream. Water quality low.
Floodflow Alteration	Y	3,4,6,7,8,9,10,11,12,13	X	Not much effective flood storage above the river in the immediate vicinity of Prescott Park.
Fish and Shellfish Habitat	Y	1,2,3,4,5,6	X	Commercially or recreationally important species are present and suitable habitat exists.
Sediment/Toxicant Retention	Y	2,3,4,6,7,8,10		Perennial river with high velocities and tidal fluctuations. No vegetation present.
Nutrient Removal	Y	2,3,4,5,7		Deepwater habitat with upstream nutrient sources. High water velocities limit effectiveness.
Production Export	Y	1,3,4,5,6,10,14		Economically/commercially used fish found within the Piscataqua. Higher trophic level consumers are utilizing the river.
Sediment/Shoreline Stabilization	Y	3,4,8,9,10,11		No wetlands bordering the river in the area of Prescott Park. High velocity flows are present.
Wildlife Habitat	Y	8,18,21,24	X	Although water quality within the river is poor the Piscataqua still provides valuable aquatic habitat.
Recreation	Y	1,2,5,7,8,9,10,11,12	X	This portion of the Piscataqua River is associated with Prescott Park which is a popular public park.
Educational/Scientific Value	Y	1,5,8,9,11,15,16	X	Public space with access to the waterfront. Educational activities available which speak to historic uses of the waterfront
Uniqueness/Heritage	Y	1,2,8,9,10,11,14,17,20,22,23,24,27,29	X	Unique historical features present on site. Highly aesthetic views of the waterfront.
Visual Quality/Aesthetics	Y	2,6,8,9,12		Perennial stream provides contrast to development. Adjacent upland development prevents principal function for visual quality/aesthetics.
ES Endangered Species Habitat	Y	1,2		NHB report indicates that rare species/habitats have potential to be present on site or nearby.
Other				

Notes:

* Refer to backup list of numbered considerations.

APPENDIX B

Highway Methodology Considerations/Qualifiers

Appendix A

Wetland evaluation supporting documentation; Reproducible forms.

Below is an example list of considerations that was used for a New Hampshire highway project. Considerations are flexible, based on best professional judgment and interdisciplinary team consensus. This example provides a comprehensive base, however, and may only need slight modifications for use in other projects.

GROUNDWATER RECHARGE/DISCHARGE— This function considers the potential for a wetland to serve as a groundwater recharge and/or discharge area. It refers to the fundamental interaction between wetlands and aquifers, regardless of the size or importance of either.

CONSIDERATIONS/QUALIFIERS

1. Public or private wells occur downstream of the wetland.
2. Potential exists for public or private wells downstream of the wetland.
3. Wetland is underlain by stratified drift.
4. Gravel or sandy soils present in or adjacent to the wetland.
5. Fragipan does not occur in the wetland.
6. Fragipan, impervious soils, or bedrock does occur in the wetland.
7. Wetland is associated with a perennial or intermittent watercourse.
8. Signs of groundwater recharge are present or piezometer data demonstrates recharge.
9. Wetland is associated with a watercourse but lacks a defined outlet or contains a constricted outlet.
10. Wetland contains only an outlet, no inlet.
11. Groundwater quality of stratified drift aquifer within or downstream of wetland meets drinking water standards.
12. Quality of water associated with the wetland is high.
13. Signs of groundwater discharge are present (e.g., springs).
14. Water temperature suggests it is a discharge site.
15. Wetland shows signs of variable water levels.
16. Piezometer data demonstrates discharge.
17. Other

FLOODFLOW ALTERATION (Storage & Desynchronization) — This function considers the effectiveness of the wetland in reducing flood damage by water retention for prolonged periods following precipitation events and the gradual release of floodwaters. It adds to the stability of the wetland ecological system or its buffering characteristics and provides social or economic value relative to erosion and/or flood prone areas.

CONSIDERATIONS/QUALIFIERS

1. Area of this wetland is large relative to its watershed.
2. Wetland occurs in the upper portions of its watershed.
3. Effective flood storage is small or non-existent upslope of or above the wetland.
4. Wetland watershed contains a high percent of impervious surfaces.
5. Wetland contains hydric soils which are able to absorb and detain water.
6. Wetland exists in a relatively flat area that has flood storage potential.
7. Wetland has an intermittent outlet, ponded water, or signs are present of variable water level.
8. During flood events, this wetland can retain higher volumes of water than under normal or average rainfall conditions.
9. Wetland receives and retains overland or sheet flow runoff from surrounding uplands.
10. In the event of a large storm, this wetland may receive and detain excessive flood water from a nearby watercourse.
11. Valuable properties, structures, or resources are located in or near the floodplain downstream from the wetland.
12. The watershed has a history of economic loss due to flooding.
13. This wetland is associated with one or more watercourses.
14. This wetland watercourse is sinuous or diffuse.
15. This wetland outlet is constricted.
16. Channel flow velocity is affected by this wetland.
17. Land uses downstream are protected by this wetland.
18. This wetland contains a high density of vegetation.
19. Other

FISH AND SHELLFISH HABITAT (FRESHWATER) — This function considers the effectiveness of seasonal or permanent watercourses associated with the wetland in question for fish and shellfish habitat.

CONSIDERATIONS/QUALIFIERS

1. Forest land dominant in the watershed above this wetland.
2. Abundance of cover objects present.

STOP HERE IF THIS WETLAND IS NOT ASSOCIATED WITH A WATERCOURSE

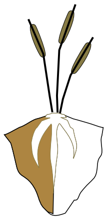
3. Size of this wetland is able to support large fish/shellfish populations.
4. Wetland is part of a larger, contiguous watercourse.
5. Wetland has sufficient size and depth in open water areas so as not to freeze solid and retain some open water during winter.
6. Stream width (bank to bank) is more than 50 feet.
7. Quality of the watercourse associated with this wetland is able to support healthy fish/shellfish populations.
8. Streamside vegetation provides shade for the watercourse.
9. Spawning areas are present (submerged vegetation or gravel beds).
10. Food is available to fish/shellfish populations within this wetland.
11. Barrier(s) to anadromous fish (such as dams, including beaver dams, waterfalls, road crossing) are absent from the stream reach associated with this wetland.
12. Evidence of fish is present.
13. Wetland is stocked with fish.
14. The watercourse is persistent.
15. Man-made streams are absent.
16. Water velocities are not too excessive for fish usage.
17. Defined stream channel is present.
18. Other

Although the above example refers to freshwater wetlands, it can also be adapted for marine ecosystems. The following is an example provided by the National Marine Fisheries Service (NMFS) of an adaptation for the fish and shellfish function.

FISH AND SHELLFISH HABITAT (MARINE) — This function considers the effectiveness of wetlands, embayments, tidal flats, vegetated shallows, and other environments in supporting marine resources such as fish, shellfish, marine mammals, and sea turtles.

CONSIDERATIONS/QUALIFIERS

1. Special aquatic sites (tidal marsh, mud flats, eelgrass beds) are present.
2. Suitable spawning habitat is present at the site or in the area.
3. Commercially or recreationally important species are present or suitable habitat exists.
4. The wetland/waterway supports prey for higher trophic level marine organisms.
5. The waterway provides migratory habitat for anadromous fish.
6. Essential fish habitat, as defined by the 1996 amendments to the Magnuson-Stevens Fishery & Conservation Act, is present (consultation with NMFS may be necessary).
7. Other



SEDIMENT/TOXICANT/PATHOGEN RETENTION — This function reduces or prevents degradation of water quality. It relates to the effectiveness of the wetland as a trap for sediments, toxicants, or pathogens in runoff water from surrounding uplands or upstream eroding wetland areas.

CONSIDERATIONS/QUALIFIERS

1. Potential sources of excess sediment are in the watershed above the wetland.
2. Potential or known sources of toxicants are in the watershed above the wetland.
3. Opportunity for sediment trapping by slow moving water or deepwater habitat are present in this wetland.
4. Fine grained mineral or organic soils are present.
5. Long duration water retention time is present in this wetland.
6. Public or private water sources occur downstream.
7. The wetland edge is broad and intermittently aerobic.
8. The wetland is known to have existed for more than 50 years.
9. Drainage ditches have not been constructed in the wetland.

STOP HERE IF WETLAND IS NOT ASSOCIATED WITH A WATERCOURSE.

10. Wetland is associated with an intermittent or perennial stream or a lake.
11. Channelized flows have visible velocity decreases in the wetland.
12. Effective floodwater storage in wetland is occurring. Areas of impounded open water are present.
13. No indicators of erosive forces are present. No high water velocities are present.
14. Diffuse water flows are present in the wetland.
15. Wetland has a high degree of water and vegetation interspersion.
16. Dense vegetation provides opportunity for sediment trapping and/or signs of sediment accumulation by dense vegetation is present.
17. Other

NUTRIENT REMOVAL/RETENTION/TRANSFORMATION — This function considers the effectiveness of the wetland as a trap for nutrients in runoff water from surrounding uplands or contiguous wetlands and the ability of the wetland to process these nutrients into other forms or trophic levels. One aspect of this function is to prevent ill effects of nutrients entering aquifers or surface waters such as ponds, lakes, streams, rivers, or estuaries.

CONSIDERATIONS/QUALIFIERS

1. Wetland is large relative to the size of its watershed.
2. Deep water or open water habitat exists.
3. Overall potential for sediment trapping exists in the wetland.

4. Potential sources of excess nutrients are present in the watershed above the wetland.
5. Wetland saturated for most of the season. Ponded water is present in the wetland.
6. Deep organic/sediment deposits are present.
7. Slowly drained fine grained mineral or organic soils are present.
8. Dense vegetation is present.
9. Emergent vegetation and/or dense woody stems are dominant.
10. Opportunity for nutrient attenuation exists.
11. Vegetation diversity/abundance sufficient to utilize nutrients.

STOP HERE IF WETLAND IS NOT ASSOCIATED WITH A WATERCOURSE.

12. Waterflow through this wetland is diffuse.
13. Water retention/detention time in this wetland is increased by constricted outlet or thick vegetation.
14. Water moves slowly through this wetland.
15. Other

PRODUCTION EXPORT (Nutrient) — This function evaluates the effectiveness of the wetland to produce food or usable products for humans or other living organisms.

CONSIDERATIONS/QUALIFIERS

1. Wildlife food sources grow within this wetland.
2. Detritus development is present within this wetland
3. Economically or commercially used products found in this wetland.
4. Evidence of wildlife use found within this wetland.
5. Higher trophic level consumers are utilizing this wetland.
6. Fish or shellfish develop or occur in this wetland.
7. High vegetation density is present.
8. Wetland exhibits high degree of plant community structure/species diversity.
9. High aquatic vegetative diversity/abundance is present.
10. Nutrients exported in wetland watercourses (permanent outlet present).
11. “Flushing” of relatively large amounts of organic plant material occurs from this wetland.
12. Wetland contains flowering plants that are used by nectar-gathering insects.
13. Indications of export are present.
14. High production levels occurring, however, no visible signs of export (assumes export is attenuated).
15. Other

SEDIMENT/SHORELINE STABILIZATION — This function considers the effectiveness of a wetland to stabilize streambanks and shorelines against erosion.

CONSIDERATIONS/QUALIFIERS

1. Indications of erosion or siltation are present.
2. Topographical gradient is present in wetland.
3. Potential sediment sources are present up-slope.
4. Potential sediment sources are present upstream.
5. No distinct shoreline or bank is evident between the waterbody and the wetland or upland.
6. A distinct step between the open waterbody or stream and the adjacent land exists (i.e., sharp bank) with dense roots throughout.
7. Wide wetland (>10’) borders watercourse, lake, or pond.
8. High flow velocities in the wetland.
9. The watershed is of sufficient size to produce channelized flow.
10. Open water fetch is present.
11. Boating activity is present.
12. Dense vegetation is bordering watercourse, lake, or pond.
13. High percentage of energy-absorbing emergents and/or shrubs border a watercourse, lake, or pond.
14. Vegetation is comprised of large trees and shrubs that withstand major flood events or erosive incidents and stabilize the shoreline on a large scale (feet).
15. Vegetation is comprised of a dense resilient herbaceous layer that stabilizes sediments and the shoreline on a small scale (inches) during minor flood events or potentially erosive events.
16. Other

WILDLIFE HABITAT — This function considers the effectiveness of the wetland to provide habitat for various types and populations of animals typically associated with wetlands and the wetland edge. Both resident and/or migrating species must be considered. Species lists of observed and potential animals should be included in the wetland assessment report.[1]

CONSIDERATIONS/QUALIFIERS

1. Wetland is not degraded by human activity.
2. Water quality of the watercourse, pond, or lake associated with this wetland meets or exceeds Class A or B standards.
3. Wetland is not fragmented by development.
4. Upland surrounding this wetland is undeveloped.
5. More than 40% of this wetland edge is bordered by upland wildlife habitat (e.g., brushland, woodland, active farmland, or idle land) at least 500 feet in width.
6. Wetland is contiguous with other wetland systems connected by a watercourse or lake.
7. Wildlife overland access to other wetlands is present.
8. Wildlife food sources are within this wetland or are nearby.
9. Wetland exhibits a high degree of interspersion of vegetation classes and/or open water.
10. Two or more islands or inclusions of upland within the wetland are present.
11. Dominant wetland class includes deep or shallow marsh or wooded swamp.
12. More than three acres of shallow permanent open water (less than 6.6 feet deep), including streams in or adjacent to wetland, are present.
13. Density of the wetland vegetation is high.
14. Wetland exhibits a high degree of plant species diversity.
15. Wetland exhibits a high degree of diversity in plant community structure (e.g., tree/shrub/vine/grasses/mosses)
16. Plant/animal indicator species are present. (List species for project)
17. Animal signs observed (tracks, scats, nesting areas, etc.)
18. Seasonal uses vary for wildlife and wetland appears to support varied population diversity/abundance during different seasons.
19. Wetland contains or has potential to contain a high population of insects.
20. Wetland contains or has potential to contain large amphibian populations.
21. Wetland has a high avian utilization or its potential.
22. Indications of less disturbance-tolerant species are present.
23. Signs of wildlife habitat enhancement are present (birdhouses, nesting boxes, food sources, etc.).
24. Other

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[1] In March 1995, a rapid wildlife habitat assessment method was completed by a University of Massachusetts research team with funding and oversight provided by the New England Transportation Consortium. The method is called WEThings (wetland habitat indicators for non-game species). It produces a list of potential wetland-dependent mammal, reptile, and amphibian species that may be present in the wetland. The output is based on observable habitat characteristics documented on the field data form. This method may be used to generate the wildlife species list recommended as backup information to the wetland evaluation form and to augment the considerations. Use of this method should first be coordinated with the Corps project manager. A computer program is also available to expedite this process.

RECREATION (Consumptive and Non-Consumptive) — This value considers the suitability of the wetland and associated watercourses to provide recreational opportunities such as hiking, canoeing, boating, fishing, hunting, and other active or passive recreational activities. Consumptive opportunities consume or diminish the plants, animals, or other resources that are intrinsic to the wetland. Non-consumptive opportunities do not consume or diminish these resources of the wetland.

CONSIDERATIONS/QUALIFIERS

1. Wetland is part of a recreation area, park, forest, or refuge.
2. Fishing is available within or from the wetland.
3. Hunting is permitted in the wetland.
4. Hiking occurs or has potential to occur within the wetland.
5. Wetland is a valuable wildlife habitat.
6. The watercourse, pond, or lake associated with the wetland is unpolluted.
7. High visual/aesthetic quality of this potential recreation site.
8. Access to water is available at this potential recreation site for boating, canoeing, or fishing.
9. The watercourse associated with this wetland is wide and deep enough to accommodate canoeing and/or non-powered boating.
10. Off-road public parking available at the potential recreation site.
11. Accessibility and travel ease is present at this site.
12. The wetland is within a short drive or safe walk from highly populated public and private areas.
13. Other

EDUCATIONAL/SCIENTIFIC VALUE — This value considers the suitability of the wetland as a site for an "outdoor classroom" or as a location for scientific study or research.

CONSIDERATIONS/QUALIFIERS

1. Wetland contains or is known to contain threatened, rare, or endangered species.
2. Little or no disturbance is occurring in this wetland.
3. Potential educational site contains a diversity of wetland classes which are accessible or potentially accessible.
4. Potential educational site is undisturbed and natural.
5. Wetland is considered to be a valuable wildlife habitat.
6. Wetland is located within a nature preserve or wildlife management area.
7. Signs of wildlife habitat enhancement present (bird houses, nesting boxes, food sources, etc.).
8. Off-road parking at potential educational site suitable for school bus access in or near wetland.
9. Potential educational site is within safe walking distance or a short drive to schools.
10. Potential educational site is within safe walking distance to other plant communities.
11. Direct access to perennial stream at potential educational site is available.
12. Direct access to pond or lake at potential educational site is available.
13. No known safety hazards exist within the potential educational site.
14. Public access to the potential educational site is controlled.
15. Handicap accessibility is available.
16. Site is currently used for educational or scientific purposes.
17. Other

UNIQUENESS/HERITAGE — This value considers the effectiveness of the wetland or its associated waterbodies to provide certain special values. These may include archaeological sites, critical habitat for endangered species, its overall health and appearance, its role in the ecological system of the area, its relative importance as a typical wetland class for this geographic location. These functions are clearly valuable wetland attributes relative to aspects of public health, recreation, and habitat diversity.

CONSIDERATIONS/QUALIFIERS

1. Upland surrounding wetland is primarily urban.
2. Upland surrounding wetland is developing rapidly.
3. More than 3 acres of shallow permanent open water (less than 6.6 feet deep), including streams, occur in wetlands.
4. Three or more wetland classes are present.
5. Deep and/or shallow marsh or wooded swamp dominate.
6. High degree of interspersion of vegetation and/or open water occur in this wetland.
7. Well-vegetated stream corridor (15 feet on each side of the stream) occurs in this wetland.
8. Potential educational site is within a short drive or a safe walk from schools.
9. Off-road parking at potential educational site is suitable for school buses.
10. No known safety hazards exist within this potential educational site.
11. Direct access to perennial stream or lake exists at potential educational site.
12. Two or more wetland classes are visible from primary viewing locations.
13. Low-growing wetlands (marshes, scrub-shrub, bogs, open water) are visible from primary viewing locations.
14. Half an acre of open water or 200 feet of stream is visible from the primary viewing locations.
15. Large area of wetland is dominated by flowering plants or plants that turn vibrant colors in different seasons.
16. General appearance of the wetland visible from primary viewing locations is unpolluted and/or undisturbed.
17. Overall view of the wetland is available from the surrounding upland.
18. Quality of the water associated with the wetland is high.
19. Opportunities for wildlife observations are available.
20. Historical buildings are found within the wetland.
21. Presence of pond or pond site and remains of a dam occur within the wetland.
22. Wetland is within 50 yards of the nearest perennial watercourse.
23. Visible stone or earthen foundations, berms, dams, standing structures, or associated features occur within the wetland.
24. Wetland contains critical habitat for a state- or federally-listed threatened or endangered species.
25. Wetland is known to be a study site for scientific research.
26. Wetland is a natural landmark or recognized by the state natural heritage inventory authority as an exemplary natural community.
27. Wetland has local significance because it serves several functional values.
28. Wetland has local significance because it has biological, geological, or other features that are locally rare or unique.
29. Wetland is known to contain an important archaeological site.
30. Wetland is hydrologically connected to a state or federally designated scenic river.
31. Wetland is located in an area experiencing a high wetland loss rate.
32. Other

VISUAL QUALITY/AESTHETICS — This value considers the visual and aesthetic quality or usefulness of the wetland.

CONSIDERATIONS/QUALIFIERS

1. Multiple wetland classes are visible from primary viewing locations.
2. Emergent marsh and/or open water are visible from primary viewing locations.
3. A diversity of vegetative species is visible from primary viewing locations.
4. Wetland is dominated by flowering plants or plants that turn vibrant colors in different seasons.
5. Land use surrounding the wetland is undeveloped as seen from primary viewing locations.
6. Visible surrounding land use form contrasts with wetland.
7. Wetland views absent of trash, debris, and signs of disturbance.
8. Wetland is considered to be a valuable wildlife habitat.
9. Wetland is easily accessed.
10. Low noise level at primary viewing locations.
11. Unpleasant odors absent at primary viewing locations.
12. Relatively unobstructed sight line exists through wetland.
13. Other

ENDANGERED SPECIES HABITAT — This value considers the suitability of the wetland to support threatened or endangered species.

ES

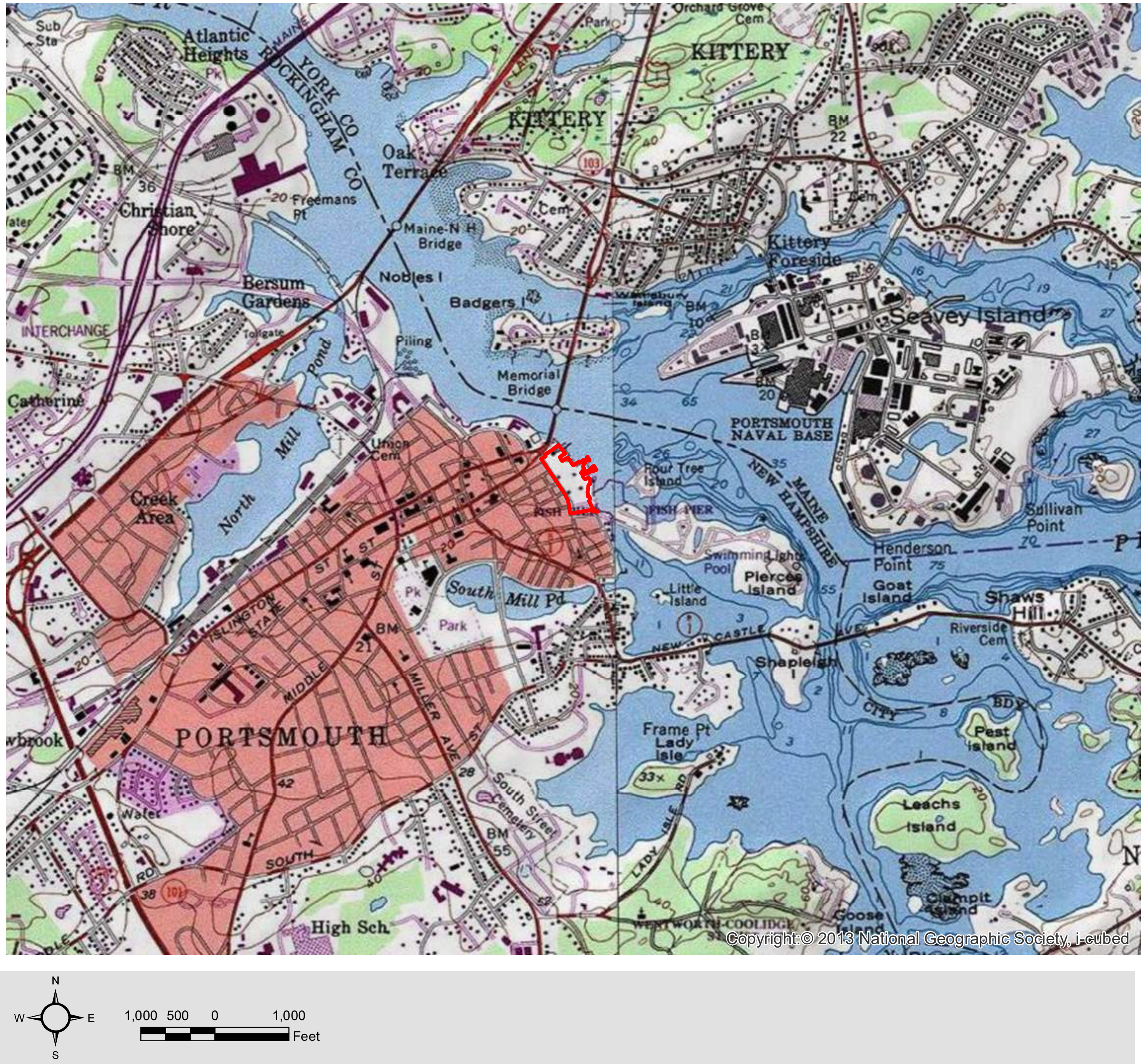
CONSIDERATIONS/QUALIFIERS

1. Wetland contains or is known to contain threatened or endangered species.
2. Wetland contains critical habitat for a state or federally listed threatened or endangered species.

APPENDIX C

Supporting Maps and Figures

Prescott Park
Portsmouth NH



Legend

🟥 Investigation Area

FIGURE 2

Prescott Park
Portsmouth NH

USGS Topographic Map

Weston & Sampson

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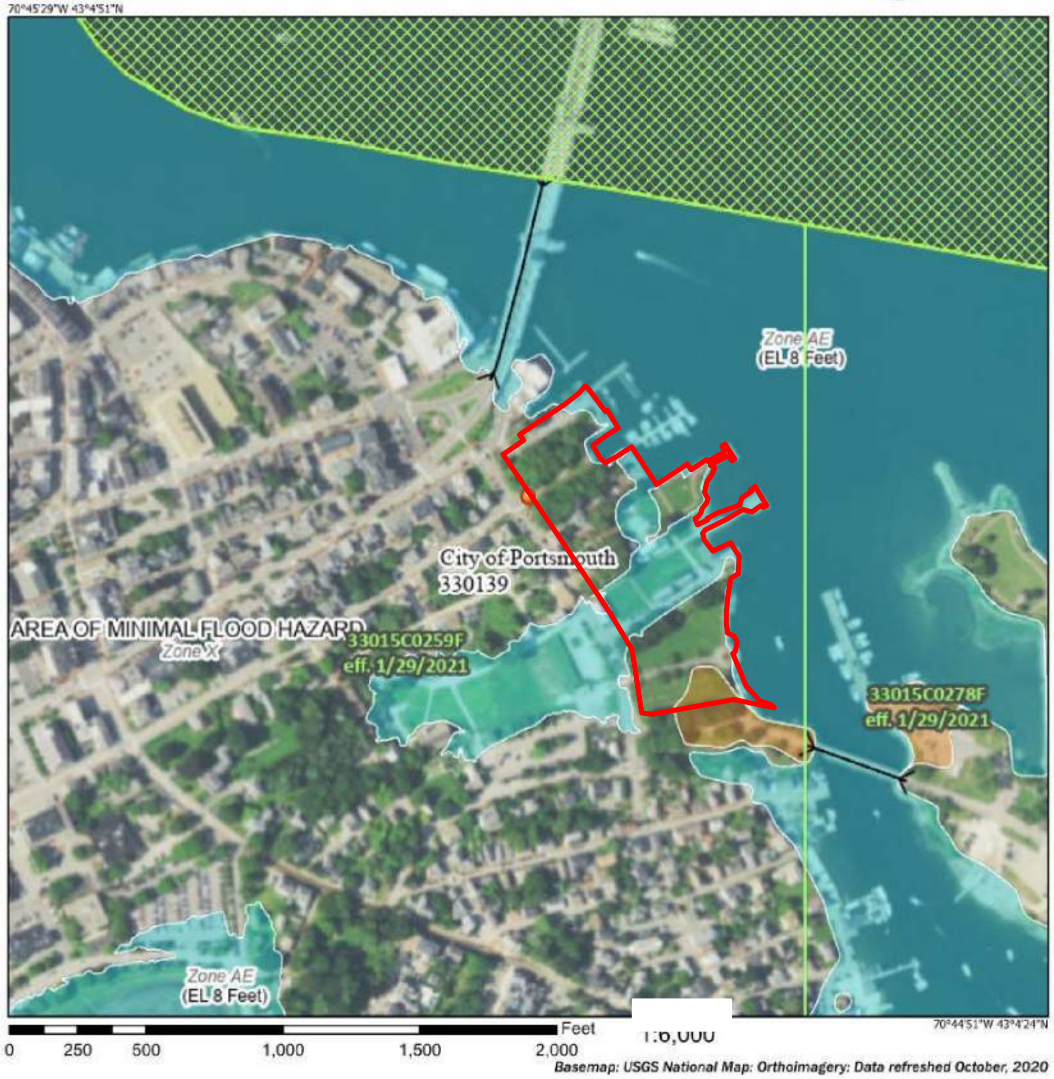
National Flood Hazard Layer FIRMette

FEMA



Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS	🟦	Without Base Flood Elevation (BFE) *Zone A, V, A99*
		With BFE or Depth *Zone AE, AO, AH, VE, AR*
	▨	Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD	🟧	0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
	▨	Future Conditions 1% Annual Chance Flood Hazard *Zone X*
	▨	Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
	▨	Area with Flood Risk due to Levee *Zone D*
OTHER AREAS	NO SCREEN	Area of Minimal Flood Hazard *Zone X*
	▭	Effective LOMRs
	▭	Area of Undetermined Flood Hazard *Zone D*
GENERAL STRUCTURES	– — – –	Channel, Culvert, or Storm Sewer
	I I I I I I I	Levee, Dike, or Floodwall
OTHER FEATURES	(B) 20.2	Cross Sections with 1% Annual Chance
	17.5	Water Surface Elevation
	8 – – –	Coastal Transect
	~~ 513 ~~~	Base Flood Elevation Line (BFE)
	—	Limit of Study
	—	Jurisdiction Boundary
	--- ---	Coastal Transect Baseline
	- —	Profile Baseline
	—	Hydrographic Feature
MAP PANELS	▦	Digital Data Available
	☐	No Digital Data Available
	☒	Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 3/23/2022 at 3:45 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Legend

▭ Investigation Area

FIGURE 3

Prescott Park
Portsmouth NH

FEMA Map

Weston & Sampson

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NH Designated River Map

3/23/2022, 3:28:52 PM

Designated_Rivers_Web - Designated_Rivers_24k_Buffer_Quartermile

🟥 Subject to SWQPA

☐ Municipalities (borders)

1:144,448

0 0.75 1.5 3 mi

0 1.25 2.5 5 km

© OpenStreetMap (and) contributors, CC-BY-SA

ArcGIS Web AppBuilder

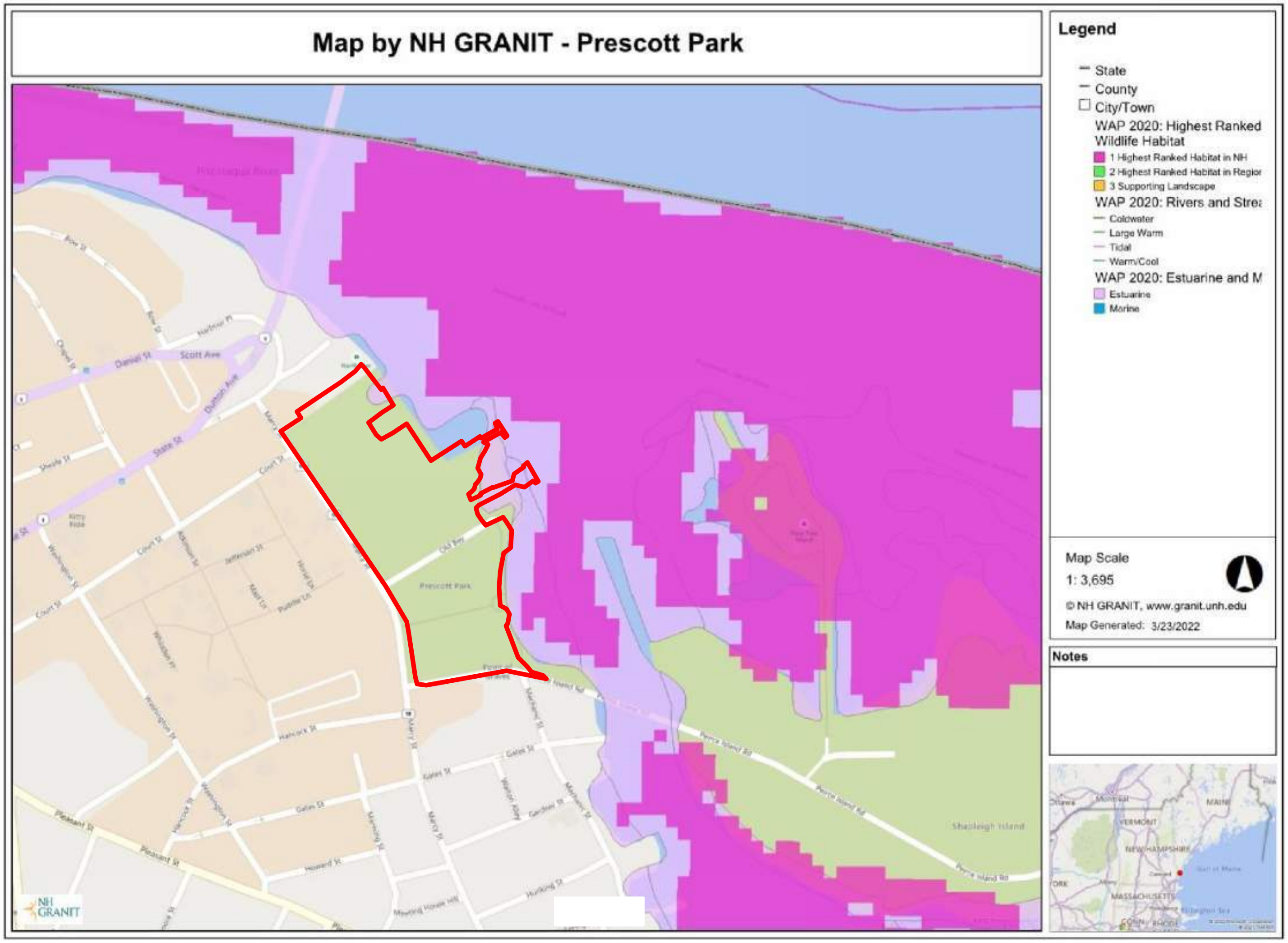
Map data © OpenStreetMap contributors, CC-BY-SA |

FIGURE 4

Prescott Park
Portsmouth

Designated River Map

Weston & Sampson



Legend

☐ Investigation Area

FIGURE 5.1

Prescott Park
Portsmouth NH

WAP Highest Ranked and
Aquatic Habitat

Weston & Sampson

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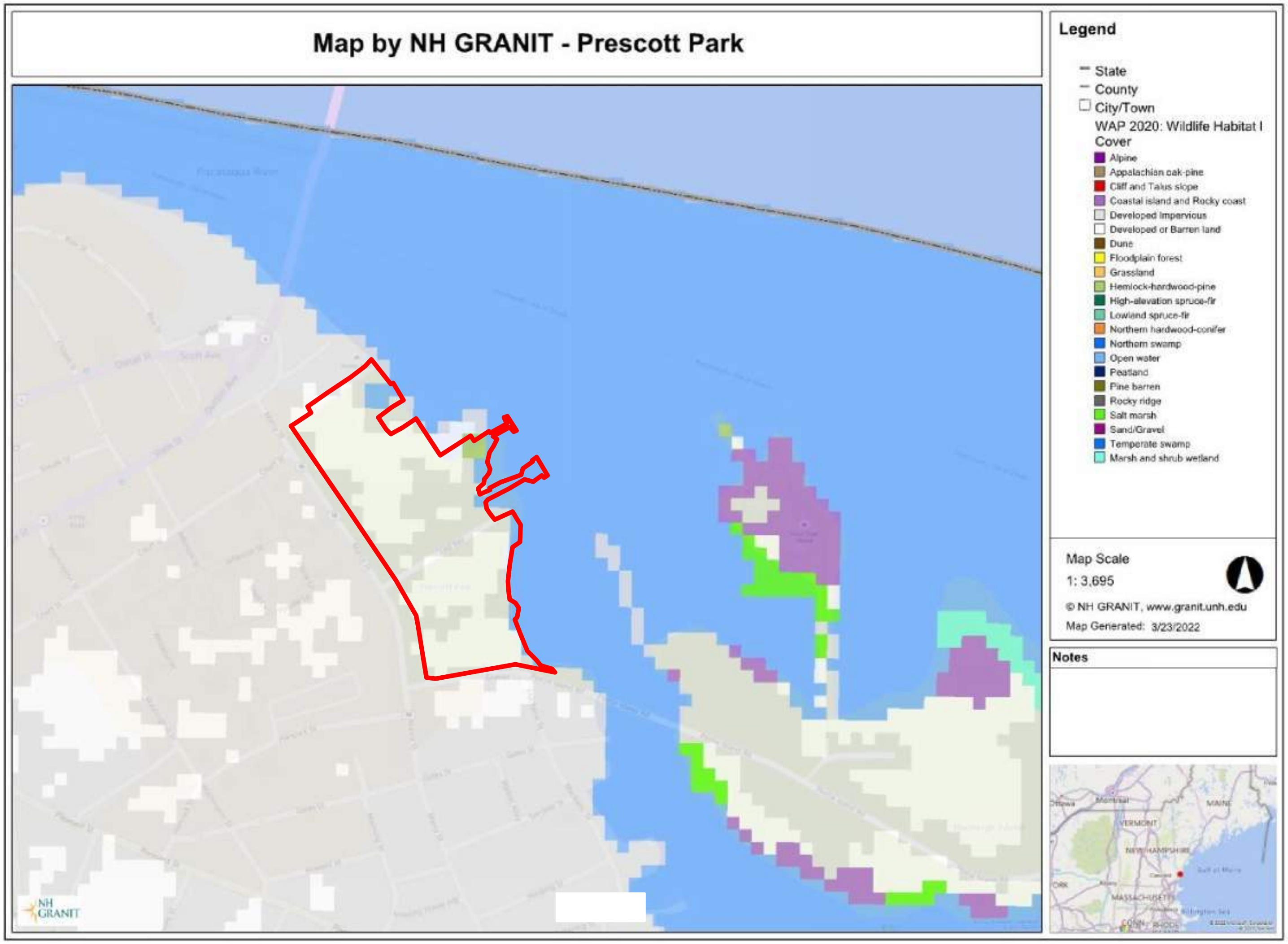

Legend

🟥 Investigation Area

FIGURE 5.2

Prescott Park
Portsmouth NH

WAP Habitat Land
Cover

APPENDIX K

Weston & Sampson

100 International Drive, Suite 152, Portsmouth, NH 03801
Tel: 603.431.3937

MEMORANDUM

TO:	Mr. Peter Rice and City of Portsmouth Department of Public Works Staff
FROM:	Cassie Bethoney, RLA; Steve Roy; Rupsa Roy, PhD
DATE:	January 27, 2022
SUBJECT:	Vulnerability Assessment and Methodology – New Hampshire Coastal Flood Risk Assessment

Prescott Park is a 10-acre waterfront park in Portsmouth, NH located along the tidally influenced Piscataqua River. The Park is bounded between two bridges: Memorial Bridge on the north and Pierce Island Bridge on the south with nearly 1150 feet of waterfront edge. It hosts two important historic structures in the City of Portsmouth: the Shaw and the Sheafe Warehouses.

Based on the New Hampshire Coastal Flood Risk Summary Report; Part II: Guidance for Using Scientific Projections,[1] a seven-step approach was applied to assess the flood risk vulnerability under current and future climate scenarios in the Prescott Park area. This seven-step approach provides a framework for selecting and assessing the impacts of sea level rise, coastal storms, groundwater rise, precipitation and freshwater flooding projections based on the project planning horizon and tolerance for flood risk. Figure 1-1 shows the seven-step approach that was adapted from the CFR Guidance and implemented in this project.

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[1] NH Coastal Flood Risk Science and Technical Advisory Panel. (2020). New Hampshire Coastal Flood Risk Summary, Part II: Guidance for Using Scientific Projections. Report published by the University of New Hampshire, Durham, NH. https://scholars.unh.edu/cgi/viewcontent.cgi?article=1210&context=ersc

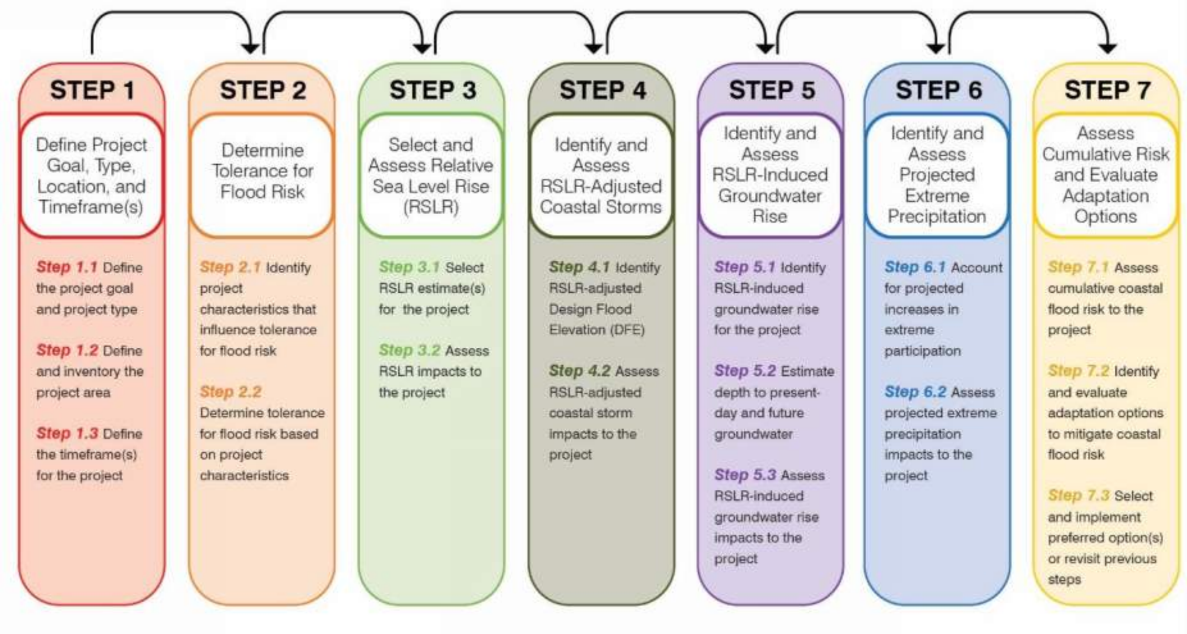


Figure 1-1. Seven-step approach for assessing coastal flood risk based on New Hampshire Coastal Flood Risk Summary Report; Part II: Guidance for Using Scientific Projections [1]

1.1 Step 1. Define Project Goal, Type, Location, and Timeframe(s)

The goal of Phase 1 of the six-phase project includes generally the following:

- Rehabilitation of approximately 720 feet of existing seawall, construction of a granite-block terraced seawall along the Piscataqua River
- Relocation of the Shaw Building and demolition of the Garage and Lean-To buildings
- Design and construction of new tide gates
- New and upgraded storm drainage
- Regrading of the site to support the Shaw relocation and Water Street stormwater infrastructure improvements
- Regrading of the performance lawn for above-ground stormwater holding capacity during storm events
- Pedestrian circulation and pathway accessibility upgrades,
- Reconfiguration of Water Street parking
- New tree planting
- Landscape restoration associated with these upgrades to the park

To assess potential present and future climate threats in Prescott Park, the Weston & Sampson team evaluated coastal flood risk from sea level rise and storm surge, as well as inland flood risk due to groundwater rise and extreme precipitation in the area as listed in Table 1-1. The results of these analyses are summarized in this section along with the details on the methodology and approach. The results of these analyses were used to assess the specific vulnerabilities at the site and assess options for improving resiliency and establishing design flood elevations.

Table 1-1. Summary of climate scenarios analyzed for Prescott Park

Climate Parameter	Flood Risk	Planning Horizons	Recurrence Intervals
Extreme Precipitation	Inland Flooding	• Present • 2050 • 2100	• 2-year • 5-year • 10-year • 25-year • 100-year
Sea Level Rise and Storm Surge	Coastal Flooding	• Present • 2050 • 2100	• 10-yr • 100-yr

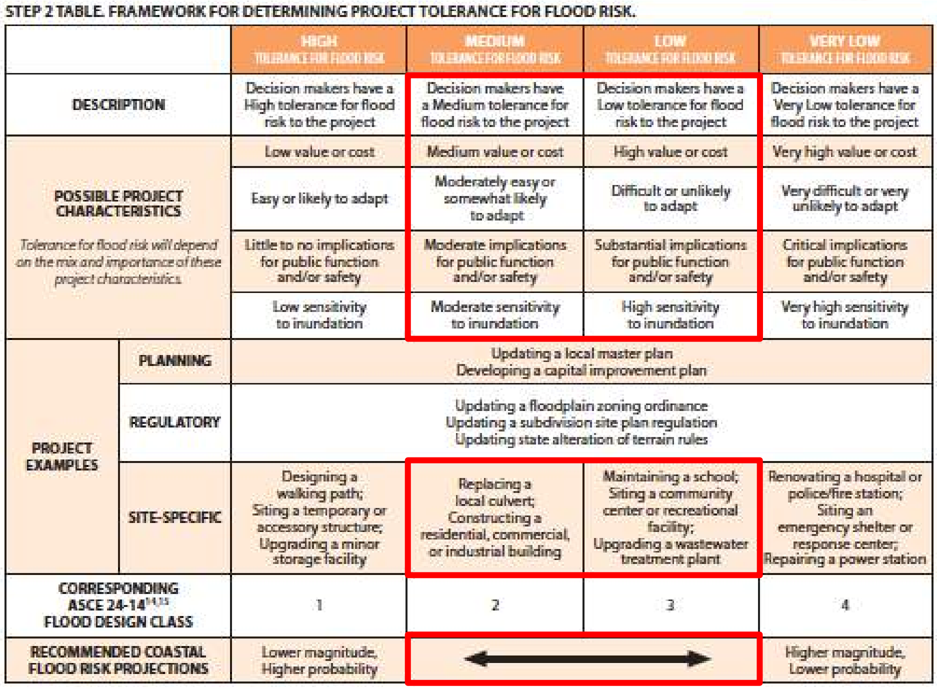
1.2 Step 2. Determine Tolerance for Flood Risk

Step 2.1 | Identify project characteristics that influence tolerance for flood risk

Prescott Park is an active waterfront park. As the low point in the neighborhood, Prescott Park and its immediate neighbors are prone to flooding. Being within or near many of the city's historic resources such as Strawbery Banke Museum, the city's oldest neighborhood, and historic maritime structures, these proposed improvements in the Prescott Park area are intended to reduce future flooding impacts for the park and neighborhood.

Step 2.2 | Determine tolerance for flood risk based on project characteristics

Tolerance for flood risk was decided based on *Step 2 Table* in the CFR Guidance (Figure 1-2 below). Due to the historic significance of Prescott Park and based on the useful life of the planned assets, the project team selected medium and low risk tolerance.



STEP 2 TABLE. FRAMEWORK FOR DETERMINING PROJECT TOLERANCE FOR FLOOD RISK.

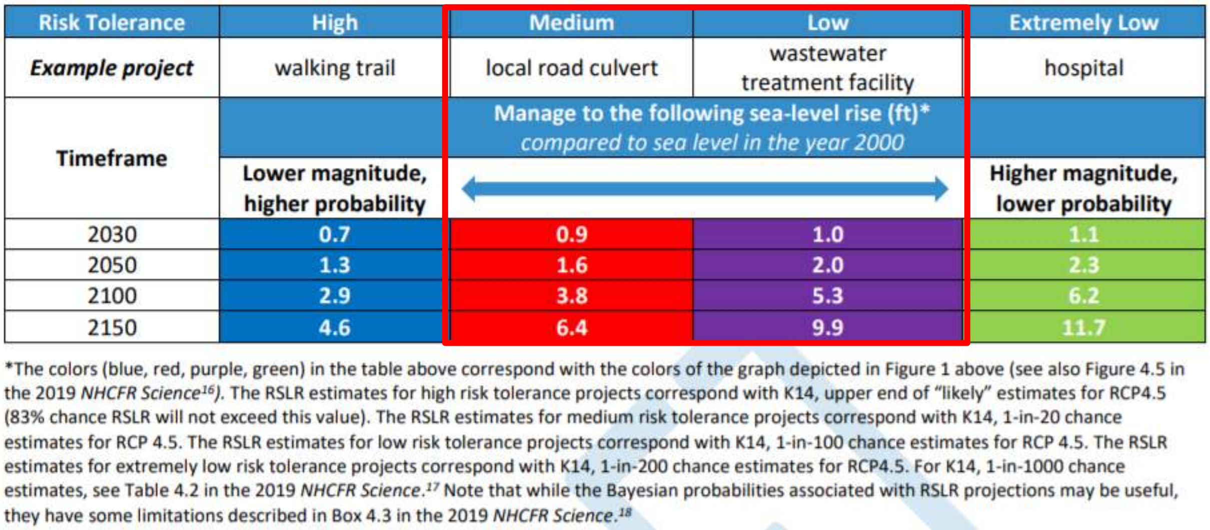
		HIGH TOLERANCE FOR FLOOD RISK	MEDIUM TOLERANCE FOR FLOOD RISK	LOW TOLERANCE FOR FLOOD RISK	VERY LOW TOLERANCE FOR FLOOD RISK
DESCRIPTION		Decision makers have a High tolerance for flood risk to the project	Decision makers have a Medium tolerance for flood risk to the project	Decision makers have a Low tolerance for flood risk to the project	Decision makers have a Very Low tolerance for flood risk to the project
POSSIBLE PROJECT CHARACTERISTICS *Tolerance for flood risk will depend on the mix and importance of these project characteristics.*		Low value or cost	Medium value or cost	High value or cost	Very high value or cost
		Easy or likely to adapt	Moderately easy or somewhat likely to adapt	Difficult or unlikely to adapt	Very difficult or very unlikely to adapt
		Little to no implications for public function and/or safety	Moderate implications for public function and/or safety	Substantial implications for public function and/or safety	Critical implications for public function and/or safety
		Low sensitivity to inundation	Moderate sensitivity to inundation	High sensitivity to inundation	Very high sensitivity to inundation
PROJECT EXAMPLES	**PLANNING**	Updating a local master plan Developing a capital improvement plan			
	REGULATORY	Updating a floodplain zoning ordinance Updating a subdivision site plan regulation Updating state alteration of terrain rules			
	SITE-SPECIFIC	Designing a walking path; Siting a temporary or accessory structure; Upgrading a minor storage facility	Replacing a local culvert; Constructing a residential, commercial, or industrial building	Maintaining a school; Siting a community center or recreational facility; Upgrading a wastewater treatment plant	Renovating a hospital or police/fire station; Siting an emergency shelter or response center; Repairing a power station
CORRESPONDING ASCE 24-14[14,15] FLOOD DESIGN CLASS		1	2	3	4
RECOMMENDED COASTAL FLOOD RISK PROJECTIONS		Lower magnitude, Higher probability	⟷		Higher magnitude, Lower probability

Figure 1-2. Screenshot of the framework for determining project tolerance for flood risk. The chosen risk levels are outlined in red.

1.3 Step 3. Select and Assess Relative Sea-Level Rise (RSLR)

Step 3.1 | Select RSLR estimate(s) for the project

The timeframes/planning horizons proposed for this analysis were chosen to be 2050 and 2100 based on the useful life of the planned assets and considering the long-term impacts on those assets. Relative Sea-Level Rise (RSLR) value was looked up from the CFR Guidance Document[1] for these respective planning horizons. RSLR for a medium risk tolerance was used to define the low SLR projection for this study in 2050 and 2100 and the RSLR value for a low risk tolerance was used to define the high SLR projection for 2050 and 2100. For 2050, the low and high projections are 1.6 and 2 ft, respectively (Figure 1-3). Because these values are so similar, only a high SLR scenario was used for 2050. The low and high projections, 3.8 and 5.3 feet respectively (Figure 1-3), diverge between 2050 and 2100 and thus both low and high scenarios were defined for this timeframe.



Risk Tolerance	High	Medium	Low	Extremely Low
Example project	walking trail	local road culvert	wastewater treatment facility	hospital
Timeframe		**Manage to the following sea-level rise (ft)*** *compared to sea level in the year 2000*		
	Lower magnitude, higher probability	⟷		**Higher magnitude, lower probability**
2030	0.7	0.9	1.0	1.1
2050	1.3	1.6	2.0	2.3
2100	2.9	3.8	5.3	6.2
2150	4.6	6.4	9.9	11.7

*The colors (blue, red, purple, green) in the table above correspond with the colors of the graph depicted in Figure 1 above (see also Figure 4.5 in the 2019 *NHCFR Science*[16]). The RSLR estimates for high risk tolerance projects correspond with K14, upper end of "likely" estimates for RCP4.5 (83% chance RSLR will not exceed this value). The RSLR estimates for medium risk tolerance projects correspond with K14, 1-in-20 chance estimates for RCP 4.5. The RSLR estimates for low risk tolerance projects correspond with K14, 1-in-100 chance estimates for RCP 4.5. The RSLR estimates for extremely low risk tolerance projects correspond with K14, 1-in-200 chance estimates for RCP4.5. For K14, 1-in-1000 chance estimates, see Table 4.2 in the 2019 *NHCFR Science*.[17] Note that while the Bayesian probabilities associated with RSLR projections may be useful, they have some limitations described in Box 4.3 in the 2019 *NHCFR Science*.[18]

Figure 1-3. Screenshot of the risk tolerance table from the New Hampshire Coastal Flood Risk Summary (N.H. Coastal Flood Risk STAP, 2019). The low and medium risk tolerances (outlined in red) were considered for this study for 2050 and 2100 planning horizons.

Step 3.2 | Assess RSLR impacts to the project

RSLR-adjusted water level was visualized in the project area using available tools, including the New Hampshire Sea-level Rise, Storm Surge, and Groundwater Rise Mapper (Sea-Level Rise Mapper), and site plans. The evaluated impacts over the range of RLSR estimates were identified in Step 3.2 for the project location. As noted in CFR Guidance Document,[1] surface water levels, groundwater levels, waves, and current velocities will increase, and sediment erosion and deposition are expected to change in conjunction with RSLR-adjusted water levels. Due to absence of adequate flood-barrier infrastructure that will restrict the water flow, Prescott Park is at further risk of flooding due to RSLR.

1.4 Step 4. Identify and Assess RSLR-Adjusted Coastal Storms

Step 4.1 | Identify RSLR-adjusted Design Flood Elevation (DFE)

Part of the Prescott Park is located within FEMA AE flood zone with an elevation of 8 ft (BFE) (Figure 1-4). For the rest of the park area, the BFE values were not available from FEMA FIRM maps. Therefore, a BFE was of 8 ft was assumed for Prescott Park for the analysis.

The RLSR adjusted design flood elevation (DFE) estimate was adapted from the information provided in *Step 4 Table* of the CFR Guidance[1] (Figure 1-5). DFE is the total flood elevation that a project is designed to provide protection from. DFE is typically BFE with at least the specified freeboard, as required by building codes. RSLR-adjusted DFE is typically at least the BFE with required freeboard and RSLR. DFE values calculated for Prescott Park area are shown in Table 1-2. The RSLR values are adapted from Fig. 1-2. For 2050, the RSLR values are similar for low to medium risk tolerance (2.0 ft vs.1.6 ft respectively). Therefore, a low risk tolerance value of 2.0 ft was chosen for both scenarios.

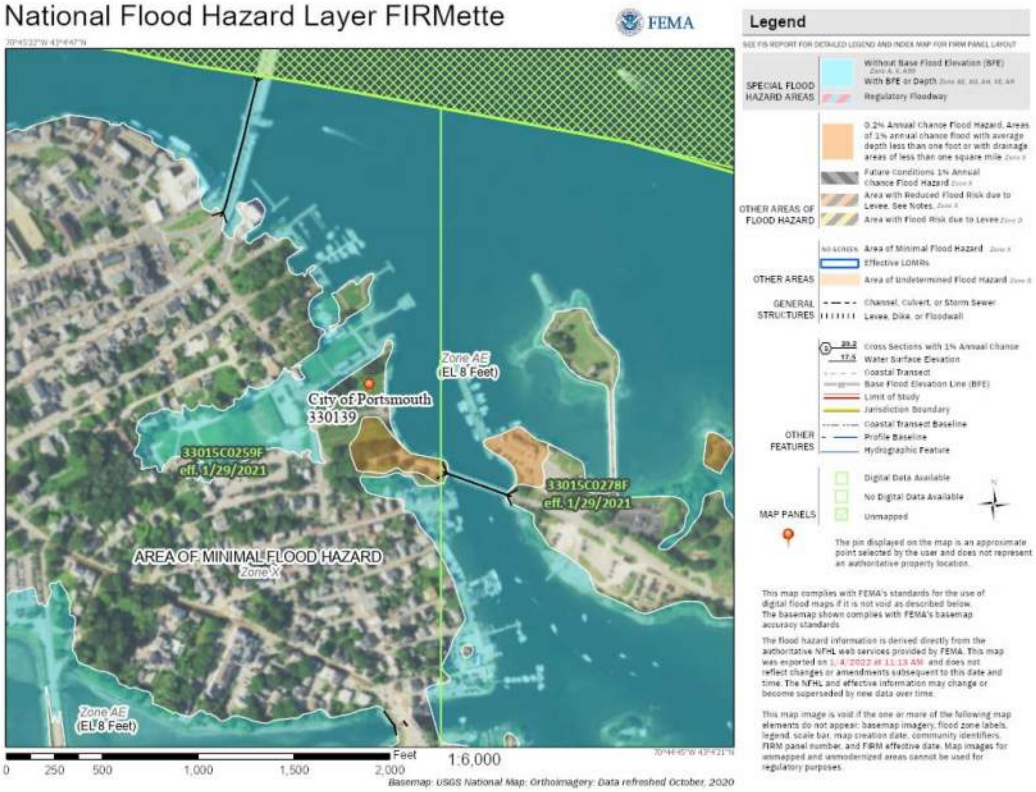
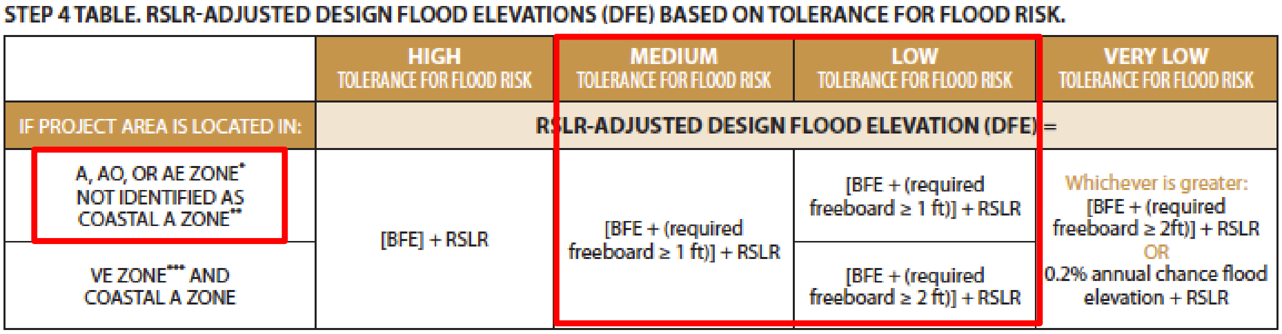


Figure 1-4: FEMA flood insurance rate map (FIRM) for Prescott Park area



STEP 4 TABLE. RSLR-ADJUSTED DESIGN FLOOD ELEVATIONS (DFE) BASED ON TOLERANCE FOR FLOOD RISK.

	HIGH TOLERANCE FOR FLOOD RISK	MEDIUM TOLERANCE FOR FLOOD RISK	LOW TOLERANCE FOR FLOOD RISK	VERY LOW TOLERANCE FOR FLOOD RISK
IF PROJECT AREA IS LOCATED IN:	RSLR-ADJUSTED DESIGN FLOOD ELEVATION (DFE) =			
A, AO, OR AE ZONE* NOT IDENTIFIED AS COASTAL A ZONE**	[BFE] + RSLR	[BFE + (required freeboard ≥ 1 ft)] + RSLR	[BFE + (required freeboard ≥ 1 ft)] + RSLR	Whichever is greater: [BFE + (required freeboard ≥ 2ft)] + RSLR OR 0.2% annual chance flood elevation + RSLR
VE ZONE*** AND COASTAL A ZONE			[BFE + (required freeboard ≥ 2 ft)] + RSLR	

Figure 1-5: Screenshot of the relative sea level rise adjusted design flood elevation from the New Hampshire Coastal Flood Risk Summary based on flood tolerance risk. The low and medium risk tolerances (outlined in red) were considered for this study for 2050 and 2100 planning horizons

Table 1-2. RSLR adjusted design flood elevation (ft-NAVD88) for Prescott Park for low and medium risk of flood tolerances under 2050 and 2100 planning horizons

Scenario	RSLR (ft)	BFE (ft-NAVD88)	Minimum Freeboard (ft)	RSLR Adjusted DFE (ft-NAVD88)
Year 2050 low/medium SLR	2	8	1	11
Year 2100 medium SLR	3.8	8	1	12.8
Year 2100 low SLR	5.3	8	1	14.3

Step 4.2 | Assess RSLR-adjusted coastal storm impacts to the project

Since the project is close to the shoreline, it was crucial to understand the effect of additional factors such as coastal storms. RSLR-adjusted coastal storm water levels in the project area were estimated using available tools, such as the Sea-Level Rise Mapper.[2] The results are shown in the following figures for low flood tolerance/ high SLR scenarios in 2050 and 2100 with or without a 1% coastal storm surge under existing conditions if no action is taken. The sea level rise mapper is designed for every 2-ft interval. Since RSLR is predicted to be 5.3 feet in 2070 for a low risk tolerance scenario, a 6-ft value was chosen for the model input. As seen in Figure 1-6, in 2050, with 2 feet of sea level rise, only a small part of the northeast section of the park is inundated whereas, the park will be completely inundated by a 1% coastal storm surge. Figure 1-7 shows that, in 2070 with a 6ft sea level rise, most of the park will be flooded. In addition, a significant section of inland will be flooded under a 1% coastal storm surge in 2070.

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[2] *New Hampshire Coastal Viewer. https://nhcoastalviewer.unh.edu/Html5Viewer/index.html?viewer=NHCoastalViewer*

Figure 1-6: Sea level rise maps for 2050 with 2 feet of RSLR above Mean Higher High Water (MHHW) levels (i.e. MHHW + SLR) (left) and the same with a 100-year flood event (i.e. MHHW + SLR + Storm) (right) for Prescott Park area.

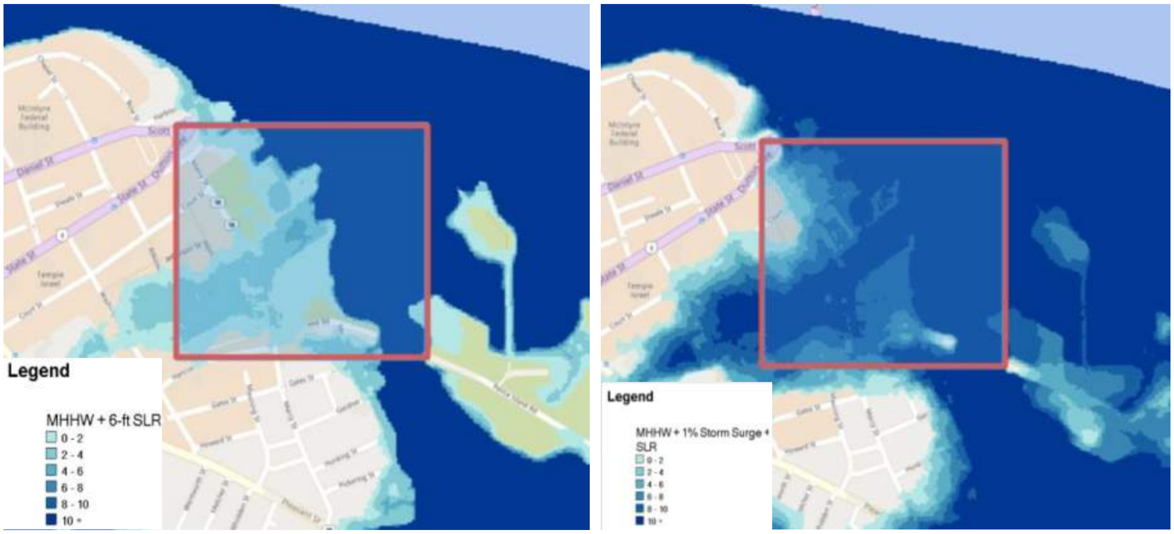

Figure 1-7: Sea level rise maps for 2070 with 6 feet of RSLR above Mean Higher High Water (MHHW) levels (i.e. MHHW + SLR) (left) and the same with a 100-year flood event (i.e. MHHW + SLR + Storm) (right) for Prescott Park area using Sea-Level Rise Mapper[2]

Sea level rise due to storm impacts were previously analyzed by RPS who was contracted by Weston & Sampson in 2018 as part of Prescott Park Master Plan Implementation project. The goal of the project was to identify areas of Prescott Park that are vulnerable to flooding. Their coastal storm impacted SLR analysis used data from North Atlantic Coast Comprehensive Study (NACCS) database and provided very similar elevation data.[1]

The NACCS was a modeling effort completed by the US Army Corps of Engineers (USACE) in 2015 that used ADCIRC (Advanced Circulation Model for Shelves Coasts and Estuaries) to simulate flooding and inundation from thousands of tropical and extratropical storms along the U.S. East Coast.[3] Results of the NACCS include a large catalog of storm surge and wave model parameters at thousands of model stations (known as "save points") along the coast. The NACCS also included a return period analysis at each point to characterize flooding at various return periods (1-year to 10,000-year). There are two publicly available NACCS databases:

1. **Base Conditions**: Simulations of storm surge were performed at the mean sea level; however, no tides or sea level change were included.

2. **Base Conditions + 96 Random Tides**: Simulations of storm surge were performed at the mean sea level. After the completion of the simulations, 96 random tidal phases were linearly superimposed onto to the base conditions storm surge.

Both storm datasets were investigated, however due to the lack of information on the random tidal phases linearly superimposed to the surge, the "Base Conditions" storm set was selected. The return period storm data from the nearest NACCS save point (#7390) from the "Base Conditions" dataset was extracted for use in the study (Figure 1-8). NACCS provides the data described above at various confidence intervals. Both the mean and the 95th percentile confidence interval water levels from save point #7390 are provided in Table 1-3 for comparison. The values (storm water level elevation with sea level rise) used in the inundation analysis are indicated by the red box in Table 1-3.

Table 1-3. Modeled inundation scenarios. Column outlined in red denote the values that were used in the modeling

Sea Level Rise (SLR)		Storm Water Level	Mean Confidence Interval		95th Percentile Confidence Interval	
			NACCS Water Level (ft. NAVD88)	Water Level + RSLR (ft. NAVD88)	NACCS Water Level – 95th % (ft. NAVD88)	Water Level + RSLR (ft. NAVD88)
Present Day	0 ft.	10-yr	8.6	**8.6**	10.8	10.8
Present Day	0 ft.	100-yr	10.2	**10.2**	12.5	12.5
Year 2050 high SLR	2 ft.	10-yr	8.6	**10.6**	10.8	12.8
Year 2050 low SLR	2 ft.	100-yr	10.2	**12.2**	12.5	14.5
Year 2100 high SLR	3.8 ft.	10-yr	8.6	**12.4**	10.8	14.6
Year 2100 low SLR	5.3 ft.	10-yr	8.6	**13.9**	10.8	16.1

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[1] *Cialone, M. A., Massey, T. C., Anderson, M. E., Grzegorzewski, A. S., Jensen, R. E., Cialone, A., ... & McAlpin, T. O. (2015). North Atlantic Coast Comprehensive Study (NACCS) coastal storm model simulations: waves and water levels (No. ERDC/CHL-TR-15-14). Engineer Research and Development Center, Vicksburg, MS.*

Sea Level Rise (SLR)		Storm Water Level	Mean Confidence Interval		95th Percentile Confidence Interval	
			NACCS Water Level (ft. NAVD88)	Water Level + RSLR (ft. NAVD88)	NACCS Water Level – 95th % (ft. NAVD88)	Water Level + RSLR (ft. NAVD88)
Year 2100 **high** SLR	3.8 ft.	100-yr	10.2	**14.0**	12.5	16.3
Year 2100 **low** SLR	5.3 ft.	100-yr	10.2	**15.5**	12.5	17.8

Figure 1-8. Location of NACCS Save Point #7390 in relation to Prescott Park[3]

1.5 Step 5. Identify and Assess RSLR-Induced Groundwater Rise

Step 5.1 | Identify RSLR-induced groundwater rise for the project

RSLR induced groundwater rise has been mapped in Prescott Park area as stated in the CFR Guidance Document.[1] Therefore, RSLR induced groundwater rise has been accounted for in the project area.

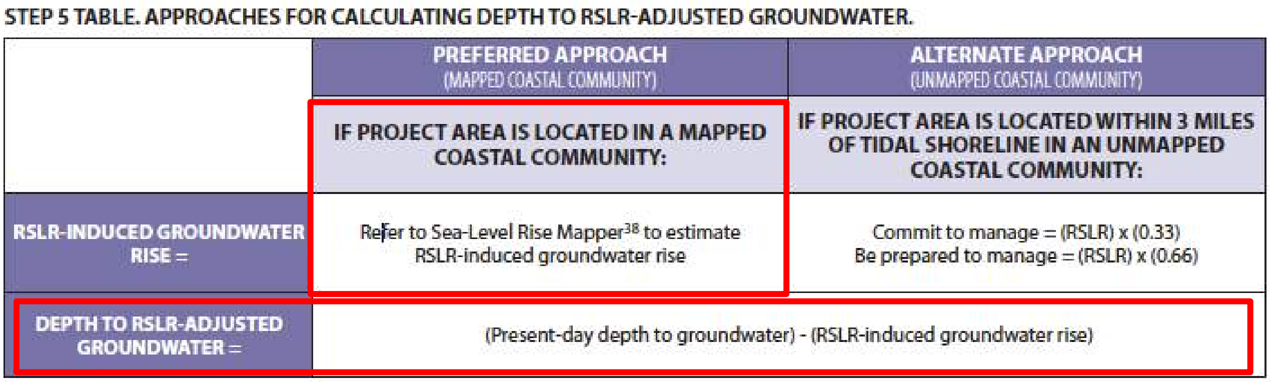
Step 5.2 | Estimate depth to present-day and future groundwater

As stated in a Preliminary Geotechnical Engineering Report by Weston & Sampson, dated October 19, 2021, groundwater levels were encountered at depths ranging from approximately 3 to 5 ft below current grade, corresponding to an approximate elevation range of El. 2.4 to El. 4.1 (Appendix A). Groundwater observations were based on field-observed moisture content of the samples and measurements taken during drilling, which may not be the static groundwater level. Groundwater levels should be expected to fluctuate with the tides, season, variations in precipitation, construction in the area, and other factors.

Perched groundwater conditions could exist close to the ground surface, especially during and after extended periods of wet weather.

Step 5.3 | Assess RSLR-induced groundwater rise impacts to the project

To determine the extent of groundwater rise, the Sea-Level Rise Mapper[2] was utilized. The proposed high RSLR estimates of 2 feet by 2050 and 5.3 feet by 2100 under low risk tolerance scenario were used in this analysis. However, the closest corresponding layers on the online mapper was found to be 6-foot RSLR scenario which was used for depth to RSLR adjusted groundwater projection for 2100. According to the "Groundwater Rise Caused by 2-foot SLR (feet)" layer on the mapper, the expected groundwater rise in the Park Area could range from 1.2 to 2.2 feet with a 2-foot RSLR scenario in 2050 (Figure 1-10). According to the "Groundwater Rise Caused by 6-ft SLR (ft)" layer on the mapper, the expected groundwater rise in the park area could range from 5.2 to 6.2 feet with a 6-foot RSLR scenario in 2100 (Figure 1-10). The groundwater predictions, based on 2-foot and 6-foot RSLR, were subtracted from the baseline groundwater depth below a ground elevation of 5 feet based on the CFR Guidance Document.[1] This resulted in the expected groundwater depths from RSLR scenarios for 2050 to be 3.8 to 2.8 feet. In 2100, RSLR induced groundwater rise will cause significant impediment due to present day shallow groundwater depth.



STEP 5 TABLE. APPROACHES FOR CALCULATING DEPTH TO RSLR-ADJUSTED GROUNDWATER.

	PREFERRED APPROACH (MAPPED COASTAL COMMUNITY)	ALTERNATE APPROACH (UNMAPPED COASTAL COMMUNITY)
	IF PROJECT AREA IS LOCATED IN A MAPPED COASTAL COMMUNITY:	IF PROJECT AREA IS LOCATED WITHIN 3 MILES OF TIDAL SHORELINE IN AN UNMAPPED COASTAL COMMUNITY:
RSLR-INDUCED GROUNDWATER RISE =	Refer to Sea-Level Rise Mapper[38] to estimate RSLR-induced groundwater rise	Commit to manage = (RSLR) x (0.33) Be prepared to manage = (RSLR) x (0.66)
DEPTH TO RSLR-ADJUSTED GROUNDWATER =	(Present-day depth to groundwater) - (RSLR-induced groundwater rise)	

Figure 1-9: Screenshot of the approaches for calculating depth to RSLR-adjusted groundwater

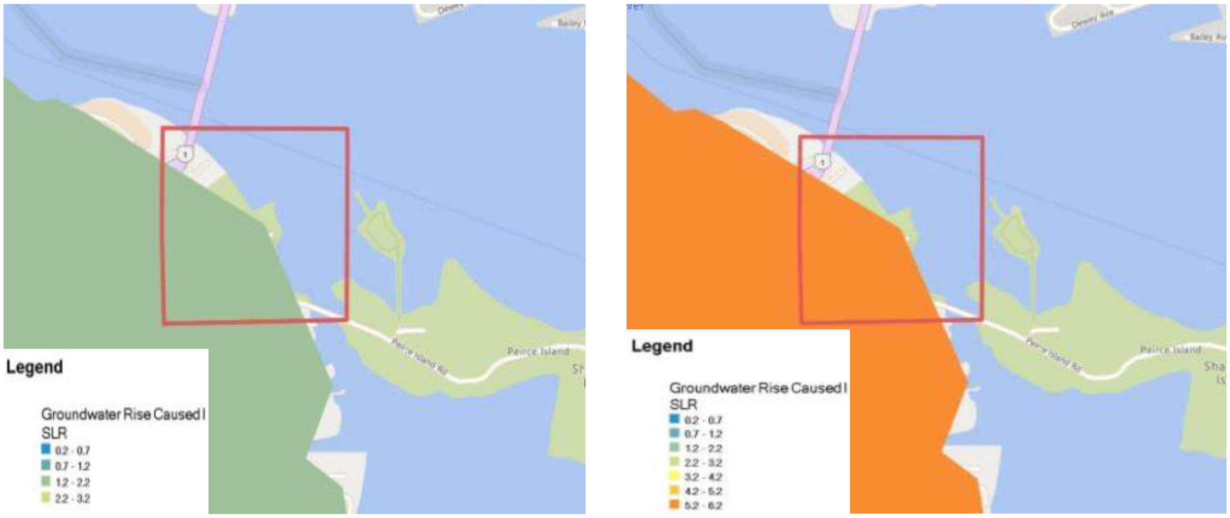


Figure 1-10: Groundwater induced high RSLR maps for 2050 with 2-ft RSLR (left) and for 2070 with 6-ft RSLR using Sea-Level Rise Mapper[2]

1.6 Step 6. Identify and Assess Projected Extreme Precipitation

Step 6.1 | Account for projected increases in extreme precipitation

Extreme precipitation projection for the Prescott Park area was analyzed by Weston & Sampson as part of the Prescott Park Master Plan Implementation project in "Analyses of current and future flood risks at Prescott Park, Portsmouth, NH" memo dated December 29th, 2020. Rainfall depths associated with the 24-hour duration design storms of different recurrence intervals (2-, 5-, 10-, 25- and 100-year) for Portsmouth were determined for both present and future climate scenarios as listed in Table 1-4 (Appendix B). The design storms' rainfall depths under present climate conditions (baseline) were derived from the NOAA Atlas 14 Point Precipitation Frequency Estimates (NOAA 14).[1] Design storms' rainfall depths under future climate conditions were calculated as a percent increase over these baseline values. The percent increase for each design storm was determined using a statistical analysis of annual maximum daily precipitation depths from an ensemble of global climate models (GCMs), which were part of the New Hampshire Coastal Flood Risk Summary Part 1: Science document.[2] The design storms rainfall depths for present, 2050 (using a 20-year averaging period from 2040-2059) and 2100 (using a 20-year averaging period from 2080-2099) are summarized in Table 1-4 and Figure 1-11.

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[1] *Atlas 14 Volume 10, Precipitation-Frequency Atlas of the United States, Northeastern States. (2015, revised 2019). Published by NOAA.* https://www.nws.noaa.gov/oh/hdsc/PF_documents/Atlas14_Volume10.pdf

[2] *Wake, C., Knott, J., Lippmann, T., Stampone, M., Ballestero, T., Bjerklie, D., Burakowski, E., Glidden, S., Hosseini-Shakib, I., Jacobs, J. (2019). New Hampshire Coastal Flood Risk Summary – Part I: Science. Prepared for the New Hampshire Coastal Flood Risk Science and Technical Advisory Panel. Report published by the University of New Hampshire, Durham, NH.*

Table 1-4: Present and Projected 24-Hour Design Rainfall Depths for Portsmouth, NH

Recurrence Interval (Years)	NOAA Atlas 14 Present Baseline (in.)	Estimated 2050 (2040-2059) Values (in.)	Estimated 2100 (2080-2099) Values (in.)
2-year	3.3	3.7	4.0
5-year	4.4	5.1	5.4
10-year	5.3	6.3	6.6
25-year	6.6	8.1	8.4
100-year	8.5	11.1	11.4

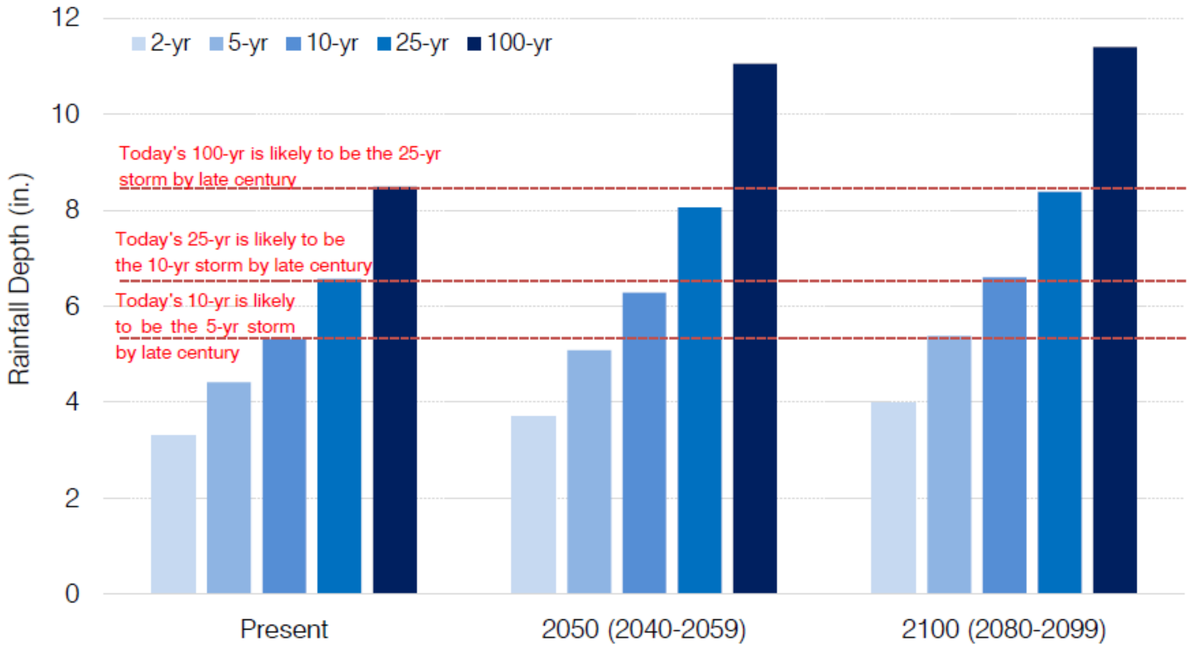
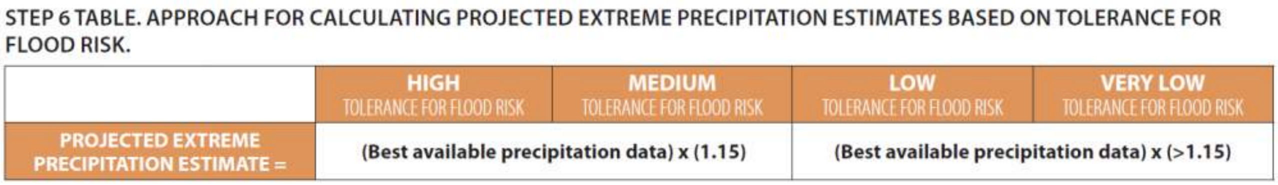


Figure 1-11: Stormwater flooding impacts due to changes in extreme rainfall events in Portsmouth, NH

Freshwater instream flow and floodplain extent were expected to increase with increasing precipitation and impervious cover. Higher relative sea levels may reduce seaward drainage capacity during and following precipitation events, which could cause additional flooding. To include these anticipated changes in the risk estimates, the more in-depth analysis was chosen over the *at least 15% increase* suggested in the CFR Guidance *Step 6 Table* (Figure 1-12). This analysis was chosen for the following reasons:

- Considers localized rainfall depths specific to the NH region using GCM data from the CFR Science Document[1]
- Considers change in percent increase for each recurrence interval

- Considers change in rainfall depths for different planning horizons (2050, 2100)



STEP 6 TABLE. APPROACH FOR CALCULATING PROJECTED EXTREME PRECIPITATION ESTIMATES BASED ON TOLERANCE FOR FLOOD RISK.

	HIGH TOLERANCE FOR FLOOD RISK	MEDIUM TOLERANCE FOR FLOOD RISK	LOW TOLERANCE FOR FLOOD RISK	VERY LOW TOLERANCE FOR FLOOD RISK
PROJECTED EXTREME PRECIPITATION ESTIMATE =	(Best available precipitation data) x (1.15)		(Best available precipitation data) x (>1.15)	

Figure 1-12: Screenshot of the approach for calculating projected extreme precipitation estimates

Step 6.2 | Assess projected extreme precipitation impacts to the project

Based on the analysis conducted in Step 6.1, the team also evaluated the impacts of extreme precipitation in Prescott Park and surrounding areas as part of the Master plan Implementation project.

1.7 Step 7. Assess Cumulative Risk and Evaluate Adaptation Options

Step 7.1 | Assess cumulative coastal flood risk to the project

It is important to consider possible compound impacts to the project area because of coastal flood risk from RSLR, coastal storms, RSLR-induced groundwater rise, extreme precipitation, and/or freshwater flooding occurring together. The cumulative risk of these factors was evaluated in the "Analyses of current and future flood risks at Prescott Park, Portsmouth, NH" memo previously referenced.

Step 7.2 | Identify and evaluate adaptation options to mitigate coastal flood risk

The adaptation options were identified based on the flood risk in the project area are discussed in this section and were presented to the City as part of the Master Plan Implementation project. The "Summary of Stormwater Modeling" memo dated December 29th, 2020, discusses the degree to which each of the possible action alternatives reduces vulnerability to flooding and exacerbates or minimizes negative environmental impacts in certain chosen areas around the Prescott Park area (Appendix C).

Step 7.3 | Select and implement preferred option(s) or revisit previous steps

The most viable adaptation options chosen for the project location were presented to the City in "Prescott Park Resiliency Recommendations" memo dated March 18th, 2021 (Appendix D).

APPENDIX A

55 Walkers Brook Drive, Suite 100 Reading, MA 01867 (HQ)
Tel: 978.532.1900

October 19, 2021

Mr. Peter Rice
Director of Public Works
City of Portsmouth
680 Peverly Hill Road
Portsmouth, NH 03801

RE: Preliminary Geotechnical Engineering Report
Prescott Park - Phase I improvements Design
Portsmouth, New Hampshire

Weston & Sampson Engineers, Inc. (Weston & Sampson) is pleased to present our preliminary geotechnical engineering report for the proposed Prescott Park - Phase I improvements located at 105 Marcy St in Portsmouth, NH. Our project understanding is based on the 10% progress drawing set prepared by Weston & Sampson dated September 9, 2021 (refer to *Attachment A)* and our discussions with the project team. Our services were completed in general accordance with Task 3 of our May 25, 2021 Proposal for Design and Engineering Services.

Information on the use of this report is provided in the document titled “Important Information about this Geotechnical Engineering Report” by Geoprofessional Business Association (GBA), Inc., as described in the Limitations section of this report.

EXISTING CONDITIONS

Prescott Park is an urban riverfront park along the Piscataqua River in downtown Portsmouth, NH. The approximately 2.8-acre site is bounded by Mechanic Street to the south, Marcy Street to the west, State Street and Memorial Bridge to the north, and the Piscataqua River to the east as shown in *Figure 1 – Locus Map.* The existing site contains several historical multi-story buildings in the central portion of the site, three timber piers and a timber and concrete dock along the eastern shoreline, asphalt-paved parking areas to the north, and asphalt and brick-paved walking paths and landscaped areas with fountains, statues, and other ornamental features throughout.

A seawall of varying construction including granite block walls, placed riprap, and steel sheet pile bulkhead is present along most of the shoreline at the site. Data obtained from the National Oceanic and Atmospheric Administration (NOAA) website indicates that the mean high water (MHW) elevation is El. 3.97, and the mean low water elevation is El. -4.66, resulting in a tidal range of approximately 8.6 ft. Bituminous-paved Water Street runs through the middle of the site behind several of the existing historical buildings, including the 200-year-old Shaw building, garage, and adjacent lean-to. The Shaw Building has a crawl space located beneath the ground floor. Existing utilities include below-grade sewer, drainage, gas, water, and irrigation, and overhead electric and communications.

Existing site grades range from approximately El. 5 to 15. Site grades are relatively level at the southern half of the site and increase gently from east to west in the northern half. Elevations provided herein are in feet and reference the North American Vertical Datum of 1988 (NAVD88).

PROJECT UNDERSTANDING

Phase 1 of the six-phase project includes rehabilitation of approximately 720 ft. of existing seawall, construction of two granite-block terraced seawalls extending into the Piscataqua River, relocation of the Shaw Building, and design and construction of new tide gates.

It is proposed to relocate the Shaw Building approximately 40 ft. to the west along Water Street as shown on *Figure 2*. The adjacent garage and lean-to will be demolished. Based on preliminary conversations with the project team, we understand that the proposed finished floor elevation (FFE) at the Shaw Building will be about El. 10 which is about 3 ft. above the existing grade (El. 7). We further understand that the preferred support method for the building is a mat or raft foundation adjacent to, but not overlapping, the existing foundation. Structural loading information was not available at the time of this report but based on our experience with similar structures we assume building loads will be up to about 250 pounds per square foot (psf). We assume that no below-grade levels (e.g. basements or crawl spaces) are planned.

Two granite-block terraced seawalls are proposed along the riverfront on the north and south side the existing concrete pier as shown on drawing L120-A included in *Attachment A.* The pier and shoreline in this area are currently protected by rip rap. Ground surface elevations at the top of the rip rap are approximately El. 7 and the toe is at approximately El. 4. The ground surface at the rip rap toe is sand-covered and gently slopes down to the water's edge which varies with the tides. The grade at the top of the proposed terraced seawalls will be raised up to about El. 10 and several feet of fill will be placed to support the granite blocks following removal of the existing rip rap.

Project information included herein should be considered preliminary. Final information regarding site grading and structural loading was not available at the time of this report. We should be provided the opportunity to review the final project information to assess if the conclusions and recommendations provided herein need to be revised.

SUBSURFACE CONDITIONS

Geologic Setting

Information from the New Hampshire Department of Environmental Services (NHDES) "Surficial geologic map of the Portsmouth and Kittery quadrangles, Rockingham County, New Hampshire"

(1992) compiled by G.J. Larson indicates the site is located in an area of artificial fill and till deposits composed predominantly of a heterogenous mixture of sand, silt, and clay deposited directly by glacial ice. The depth of surficial soils at the site was not mapped.

According to the Maine Geological Survey (MGS) “Bedrock geology of the Kittery Quadrangle, Maine and New Hampshire” (Hussey et al, 2016) bedrock at the site is part of the Kittery Formation which consists of thin to thick bedded, buff weathered, feldspathic and calcareous metawacke. Feldspathic and calcareous metawacke is described as having well developed primary sedimentary structures including graded bedding, channel cut-and-fill structure, small scale cross-bedding, flame structure, and flute casts. Bedrock outcrops were not observed during our site visits.

Subsurface Exploration Program

Subsurface conditions were explored on August 23 and 24, 2021 by advancing three borings (B-1A/B through B-3). B-1A/B and B-2 were advanced in eastern part of the site near the shoreline where the terraced granite block seawalls are proposed. B-3 was advanced in the western part of the site near the proposed Shaw Building relocation site. Approximate boring locations are shown in *Figure 2*. Weston & Sampson geotechnical engineering staff monitored boring activities, measured boring locations relative to existing site features, and prepared logs for each boring. The borings were advanced to depths ranging from 24.5 to 29.5 ft. below existing grades. Boring logs are included as *Attachment B.*

The borings were completed by Technical Drilling Services, Inc. of Sterling, MA using an ATV-mounted drill rig and hollow stem augers and rotary wash drilling methods. Standard penetration tests were conducted in 2 to 5-ft intervals in each boring by driving a 24 in. long by 1-3/8 in. ID (2-inch outside diameter) split spoon sampler with blows from a 140 lb. automatic hammer falling 30 inches per blow.

The borings were advanced to refusal or bedrock. Refusal is defined as more than 100 hammer blows for less than 6 inches of sampler penetration, or no discernable advancement of the drill bit over a period of approximately 5 minutes. Five feet of bedrock coring was completed at B-2 and B-3 using NX sized coring equipment. Following completion of drilling, each of the borings were backfilled with drill cuttings.

Encountered Subsurface Conditions

The subsurface conditions encountered in our explorations differed from the mapped geology and are described in the following sections. Subsurface soil and groundwater conditions described below have been interpreted based on a limited number of explorations that were observed by Weston & Sampson. Variations may occur and should be expected between locations. The strata boundaries shown in our boring logs are based on our interpretations and the actual transitions may be gradual. Refer to the boring logs included in *Attachment B* for detailed descriptions of the soil samples collected.

Surficial Materials – All borings were completed in existing grassed areas and encountered approximately 7 to 9 inches of topsoil at the ground surface.

Fill – Very loose to medium dense fill was encountered below the surficial materials and was variable in composition across the site. B-1A/B and B-2 encountered Fill which extended to depths of 15 and 16 ft. below exiting grades, respectively, that consisted of silty/clayey sand with variable amounts gravel and frequent debris (glass, shells, brick, coal, ash, wood, rubber). Possible petroleum-like odors were observed in B-2 as indicated on the logs.

Fill was encountered in B-3 to a depth of approximately 8 ft. and was generally comprised of Silty Sand with varying amounts of gravel, non-plastic fines, and debris (wood).

Boring B-1A was terminated at auger refusal at a depth of 6 feet and was off-set approximately 6 ft. Based on periodic auger grinding and rig chatter, cobbles, boulders, or large debris are likely present within the Fill.

Native Clay – A stratum of stiff to very stiff Native Clay of variable thickness was encountered below the Fill in each of the borings. This stratum ranged from approximately 1 to 4.5-ft.-thick in the borings performed near the proposed seawalls (B-1A/B and B-2) and approximately 15-ft.-thick in the boring performed near the Shaw Building relocation site (B-3). This stratum generally consisted of lean clay (CL) with variable amounts of sand and gravel. An approximate 1-ft thick seam of silty sand was encountered within this stratum at a depth of 16 ft. in B-3. A 24-inch undisturbed sample of the clay was collected for laboratory testing at a depth of approximately 10 to 12 ft. below existing grade in B-3. Based on consolidation testing performed on the undisturbed sample, the Native Clay deposit is over consolidated.

Native Sand – Very loose to medium dense, Native Sand was encountered below the Native Clay in B-1A/B and B-2 extending to depths of approximately 23 ft. and 24 ft. below existing grades, respectively. The Native Sand was generally comprised silty sand with variable amounts of gravel and occasional silt varves. This stratum was not encountered in B-3.

Weathered Rock – Weathered rock was encountered below the Native Sand in B-1 and B-2 and below the Native Clay in B-3. The weathered rock was sampled as poorly graded gravel with silt and sand. B-1 A/B was terminated in this layer at a depth of 24.5 ft.

Rock – Five feet of rock coring was performed at B-2 and B-3 at depths of approximately 24.5 ft. and 24 ft. below existing grades. The rock was described as moderately hard to hard, fine-grained, fresh to slightly weathered, highly fractured, and with rock quality designations (RQDs) of 18 to 21%.

SPT and casing refusal was encountered in B-1 A/B at approximately 24.5 ft. below grade. Based upon conditions encountered in B-2, it is assumed that B-1 A/B encountered refusal on bedrock.

Groundwater – Groundwater levels were encountered at depths ranging from approximately 3 to 5 ft. corresponding to an approximate elevation range of El. 2.4 to El. 4.1. As noted previously the reported MHW is El. 3.97 and the MLW is El. -4.66 resulting tidal range of approximately 8.6 ft. Groundwater observations were based on field-observed moisture content of the samples and measurements taken during drilling, which may not be the static groundwater level.

Groundwater levels should be expected to fluctuate with the tides, season, variations in precipitation, construction in the area, and other factors. Perched groundwater conditions could exist close to the ground surface, especially during and after extended periods of wet weather.

Laboratory Testing

Geotechnical laboratory testing was completed to confirm field descriptions and evaluate engineering properties of the soil. Selected soil samples were submitted to Geotesting Express, Inc. of Acton, MA. Lab test results are included in the boring logs and in *Attachment C.* The following tests were performed:

- One-Dimensional Incremental Consolidation (ASTM D2435), 1 test
    - X-ray performed of undisturbed sample to select soil specimen to test.
- Particle Size Analysis (ASTM D6913), 5 tests
    - Fines content only, 1 test
- Atterberg Limits (ASTM D4318), 3 tests

GEOTECHNICAL RECOMMENDATIONS

Shaw Building Relocation

The primary geotechnical consideration for relocation of the Shaw Building is the presence of up to 8 ft. of undocumented (i.e. non-engineered) Fill beneath the proposed relocation site. The existing Fill is not suitable for support of the proposed Shaw Building foundation or other rigid site features due to the risk of differential settlement from variations in composition and compaction of the fill. Additionally, the New Hampshire Building Code (NHSBC) does not allow support of foundations on non-engineered fill.

Foundation alternatives include complete removal of the existing fill and replacement with compacted structural fill within the zone-of-influence beneath proposed foundations or in-situ ground improvement of the fill beneath proposed foundations using compacted stone columns (CSCs). The zone-of-influence (ZOI) is defined as planes extending horizontally away from the outside edges of the mat for 2 feet then down and away at a 1H:1V slope.

It is anticipated that an excavation to remove the existing fill will extend to about 8 feet below existing grade (El. -0.6) which is about 3 ft. below the estimated groundwater level during from B-3 (El. 2.4) and 4.6 ft. below MHW. Therefore, significant dewatering would be required in an open excavation.

Alternatively, a support of excavation system that extends into the underlying clay to provide a groundwater cut-off within the clay layer could employed to reduce dewatering efforts

Ground improvement using CSCs would modify the existing fill in-situ. Therefore, the need for dewatering and excavation support would be greatly reduced or eliminated, the potential for off-site disposal of unsuitable and possibly environmentally impacted soil would be reduced and would allow for an accelerated project schedule when compared to the removal and replacement alternative. Based on our experience with similar structures and subsurface conditions, in-situ ground improvement using CSCs is recommended as the preferred alternative and assumed in the following sections.

Ground Improvement with Compacted Stone Columns

Compacted stone columns (also known by the trademarked names Geopiers®, Rammed Aggregate Piers®, and Vibro Piers™) consist of columns of compacted aggregate that are used to improve soils beneath shallow foundations, slabs, and other site improvements to meet project performance requirements for allowable bearing capacity and settlement.

We recommend that columns be constructed using a driven mandrel (vs. drilled) to reduce generation of spoils and groundwater, and to densify surrounding soils. The columns should penetrate the existing fill and will likely terminate in the stiff clay. Existing utilities, and other potential obstructions should be removed from proposed ground improvement areas as recommended in the *Construction Recommendations* section of this report. The ground improvement contractor should be aware of the potential for obstructions and the project schedule and budget should include contingencies for obstruction removal.

Design of the ground improvement should be completed by a Professional Engineer licensed in the state of New Hampshire retained by the ground improvement specialty contractor based on performance specifications (maximum tolerable settlement, allowable bearing capacity, etc.) included in the Contract Documents.

Mat Foundation

The mat foundation should be supported on a minimum of 12-inches of Structural Fill placed and compacted, as recommended in the *Construction Recommendations* section of this report, above the existing fill following ground improvement as described above. Based upon these subgrade conditions, the mat foundation should be designed using a modulus of subgrade reaction (k) of 200 pounds per cubic inch (pci). The foundation supporting loads up to 250 psf and bearing on these subgrade materials is expected to induce less than 1-inch of settlement.

Foundations should be designed in accordance with the provisions of the current edition of the NHSBC. Foundations should be embedded at least 4 ft. below the nearest proposed adjacent ground surface exposed to freezing.

Settlement Considerations

An increase in site grades will induce settlement of the Native Clay underlying the proposed Shaw Building relocation site where the clay is about 15-ft thick. Increases in site grades are expected to be up to 3 ft. near the Shaw Building during Phase I of the project.

We evaluated settlements using the program Settle3 by Rocscience, Inc. Material properties used in the analyses were based on laboratory testing results of samples collected during our site explorations as well as typical values for similar materials in the area. Total settlements are expected to be less than 1 inch near the Shaw Building relocation site when considering up to approximately 3 ft. of Fill.

We understand grade changes of up to 3 ft. are also proposed in other areas of the site during Phase I of the project. However, we understand that final grading information has not been developed yet. Increases in site grades will induce settlements which will vary across the site based on variable subsurface conditions, existing topography, and differences in grade changes. Settlements should be reevaluated when final grading information is available.

Terraced Block Seawall

Construction of the terraced block seawall will require excavations below groundwater within and adjacent to the Piscataqua River which is a tidal water body. A support of excavation system, temporary cofferdam, and dewatering system will be required to construct the new seawalls in the dry. The base of the seawall will need to be embedded sufficiently to account for potential impacts from scour and must be designed to resist the anticipated erosive forces from waves, tides, currents, and storm surge.

Based on the conditions encountered in our borings, the existing loose Fill extends to about El. -8.5 and is not suitable to support the proposed seawall due to its loose and variable composition which will likely result in total and differential settlement. Given the significant thickness of Fill in this area, removal of the Fill and replacement with imported Structural Fill beneath the seawall is not practical.

Installing compacted stone columns beneath the seawall to improve the existing fill is a feasible option to densify the material and thereby reduce the risk of differential settlement. As described above, the ground improvement beneath the seawall should extend through the fill into the underlying Native Clay and be completed by a Professional Engineer licensed in the state of New Hampshire retained by the ground improvement specialty contractor based on performance specifications included in the Contract Documents.

Alternatively, the seawall could be supported on a structural slab supported on deep foundations such as drilled micropiles or driven piles as described in the following section. These pile types would extend through the fill and develop capacity in the underlying Native Sand and/or bedrock. The slab would need to be designed for scour impacts. Regardless of foundation type, installation of filter fabric beneath and behind the new walls should be incorporated to prevent earthen materials escaping through block joints.

During final design of the seawall, a global stability evaluation must be performed to calculate the factor of safety against slope instability in the final condition. A minimum factor of safety of 1.5 is recommended for final design in the long-term condition.

Driven Piles

Feasible driven pile alternatives for support of the new seawalls include steel H-piles, precast prestressed concrete piles, tapered steel, timber piles, or pipe piles designed to derive their capacity through end-bearing and skin friction in the Native Sand and Weathered Rock/Rock. Micropiles are also feasible but are expected to be less economical compared to a driven pile alternative. Driving of piles will induce vibrations. Displacement piles such as driven closed-end pipe piles are beneficial in that they reduce the amount of spoils generated that could be environmentally impacted and require off-site disposal. However, installation may cause ground heave during driving and potential impacts to nearby structures should be considered during design. Installation of non-displacement piles such as H-piles is generally more expensive but would reduce the potential for ground heave.

Driven piles will require sufficient embedment to resist compression, uplift, shear, and bending moment forces. Actual pile sizes, lengths and quantity will need to be determined based on both axial and lateral loading requirements. Assuming the piles are driven to rock, pile lengths would be on the order of 15 to 20 ft. long. Pile load testing requirements for the selected foundation option will be developed as the design progresses.

Driven piles should be designed by a Structural Engineer Licensed in the State of New Hampshire and constructed in accordance with the provisions of the New Hampshire State Building Code. Axial pile capacity for piles driven to refusal will be controlled by the structural capacity of the pile. The piles should be designed for adequate corrosion protection (e.g., bituminous coating, sacrificial steel thickness, etc.) resulting from the exposure to salt water.

Lateral Earth Pressure

Design of the seawalls must consider lateral loads exerted by soil, groundwater, seismic forces, and surcharge loads including construction, traffic, and line loads, as appropriate. Lateral earth pressures should be calculated using an equivalent fluid unit weight of 96 pounds per cubic foot (pcf), which assumes water at the ground surface, submerged backfill, a level backfill surface, and at-rest lateral earth pressures.

A uniform lateral pressure of 150 pounds per square foot (psf) should be added to the above pressures and applied over the full height of the seawalls. The 150 psf lateral pressure is intended to account for vertical surcharge pressures up to 300 psf at the ground surface. Additional lateral pressures equal to 0.5 times the sum of additional surcharge pressures applied above and behind below grade walls and within a zone defined by a plane extending upward at 1H:1V from the back of the bottom of the wall should be added where surcharge pressures exceed 300 psf. We recommend that passive pressures acting on the base of retaining walls be ignored due to the possibility of future removal of toe material through scour, utility excavation, or other means.

Seismic Design

Seismic site class is determined in accordance with the International Building Code (IBC) as adapted by the NHSBC using a weighted average of SPT blow counts in the upper 100 feet of soil at a site. Based on the results of explorations, we recommend that the subject project be evaluated using parameters associated with Site Class D.

Liquefaction is the sudden drop in shear strength between soil particles that can occur in saturated, cohesionless soils as a result of ground acceleration during a seismic event. Liquefaction typically results in soil densification and subsequent settlement of overlying features and structures. Conditions most likely to contribute to liquefaction include a soil matrix containing loose, uniform medium to fine sand (poorly graded sand) below the groundwater table. The Fill and Native Sand encountered at the site consist of very loose to loose poorly graded sands and silty sands which may be susceptible to liquefaction induced settlement during a seismic event. The potential effects of liquefaction should be considered during foundation design at this site.

EARTHWORK AND CONSTRUCTION CONSIDERATIONS

Excavation Considerations

Excavation will be required at the Shaw Building relocation site for grading, site preparation and construction of new foundations and utilities. Groundwater was observed in the boring B-3 at a depth 5 feet below existing grades. Therefore, excavations will likely encounter groundwater, and moderate to severe caving should be expected where seepage is present. Based on the conditions encountered in our borings, excavations for construction at the Shaw Building relocation site will likely encounter Fill containing boulders, cobbles or other obstructions, and possibly environmentally impacted soils.

For construction of the Terraced Block Seawall, temporary excavation support, a cofferdam, and dewatering system will be required to construct the new seawalls in the dry. Excavations within the cofferdam will extend below the water level and water levels outside the excavation will be impacted by tidal fluctuations. Based on the conditions encountered in our borings, excavations for seawall construction will likely encounter Fill containing boulders, cobbles or other obstructions, debris, and possibly environmentally impacted soils.

All excavations should be made in accordance with applicable OSHA safety regulations. As noted, temporary excavation support will be required for construction of proposed seawalls and may be required in other locations depending on depths of excavations and if excavations need to approach the zone-of-influence beneath existing structures or other site features. Excavation support systems should be the responsibility of the contractor and designed by a Professional Engineer licensed in the State of New Hampshire. If possible, foundations and utilities should be designed and constructed so that excavations into zones-of-influences below and adjacent to foundations are not required.

Excavations resulting from site preparation should be backfilled as recommended herein, or as otherwise required by the ground improvement designer in proposed ground improvement areas. Any existing utilities should be removed or properly abandoned using Structural Fill, controlled density fill (CDF), or grouting in such a manner to prevent voids.

Subgrade Preparation and Protection

Based on the subsurface conditions encountered in our explorations, stripping and subgrade preparation will likely expose fill with variable amounts of gravel, silt, and debris. Undocumented fill, organics, and loose or disturbed soils should be removed from within the zone-of-influence of all foundations unless suitably modified by in-situ ground improvement. Bedrock and boulders should be removed to a minimum depth of 1 foot below foundation and seawall subgrades.

Weston & Sampson should be contacted to observe CSC installation and preparation of all foundation subgrades. Foundation subgrades in granular materials should be proof compacted with at least 5 passes of a vibratory plate compactor, or as required by the CSC designer, prior to placing underslab materials. Subgrades should be observed by Weston & Sampson prior to placement of forms and rebar. Observation of subgrade preparation by the Owner's Engineer is typically required as a condition of the CSC design and performance warranty.

If subgrade preparation exposes existing fill in areas outside the zone-of-influence of proposed structures, slabs, and other rigid site improvements, it may be possible to leave the fill in place provided the thickness, composition, and stability of the fill is evaluated by the Geotechnical Engineer. If the fill can be left in place, the surface of the fill should be prepared by scarifying (ripping) the surface of the fill to a minimum depth of 12 inches and recompacting until dense and stable with several passes of a minimum 12-ton vibratory roller.

If foundation construction is to occur in wet conditions, the subgrade may be overcut by a few inches, observed by the Engineer for suitability, and then backfilled to the footing subgrade elevation with crushed stone to reduce subgrade disturbance and softening during construction. If mat construction occurs during freezing conditions, insulating blankets, heaters, or other suitable measured should be employed to prevent foundation subgrades from freezing until the foundations are backfilled sufficiently to prevent frost from reaching the foundation subgrades. The contractor should be responsible for subgrade protection.

Soft and/or disturbed areas will require over-excavation and backfilling with compacted angular crushed stone or compacted structural fill. A geosynthetic separation layer between the excavation subgrade and crushed stone backfill may also be required. We recommend that a geosynthetic used for stabilization consist of a woven geosynthetic with an AOS of #70 to # 100 sieve, and a minimum puncture resistance of at least 120 pounds (such as Mirafi FW700 or equivalent).

Soils containing more than trace amounts of silt are highly susceptible to softening and disturbance by construction activity during wet or freezing weather. Subgrade protection should be the responsibility of the contractor and special precautions and protective measures appropriate for the weather and traffic conditions during construction should be used during earthwork and foundation construction to preserve the integrity of subgrades.

Construction traffic should not operate directly on subgrades. If the construction schedule allows, existing pavement areas can be used as staging areas, but the existing asphalt concrete pavement section should not be expected to protect subgrades from concentrated heavy construction traffic.

Support of Excavation and Water Control

A support of excavation system, temporary cofferdam, and dewatering system will be required to construct the new seawalls in the dry. The Piscataqua River is a tidal body of water and therefore, groundwater elevations will fluctuate during construction. The cofferdam can consist of driven sheetpiling, which has the benefit of being relatively impermeable and can therefore be used for both support of excavation and groundwater control; however, cobbles and boulders within the Fill may cause difficulties during installation and should be considered in the design and construction approach.

Groundwater and surface water should be controlled during construction and prevented from eroding slopes and disturbing excavation and subgrade materials. Water level should be controlled to complete excavations, subgrade preparation, and foundation construction in dry conditions and to maintain the integrity of existing soil deposits and bearing surfaces.

The dewatering system should be capable of lowering the groundwater table at least 2 ft. below the anticipated excavation depths and be kept operational until fill placement and compaction have been completed to a level of at least 2 ft. above the groundwater table elevation. Flow rates for dewatering are likely to vary depending on location, soil type, and the season during which the excavation occurs.

We recommend that the type and design of shoring and dewatering systems be the responsibility of the contractor, who is in the best position to choose a system that fits the overall plan of operation. The dewatering systems should be capable of adapting to variable flows and conditions. All excavations should be made in accordance with applicable OSHA safety regulations. Dewatering efforts must satisfy requirements of local, state, and federal environmental and conservation authorities.

Fill Materials

Structural Fill – Well graded sand and gravel with a maximum particle size of 4 inches and less than approximately 12 percent fines (such as NHDOT 2.1.1 Crushed Gravel for Structural Fill) are recommended for use as Structural Fill beneath proposed structures, within the zone-of-influence beneath foundations and behind below grade structures, and within two feet below pavements and sidewalks. Structural Fill should be placed in maximum 12-inch-thick lifts (measured prior to compaction) with each lift compacted to at least 95 percent of maximum dry density as determined by ASTM D1557 (modified Proctor) for the specific fill material.

Ordinary Fill – Well graded sand and gravel with a maximum particle size of 6 inches and less than approximately 20 percent fines (such as NHDOT item No. 304.1 Sand) is recommended for use as Ordinary Fill beyond the zone-of-influence beneath foundations and below grade structures, and more than two feet below pavements and sidewalks. Ordinary Fill should be placed in maximum 12-inch-thick lifts (measured prior to compaction) with each lift compacted to at least 92 percent of maximum dry density as determined by ASTM D1557 (modified Proctor) for the specific fill material.

Crushed Stone - Crushed stone shall consist of durable crushed rock or durable crushed gravel stone, free from ice and snow, sand, clay, loam, or other deleterious or organic material. The crushed stone shall be uniformly blended and shall conform to the requirements provided in NHDOT Standard Specifications Section 304. Crushed stone should be placed and compacted to a firm and unyielding condition.

Reuse of On-Site Soils - Fill and natural soils excavated from the site free of organics, contamination (including metals, VOCs, SVOCs, etc.), and other deleterious materials may be suitable for reuse as Structural or Ordinary Fill provided the grain size distribution meets the requirements provided above. Use of on-site materials as Structural or Ordinary Fill should be evaluated on a case-by-case basis during construction by the Geotechnical Engineer.

The moisture content of fill materials should within 3 percent of the optimum moisture content. Moisture conditioning, if required, could consist of drying by scarification and frequent mixing in thin lifts during warm, dry conditions.

Density testing should be completed on each lift of fill during construction to confirm adequate compaction. In addition to density testing, we recommend that the fill lifts pass a proof roll using a fully loaded 10-wheel dump truck or equipment of similar size and weight and observed by the Geotechnical Engineer. In confined areas and where only hand-guided compaction equipment can be used, the lift thickness should be reduced to not more than six inches and the maximum particle size reduced to three inches.

LIMITATIONS

Observation of Construction

Satisfactory earthwork and foundation performance depends to a large degree on the quality of construction. Subsurface conditions observed during construction should be compared with those encountered during the subsurface explorations. Recognition of changed conditions often requires experience; therefore, qualified personnel should visit the site with sufficient frequency to evaluate whether actual subsurface conditions differ from those anticipated. In addition, full-time construction observation of the contractor's activities is a key part of determining that the work is completed in accordance with the construction drawings and specifications.

The recommendations in this report are preliminary as actual subsurface conditions may differ from those interpreted based on our subsurface explorations. In order for our recommendations to be considered final, we must be retained to observe the actual subsurface conditions encountered during construction. Our observations will allow us to interpret the actual conditions present during construction and adapt our recommendations if needed.

Variations of Subsurface Conditions and Use of Report

We have prepared this report for use by the owner, members of the design and construction team for the subject project and site, only. The data and report can be used for estimating purposes, but our report, conclusions, and interpretations should not be construed as a warranty of the subsurface conditions and are not applicable to other sites.

Explorations indicate soil conditions only at specific locations and only to the depths penetrated. They do not necessarily reflect subsurface conditions that may exist outside or between exploration locations. If subsurface conditions differing from those described are noted during the course of excavation and construction, reevaluation will be necessary and we should be consulted.

Site development plans and design details were considered preliminary at the time this report was prepared. If changes are made in site grades, configuration, design loads, or type of construction for the structure, the conclusions and recommendations may not be applicable. We should be consulted to review final design drawings and specifications to see that our recommendations are suitably followed. If design changes are made, we should be retained to review our conclusions and recommendations and provide a written evaluation or modification. Additional geotechnical engineering analyses and explorations may be necessary.

Within the limitations of scope, schedule, and budget, our services have been executed in accordance with generally accepted practices in this area at the time this report was prepared. No warranty or other conditions, expressed or implied, is given. For additional information on the use of this report, please refer to the document titled "Important Information about This Geotechnical-Engineering Report" included in *Attachment D*.

Sincerely,

WESTON & SAMPSON ENGINEERS, INC.

Daniel Dwyer, PE
Project Manager

Jennifer MacGregor, PE
Technical Leader

Attachments:
Figure 1 – Project Locus
Figure 2 – Site Plan
Attachment A – 10% Progress Drawing Set
Attachment B – Boring Logs
Attachment C – Laboratory Test Results
Attachment D – Important Information about This Geotechnical-Engineering Report

DD:JM

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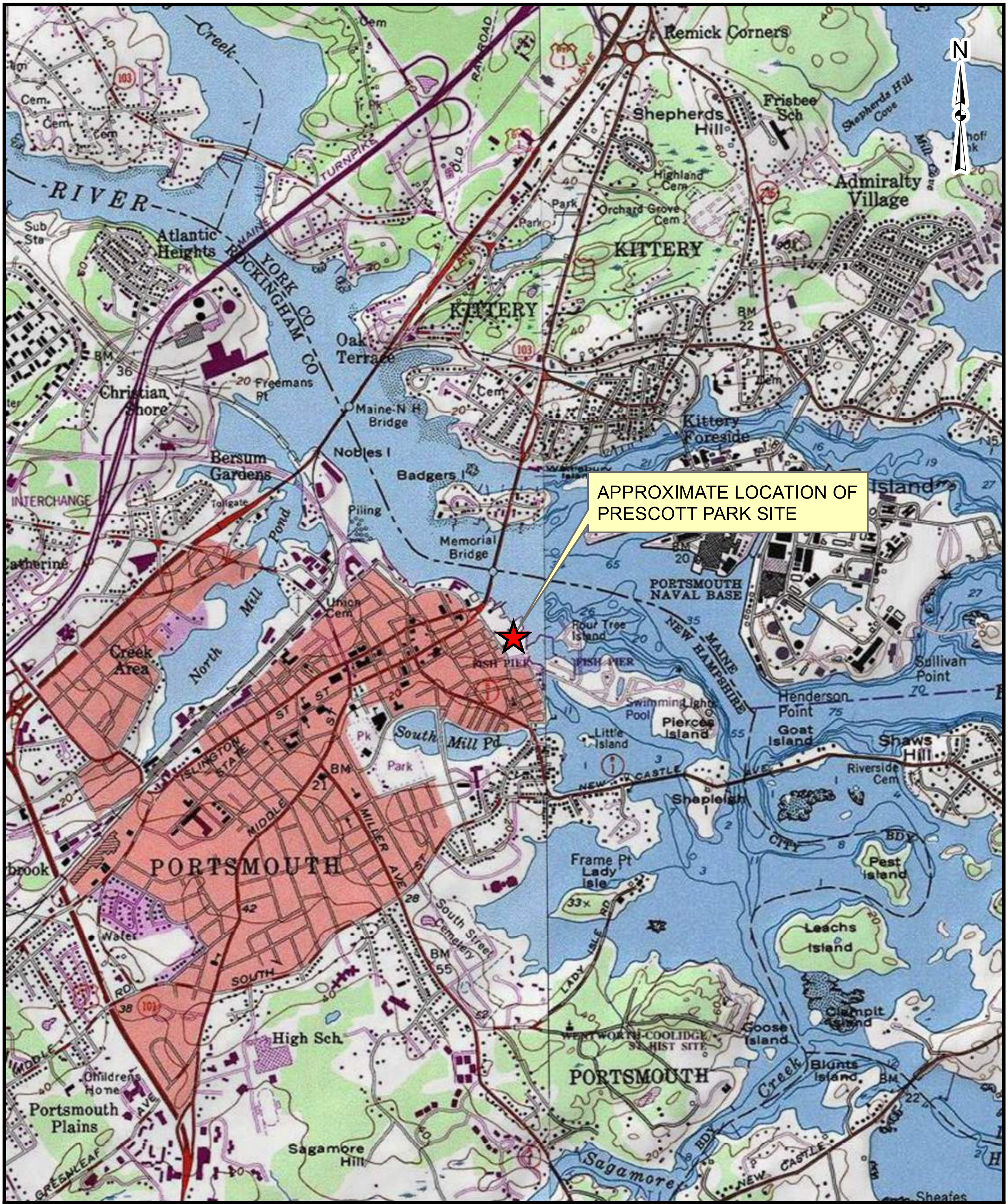
FIGURES



APPROXIMATE LOCATION OF PRESCOTT PARK SITE

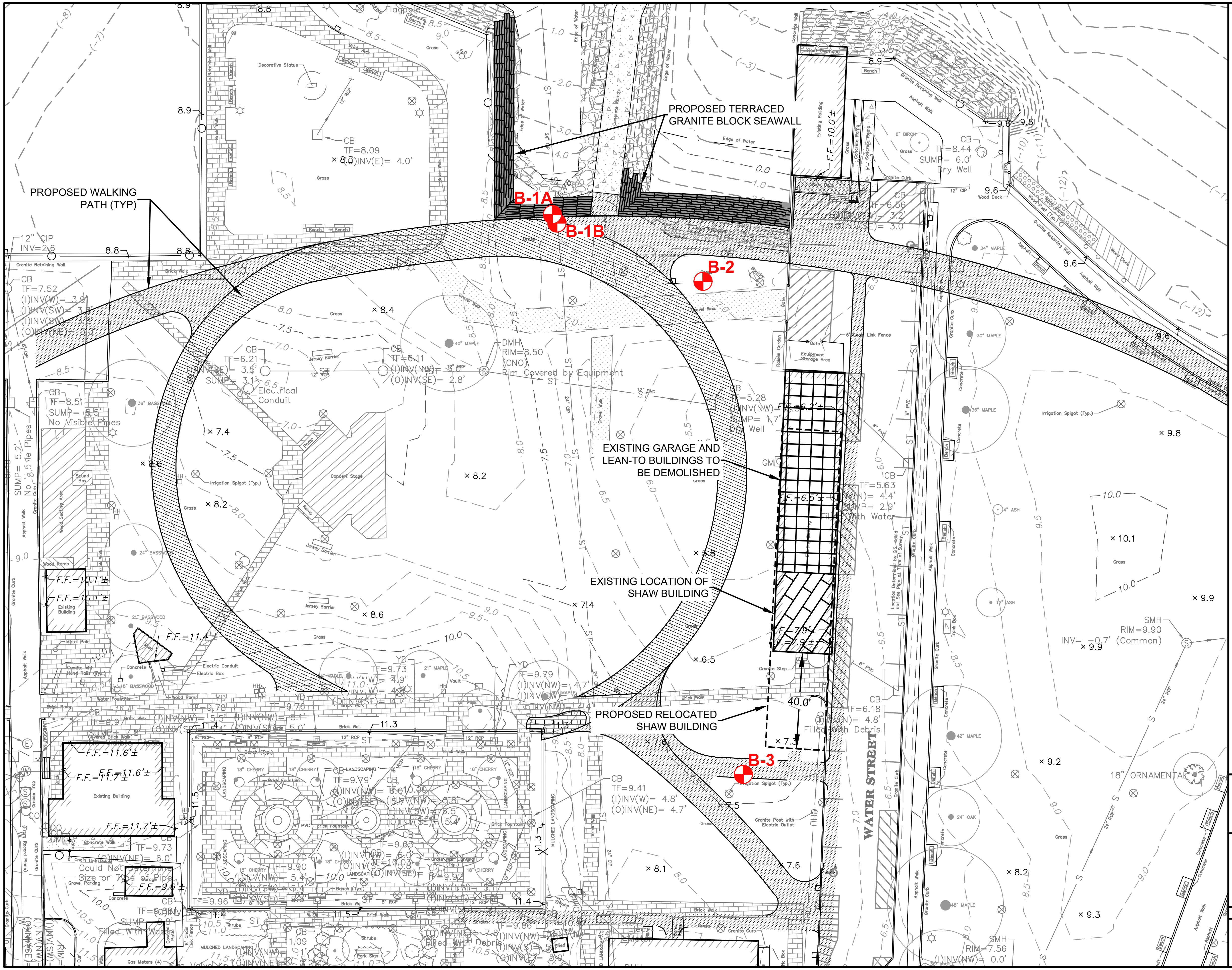
FIGURE 1
PROJECT LOCUS

PRESCOTT PARK PHASE I IMPLEMENTATION
PORTSMOUTH, NEW HAMPSHIRE

2,000 0 2,000
Scale In Feet

Weston & Sampson

Path: P:\NH\Portsmouth, NH\Prescott Park Phase 1\Geotech\Plans\GIS\Figure 1. Project Locus.mxd **User:** ZanchiM **Saved:** 8/26/2021 3:37:38 PM **Opened:** 8/26/2021 3:38:37 PM



NOTES:

1. THIS FIGURE IS BASED ON AN EXISTING CONDITIONS SURVEY PLAN PREPARED BY WESTON & SAMPSON ENGINEERS, INC. DATED JUNE 2019.
2. BORINGS COMPLETED BY TECHNICAL DRILLING SERVICES, INC. OF STERLING, MA ON AUGUST 23 AND 24, 2021 AND OBSERVED BY WESTON & SAMPSON ENGINEERS, INC.
3. BORING LOCATIONS SHOWN ON THIS PLAN ARE APPROXIMATE AND BASED ON FIELD MEASUREMENTS RELATIVE TO EXISTING SITE FEATURES.
4. ELEVATION DATUM IS NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).

LEGEND:

B-1 BORING DESIGNATION AND APPROXIMATE LOCATION.

40 20 0 40 80

SCALE: 1"=40'

FIGURE 2
SITE PLAN

PRESCOTT PARK PHASE I
IMPLEMENTATION
PORTSMOUTH, NEW HAMPSHIRE

DESIGNED BY: MJZ	CHECKED BY: DD	SEPTEMBER 2021

Weston & Sampson℠

Attachment A

10% Progress Drawing Set

City of Portsmouth, New Hampshire

Department of Public Works

PRESCOTT PARK PHASE 1 IMPROVEMENTS

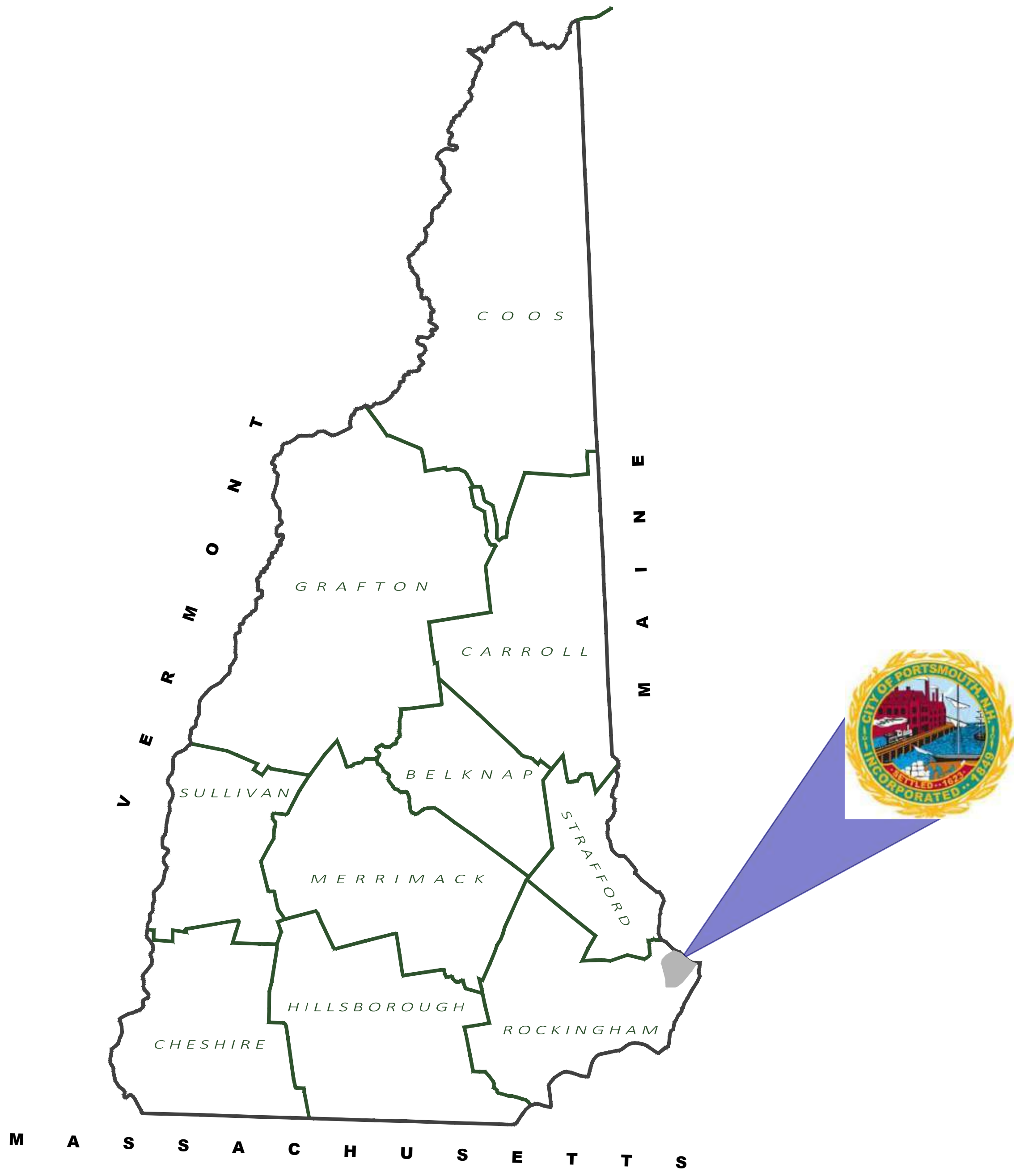
Progress Set - SEPTEMBER 9, 2021

Sheet Index

	Cover Sheet
L100	Existing Conditions Plan
L110	Site Preparation & Demolition Plan
L120-A	Materials Plan Parking Option A
L120-B	Materials Plan Parking Option B
L120-X	Materials Plan (With Future Phases Shown)
L130	Layout Plan
L140	Grading, Drainage, & Utilities Plan (Forthcoming)
L150	Planting Plan (Forthcoming)
L500	Construction Details
E001	Electrical Legend, Abbreviations, and General Notes (Forthcoming)
ED100-ED101	Electrical Demolition Plan (Forthcoming)
E100-E101	Electrical Site Plan (Forthcoming)
E501	Electrical Detail (Forthcoming)
S00X-S00X	Structural Plans (Forthcoming)
A00X-A00X	Architectural Plans (Forthcoming)

10% PROGRESS DRAWINGS

- NOT FOR CONSTRUCTION -



Locus Plan

Prepared For:

City of Portsmouth
Department of Public Works
680 Peverly Hill Road
Portsmouth, New Hampshire 03801

Prepared By:

Weston & Sampson

427 Main Street, Suite 400, Worcester,MA
(978) 977-0110 (800) 726-7766
(Sampson)
www.westonandsampson.com

Project Location

0 60' 120'
Scale: 1" = 60'

P:\NH\Portsmouth, NH\Prescott Park Phase 1\CAD\0_Current\SHEETS\L000-CV.dwg Date Plotted: Sep 09, 2021 - 4:48pm Plotted By: COHEN.HELENA

GENERAL NOTES

1. PROPERTY LINE, TOPOGRAPHICAL INFORMATION BASED FROM A COMPLICATION OF MASSACHUSETTS GEOGRAPHIC INFORMATION (MASS GIS) , AND RECORD AS BUILT PLANS, DATED JULY 10, 1967, AND SUPPLEMENTAL SURVEY INFORMATION, DATED AUGUST 2017 BY WESTON AND SAMPSON ENGINEERS.

2. REFER TO EXISTING CONDITIONS LEGEND. ANY QUANTITIES SHOWN ON THE PLANS ARE FOR BIDDING PURPOSES ONLY. ALL BIDDERS ARE REQUIRED TO INSPECT THE PROJECT SITE IN ITS ENTIRETY PRIOR TO SUBMITTING THEIR BID, AND BECOME FAMILIAR WITH ALL CONDITIONS AS THEY MAY AFFECT THEIR BID. CONTRACTOR AND SUB-CONTRACTOR SHALL BE FAMILIAR WITH ALL DRAWINGS AND SPECIFICATIONS PRIOR TO COMMENCING THE CONSTRUCTION.

3. LOCATIONS OF ANY UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE ONLY. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF SUCH UTILITIES, PROTECTING ALL EXISTING UTILITIES AND REPAIRING ANY DAMAGE DONE DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ON-SITE COORDINATION WITH UTILITY COMPANIES AND PUBLIC AGENCIES AND FOR OBTAINING ALL REQUIRED PERMITS AND PAYING ALL REQUIRED FEES. IN ACCORDANCE WITH M.G.L. CHAPTER 82, SECTION 40, INCLUDING AMENDMENTS, CONTRACTORS SHALL NOTIFY ALL UTILITY COMPANIES AND GOVERNMENT AGENCIES IN WRITING PRIOR TO EXCAVATION. CONTRACTOR SHALL ALSO CALL "DIG SAFE" AT (888) 344-7233 NO LESS THAN 72 HOURS, (EXCLUSIVE OF WEEKENDS AND HOLIDAYS), PRIOR TO SUCH EXCAVATION. DOCUMENTATION OF REQUESTS SHALL BE PROVIDED TO PROJECT REPRESENTATIVE PRIOR TO EXCAVATION WORK.

4. ANY DISCREPANCIES OR CONFLICTS BETWEEN THE DRAWINGS AND EXISTING CONDITIONS, EXISTING CONDITIONS TO REMAIN, TEMPORARY CONSTRUCTION, PERMANENT CONSTRUCTION AND WORK OF ADJACENT CONTRACTS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE BEFORE PROCEEDING. ITEMS ENCOUNTERED IN AREAS OF EXCAVATION THAT ARE NOT INDICATED ON THE DRAWINGS, BUT ARE VISIBLE ON SURFACE, SHALL BE THE CONTRACTOR'S RESPONSIBILITY AND SHALL BE REMOVED AT NO ADDITIONAL COST TO THE OWNER.

5. ANY ALTERATIONS TO THESE DRAWINGS MADE IN THE FIELD DURING CONSTRUCTION SHALL BE RECORDED BY THE GENERAL CONTRACTOR ON "AS-BUILT" DRAWINGS.

6. ALL AREAS DISTURBED BY THE CONTRACTOR'S OPERATIONS OUTSIDE THE PROJECT LIMITS, SHALL BE RESTORED TO THE ORIGINAL CONDITION BY THE CONTRACTOR AT NO ADDITIONAL COST AND TO THE SATISFACTION OF THE OWNER.

7. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS NEEDED TO PROTECT HIS EMPLOYEES, AS WELL AS PUBLIC USERS FROM INJURY DURING THE ENTIRE CONSTRUCTION PERIOD AT NO EXPENSE TO THE OWNER USING ALL NECESSARY SAFEGUARDS, INCLUDING BUT NOT LIMITED TO, THE ERECTION OF TEMPORARY WALKS, STRUCTURES, PROTECTIVE BARRIERS, COVERING, OR FENCES AS NEEDED.

8. THE CONTRACTOR SHALL SUPPLY THE OWNER WITH THE NAME OF THE OSHA "COMPETENT PERSON" PRIOR TO CONSTRUCTION.

9. FILLING OF EXCAVATED AREAS SHALL NOT TAKE PLACE WITHOUT THE PRESENCE OR PERMISSION OF THE OWNER'S REPRESENTATIVE.

10. ALL EXISTING DRAINAGE FACILITIES TO REMAIN SHALL BE MAINTAINED FREE OF DEBRIS, SOIL, SEDIMENT, AND FOREIGN MATERIAL AND OPERATIONAL THROUGHOUT THE LIFE OF THE CONTRACT. REMOVE ALL SOIL, SEDIMENT, DEBRIS AND FOREIGN MATERIAL FROM ALL DRAINAGE STRUCTURES.

11. CONTRACTOR'S STAGING AREA MUST BE WITHIN THE CONTRACT LIMIT LINE AND/OR IN AREAS APPROVED BY OWNER. ANY OTHER AREAS THAT THE CONTRACTOR MAY WISH TO USE FOR STAGING MUST BE COORDINATED WITH THE OWNER.

12. THE CONTRACTOR SHALL KEEP ALL STREETS AND WALKS THAT ARE NOT RESTRICTED FROM PUBLIC USE DURING CONSTRUCTION BROOM CLEAN AT ALL TIMES. THE CONTRACTOR SHALL USE ACCEPTABLE METHODS AND MATERIALS TO MAINTAIN ADEQUATE DUST CONTROL THROUGHOUT CONSTRUCTION.

13. CONTRACTOR SHALL COORDINATE ALL WORK WITH THE OWNER'S REPRESENTATIVE.

14. **SITE CONTRACTOR SHALL COORDINATE CONSTRUCTION SCHEDULE WITH BUILDING CONTRACTOR THROUGHOUT THE DURATION OF THE CONSTRUCTION PERIOD.**

15. **SITE CONTRACTOR IS RESPONSIBLE TO COORDINATE AND PROVIDE PROPOSED UTILITIES AND SITE WORK TO THE FACE OF BUILDING. SITE CONTRACTOR SHALL REFER TO BUILDING RENOVATION PLANS IN THE APPENDIX AND FAMILIARIZE THEMSELVES WITH THE IMPROVEMENTS TO BE PROVIDED BY THE BUILDING CONTRACTOR.**

SURVEY NOTES

1. UNDERGROUND UTILITY LOCATIONS SHOWN HEREON ARE BASED ON UTILITY EVIDENCE VISIBLE AT GROUND SURFACE AND RECORD DRAWINGS AND ARE SUBJECT TO FIELD VERIFICATION BY EXCAVATION. UTILITIES SHOWN DO NOT PURPORT TO CONSTITUTE OR REPRESENT ALL UTILITIES LOCATED UPON OR ADJACENT TO THE SURVEYED PREMISES.

2. SURVEY PERFORMED BY WESTON & SAMPSON PE, LS, LA, PC. IN JUNE 2019.

3. CONTOURS AND ELEVATIONS SHOWN ON NAVD88 VERTICAL DATUM BASED ON GPS OBSERVATIONS.

4. NORTH ORIENTATION IS BASED ON GPS OBSERVATIONS TAKEN AT THE TIME OF THE FIELD SURVEY. MAPPING PREPARED ON NAD83 STATE PLANE COORDINATE SYSTEM (NEW HAMPSHIRE ZONE).

SITE PREPARATION & DEMOLITION NOTES

1. THE CONTRACTOR SHALL INCLUDE IN THE BID THE COST OF REMOVING ANY EXISTING SITE FEATURES AND APPURTENANCES NECESSARY TO ACCOMPLISH THE CONSTRUCTION OF THE PROPOSED SITE IMPROVEMENTS. THE CONTRACTOR SHALL ALSO INCLUDE IN THE BID THE COST NECESSARY TO RESTORE SUCH ITEMS IF THEY ARE SCHEDULED TO REMAIN AS PART OF THE FINAL SITE IMPROVEMENTS. REFER TO PLANS TO DETERMINE EXCAVATION, DEMOLITION AND TO DETERMINE THE LOCATION OF THE PROPOSED SITE IMPROVEMENTS.

2. THE OWNER RESERVES THE RIGHT TO REVIEW ALL MATERIALS DESIGNATED FOR REMOVAL AND TO RETAIN OWNERSHIP OF SUCH MATERIALS.

3. UNLESS SPECIFICALLY NOTED TO BE REMOVED AND STOCKPILED (R&S) OR REUSED AND RELOCATED (R&R), ALL SITE FEATURES CALLED TO BE REMOVED AND DEMOLISHED (R&D) SHALL BE REMOVED WITH THEIR FOOTINGS, ATTACHMENTS, BASE MATERIAL, ETC, TRANSPORTED FROM THE SITE TO BE DISPOSED OF IN A LAWFUL MANNER AT AN ACCEPTABLE DISPOSAL SITE AND AT NO COST TO THE OWNER.

4. ALL EXISTING SITE FEATURES TO REMAIN SHALL BE PROTECTED THROUGHOUT THE CONSTRUCTION PERIOD. ANY FEATURES DAMAGED DURING CONSTRUCTION OPERATIONS SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE AT NO ADDITIONAL COST.

5. DURING EARTHWORK OPERATIONS, CONTRACTOR SHALL TAKE CARE TO NOT DISTURB EXISTING MATERIALS TO REMAIN, OUTSIDE THE LIMITS OF EXCAVATION AND BACKFILL AND SHALL TAKE WHATEVER MEASURES NECESSARY, AT THE CONTRACTOR'S EXPENSE, TO PREVENT ANY EXCAVATED MATERIAL FROM COLLAPSING. ALL BACKFILL MATERIALS SHALL BE PLACED AND COMPACTED AS SPECIFIED TO THE SUBGRADE REQUIRED FOR THE INSTALLATION OF THE REMAINDER OF THE CONTRACT WORK.

6. IT SHALL BE THE CONTRACTOR'S OPTION, WITH CONCURRENCE OF THE OWNER'S REPRESENTATIVE, TO REUSE EXISTING GRAVEL PAVEMENT BASE COURSE IF IT MEETS THE REQUIREMENTS OF THE SPECIFICATIONS FOR GRAVEL BORROW.

7. STRIP & STORE EXISTING TOPSOIL FOR LATER REUSE AS INDICATED ON PLANS WITH APPROPRIATE EROSION AND SEDIMENT CONTROLS. THE CONTRACTOR SHALL CONFIRM THAT THE SOIL IS SUITABLE FOR REUSE.

EROSION & SEDIMENT CONTROL NOTES

1. ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE PUT INTO PLACE PRIOR TO BEGINNING ANY CONSTRUCTION OR DEMOLITION. INCLUDING BUT NOT LIMITED TO, DRAINAGE INLETS, MANHOLES AND CATCH BASINS WITHIN THE LIMIT OF WORK AND DRAINAGE STRUCTURES OUTSIDE THE LIMIT OF WORK THAT ARE IMPACTED BY THE WORK FOR THE ENTIRE DURATION OF CONSTRUCTION. REFER TO SPECIFICATIONS AND DETAILS FOR TYPE OF EROSION AND SEDIMENT CONTROL.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTINUAL MAINTENANCE OF ALL CONTROL DEVICES THROUGHOUT THE DURATION OF THE PROJECT.

3. CONTRACTOR SHALL MEET ALL OF THE STATE OF MASSACHUSETTS D.E.P. REGULATIONS FOR SEDIMENT AND EROSION CONTROL.

4. EXCAVATED MATERIAL STOCKPILED ON THE SITE SHALL BE SURROUNDED BY A RING OF UNBROKEN SEDIMENT AND EROSION CONTROL FENCE. THE LIMITS OF ALL GRADING AND DISTURBANCE SHALL BE KEPT TO A MINIMUM WITHIN THE APPROVED AREA OF CONSTRUCTION. ALL AREAS OUTSIDE OF THE LIMIT OF CONTRACT SHALL REMAIN TOTALLY UNDISTURBED UNLESS OTHERWISE APPROVED BY OWNER'S REPRESENTATIVE.

5. EROSION CONTROL BARRIERS TO BE INSTALLED AT THE TOE OF SLOPES. SEE SITE PLAN, NOTES, DETAILS AND SPECIFICATIONS.

LAYOUT & MATERIALS NOTES

1. REFER TO EXISTING CONDITIONS AND SITE PREPARATION PLANS FOR SURVEY INFORMATION.

2. COORDINATE ALL LAYOUT ACTIVITIES WITH THE SCOPE OF WORK CALLED FOR BY DEMOLITION, GRADING AND UTILITIES OPERATIONS ENCOMPASSED BY THIS CONTRACT. SET, PROTECT AND REPLACE REFERENCE STAKES AS NECESSARY OR AS REQUIRED BY THE OWNER'S REPRESENTATIVE.

3. ALL WORK SHALL BE PERFORMED BY SITE CONTRACTOR UNLESS SPECIFICALLY INDICATED THAT THE WORK WILL BE PERFORMED "BY OTHERS", "BUILDING CONTRACTOR", OR "OWNER".

4. ALL LAYOUT LINES, OFFSETS, OR REFERENCES TO LOCATING OBJECTS ARE EITHER PARALLEL OR PERPENDICULAR UNLESS OTHERWISE DESIGNATED WITH ANGLE OFFSETS NOTED.

5. ALL PROPOSED SITE FEATURES SHALL BE LAID OUT AND STAKED FOR REVIEW AND APPROVAL BY THE OWNER OR OWNER'S REPRESENTATIVE PRIOR TO COMMENCEMENT OF INSTALLATION. ANY REQUIRED ADJUSTMENTS TO THE LAYOUT SHALL BE UNDERTAKEN AS DIRECTED, AT NO ADDITIONAL COST TO THE OWNER.

6. ALL PROPOSED PAVEMENTS SHALL MEET THE LINE AND GRADE OF EXISTING ADJACENT PAVEMENT SURFACES.

7. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND GRADES ON THE GROUND AND REPORT ANY DISCREPANCIES IMMEDIATELY TO THE OWNER'S REPRESENTATIVE.

8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD MEASUREMENT OF ALL PROPOSED SITE IMPROVEMENTS.

GRADING & DRAINAGE NOTES

1. ALL WORK RELATING TO INSTALLATION, RENOVATION OR MODIFICATION OF WATER, UTILITY STORMWATER DRAINAGE AND/OR SEPTIC UTILITIES SHALL BE PERFORMED IN ACCORDANCE WITH THE STANDARDS OF THE CITY, AND STATE OF MASSACHUSETTS.

2. THE CONTRACTOR SHALL VERIFY ALL GRADES ON THE GROUND AND REPORT ANY DISCREPANCIES IMMEDIATELY TO THE OWNER'S REPRESENTATIVE.

3. ALL GRADING IS TO BE SMOOTH AND CONTINUOUS WHERE PROPOSED SURFACE MEETS EXISTING SURFACE, BLEND THE TWO PAVEMENTS AND ELIMINATE ROUGH SPOTS AND ABRUPT GRADE CHANGES AND MEET LINE AND GRADE OF EXISTING CONDITIONS WITH NEW IMPROVEMENTS.

4. CONTRACTOR SHALL ENSURE ALL AREAS ARE PROPERLY PITCH TO DRAIN, WITH NO SURFACE WATER PONDING OR PUDDLING.

5. ALL NEW WALKWAYS MUST CONFORM TO CURRENT AMERICANS WITH DISABILITIES ACT (ADA), AND MASSACHUSETTS ARCHITECTURAL ACCESS BOARD (MAAB) REGULATIONS: WALKWAYS SHALL MAINTAIN A CROSS PITCH OF NOT MORE THAN ONE AND A HALF (1.5%) PERCENT AND THE RUNNING SLOPE (PARALLEL TO THE DIRECTION OF TRAVEL) BETWEEN 1% MIN. AND 4.5% MAX. ANY DISCREPANCIES NOT ALLOWING THIS TO OCCUR SHALL BE REPORTED TO THE OWNER'S REPRESENTATIVE PRIOR TO CONTINUING WORK.

6. ALL UTILITY GRATES, COVERS OR OTHER SURFACE ELEMENTS INTENDED TO BE EXPOSED AT GRADE SHALL BE FLUSH WITH THE ADJACENT FINISHED GRADE AND ADJUSTED TO PROVIDE A SMOOTH TRANSITION AT ALL EDGES.

7. THE CONTRACTOR SHALL CONFIRM AND/OR SET SUBGRADE ELEVATIONS TO ALLOW FOR POSITIVE DRAINAGE AND PROVIDE EROSION CONTROL DEVICES, STRUCTURES, MATERIALS AND CONSTRUCTION METHODS TO DIRECT SILT MIGRATION AWAY FROM DRAINAGE AND OTHER UTILITY SYSTEMS, PUBLIC/PRIVATE STREETS AND WORK AREAS. CLEAN BASINS REGULARLY AND AT THE END OF THE PROJECT.

8. EXCAVATION REQUIRED WITHIN PROXIMITY OF KNOWN EXISTING UTILITY LINES SHALL BE DONE BY HAND. CONTRACTOR SHALL REPAIR ANY DAMAGE TO EXISTING UTILITY LINES OR STRUCTURES INCURRED DURING CONSTRUCTION OPERATIONS AT NO COST TO THE OWNER.

9. WHERE NEW EARTHWORK MEETS EXISTING EARTHWORK, CONTRACTOR SHALL BLEND NEW EARTHWORK SMOOTHLY INTO EXISTING, PROVIDING VERTICAL CURVES OR ROUNDS AT ALL TOP AND BOTTOM OF SLOPES.

10. WHERE A SPECIFIC LIMIT OF WORK LINE IS NOT OBVIOUS OR IMPLIED, BLEND GRADES TO EXISTING CONDITIONS WITHIN 5 FEET OF PROPOSED CONTOURS.

11. RESTORE ALL DISTURBED AREAS AND LIMITS OF ALL REMOVALS TO LOAM AND SEED (L&S) UNLESS OTHERWISE NOTED.

12. SEE EARTHWORK SECTION OF SPECIFICATIONS FOR EXCAVATION AND FILLING PROCEDURES.

ABBREVIATIONS

GENERAL

PROP	PROPOSED
ADJ	ADJUST
BIT. CONC.	BITUMINOUS CONCRETE
CEM. CONC.	CEMENT CONCRETE
B	BASELINE
N.T.S.	NOT TO SCALE
B.M.	BENCH MARK
ABAN	ABANDON
GRAN. CURB	GRANITE CURB
EXIST. (OR EX.)	EXISTING
FDN	FOUNDATION
F.L. (OR F)	FLOW LINE
P	PROPERTY LINE
PVMT	PAVEMENT
RC	REINFORCED CONCRETE
REM	REMOVE
RET	RETAIN
R.O.W.	RIGHT-OF-WAY
R&R	REMOVE AND RELOCATE
R,R&R	REMOVE, RELOCATED AND RESET
R&S	REMOVE AND STOCKPILE
R&D	REMOVE AND DISPOSE
SB	STONE BOUND
NIC	NOT IN CONTRACT
H.C.	HANDICAP
WCR	WHEELCHAIR RAMP
HMA	HOT MIX ASPHALT
G.C.	GENERAL CONTRACTOR
E.C.	ELECTRICAL CONTRACTOR
P.C.	PLUMBING CONTRACTOR

UTILITIES

GICI	GUTTER INLET W/ CURB INLET
CBCI	CATCH BASIN W/ CURB INLET
CB	CATCH BASIN
C.I.T.	CHANGE IN TYPE
F&G	FRAME AND GRATE
F&C	FRAME AND COVER
CI	CURB INLET
CIP	CAST IRON PIPE
CMP	CORRUGATED METAL PIPE
DI	DUCTILE IRON PIPE
GI	GUTTER INLET
HYD	HYDRANT
INV.	INVERT ELEVATION
UP	UTILITY POLE
SMH	SEWER MANHOLE
WG	WATER GATE
DS	DOWN SPOUT
HDPE	HIGH DENSITY POLYETHYLENE PIPE
PVC	POLYVINYL CHLORIDE
RCP	REINFORCED CONCRETE PIPE
DMH	DRAIN MANHOLE
LB	LEACHING BASIN
CI	CAST IRON
OCS	OUTLET CONTROL STRUCTURE
OGT	OIL AND GRIT TRAP
VC	VITRIFIED CLAY PIPE
LP	LIGHT POLE
SWTU	STORM WATER TREATMENT UNIT
HH	HANDHOLE

Project:

PORTSMOUTH,
NEW HAMPSHIRE

PRESCOTT PARK
PHASE 1 IMPROVEMENTS

105 MARCY STREET,
PORTSMOUTH, NH, 03801

Weston & Sampson

85 Devonshire Street,
3rd Floor, Boston, MA 02109
617.412.4480 800.SAMPSON
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GENERAL NOTES

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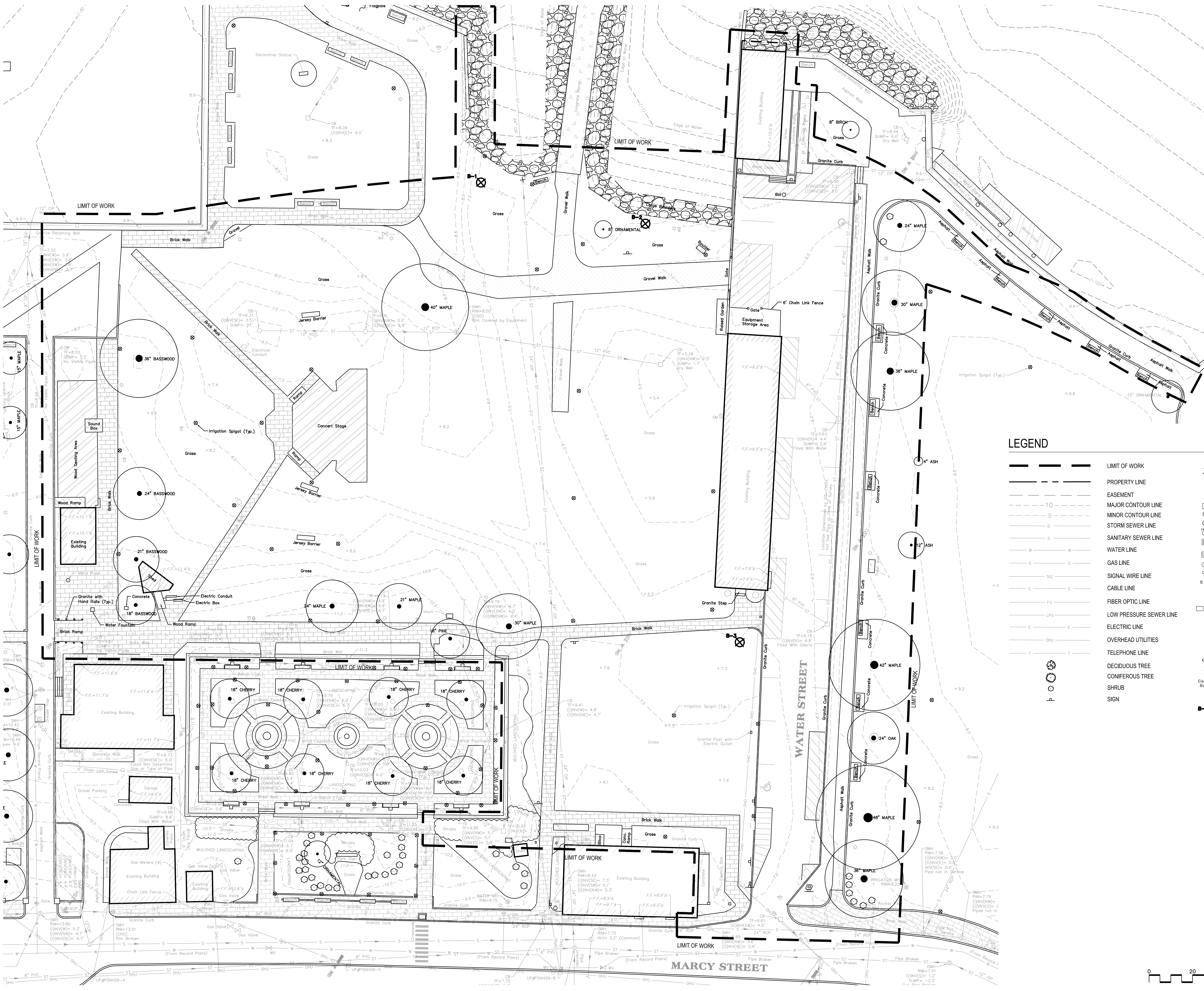

LEGEND

▬ ▬ ▬	LIMIT OF WORK		HYDRANT
		WSO	WATER SHUTOFF
	PROPERTY LINE	GV	GAS VALVE
	EASEMENT	WV	WATER VALVE
10	MAJOR CONTOUR LINE	⊡	MONUMENT
9	MINOR CONTOUR LINE	◎	IRON PIN / IRON ROD
D	STORM SEWER LINE	♿	HANDICAP SPACE
		HH □	HAND HOLE
S	SANITARY SEWER LINE	E	ELEC. METER
W W	WATER LINE	G	GAS METER
G G	GAS LINE	○ CO	CLEANOUT
		□ YD	YARD DRAIN
SIG	SIGNAL WIRE LINE	8.9	SPOT ELEVATION
C C	CABLE LINE	⊙	SANITARY MANHOLE (SMH)
		⊙	DRAINAGE MANHOLE (DMH)
FO	FIBER OPTIC LINE	▭ □ ○	CATCHBASIN (CB)
LPS	LOW PRESSURE SEWER LINE	○	METAL POST/BOLLARD (BOL)
E E	ELECTRIC LINE	Ⓔ	ELECTRIC MANHOLE (MHE)
		Ⓤ	UNKNOWN MANHOLE
OHU	OVERHEAD UTILITIES	Ⓣ	TELEPHONE MANHOLE (MHT)
T T	TELEPHONE LINE	VP ○	VENT PIPE
			UTILITY POLE
	DECIDUOUS TREE	☼	LIGHT POLE
	CONIFEROUS TREE	Elec. Box P	ELECTRIC PEDESTAL
	SHRUB	⊗	IRRIGATION SPIGOT
		←	GUY WIRE
	SIGN	B-# ⊗	GEOTECHNICAL BORING LOCATION

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EXISTING
CONDITIONS PLAN

Sheet Number:

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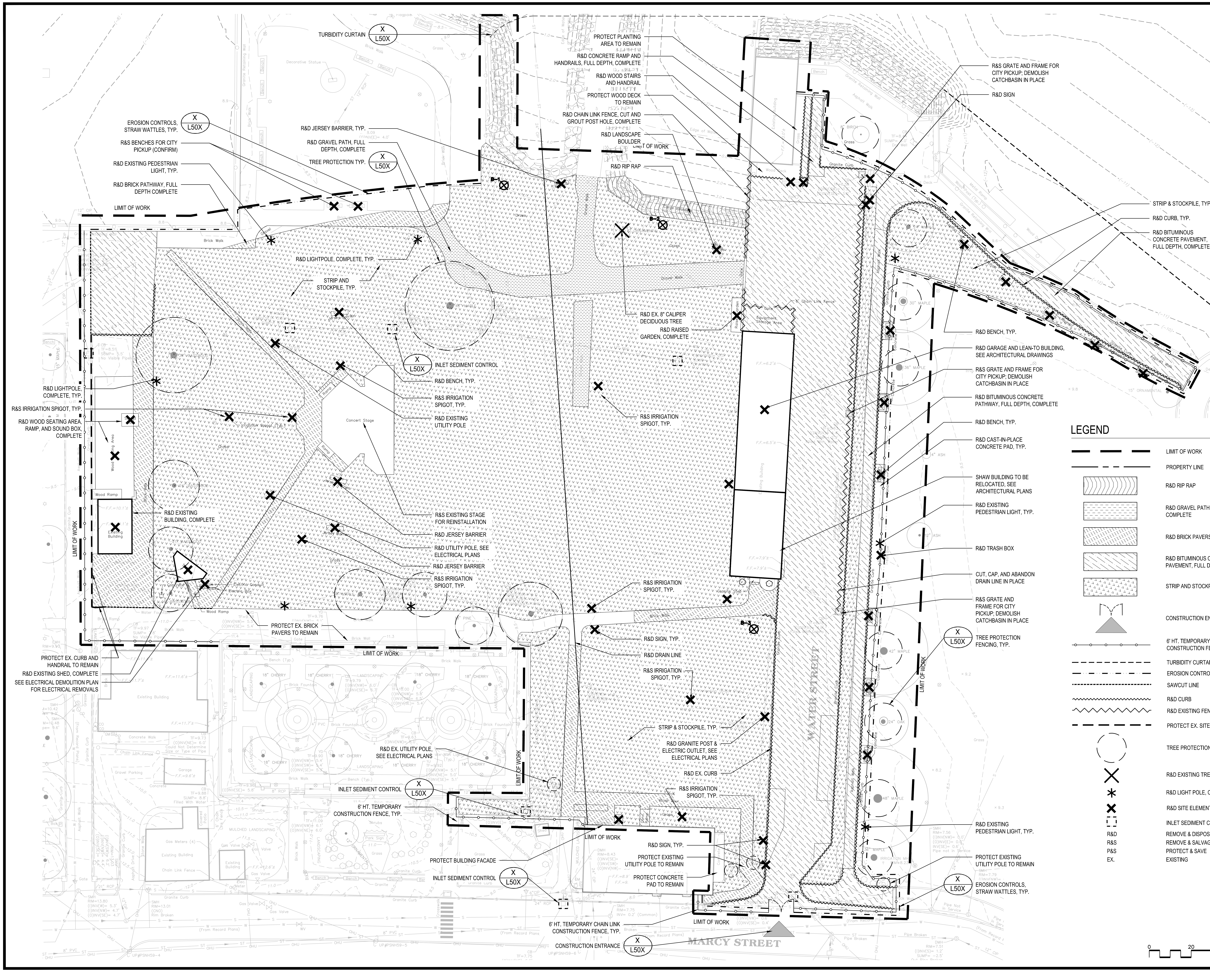

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PORTSMOUTH, NH, 03801

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3rd Floor, Boston, MA 02109
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SITE DEMOLITION AND PREPARATION PLAN

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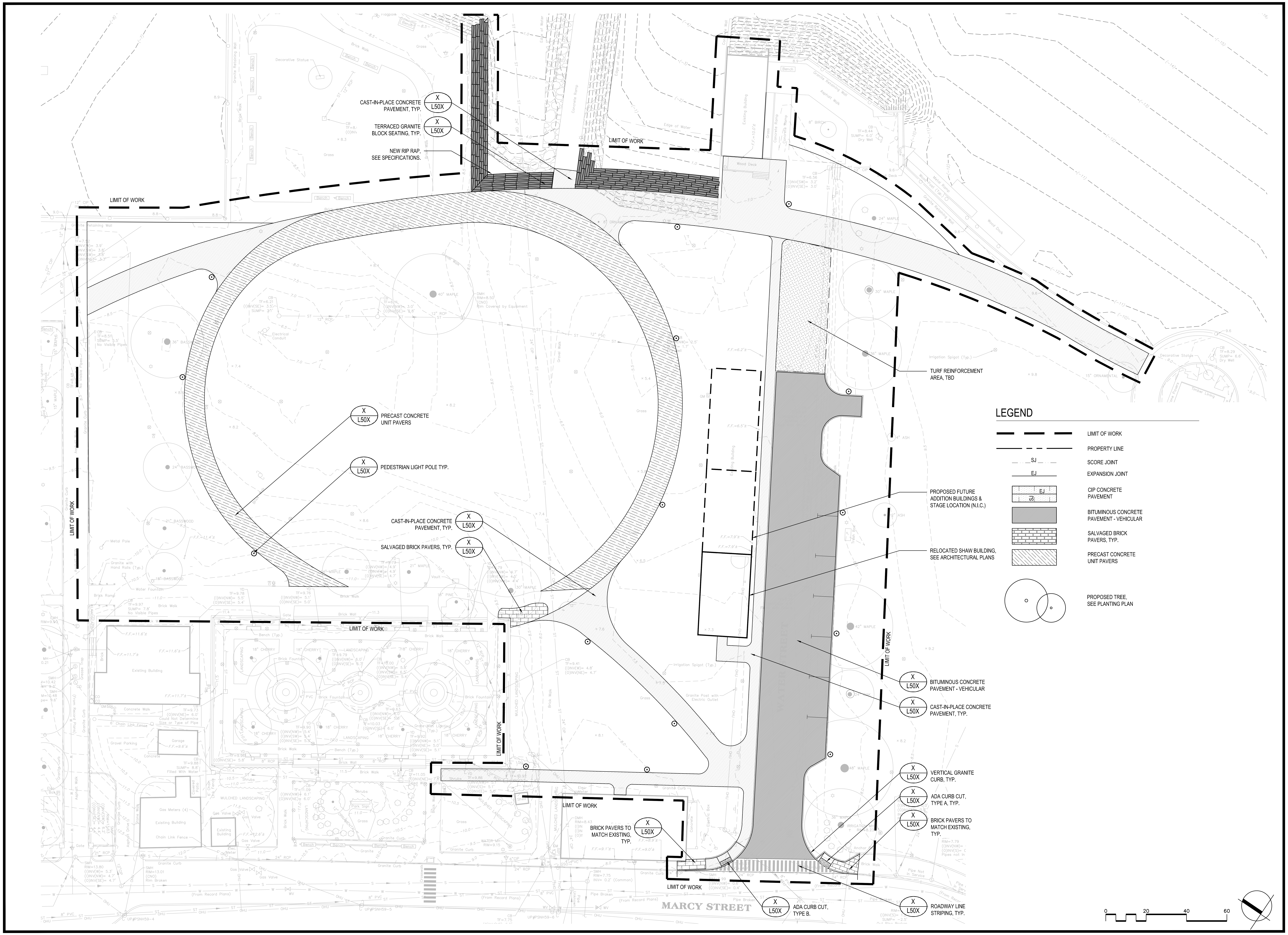

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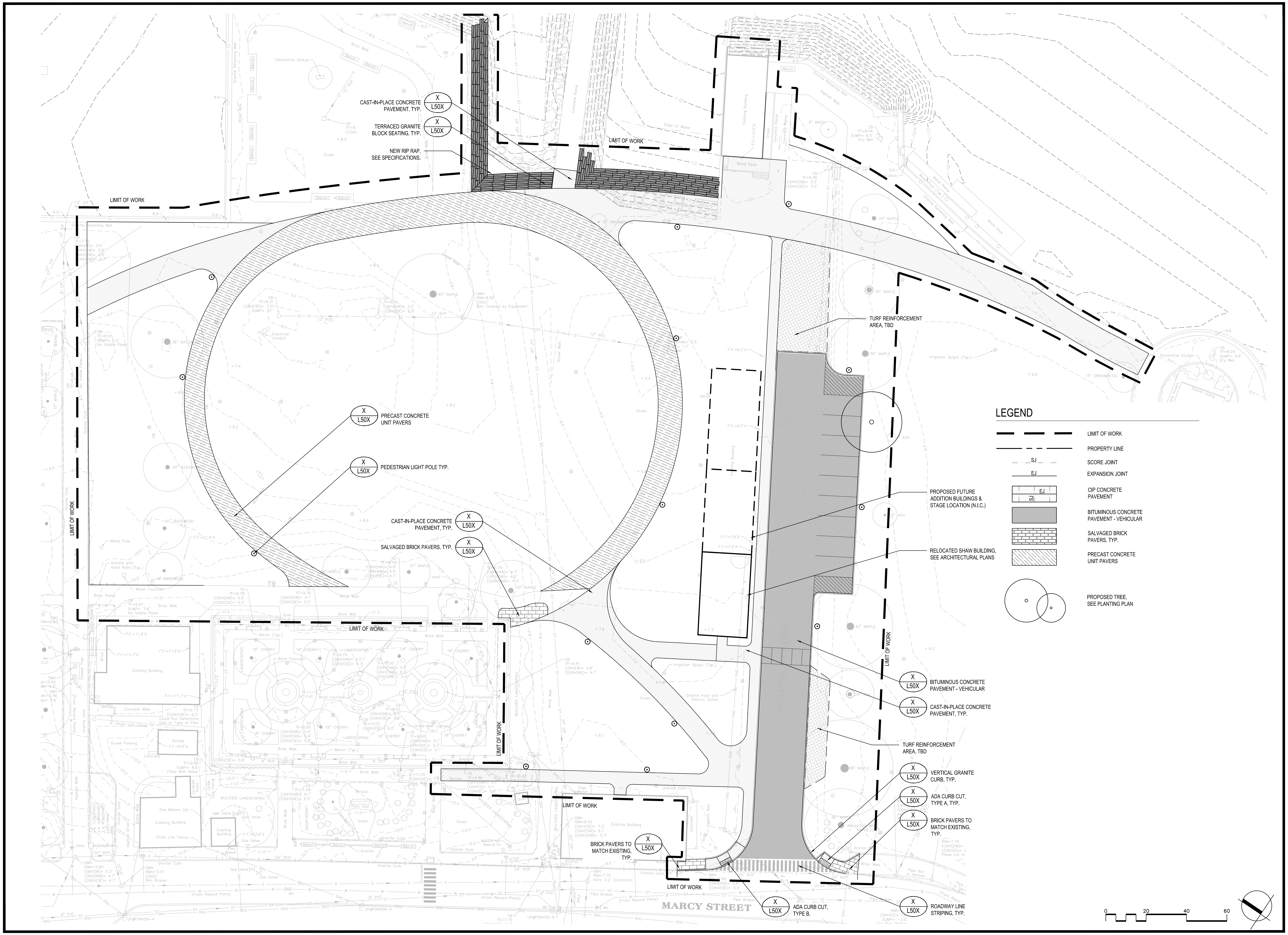
MATERIALS PLAN
PARKING
OPTION A

Sheet Number:

L120-A



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MATERIALS PLAN
PARKING
OPTION B

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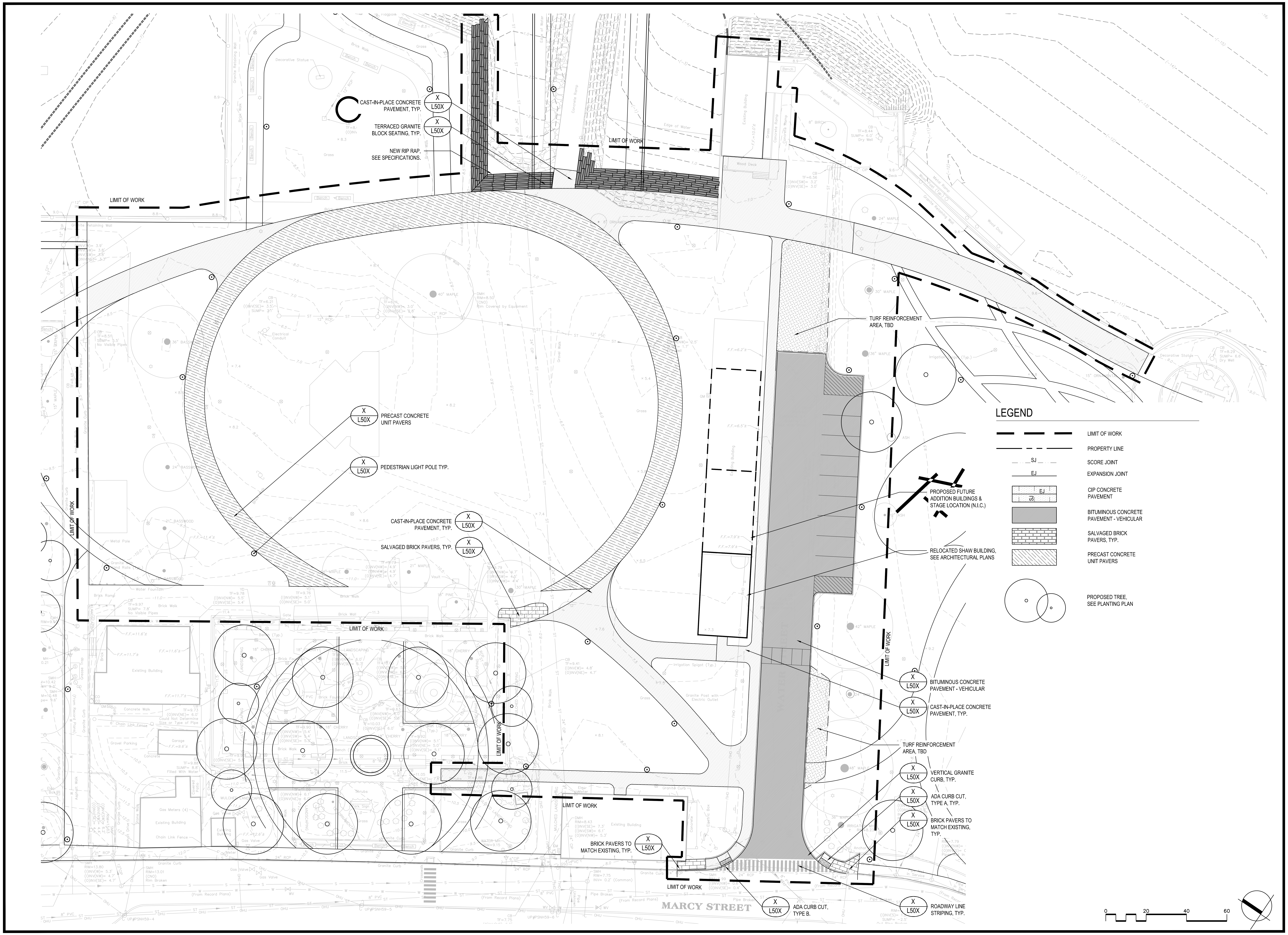
L120-B



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MATERIALS PLAN
(WITH FUTURE
PHASES SHOWN)

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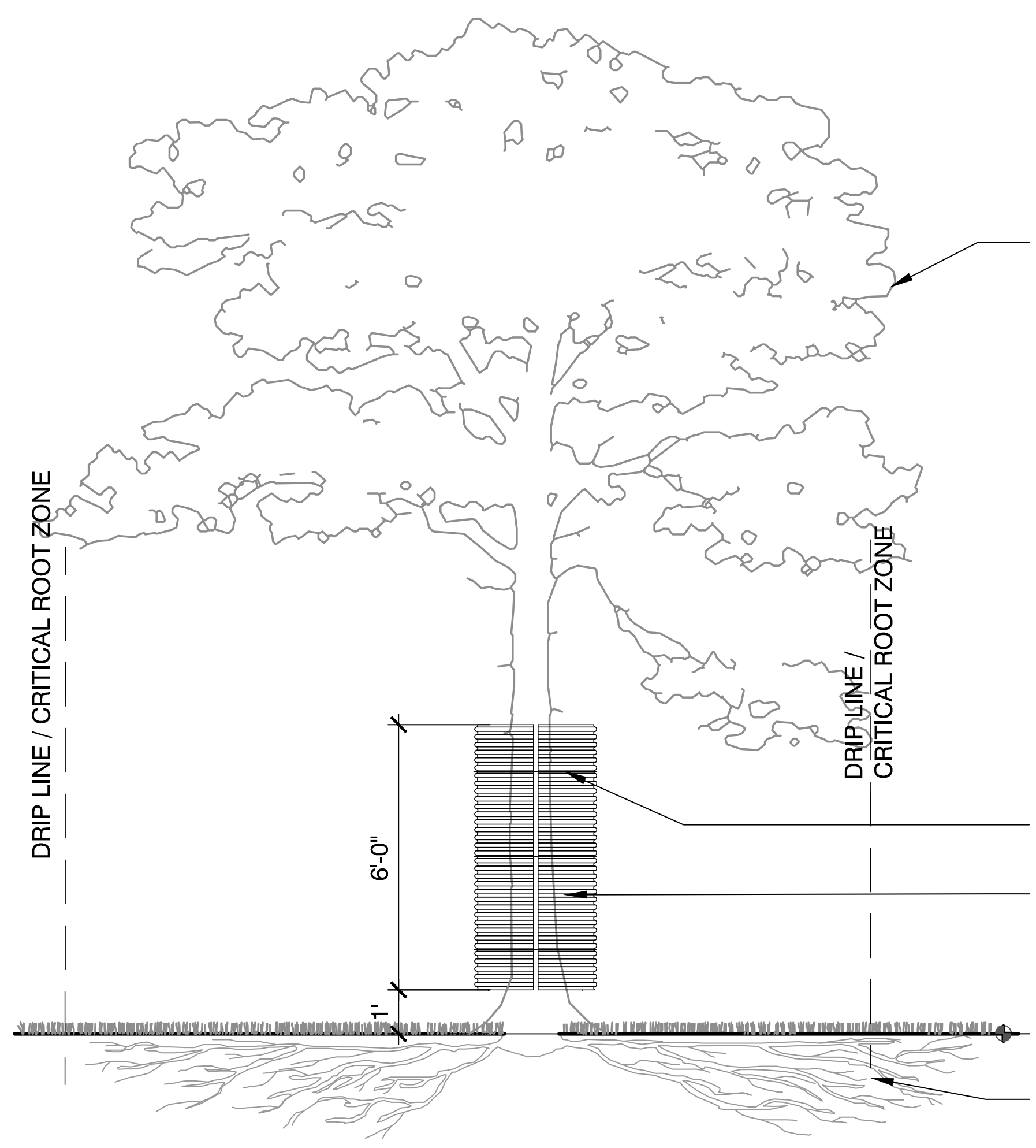


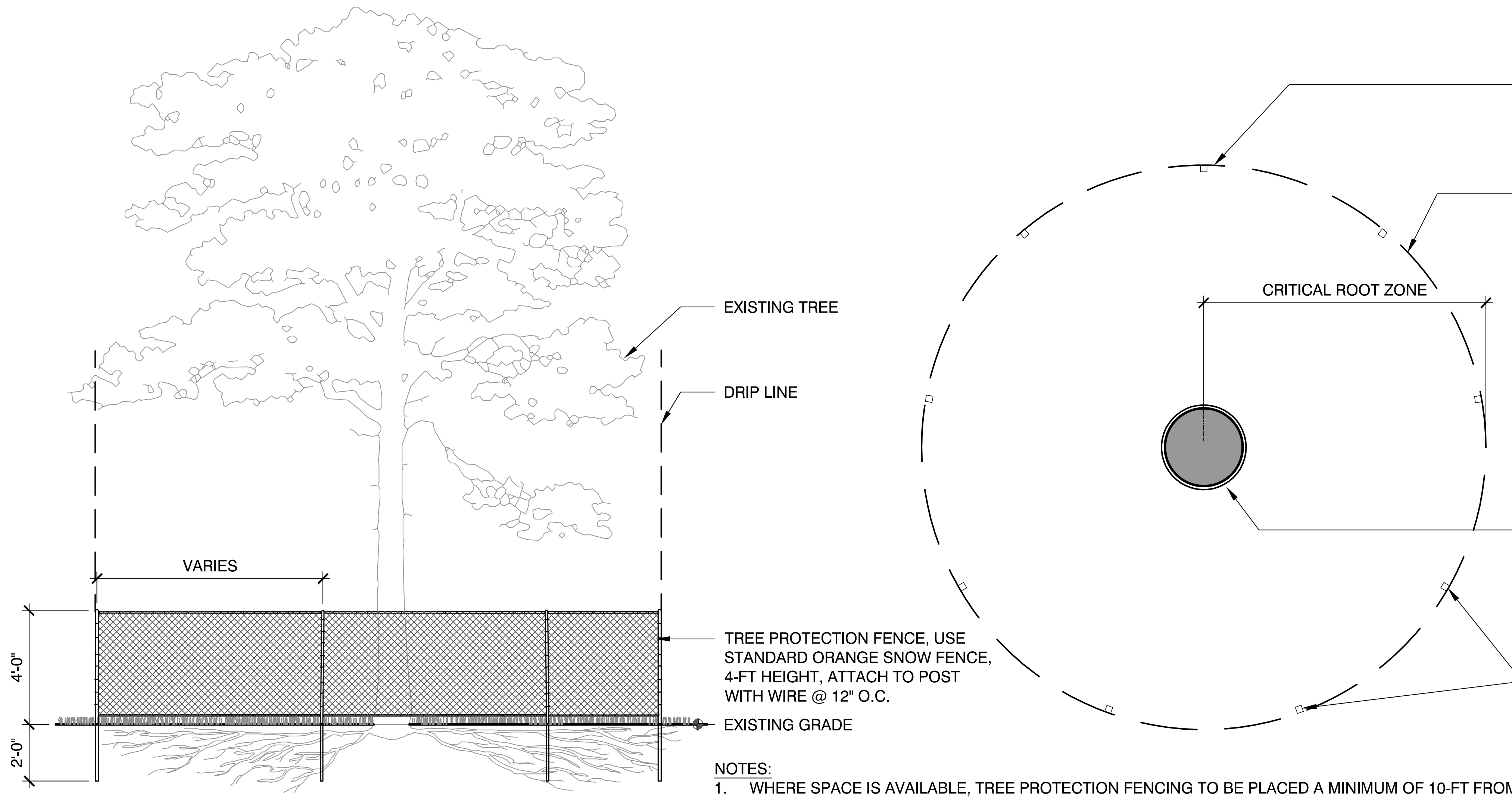
NOTES:

1. PROTECT ALL TREES AS DIRECTED BY THE ENGINEER.
2. TO PREVENT INJURY TO CRITICAL ROOT ZONES OF ADJACENT TREES, ROOT PRUNING MAY BE PERFORMED BY ARBORIST AS NEEDED ON SELECTED ROOTS LESS THAN 2 INCHES IN DIAMETER PROVIDED NO MORE THAN 15% OF THE CRITICAL ROOT ZONE IS REMOVED.
3. ALL WORK PERFORMED WITHIN DRIP LINE / CRITICAL ROOT ZONE OF TREE SHALL BE DONE BY HAND AND LIGHT EQUIPMENT. NO EQUIPMENT OR MATERIALS SHALL BE STORED OR STOCKPILED WITHIN DRIPLINE
4. ROOTS EXPOSED DURING EXCAVATION SHALL BE NEATLY CUT AND COVERED WITH SOIL IMMEDIATELY.

CRITICAL ROOT ZONE TO BE PROTECTED AT ALL TIMES. ALL WORK NECESSARY WITHIN THE CRITICAL ROOT ZONE SHALL BE PERFORMED BY HAND.

1 TREE PROTECTION, TYPE A

SCALE: N.T.S.



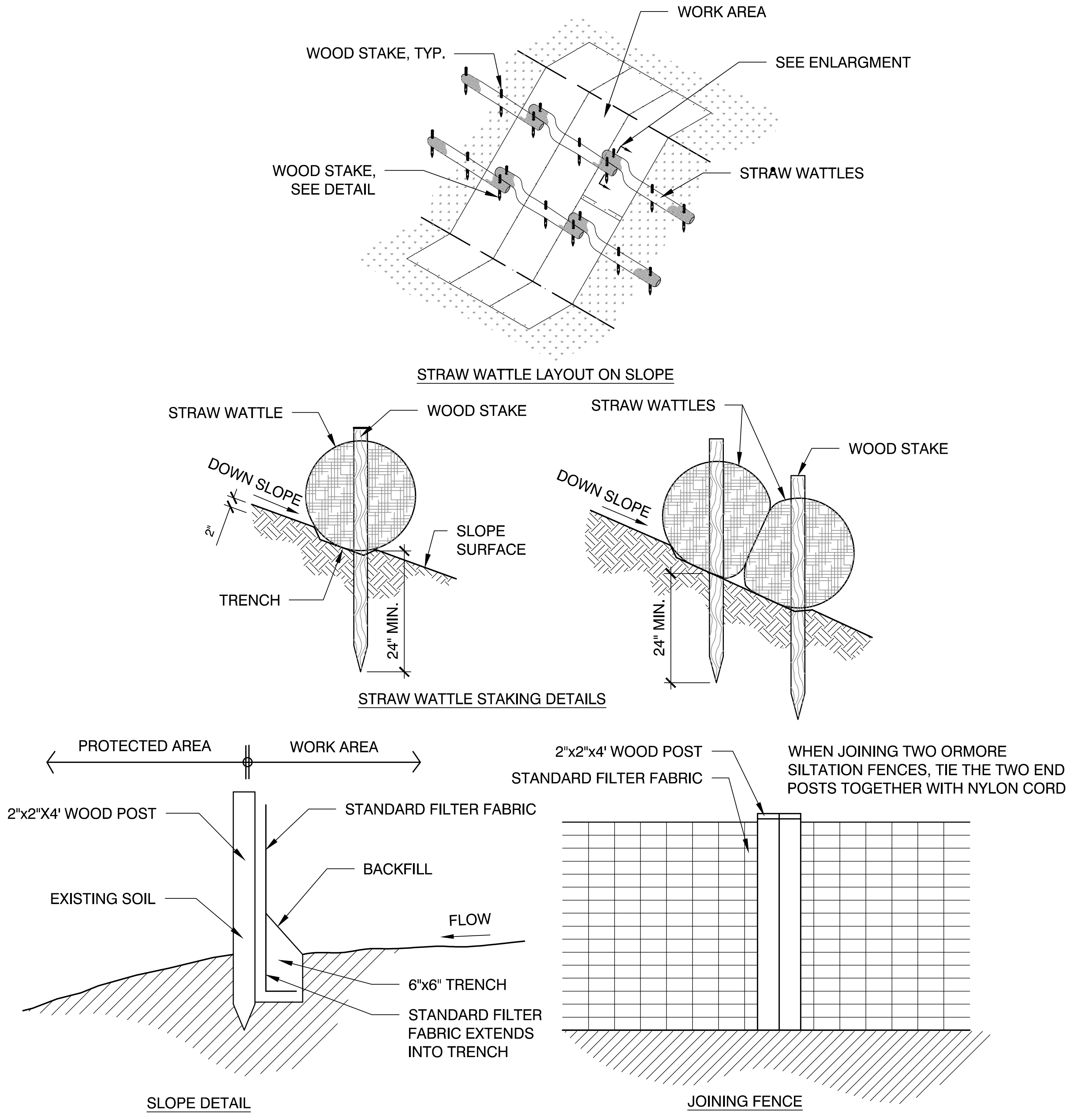
CRITICAL ROOT ZONE TO BE PROTECTED. ALL WORK NECESSARY WITHIN THE CRITICAL ROOT ZONE SHALL BE PERFORMED BY HAND AND LIGHT EQUIPMENT. TO BE APPROVED BY ARBORIST.

NOTES:

1. WHERE SPACE IS AVAILABLE, TREE PROTECTION FENCING TO BE PLACED A MINIMUM OF 10-FT FROM BASE OF TREE PLUS AN ADDITIONAL 1-FT FOR EACH ADDITIONAL DBH FOR TREES GREATER THAN 10" DBH (DIA. AT BREAST HT.)
2. ALL WORK DONE WITHIN TREE PROTECTION FENCING IS TO BE DONE BY HAND AND LIGHT EQUIPMENT. ARBORIST TO APPROVE EQUIPMENT.
3. ROOTS EXPOSED DURING EXCAVATION SHALL BE NEATLY CUT AND COVERED WITH SOIL IMMEDIATELY.
4. FOR TREES THAT OCCUR IN GROUPS PROVIDE TREE PROTECTION FENCING AROUND ENTIRE AREA. SEE PLAN FOR LOCATIONS.
5. MAINTAIN FENCE PROTECTION IN SOUND CONDITION FOR DURATION OF CONSTRUCTION.
6. A CERTIFIED ARBORIST SHALL DELINEATE LIMIT OF TREE PROTECTION FENCING AS THEY RELATE TO THE LIMITS OF THE CRITICAL ROOT ZONE.
7. THE TOWN'S ARBORIST MUST BE ON SITE PRIOR TO COMMENCING ANY WORK TO REVIEW AND LOCATE TREE PROTECTION FENCING. ROOTS EXPOSED WITHIN THE CRITICAL ROOT ZONE MUST BE APPROVED BY THE ARBORIST PRIOR TO CUTTING.

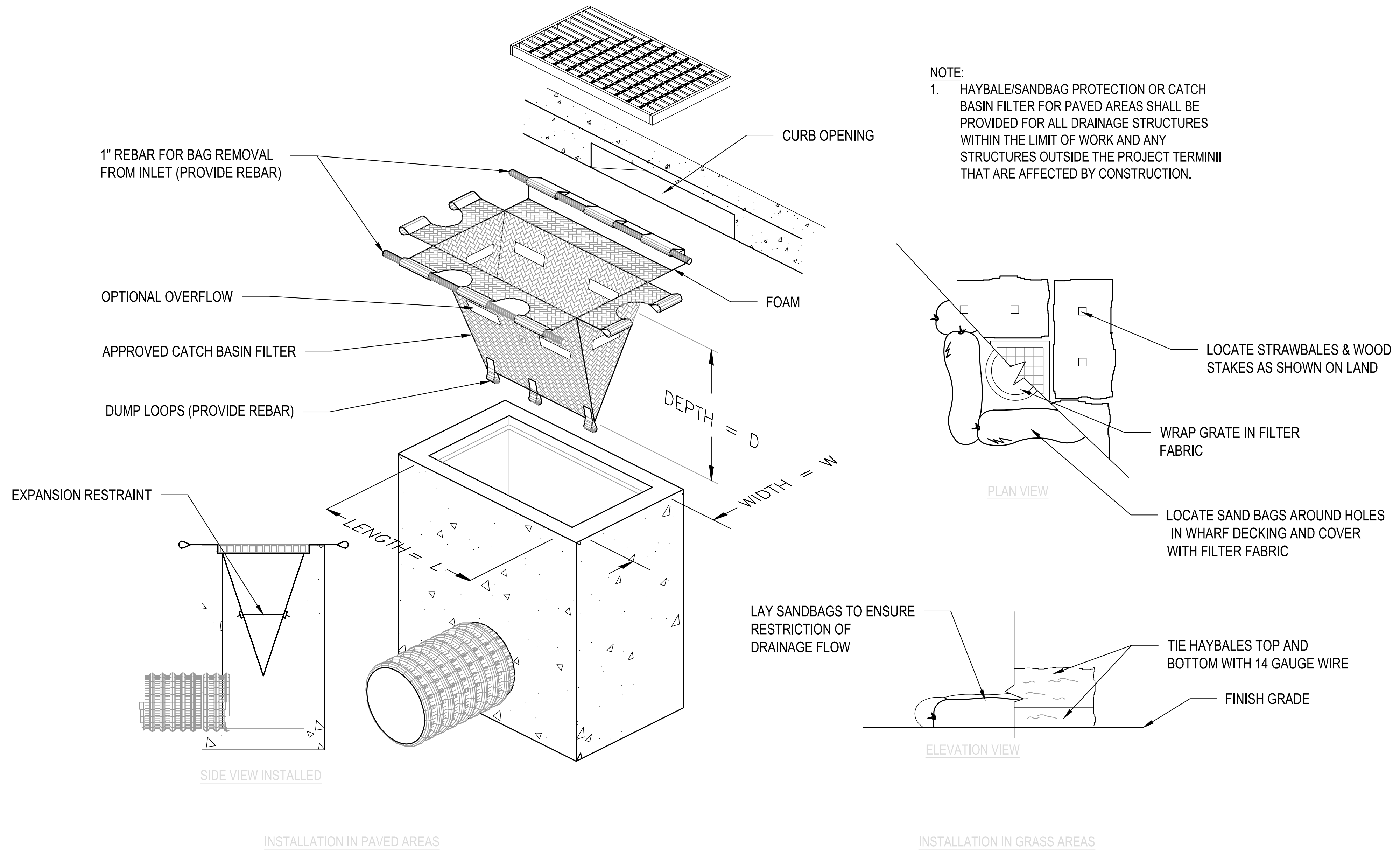
2 TREE PROTECTION, TYPE B

SCALE: N.T.S.



3 EROSION CONTROLS

SCALE: N.T.S.



NOTE:

1. HAYBALE/SANDBAG PROTECTION OR CATCH BASIN FILTER FOR PAVED AREAS SHALL BE PROVIDED FOR ALL DRAINAGE STRUCTURES WITHIN THE LIMIT OF WORK AND ANY STRUCTURES OUTSIDE THE PROJECT TERMINII THAT ARE AFFECTED BY CONSTRUCTION.

4 INLET SEDIMENT CONTROL

SCALE: N.T.S.

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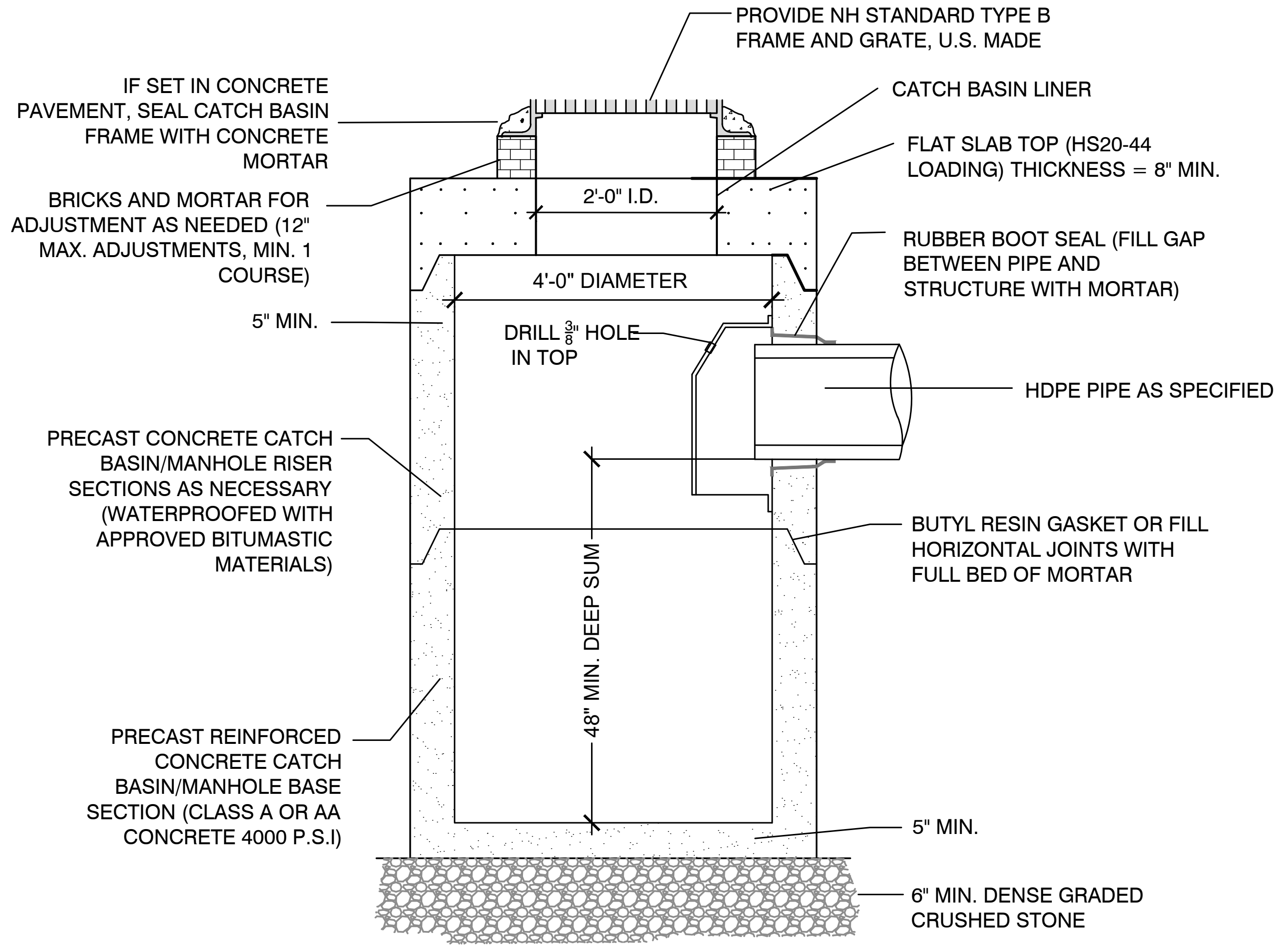
DETAILS

Sheet Number:

L5.00

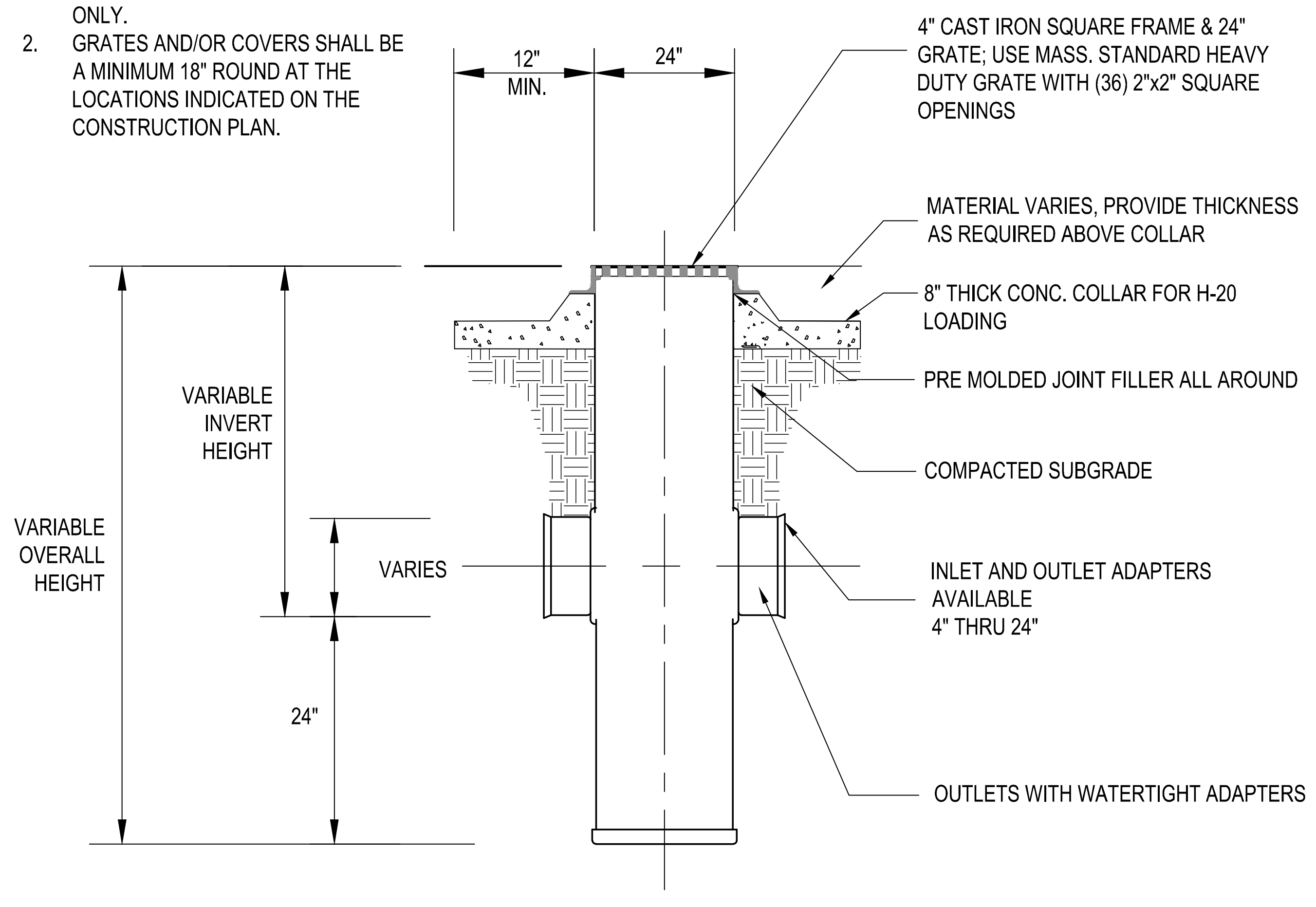


1 CATCH BASIN

SCALE: N.T.S.

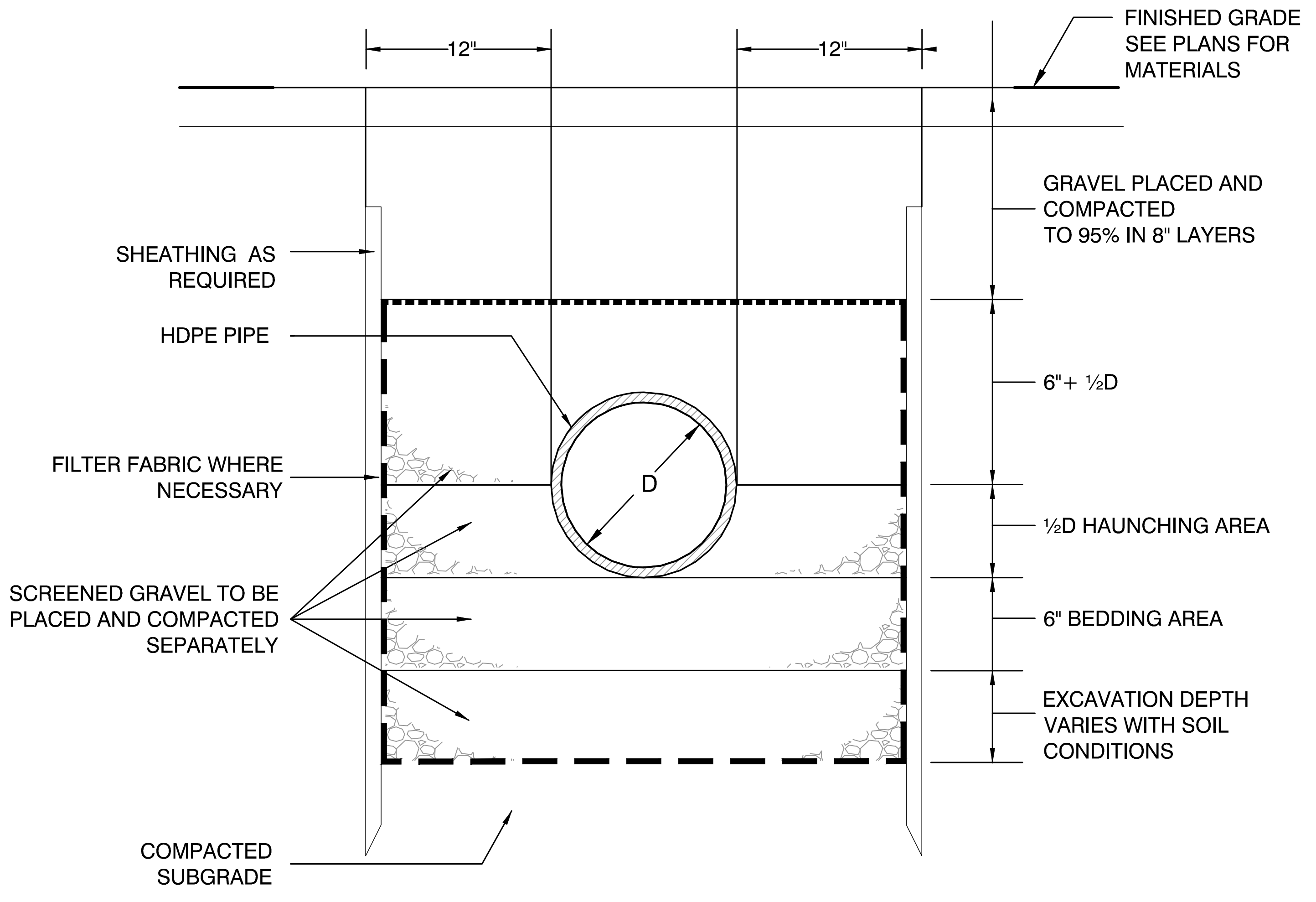
NOTES:

1. 24" MIN SUMP IS REQUIRED ON CATCH BASINS (DRAIN INLETS) ONLY.
2. GRATES AND/OR COVERS SHALL BE A MINIMUM 18" ROUND AT THE LOCATIONS INDICATED ON THE CONSTRUCTION PLAN.



2 PRECAST CONCRETE MANHOLE

SCALE: N.T.S.



3 TRENCH DRAIN

SCALE: N.T.S.

Project:

PORTSMOUTH,
NEW HAMPSHIRE

PRESCOTT PARK
PHASE 1 IMPROVEMENTS

105 MARCY STREET,
PORTSMOUTH, NH, 03801

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Seal:

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Date: SEPTEMBER 2021
Drawn By: SG, GV
Reviewed By: CB
Approved By: CB

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W&S File No: XXX

Drawing Title:

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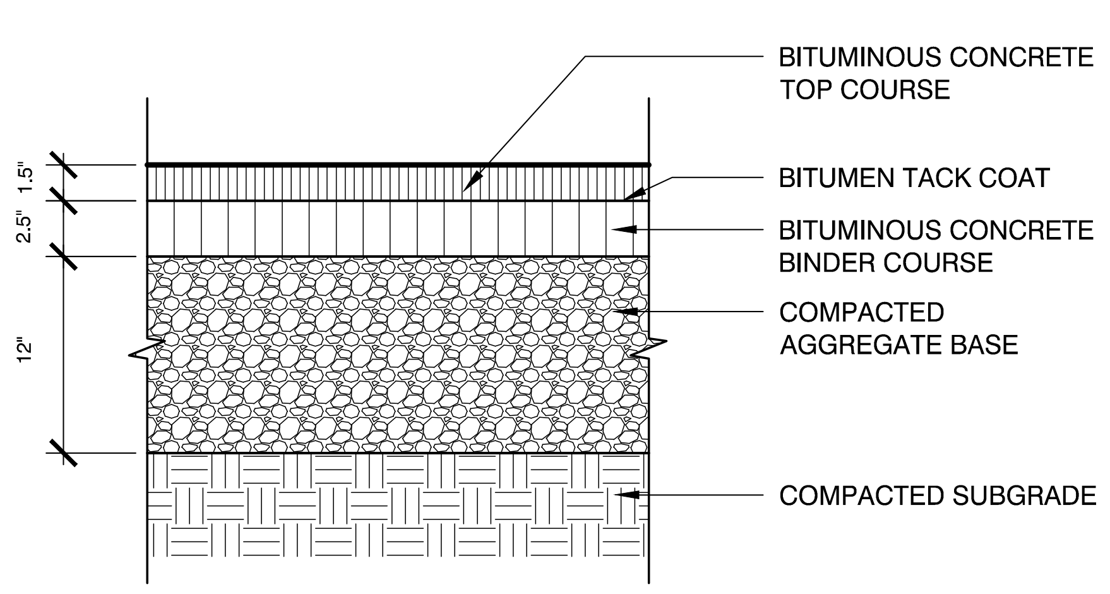
DETAILS

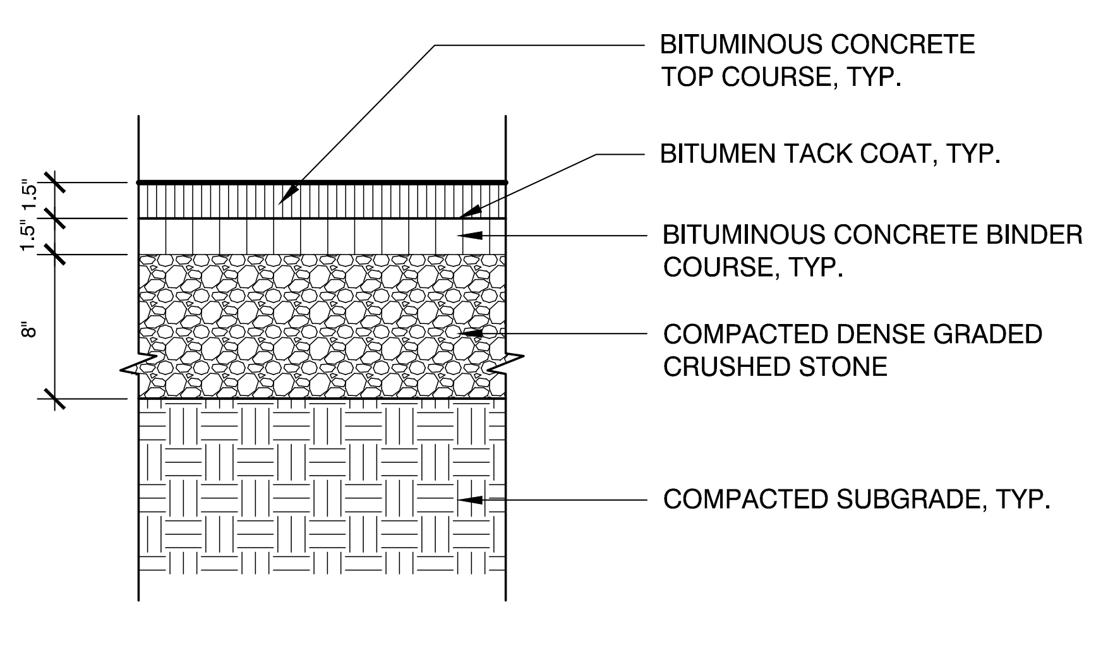
Sheet Number:

L5.01



1 BITUMINOUS CONCRETE PAVEMENT - VEHICULAR

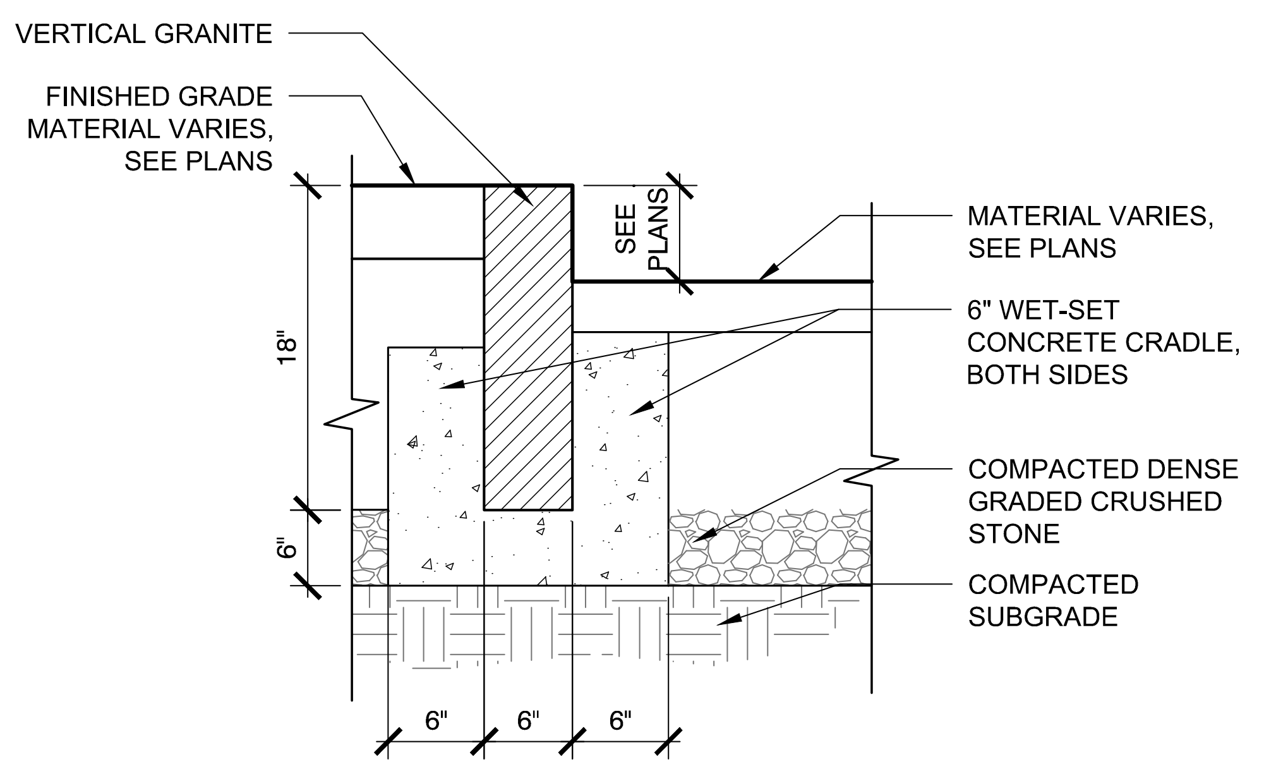
SCALE: N.T.S.



NOTE:
1. CONTRACTOR TO PROVIDE SMOOTH TRANSITION WHERE NEW PAVEMENT ABUTS EXISTING PAVEMENT, TYP.

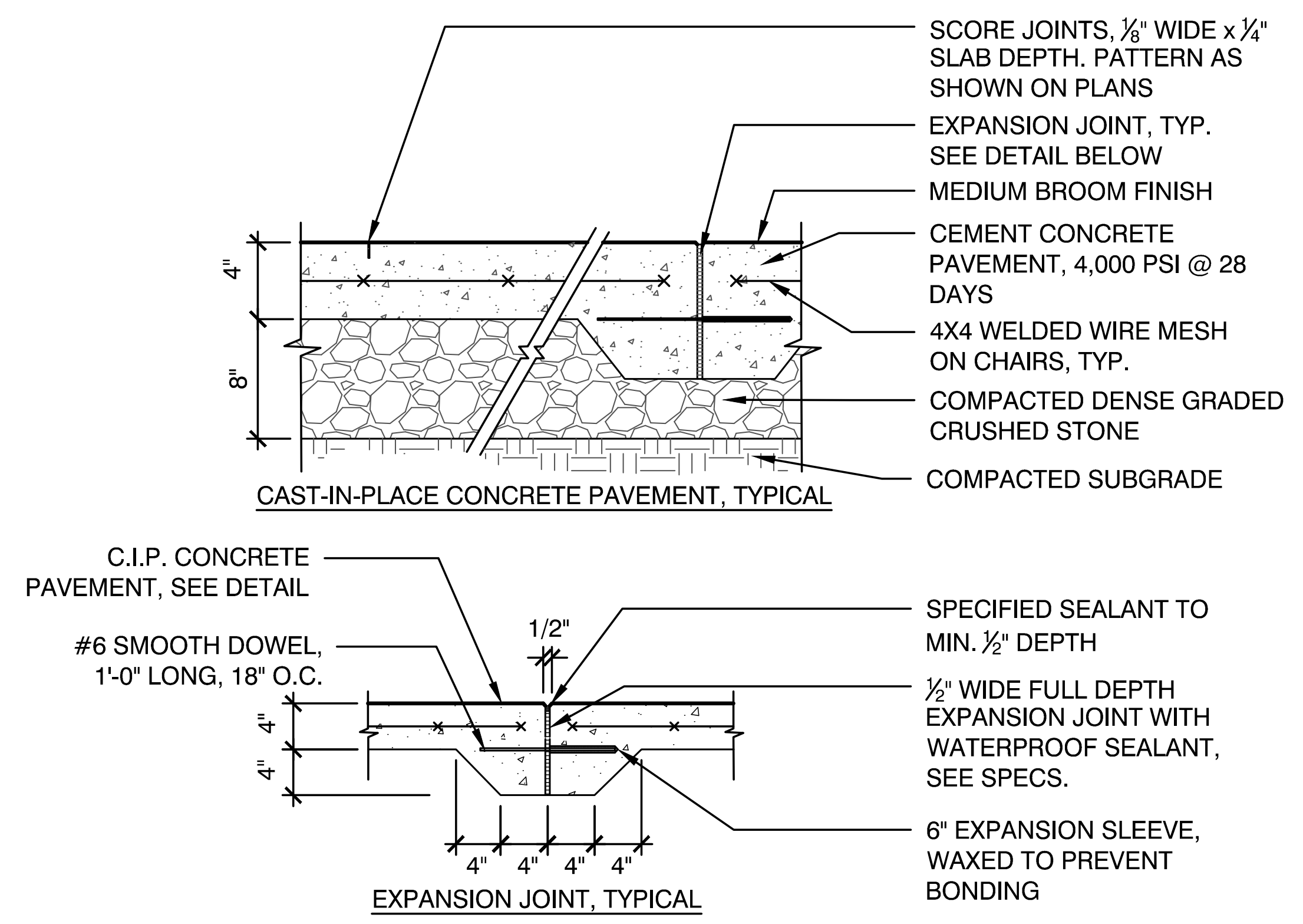
2 BITUMINOUS CONCRETE PAVEMENT - PEDESTRIAN

SCALE: N.T.S.



3 VERTICAL GRANITE CURB

SCALE: N.T.S.

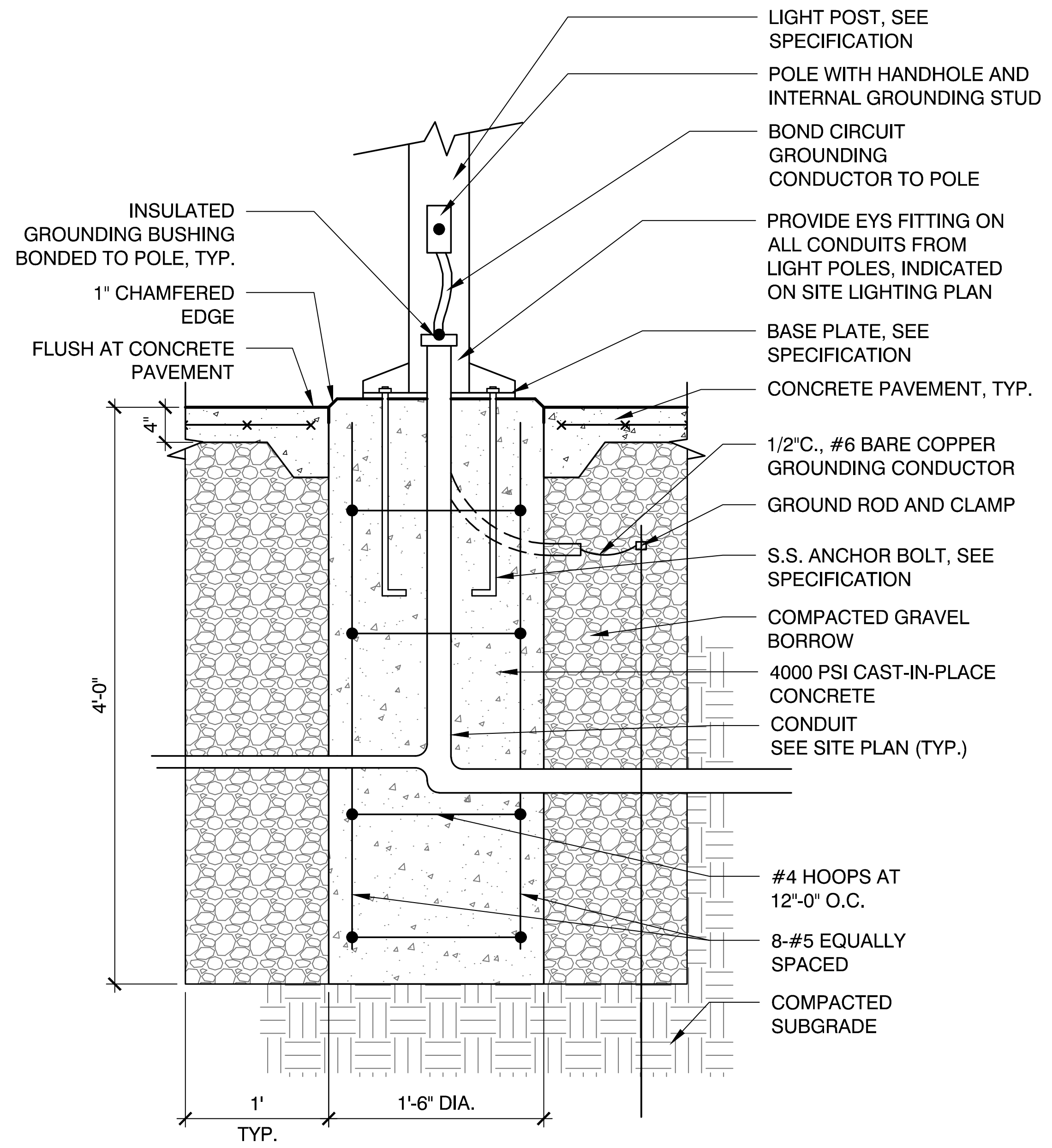


EXPANSION JOINT INSTALLATION NOTES:

1. DOWEL IS TYPICAL AT ALL EXPANSION JOINTS (18" O.C.) WITHIN CONCRETE PAVING AND BETWEEN NEW CONCRETE PAVING AND EXISTING CONCRETE PAVING TO REMAIN.
2. DELETE EXPANSION SLEEVE AND DOWEL WHERE JOINT ABUTS WALL, CURBS, OR OTHER VERTICAL SURFACES, UNLESS OTHERWISE NOTED.
3. EXPANSION JOINTS MAX. 25'-0" O.C. UNLESS SHOWN OTHERWISE.
4. EXPANSIONS JOINTS SHALL BE PLACED WHERE NEW CEMENT CONCRETE PAVEMENT MEETS EXISTING PAVEMENT OR WALLS TO REMAIN.
5. ALL SCORE JOINTS SHALL BE SAW CUT.

4 CAST-IN-PLACE CONCRETE PAVEMENT

SCALE: N.T.S.

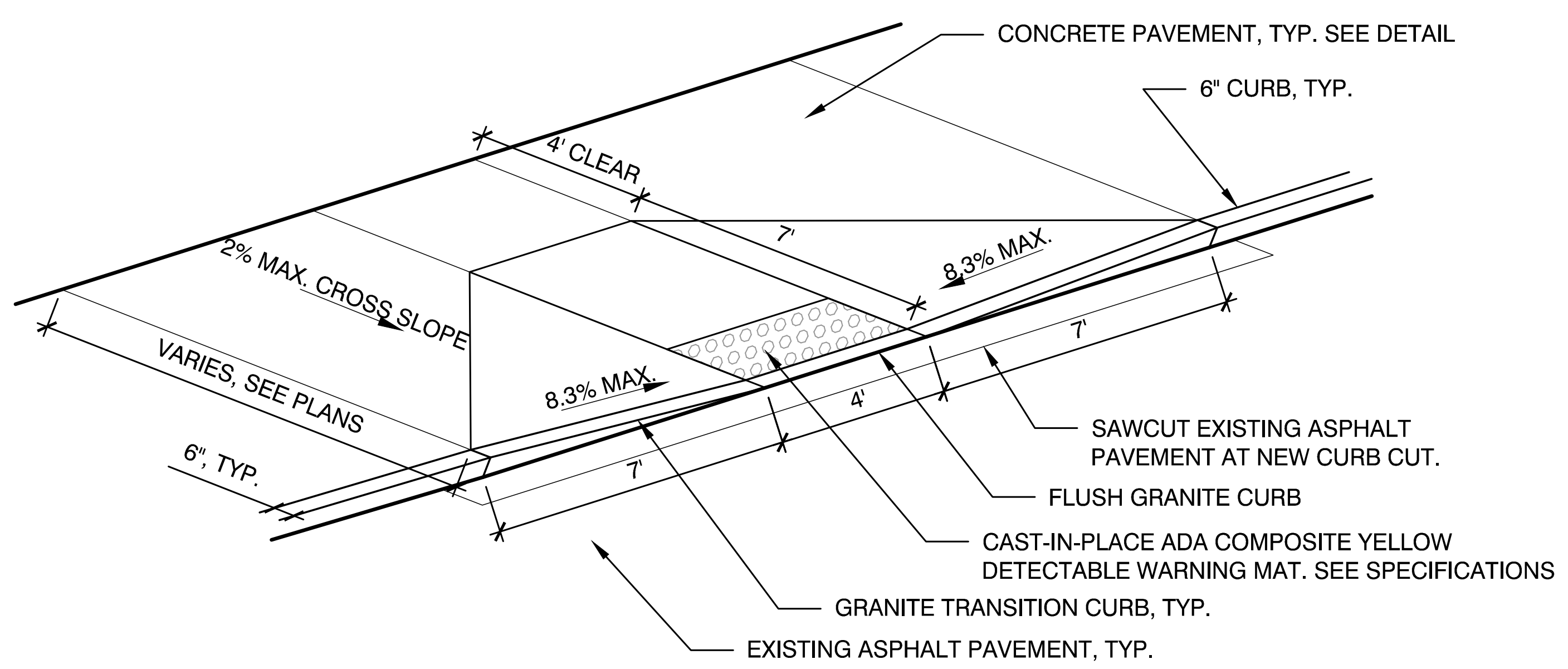


NOTE:
1. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR. ALL EXCAVATION, BACKFILL, & CONCRETE SHALL BE BY GENERAL CONTRACTOR.
2. REFER TO SPECIFICATIONS FOR MATERIALS.

PEDESTRIAN LIGHT FOOTING AT CONCRETE PAVEMENT

5 PEDESTRIAN LIGHT POLE BASE

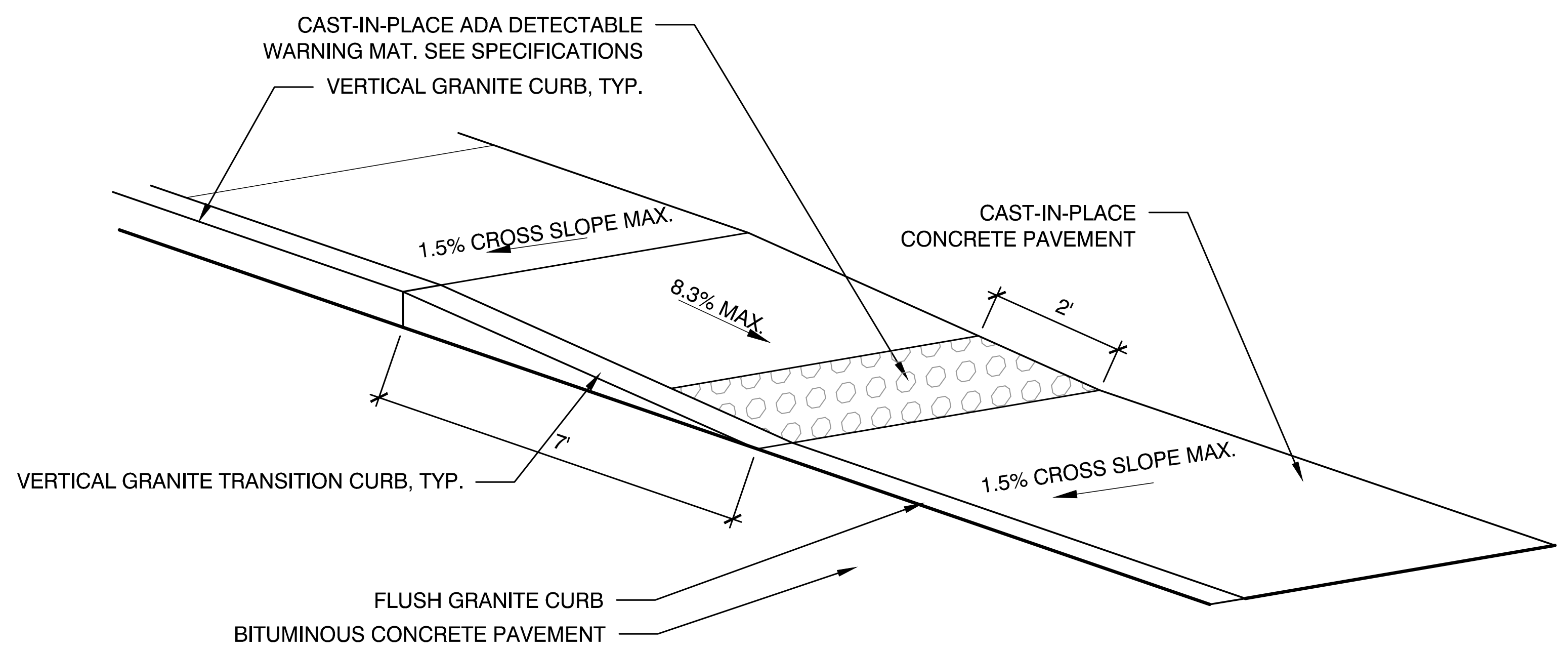
SCALE: N.T.S.



NOTES:
1. CONTRACTOR SHALL PROVIDE CLEAN AND STRAIGHT SAWCUT LINES AT LIMIT OF REMOVAL OF EXISTING ASPHALT PAVEMENT TO REMAIN. CONTRACTOR SHALL VERIFY LIMITS OF EXISTING ASPHALT PAVEMENT REMOVAL PRIOR TO COMMENCING DEMOLITION.
2. CONTRACTOR SHALL REMOVE AND REPLACE ASPHALT PAVEMENT, GRAVEL BORROW, AND SUBGRADE NECESSARY TO CONSTRUCT A CLEAN, SMOOTH TRANSITION AT ADA CURB CUT.

6 A.D.A. CURB CUT, TYPE A

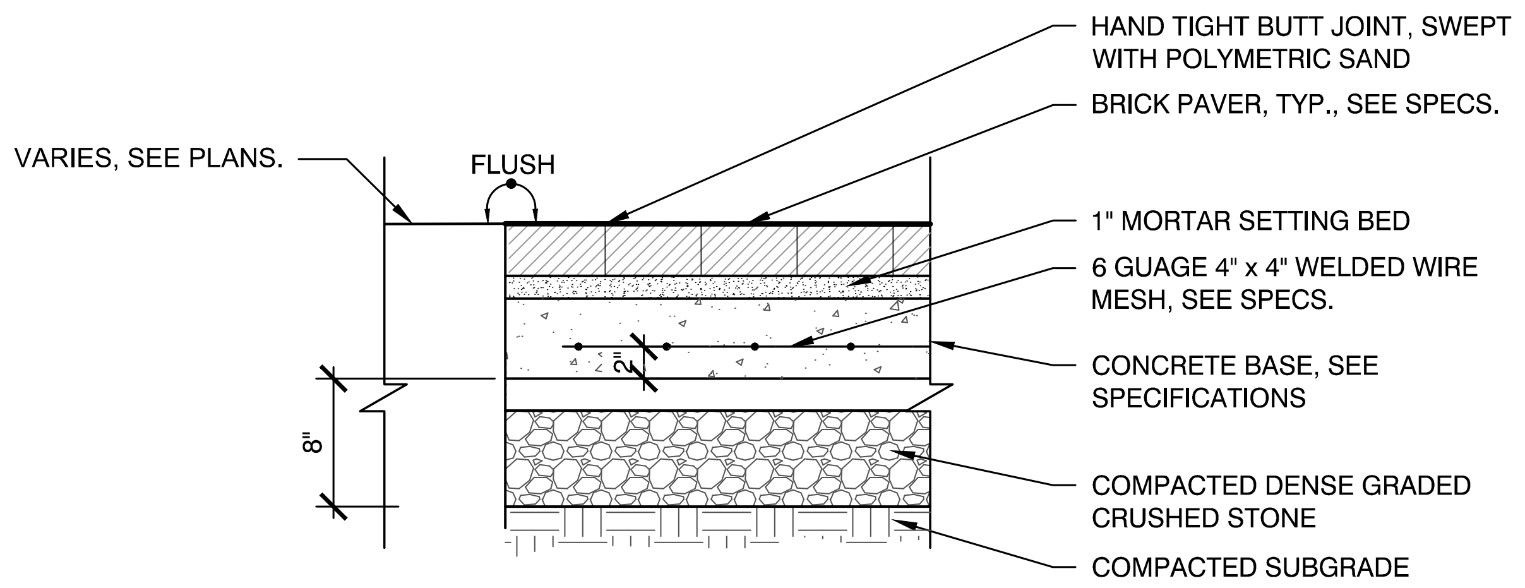
SCALE: N.T.S.



NOTES:
1. CONTRACTOR SHALL PROVIDE CLEAN AND STRAIGHT SAWCUT LINES AT LIMIT OF REMOVAL OF EXISTING ASPHALT PAVEMENT TO REMAIN. CONTRACTOR SHALL VERIFY LIMITS OF EXISTING ASPHALT PAVEMENT REMOVAL PRIOR TO COMMENCING DEMOLITION.
2. CONTRACTOR SHALL REMOVE AND REPLACE BITUMINOUS CONCRETE PAVEMENT, DENSE GRADE CRUSHED STONE, GRAVEL BORROW, AND SUBGRADE NECESSARY TO CONSTRUCT A CLEAN, SMOOTH TRANSITION WHERE IT ABUTS EXISTING CONDITIONS.

7 A.D.A. CURB CUT, TYPE B

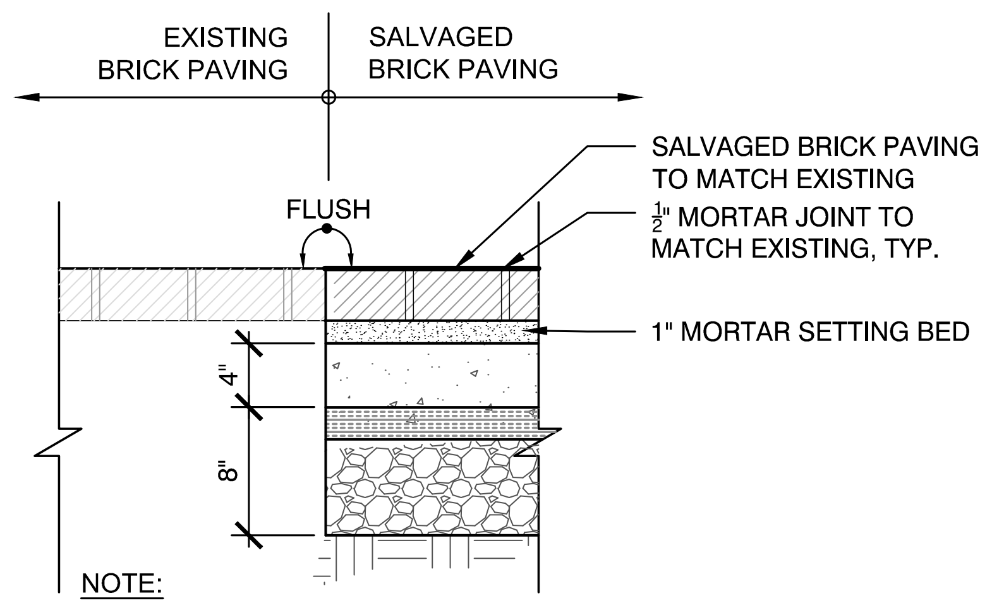
SCALE: N.T.S.



NOTES:
1. CONTRACTOR SHALL FEATHER GRADES BACK WITHIN DISTURBED LOAM AREA TO MEET EXISTING GRADES.

8 UNIT PAVERS ON CONCRETE SLAB

SCALE: N.T.S.



NOTE:
1. BRICK SHALL BE SALVAGED FROM THE DEMOLITION OF THE PROJECT SITE. SALVAGED BRICKS TO BE REINSTALLED SHALL BE IN GOOD CONDITION AND SOLID, FREE FROM CRACKS, AND BROKEN CORNERS.

9 SALVAGED BRICK PAVING AT EXISTING BRICK PAVING

SCALE: N.T.S.

Project:

PORTSMOUTH,
NEW HAMPSHIRE

PRESCOTT PARK
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PORTSMOUTH, NH, 03801

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Scale:

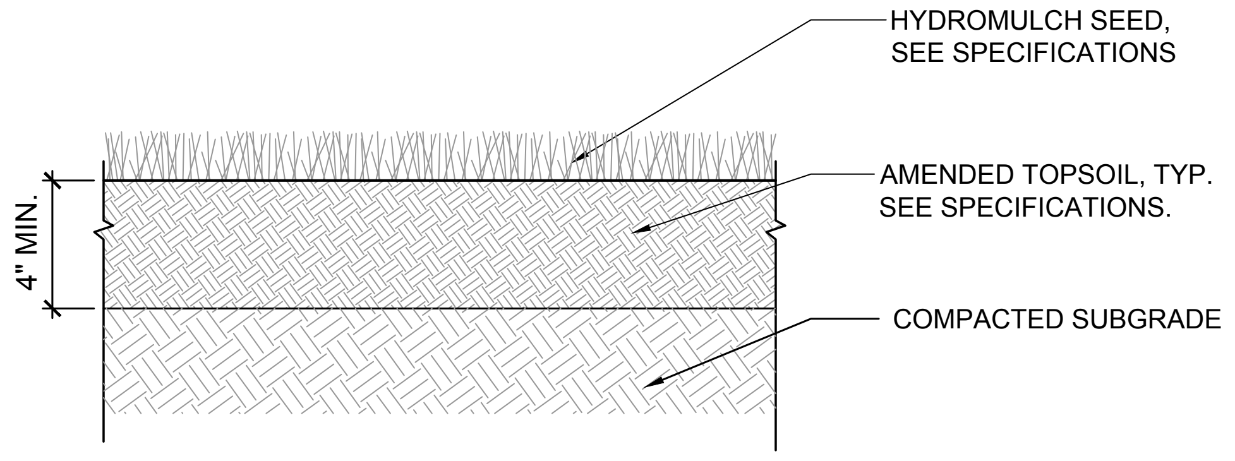
Date:	SEPTEMBER 2021
Drawn By:	SG, GV
Reviewed By:	CB
Approved By:	CB
W&S Project No:	XXX
W&S File No:	XXX

Drawing Title:

CONSTRUCTION
DETAILS

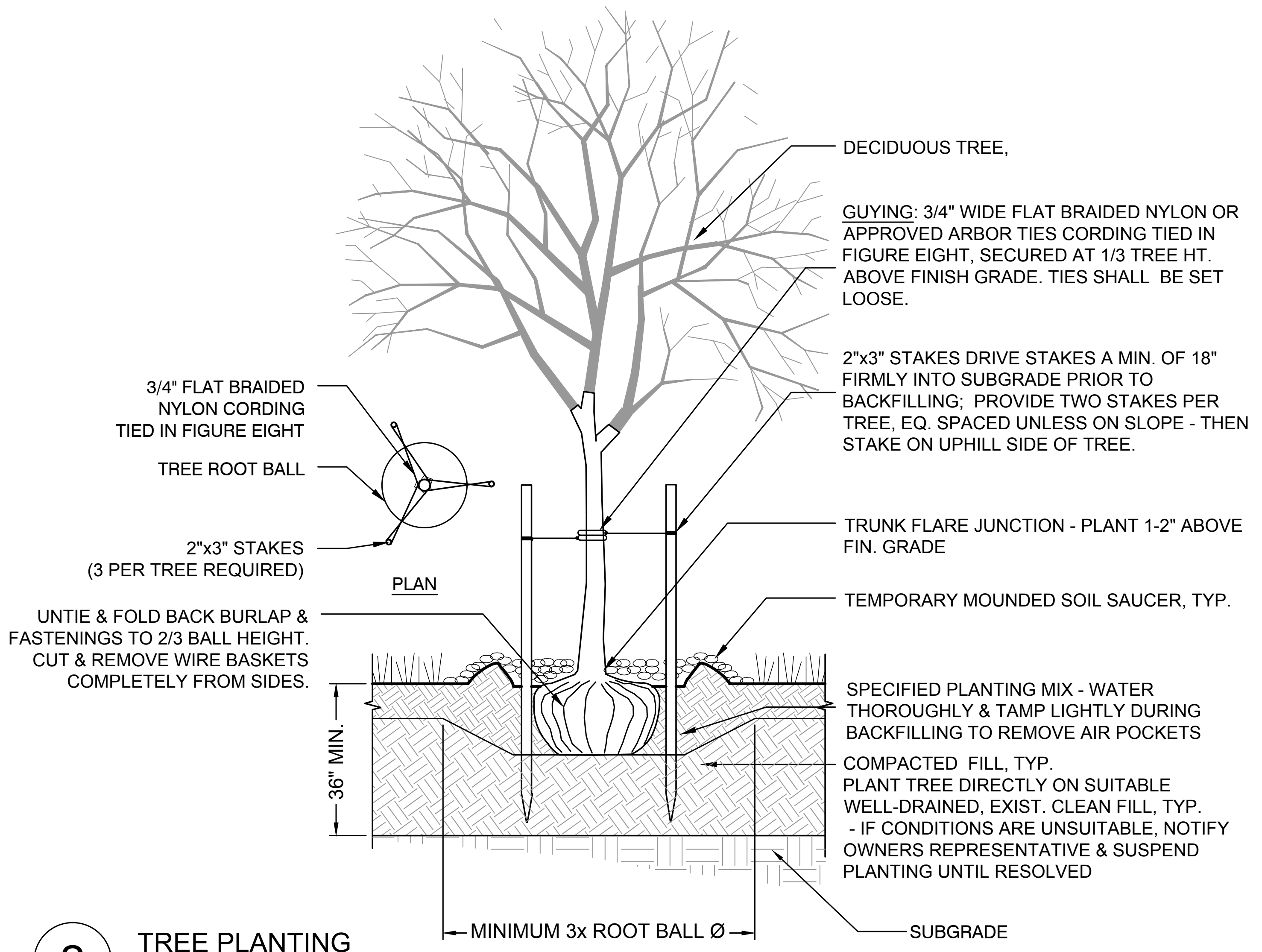
Sheet Number:

L5.02



1 LOAM AND SEED

SCALE: N.T.S.



2 TREE PLANTING

SCALE: N.T.S.

Project:

PORTSMOUTH,
NEW HAMPSHIRE

PRESCOTT PARK
PHASE 1 IMPROVEMENTS

105 MARCY STREET,
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No.	Date	Description

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Approved By: CB

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W&S File No: XXX

Drawing Title:

CONSTRUCTION
DETAILS

Sheet Number:

L5.03

Attachment B

Boring Logs

Weston & Sampson

WSE Project: ENG21-0591

Prescott Park Phase I
105 Marcy Street, Portsmouth, NH

BORING ID: B-1A

Page 1 of 1

CONTRACTOR:	Technical Drilling Services, Inc.	BORING LOCATION:	See attached plan.	DATE START:	August 23, 2021
FOREMAN:	Donny Watson	ADVANCE METHOD:	Hollow-Stem Auger Drilling	DATE FINISH:	August 23, 2021
LOGGED BY:	M. Zanchi, P.E.	AUGER DIAMETER:	4-1/4" ID (Stem), 7-5/8" OD (Flights)	GROUND EL:	6.9 ± (NAVD88)
CHECKED BY:	D. Dwyer, P.E.	SUPPORT CASING:	N/A	FINAL DEPTH:	6.0 ft. (Refusal)
EQUIPMENT:	Deidrich D-50, ATV Mounted	CORING METHOD:	N/A	GRID COORDS:	N:211624 ± / E:1228852 ±
SPT HAMMER:	Automatic (140-lb.)	BACKFILL MATERIAL:	Drill Cuttings	GRID SYSTEM:	NAD83 State Plane (NH)

DEPTH BELOW GROUND SURFACE [VERTICAL FT.]	SAMPLE TYPE GRAPHIC	SAMPLE ID NUMBER AND RECOVERY RATIO [IN./IN.]	SPT BLOWS / 6 IN. (OR) CORE RATE / 12 IN. [MIN.]	PID MEASUREMENT, PPM BY VOLUME (HEADSPACE)	GEOTECHNICAL TEST DATA ● N-Value, Raw (bpf) ☒ Organic Content (%) 10 20 30 40 ⊕ Moisture Content (%) ▶ Plastic Limit, PL (%) ◀ Liquid Limit, LL (%) 25 50 75 100	STRATIGRAPHY LOG	STRATUM IDENTIFICATION AND DESCRIPTION	ELEVATION SCALE SHOWN TO NEAREST FT.	REMARKS, OTHER TESTS, AND INSTALLATIONS
							Surface: Grass area.		Note: Values in brackets preceeding a remark indicate depth below ground surface (in feet) corresponding to the remark.
	G	G-1		0.1		▨	9" Topsoil.		Hand dig with shovel from approximately 0 to 2 ft. Grab sample G-1 collected.
	◣	S-1 10/24	4 5 4 4	0.3	● 9	▩	Silty sand with gravel (SM) - Loose; light brown; moist; mostly fine to medium SAND, little fine to coarse gravel, little non plastic fines; trace organics (roots). [FILL] Well graded sand with gravel (SW) - Loose; light brown; moist; mostly fine to coarse SAND, little fine gravel, trace non plastic fines. [FILL]	▽	[3.0] GC: 21%, SC: 70%, FC: 9% [3.5] Water level measured on 08/23/21 (end of drilling).
5	◣	S-2 9/14	5 3 100/2	0.2		▩	Silty sand with gravel (SM) - Dark gray; moist to wet; mostly fine to coarse SAND, some fine gravel, little non plastic fines; occasional debris (glass, ash, brick, coal). [FILL]	2	Auger grinding on possible boulder or debris from approximately 5.2 to 6 ft.
									Boring terminated at 6 ft. and offset approximately 3 ft. southwest to B-1B.
10								-3	
15								-8	
20								-13	

Refer to the attached index sheets for important information about this log including general notes, legends, and guidance on description methods and procedures.

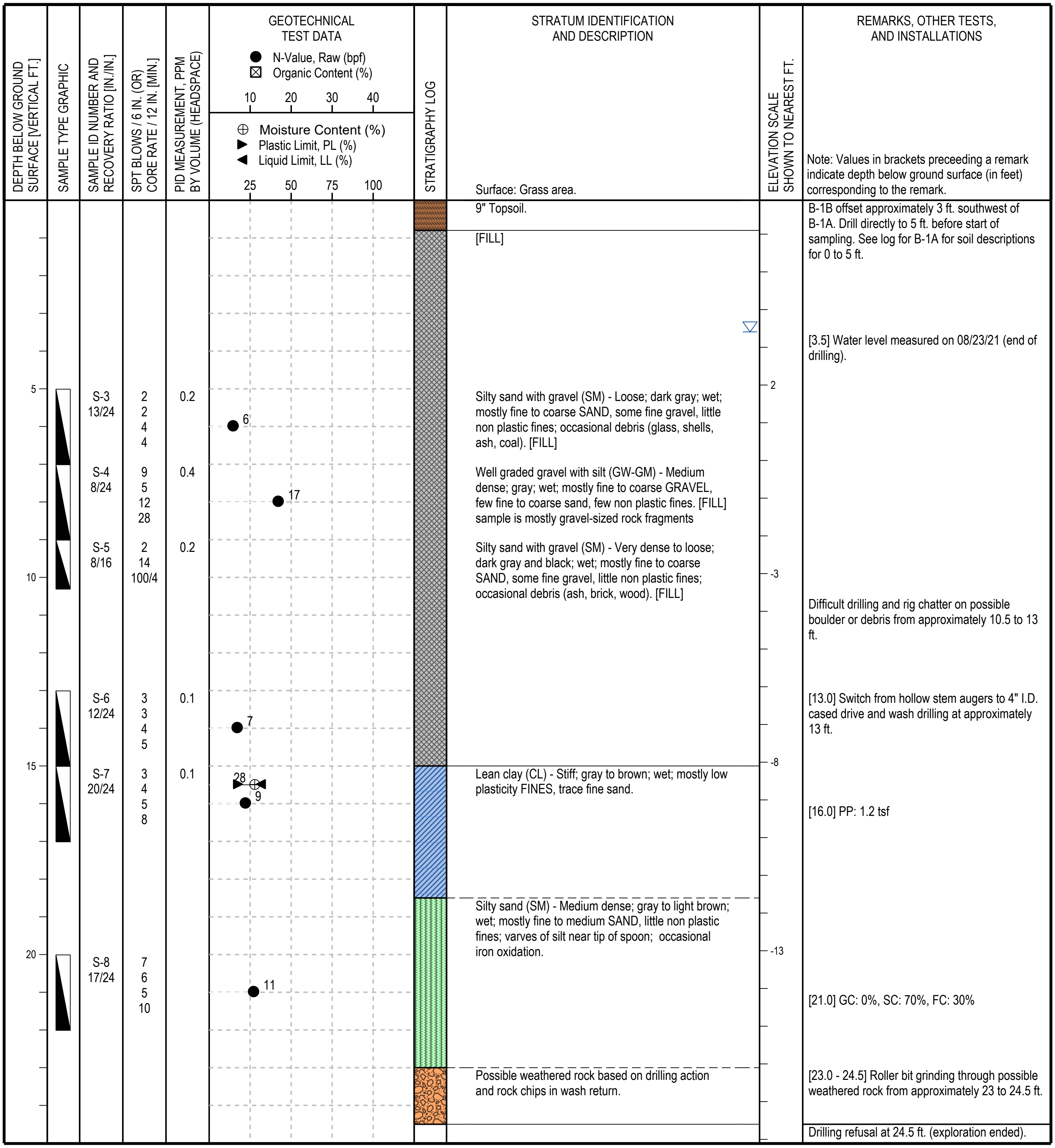
Prescott Park Phase I
105 Marcy Street, Portsmouth, NH

BORING ID: B-1B

WSE Project: ENG21-0591

Page 1 of 1

CONTRACTOR:	Technical Drilling Services, Inc.	BORING LOCATION:	See attached plan.	DATE START:	August 23, 2021
FOREMAN:	Donny Watson	ADVANCE METHOD:	Hollow-Stem Auger to Rotary Wash	DATE FINISH:	August 23, 2021
LOGGED BY:	M. Zanchi, P.E.	AUGER DIAMETER:	4-1/4" ID (Stem), 7-5/8" OD (Flights)	GROUND EL:	6.9 ± (NAVD88)
CHECKED BY:	D. Dwyer, P.E.	SUPPORT CASING:	Driven Flush-Joint Casing (4" ID)	FINAL DEPTH:	24.5 ft. (Refusal)
EQUIPMENT:	Deidrich D-50, ATV Mounted	CORING METHOD:	N/A	GRID COORDS:	N:211620 ± / E:1228850 ±
SPT HAMMER:	Automatic (140-lb.)	BACKFILL MATERIAL:	Drill Cuttings	GRID SYSTEM:	NAD83 State Plane (NH)



SAMPLE ID NUMBER AND RECOVERY RATIO [IN./IN.]	SPT BLOWS / 6 IN. (OR) CORE RATE / 12 IN. [MIN.]	PID MEASUREMENT, PPM BY VOLUME (HEADSPACE)
S-3 13/24	2 2 4 4	0.2
S-4 8/24	9 5 12 28	0.4
S-5 8/16	2 14 100/4	0.2
S-6 12/24	3 3 4 5	0.1
S-7 20/24	3 4 5 8	0.1
S-8 17/24	7 6 5 10	

STRATUM IDENTIFICATION AND DESCRIPTION

Surface: Grass area.

9" Topsoil.

[FILL]

Silty sand with gravel (SM) - Loose; dark gray; wet; mostly fine to coarse SAND, some fine gravel, little non plastic fines; occasional debris (glass, shells, ash, coal). [FILL]

Well graded gravel with silt (GW-GM) - Medium dense; gray; wet; mostly fine to coarse GRAVEL, few fine to coarse sand, few non plastic fines. [FILL] sample is mostly gravel-sized rock fragments

Silty sand with gravel (SM) - Very dense to loose; dark gray and black; wet; mostly fine to coarse SAND, some fine gravel, little non plastic fines; occasional debris (ash, brick, wood). [FILL]

Lean clay (CL) - Stiff; gray to brown; wet; mostly low plasticity FINES, trace fine sand.

Silty sand (SM) - Medium dense; gray to light brown; wet; mostly fine to medium SAND, little non plastic fines; varves of silt near tip of spoon; occasional iron oxidation.

Possible weathered rock based on drilling action and rock chips in wash return.

REMARKS, OTHER TESTS, AND INSTALLATIONS

Note: Values in brackets preceeding a remark indicate depth below ground surface (in feet) corresponding to the remark.

B-1B offset approximately 3 ft. southwest of B-1A. Drill directly to 5 ft. before start of sampling. See log for B-1A for soil descriptions for 0 to 5 ft.

[3.5] Water level measured on 08/23/21 (end of drilling).

Difficult drilling and rig chatter on possible boulder or debris from approximately 10.5 to 13 ft.

[13.0] Switch from hollow stem augers to 4" I.D. cased drive and wash drilling at approximately 13 ft.

[16.0] PP: 1.2 tsf

[21.0] GC: 0%, SC: 70%, FC: 30%

[23.0 - 24.5] Roller bit grinding through possible weathered rock from approximately 23 to 24.5 ft.

Drilling refusal at 24.5 ft. (exploration ended).

Refer to the attached index sheets for important information about this log including general notes, legends, and guidance on description methods and procedures.

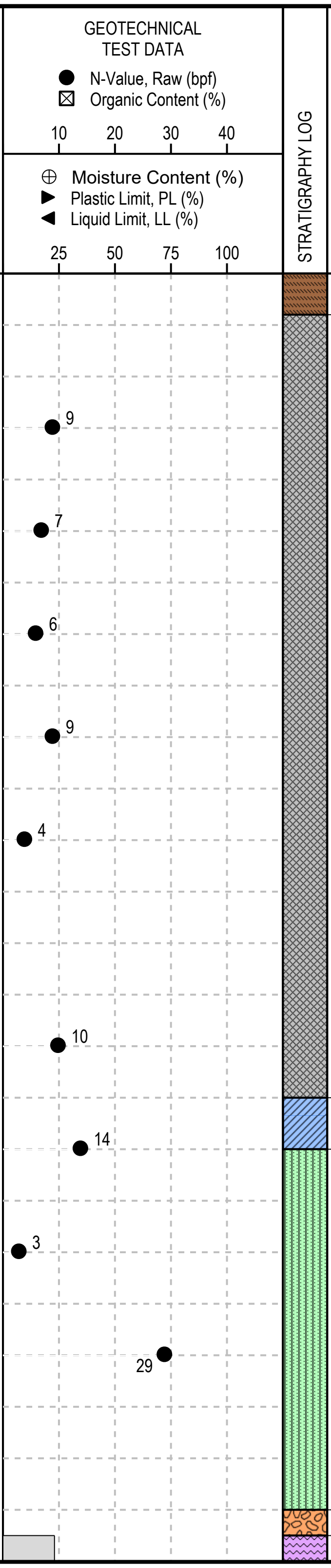
Prescott Park Phase I
105 Marcy Street, Portsmouth, NH

BORING ID: B-2

WSE Project: ENG21-0591

CONTRACTOR:	Technical Drilling Services, Inc.	BORING LOCATION:	See attached plan.	DATE START:	August 23, 2021
FOREMAN:	Donny Watson/Brett Balyk	ADVANCE METHOD:	Hollow-Stem Auger to Rotary Wash	DATE FINISH:	August 24, 2021
LOGGED BY:	M. Zanchi, P.E.	AUGER DIAMETER:	4-1/4" ID (Stem), 7-5/8" OD (Flights)	GROUND EL:	7.1 ± (NAVD88)
CHECKED BY:	D. Dwyer, P.E.	SUPPORT CASING:	Driven Flush-Joint Casing (4" ID)	FINAL DEPTH:	29.5 ft. (Refusal)
EQUIPMENT:	Deidrich D-50, ATV Mounted	CORING METHOD:	NX Conventional	GRID COORDS:	N:211556 ± / E:1228863 ±
SPT HAMMER:	Automatic (140-lb.)	BACKFILL MATERIAL:	Drill Cuttings	GRID SYSTEM:	NAD83 State Plane (NH)

DEPTH BELOW GROUND SURFACE [VERTICAL FT.]	SAMPLE TYPE GRAPHIC	SAMPLE ID NUMBER AND RECOVERY RATIO [IN./IN.]	SPT BLOWS / 6 IN. (OR) CORE RATE / 12 IN. [MIN.]	PID MEASUREMENT, PPM BY VOLUME (HEADSPACE)	N-Value, Raw (bpf)
	G	G-1			
		S-1 16/24	2 3 6 7	0.1	9
5		S-2 9/24	2 3 4 5	0.1	7
		S-3 7/24	2 3 3 4	0.3	6
		S-4 7/24	3 4 5 6	0.5	9
10		S-5 13/24	2 2 2 3	0.4	4
		S-6 4/4	100/4	2.4	
15		S-7 0/24	5 5 5 6		10
		S-8 14/24	5 7 7 12	9.8 17.3	14
		S-9 21/24	3 1 2 3		3
20		S-10 14/24	2 4 25 23		29
		S-11 5/5	100/5 02:32		



STRATUM IDENTIFICATION AND DESCRIPTION

Surface: Grass area.

9" Topsoil.

Silty sand with gravel (SM) - Loose; brown; moist to wet; mostly fine to medium SAND, little non plastic fines, little fine gravel; bottom 4" is dark gray. [FILL]

Silty sand with gravel (SM) - Loose; brown; wet; mostly fine to coarse SAND, some fine gravel, little non plastic fines; trace organics (roots), common debris (glass, brick). [FILL]

Clayey sand (SC) - Loose; dark gray to black; wet; mostly fine to coarse SAND, some low plasticity fines, few fine gravel; petroleum-like odor; occasional debris (wood, glass). [FILL]

Well graded gravel with silt and sand (GW-GM) - Loose; brown to black; wet; mostly fine to coarse GRAVEL, little fine to coarse sand, few non plastic fines; petroleum-like odor; numerous debris (wood, brick). [FILL]

Silty sand with gravel (SM) - Loose; dark gray to black; wet; some fine to medium SAND, some non plastic fines, little fine gravel; petroleum-like odor; trace shells, possible dredge soils. [FILL]

Black, wet, mostly wood fragments, some gravel-sized brick fragments, strong petroleum-like odor. [FILL]

No Recovery. Piece of rubber in tip of spoon.

Lean clay (CL) - Stiff; gray; wet; mostly low plasticity FINES, trace fine sand; wood mixed with sample likely carried down by augers.

Silty sand (SM) - Medium dense to very loose; brown; wet; mostly fine to medium SAND, little non plastic fines; occasional varves of silt.

concentration of fine gravel at approximately 21 ft.

Poorly graded gravel with sand (GP) - Very dense; gray; wet; mostly fine GRAVEL, little medium to coarse sand, trace non plastic fines. [WEATHERED ROCK]
sample is primarily gravel-sized rock fragments.

Fresh to slightly weathered, gray, fine-grained, METAWACKE, moderately hard to hard, highly fractured, high angle joints, slight oxidation on joint surfaces [KITTERY FORMATION]
RQD: 18%

ELEVATION SCALE SHOWN TO NEAREST FT.: 3, -2, -7, -12, -17

REMARKS, OTHER TESTS, AND INSTALLATIONS

Note: Values in brackets preceeding a remark indicate depth below ground surface (in feet) corresponding to the remark.

[3.0] Water level measured on 08/23/21 (end of drilling).

[11.0] GC: 17%, SC: 46%, FC: 37%

[12.0 - 14.0] Drill through possible wood from approximately 12 to 14 ft.
Drilling becomes slower at approximately 12.3 ft.

Switch from hollow stem augers to 4" I.D. cased drive and wash at approximately 14 ft.

[19.0] GC: 0%, SC: 75%, FC: 25%

[24.5 - 29.5] Rig chatter and slower drilling

DEPTH BELOW GROUND SURFACE [VERTICAL FT.]	SAMPLE TYPE GRAPHIC	SAMPLE ID NUMBER AND RECOVERY RATIO [IN./IN.]	SPT BLOWS / 6 IN. (OR) CORE RATE / 12 IN. [MIN.]	PID MEASUREMENT, PPM BY VOLUME (HEADSPACE)	GEOTECHNICAL TEST DATA ● N-Value, Raw (bpf) ☒ Organic Content (%) 10 20 30 40 ⊕ Moisture Content (%) ▶ Plastic Limit, PL (%) ◀ Liquid Limit, LL (%) 25 50 75 100	STRATIGRAPHY LOG	STRATUM IDENTIFICATION AND DESCRIPTION	ELEVATION SCALE SHOWN TO NEAREST FT.	REMARKS, OTHER TESTS, AND INSTALLATIONS Note: Values in brackets preceeding a remark indicate depth below ground surface (in feet) corresponding to the remark.
	▮	C-1 44/60	04:07 07:00 02:55 02:05		RQD = 18%	▨	Fresh to slightly weathered, gray, fine-grained, METAWACKE, moderately hard to hard, highly fractured, high angle joints, slight oxidation on joint surfaces [KITTERY FORMATION] RQD: 18%	-22	beginning at about 24 ft. Core rock from approximately 24.5 to 29.5 ft. Significant water loss while coring. [27.4] Core barrel jammed at approximately 27.4 ft. Core barrel emptied and coring continued to 29.5 ft.
30									Boring terminated at 29.5 ft. after coring rock.
								-27	
35									
								-32	
40									
								-37	
45									
								-42	
50									

Refer to the attached index sheets for important information about this log including general notes, legends, and guidance on description methods and procedures.

Weston & Sampson℠

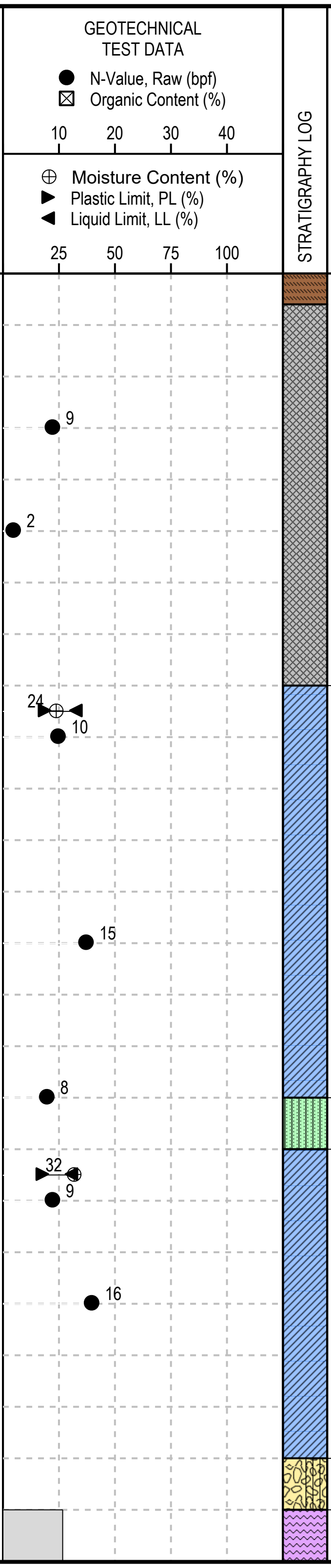
Prescott Park Phase I
105 Marcy Street, Portsmouth, NH

BORING ID: B-3

WSE Project: ENG21-0591

Page 1 of 2

CONTRACTOR:	Technical Drilling Services, Inc.	BORING LOCATION:	See attached plan.	DATE START:	August 24, 2021
FOREMAN:	Brett Balyk	ADVANCE METHOD:	Hollow-Stem Auger to Rotary Wash	DATE FINISH:	August 24, 2021
LOGGED BY:	M. Zanchi, P.E.	AUGER DIAMETER:	2-1/4" ID (Stem), 5-5/8" OD (Flights)	GROUND EL:	7.4 ± (NAVD88)
CHECKED BY:	D. Dwyer, P.E.	SUPPORT CASING:	Driven Flush-Joint Casing (4" ID)	FINAL DEPTH:	28.5 ft. (Refusal)
EQUIPMENT:	Deidrich D-50, ATV Mounted	CORING METHOD:	NX Conventional	GRID COORDS:	N:211430 ± / E:1228702 ±
SPT HAMMER:	Automatic (140-lb.)	BACKFILL MATERIAL:	Drill Cuttings	GRID SYSTEM:	NAD83 State Plane (NH)



DEPTH BELOW GROUND SURFACE [VERTICAL FT.]	SAMPLE TYPE GRAPHIC	SAMPLE ID NUMBER AND RECOVERY RATIO [IN./IN.]	SPT BLOWS / 6 IN. (OR) CORE RATE / 12 IN. [MIN.]	PID MEASUREMENT, PPM BY VOLUME (HEADSPACE)	STRATUM IDENTIFICATION AND DESCRIPTION	ELEVATION SCALE SHOWN TO NEAREST FT.	REMARKS, OTHER TESTS, AND INSTALLATIONS
					Surface: Grass area.		Note: Values in brackets preceeding a remark indicate depth below ground surface (in feet) corresponding to the remark.
	G	G-1		0.4	7" Topsoil. Poorly graded sand with clay (SP-SC) - Brown; moist; mostly fine SAND, few low plasticity fines. [FILL]		
	G	G-2 S-1 8/24	3 5 4 3	0.5	Silty sand with gravel (SM) - Loose; dark brown; moist; mostly fine to coarse SAND, little non plastic fines, little fine gravel; trace debris (brick). [FILL]		
5		S-2 10/24	1 1 1 26	0.3	Silty sand with gravel (SM) - Very loose; dark gray to black; moist to wet; some fine to coarse SAND, some fine to coarse gravel, little non plastic fines; numerous debris (wood). [FILL]	3	[5.0] Estimated water level at time of drilling based on changes in sample moisture.
		S-3 2/2	100/2	0.3	Silty sand (SM) - Dark gray; wet; mostly fine to coarse SAND, some non plastic fines, few fine gravel. [FILL]		
		S-4 22/24	2 3 7 10	0.1	Lean clay (CL) - Stiff; mottled gray and brown; wet; mostly low plasticity FINES, trace fine sand.	-2	[8.0] PP: 1.5 tsf
10		ST-1 24/24					Switch from hollow stem augers to 4" I.D. cased drive and wash at approximately 10 ft. [10.0 - 12.0] Shelby tube pushed from approximately 10 to 12 ft. Shelby tube deformed slightly due to stiff soils.
		S-5 24/24	4 6 9 10		Lean clay (CL) - Stiff to very stiff; mottled gray and brown; wet; mostly low plasticity FINES, few fine sand; some fine to coarse gravel in top 3".	-7	[12.0] PP: 2.0 tsf
15		S-6 24/24	3 4 4 5		Lean clay with sand (CL) - Stiff; gray; wet; mostly low plasticity FINES, little fine sand. Silty sand (SM) - Orange brown; wet; mostly fine to medium SAND, some non plastic fines; occasional iron oxidation.		[15.0] PP: 0.2 tsf
		S-7 20/24	2 4 5 6		Lean clay with sand (CL) - Stiff; gray; wet; mostly low plasticity FINES, little fine sand.		[17.0] PP: 0.2 tsf
20		S-8 24/24	3 11 5 9		Sandy lean clay with gravel (CL) - Very stiff; gray; wet; mostly low plasticity FINES, some fine to medium sand, little fine gravel.	-12	[20.0] FC: 71%
					Poorly graded gravel with silt and sand (GP-GM) - Very dense; gray; wet; mostly fine GRAVEL, little fine to coarse sand, few non plastic fines. [WEATHERED ROCK] sample is primarily gravel-sized rock fragments		
		S-9 1/1	100/1		Fresh to slightly weathered, gray, fine-grained, METAWACKE, moderately hard to hard, highly fractured below ~25.3 ft, high angle joints, quartz streaks at ~26 to 27 ft. [KITTERY FORMATION]		[23.0] Roller bit through possible weathered rock from approximately 23 to 24 ft.
		C-1 54/54	03:40		RQD: 21%	-17	[24.0 - 28.5] Core rock from approximately 24 to 28.5 ft.

Refer to the attached index sheets for important information about this log including general notes, legends, and guidance on description methods and procedures.

WSE Project: ENG21-0591

Prescott Park Phase I
105 Marcy Street, Portsmouth, NH

BORING ID: B-3

DEPTH BELOW GROUND SURFACE [VERTICAL FT.]	SAMPLE TYPE GRAPHIC	SAMPLE ID NUMBER AND RECOVERY RATIO [IN./IN.]	SPT BLOWS / 6 IN. (OR) CORE RATE / 12 IN. [MIN.]	PID MEASUREMENT, PPM BY VOLUME (HEADSPACE)	GEOTECHNICAL TEST DATA ● N-Value, Raw (bpf) ⊠ Organic Content (%) 10 20 30 40 ⊕ Moisture Content (%) ▶ Plastic Limit, PL (%) ◀ Liquid Limit, LL (%) 25 50 75 100	STRATIGRAPHY LOG	STRATUM IDENTIFICATION AND DESCRIPTION	ELEVATION SCALE SHOWN TO NEAREST FT.	REMARKS, OTHER TESTS, AND INSTALLATIONS Note: Values in brackets preceeding a remark indicate depth below ground surface (in feet) corresponding to the remark.
			02:40 02:55 05:00 07:00		RQD = 21%		Fresh to slightly weathered, gray, fine-grained, METAWACKE, moderately hard to hard, highly fractured below ~25.3 ft, high angle joints, quartz streaks at ~26 to 27 ft. [KITTERY FORMATION] RQD: 21%		
									Boring terminated at 28.5 ft. after coring rock.
								-22	
30									
								-27	
35									
								-32	
40									
								-37	
45									
								-42	
50									

Attachment C

Laboratory Test Results

Client:	Weston & Sampson Engineers				
Project:	Prescott Park Ph 1 Final Design				
Location:	Portsmouth, NH			Project No:	GTX-314269
Boring ID:	B-3	Sample Type:	bag	Tested By:	ckg
Sample ID:	S-8	Test Date:	09/13/21	Checked By:	bfs
Depth :	19-21	Test Id:	631161		

Test Comment: ---
Visual Description: Moist, gray silt with sand
Sample Comment: ---

Amount of Material Passing #200 Sieve - ASTM D1140

Boring ID	Sample ID	Depth	Visual Description	Fines, %
B-3	S-8	19-21	Moist, gray silt with sand	71.0

Notes: Tests performed using Method B - washing using a wetting agent
Dry mass of test specimen was determined directly

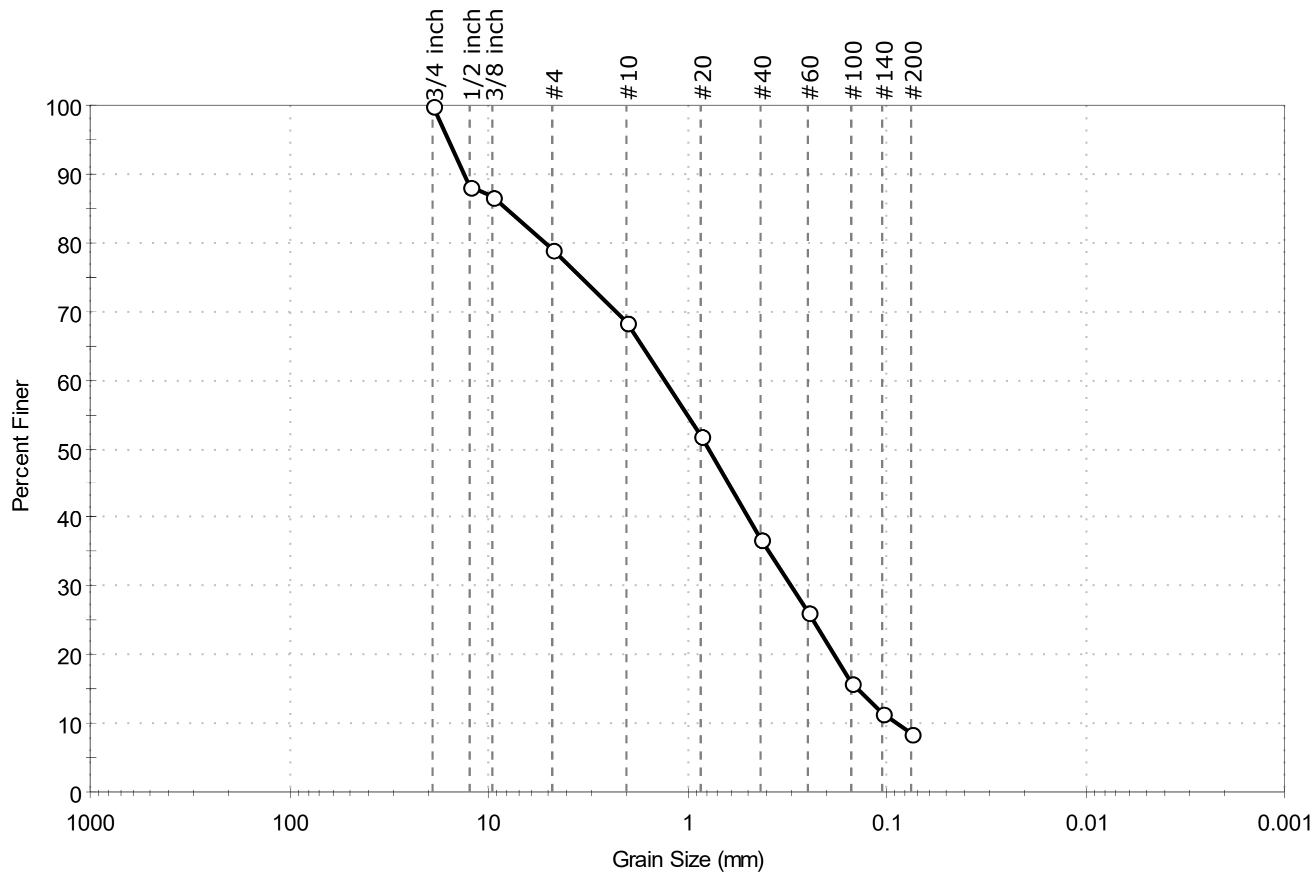
GeoTesting EXPRESS

Client: Weston & Sampson Engineers
Project: Prescott Park Ph 1 Final Design
Location: Portsmouth, NH
Project No: GTX-314269

Boring ID: B-1A
Sample Type: bag
Tested By: ckg
Sample ID: S-1
Test Date: 09/16/21
Checked By: bfs
Depth : 2-4
Test Id: 631147

Test Comment: ---
Visual Description: Moist, yellowish brown sand with silt and gravel
Sample Comment: ---

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	20.8	70.5	8.7

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
3/4 inch	19.00	100		
1/2 inch	12.50	88		
3/8 inch	9.50	87		
#4	4.75	79		
#10	2.00	68		
#20	0.85	52		
#40	0.42	37		
#60	0.25	26		
#100	0.15	16		
#140	0.11	12		
#200	0.075	8.7		

Coefficients

D_{85} =8.0575 mm
D_{30} =0.2995 mm
D_{60} =1.2892 mm
D_{15} =0.1384 mm
D_{50} =0.7738 mm
D_{10} =0.0877 mm
C_u =14.700
C_c =0.793

Classification

ASTM N/A

AASHTO Stone Fragments, Gravel and Sand (A-1-b (1))

Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

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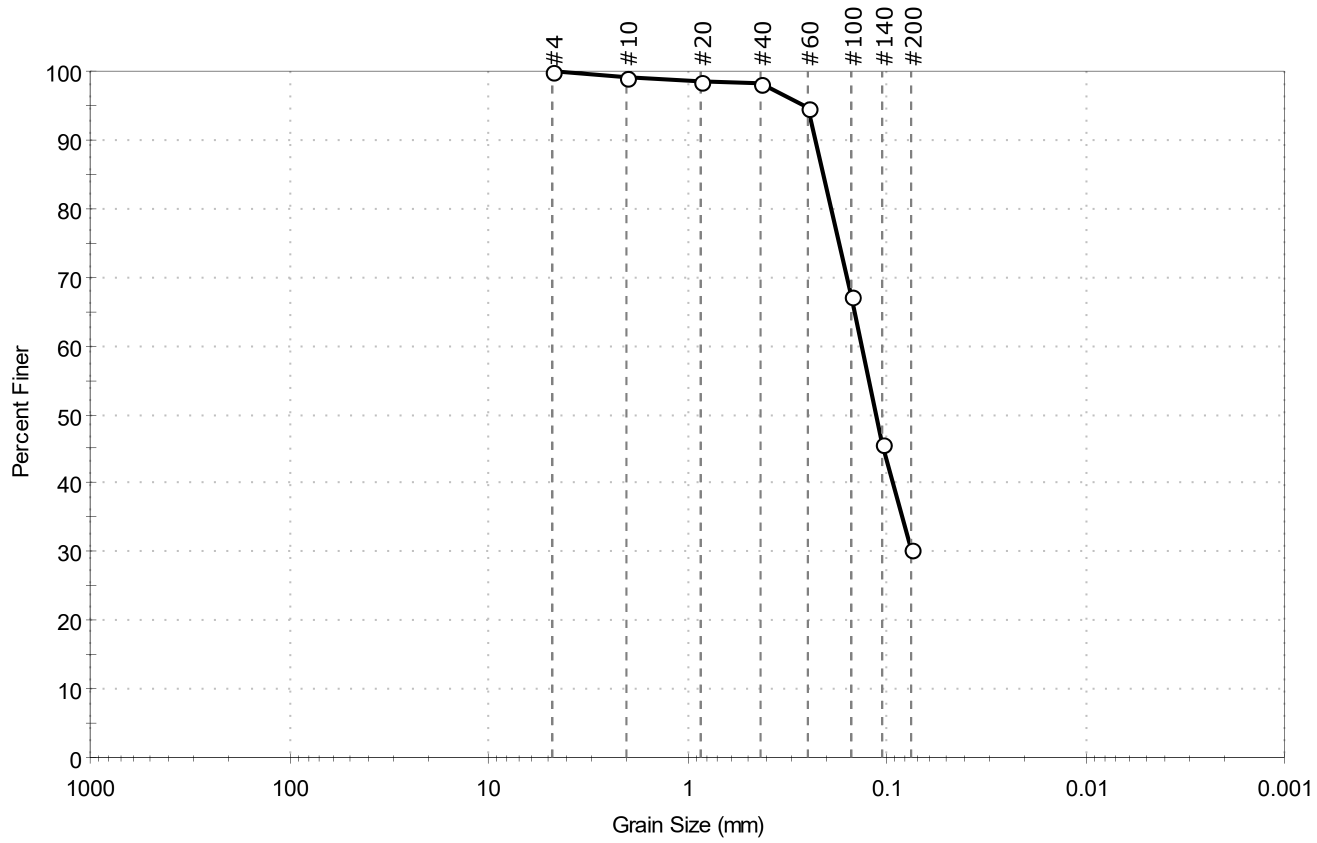
GeoTesting
EXPRESS

Client:	Weston & Sampson Engineers		
Project:	Prescott Park Ph 1 Final Design		
Location:	Portsmouth, NH	Project No:	GTX-314269

Boring ID:	B-1B	Sample Type:	bag	Tested By:	ckg
Sample ID:	S-8	Test Date:	09/16/21	Checked By:	bfs
Depth :	20-22	Test Id:	631148		

Test Comment:	---
Visual Description:	Moist, yellowish brown silty sand
Sample Comment:	---

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	69.5	30.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	99		
#20	0.85	99		
#40	0.42	98		
#60	0.25	95		
#100	0.15	67		
#140	0.11	46		
#200	0.075	30		

Coefficients

D_{85} =0.2089 mm
D_{30} =N/A
D_{60} =0.1336 mm
D_{15} =N/A
D_{50} =0.1136 mm
D_{10} =N/A
C_u =N/A
C_c =N/A

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

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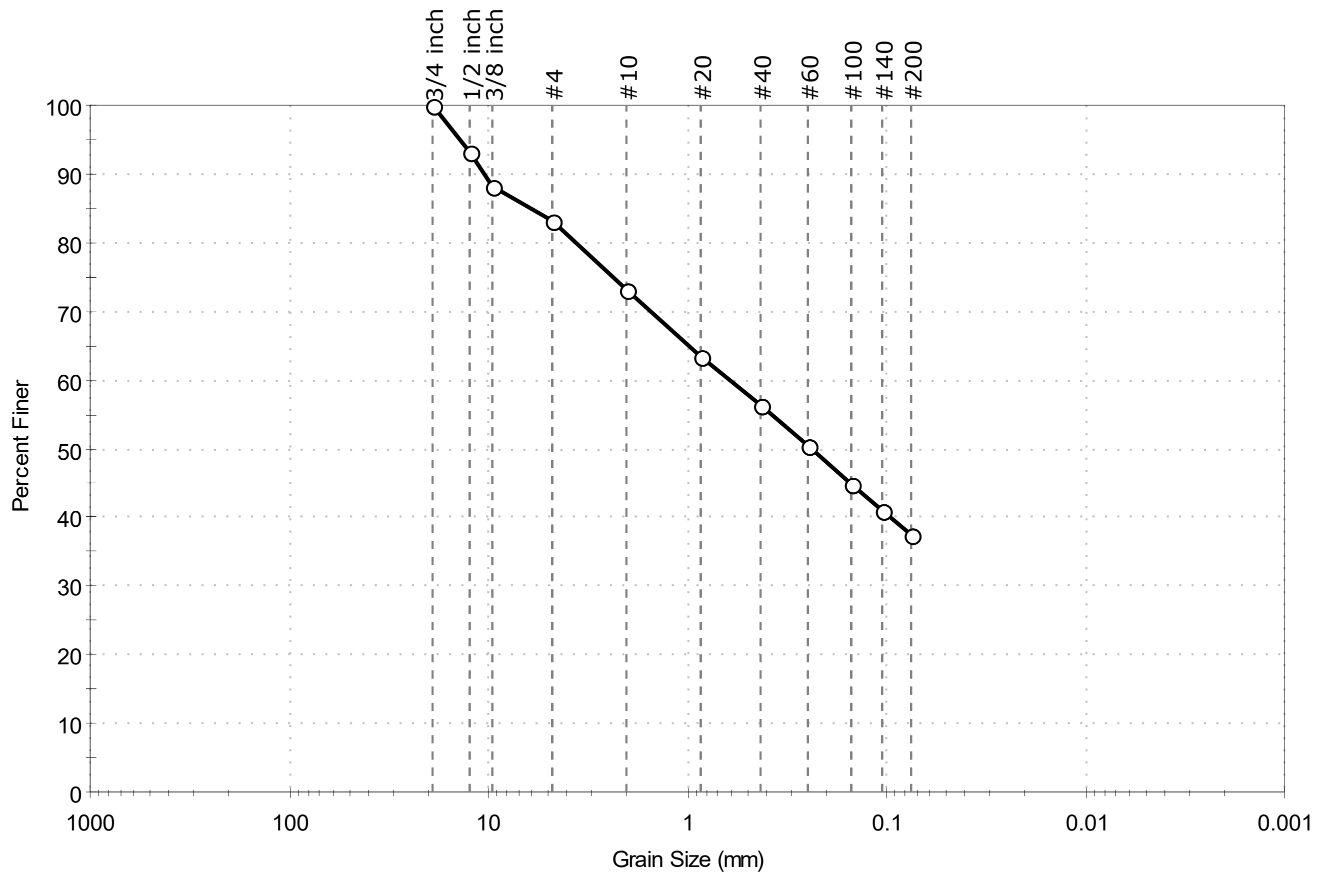
Client: Weston & Sampson Engineers
Project: Prescott Park Ph 1 Final Design
Location: Portsmouth, NH
Project No: GTX-314269

Boring ID: B-2
Sample ID: S-5
Depth : 10-12
Sample Type: bag
Test Date: 09/16/21
Test Id: 631149
Tested By: ckg
Checked By: bfs

Test Comment: ---
Visual Description: Moist, very dark brown clayey sand with gravel
Sample Comment: ---

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	16.8	45.8	37.4

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
3/4 inch	19.00	100		
1/2 inch	12.50	93		
3/8 inch	9.50	88		
#4	4.75	83		
#10	2.00	73		
#20	0.85	63		
#40	0.42	56		
#60	0.25	50		
#100	0.15	45		
#140	0.11	41		
#200	0.075	37		

Coefficients

D_{85} =6.1479 mm
D_{30} =N/A
D_{60} =0.6088 mm
D_{15} =N/A
D_{50} =0.2400 mm
D_{10} =N/A
C_u =N/A
C_c =N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR

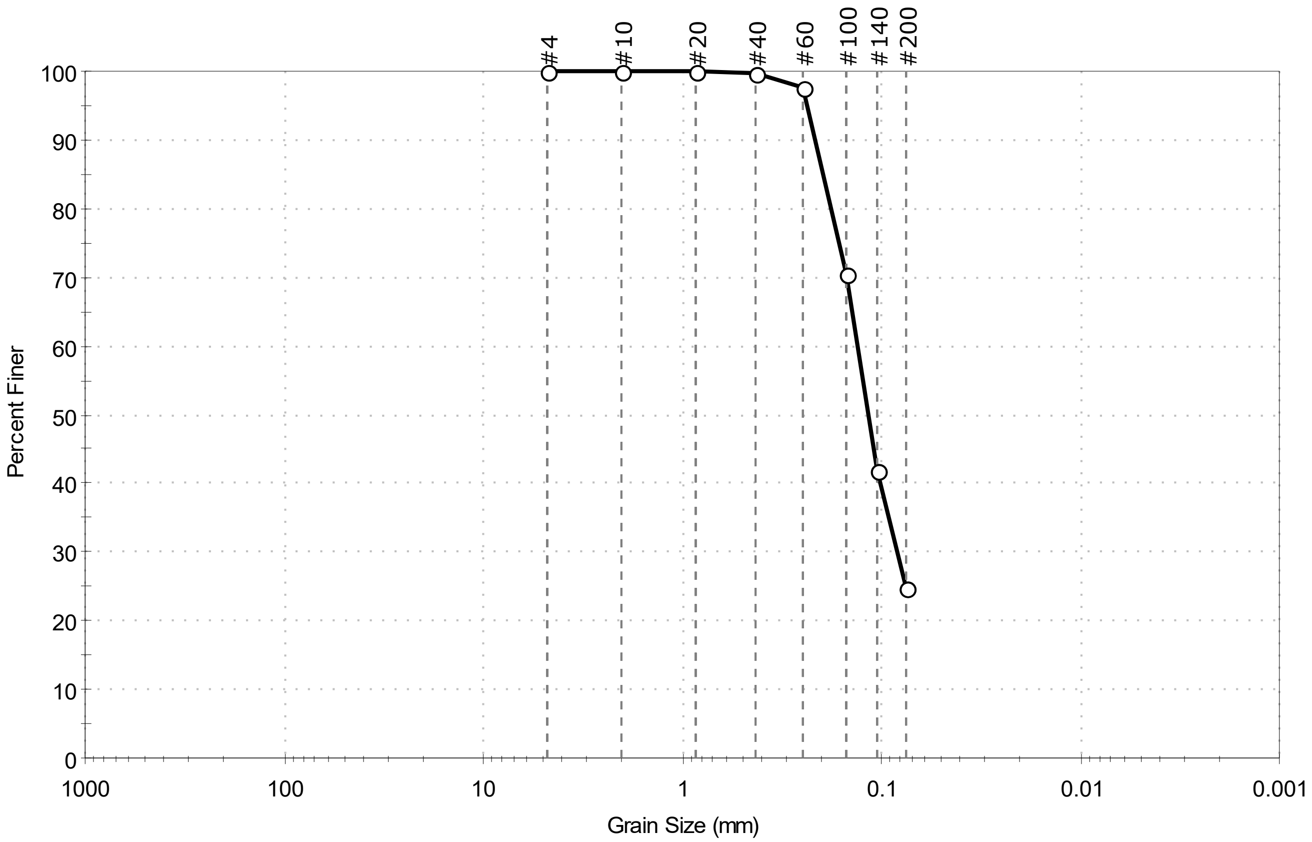
Sand/Gravel Hardness : HARD

Client:	Weston & Sampson Engineers		
Project:	Prescott Park Ph 1 Final Design		
Location:	Portsmouth, NH	Project No:	GTX-314269

Boring ID:	B-2	Sample Type:	bag	Tested By:	ckg
Sample ID:	S-9	Test Date:	09/16/21	Checked By:	bfs
Depth :	18-20	Test Id:	631150		

Test Comment: ---
Visual Description: Moist, light olive brown silty sand
Sample Comment: ---

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	75.4	24.6

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	98		
#100	0.15	70		
#140	0.11	42		
#200	0.075	25		

Coefficients

D_{85} =0.1972 mm	D_{30} =0.0836 mm
D_{60} =0.1322 mm	D_{15} =N/A
D_{50} =0.1171 mm	D_{10} =N/A
C_u =N/A	C_c =N/A

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

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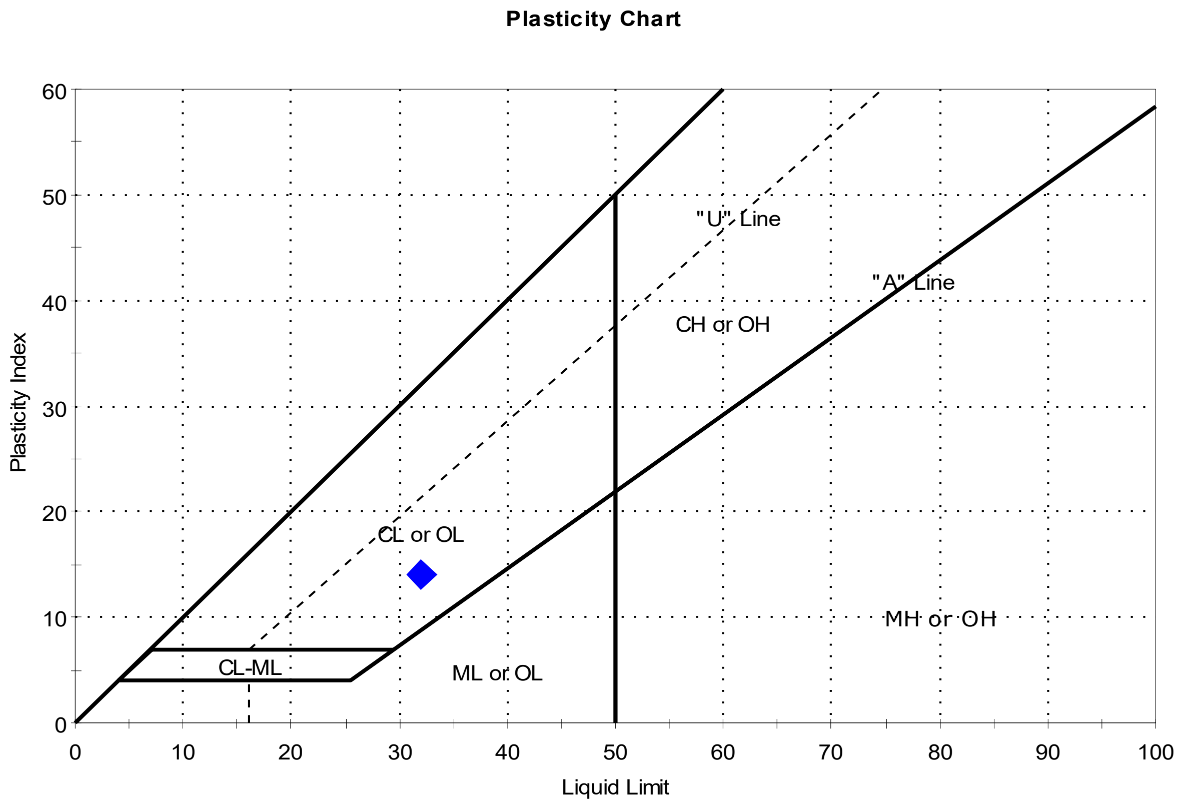
Client: Weston & Sampson Engineers
Project: Prescott Park Ph 1 Final Design
Location: Portsmouth, NH
Project No: GTX-314269
Boring ID: B-1B
Sample Type: bag
Tested By: cam
Sample ID: S-7
Test Date: 09/15/21
Checked By: bfs
Depth : 15-17
Test Id: 631144
Test Comment: ---
Visual Description: Moist, olive clay
Sample Comment: ---

Atterberg Limits - ASTM D4318



Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-7	B-1B	15-17	28	32	18	14	0.7	

Sample Prepared using the WET method

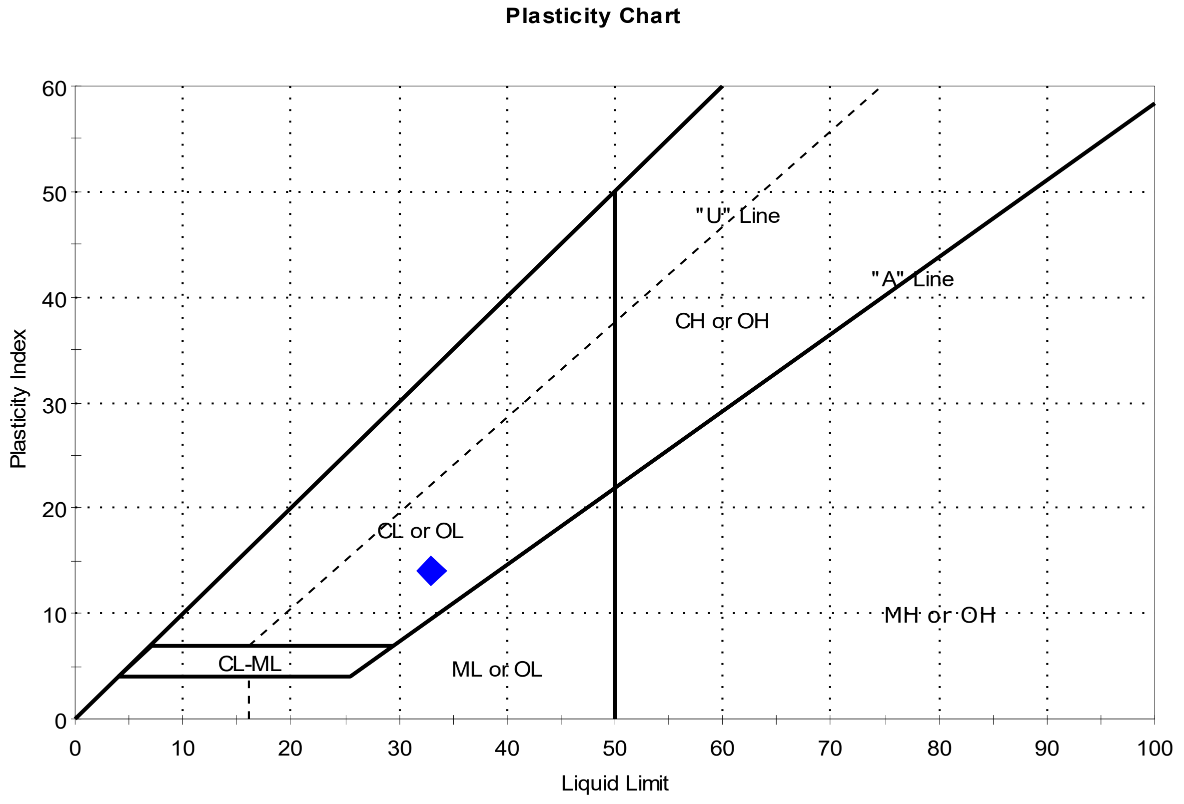
Dry Strength: VERY HIGH
Dilatancy: SLOW
Toughness: LOW

Client: Weston & Sampson Engineers
Project: Prescott Park Ph 1 Final Design
Location: Portsmouth, NH
Project No: GTX-314269

Boring ID: B-3
Sample ID: S-4
Depth : 8-10
Sample Type: bag
Test Date: 09/15/21
Test Id: 631145
Tested By: cam
Checked By: bfs

Test Comment: ---
Visual Description: Moist, dark gray clay
Sample Comment: ---

Atterberg Limits - ASTM D4318



Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-4	B-3	8-10	25	33	19	14	0.5	

Sample Prepared using the WET method

Dry Strength: VERY HIGH
Dilatancy: SLOW
Toughness: LOW

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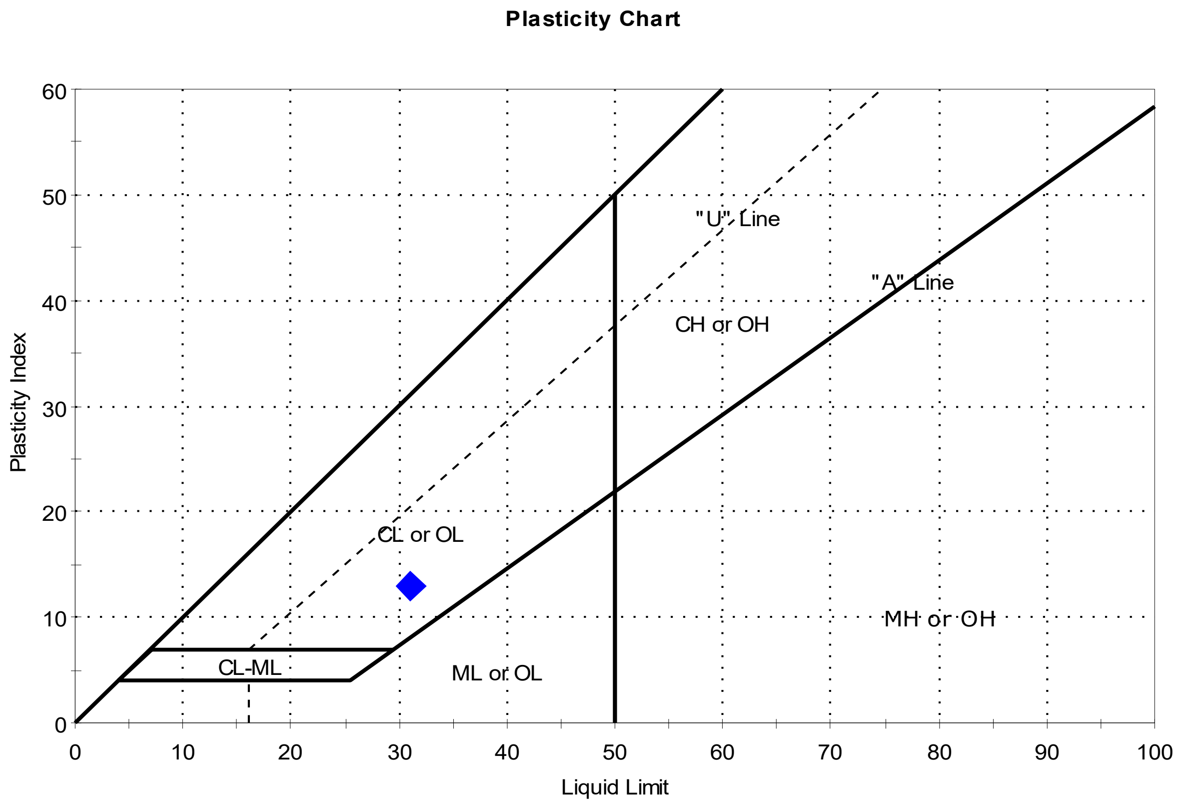
Client: Weston & Sampson Engineers
Project: Prescott Park Ph 1 Final Design
Location: Portsmouth, NH
Project No: GTX-314269
Boring ID: B-3
Sample Type: bag
Tested By: cam
Sample ID: S-7
Test Date: 09/15/21
Checked By: bfs
Depth : 17-19
Test Id: 631146
Test Comment: ---
Visual Description: Moist, dark gray clay
Sample Comment: ---

Atterberg Limits - ASTM D4318



Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	S-7	B-3	17-19	32	31	18	13	1.1	

Sample Prepared using the WET method

Dry Strength: VERY HIGH
Dilatancy: SLOW
Toughness: LOW

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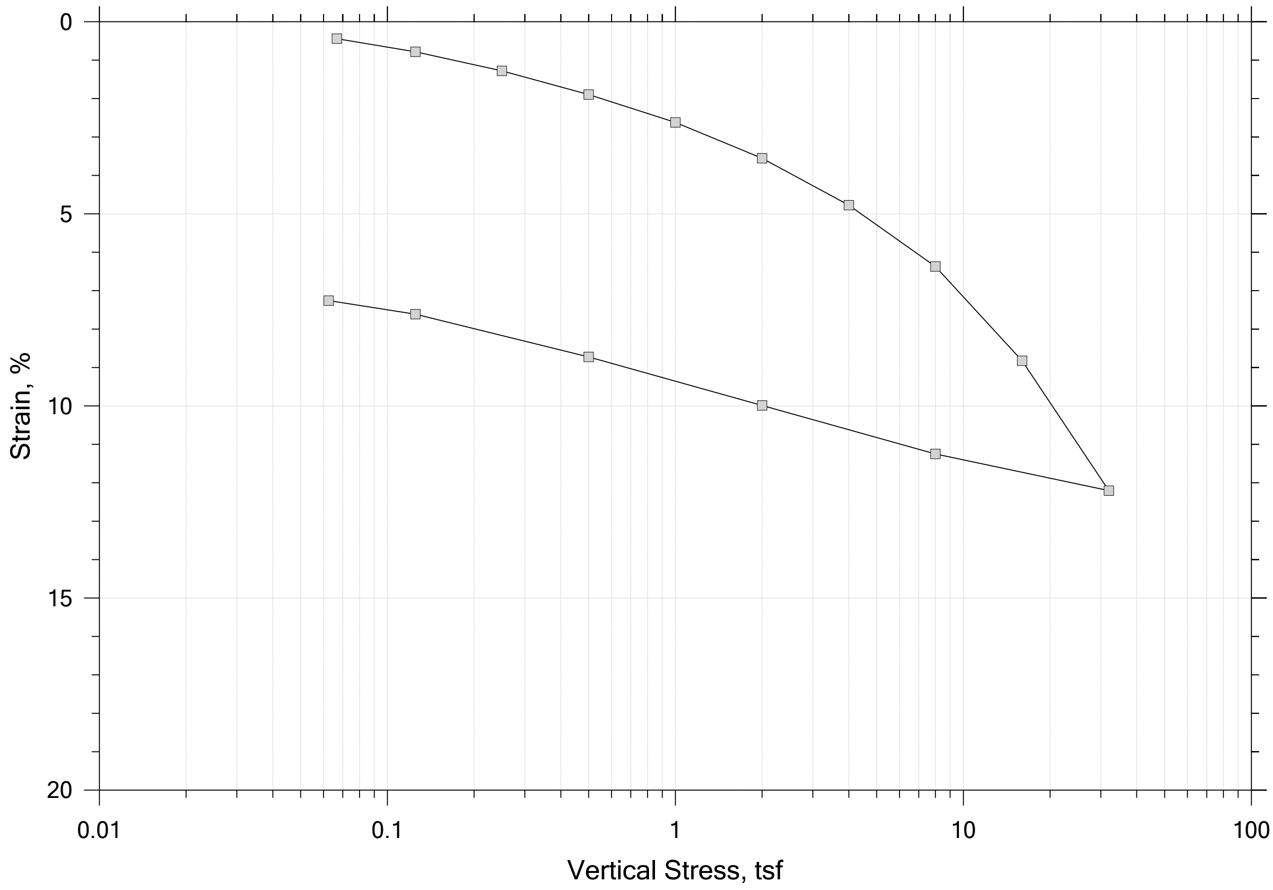
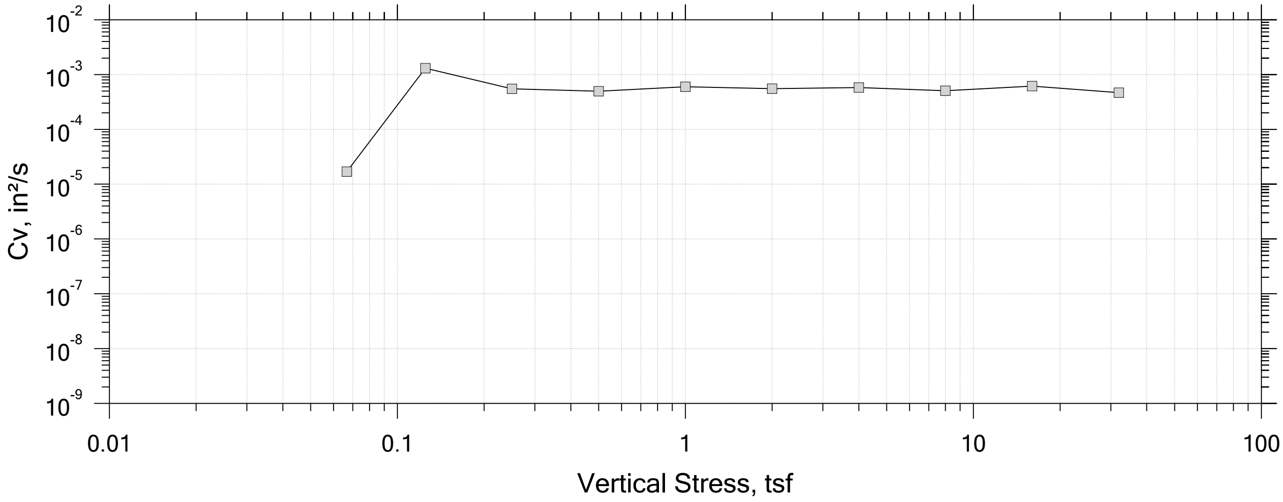
One-Dimensional Consolidation by ASTM D2435 - Method B

Summary Report





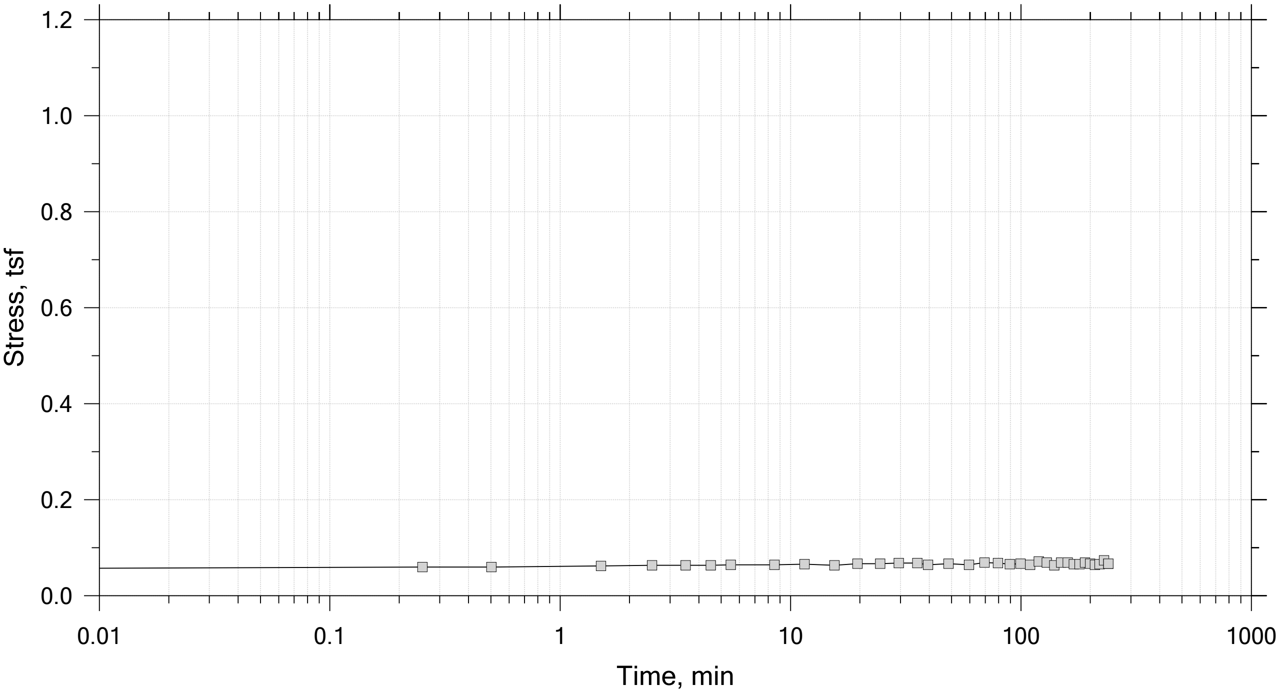
GeoTesting EXPRESS	Project: Prescott Park Ph 1 Final Design	Location: Portsmouth, NH	Project No.: GTX-314269
	Boring No.: B-3	Tested By: trm	Checked By: anm
	Sample No.: ST-1	Test Date: 9/9/21	Depth: 10-12
	Test No.: IP-1	Sample Type: intact	Elevation: ---
	Description: Moist, greenish gray clay		
	Remarks: System LTIII-F, Swell Pressure = 0.0667 tsf		
	Displacement at End of Increment		

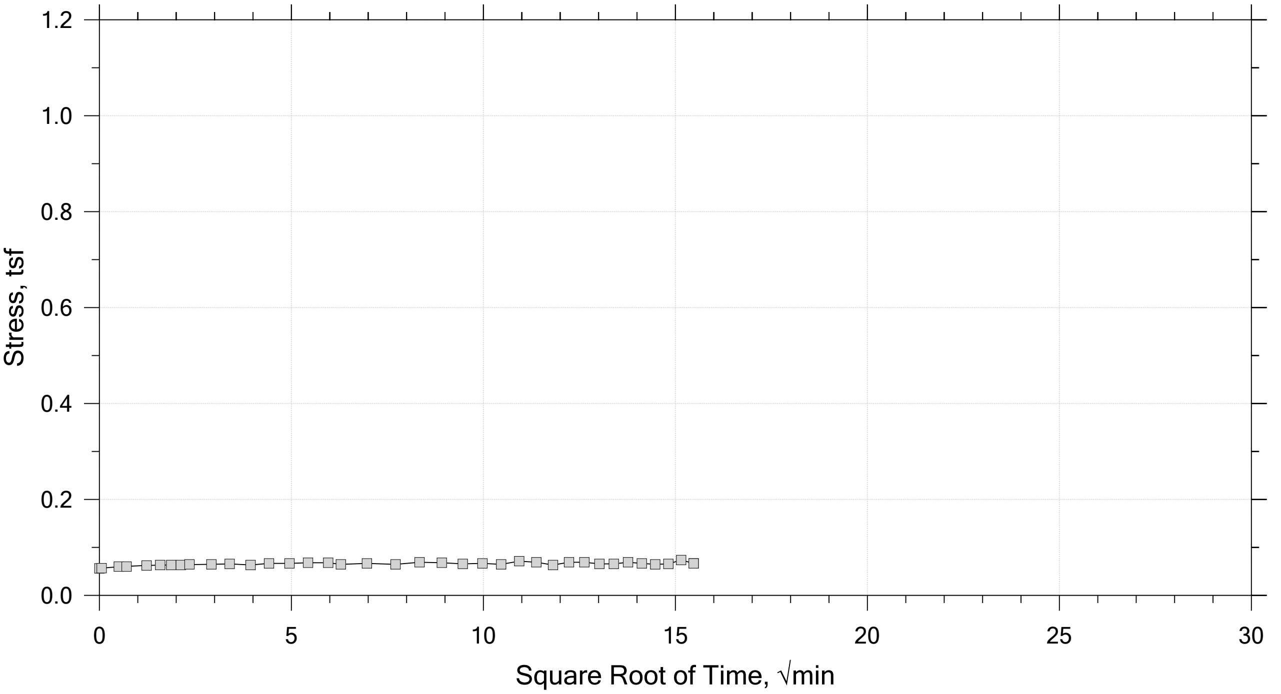
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 1 of 15

Constant Volume Step

Stress: 0.0667 tsf





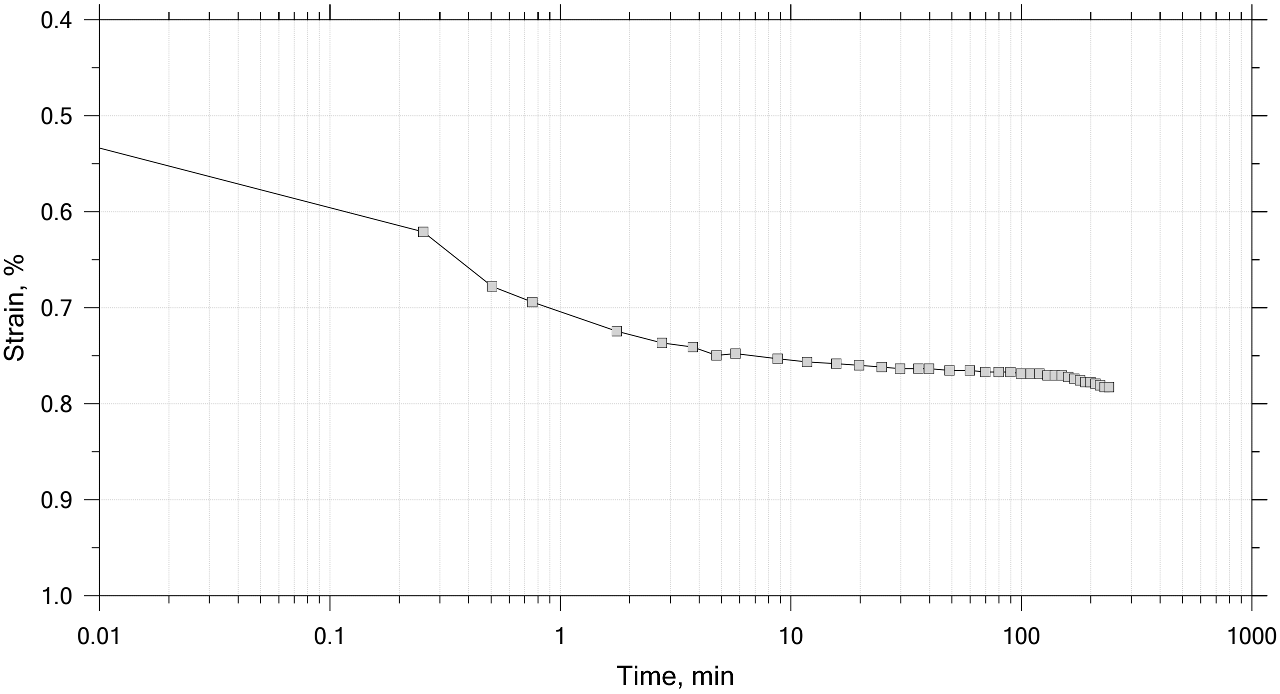
GeoTesting EXPRESS	Project: Prescott Park Ph 1 Final Design	Location: Portsmouth, NH	Project No.: GTX-314269
	Boring No.: B-3	Tested By: trm	Checked By: anm
	Sample No.: ST-1	Test Date: 9/9/21	Depth: 10-12
	Test No.: IP-1	Sample Type: intact	Elevation: ---
	Description: Moist, greenish gray clay		
	Remarks: System LTIII-F, Swell Pressure = 0.0667 tsf		

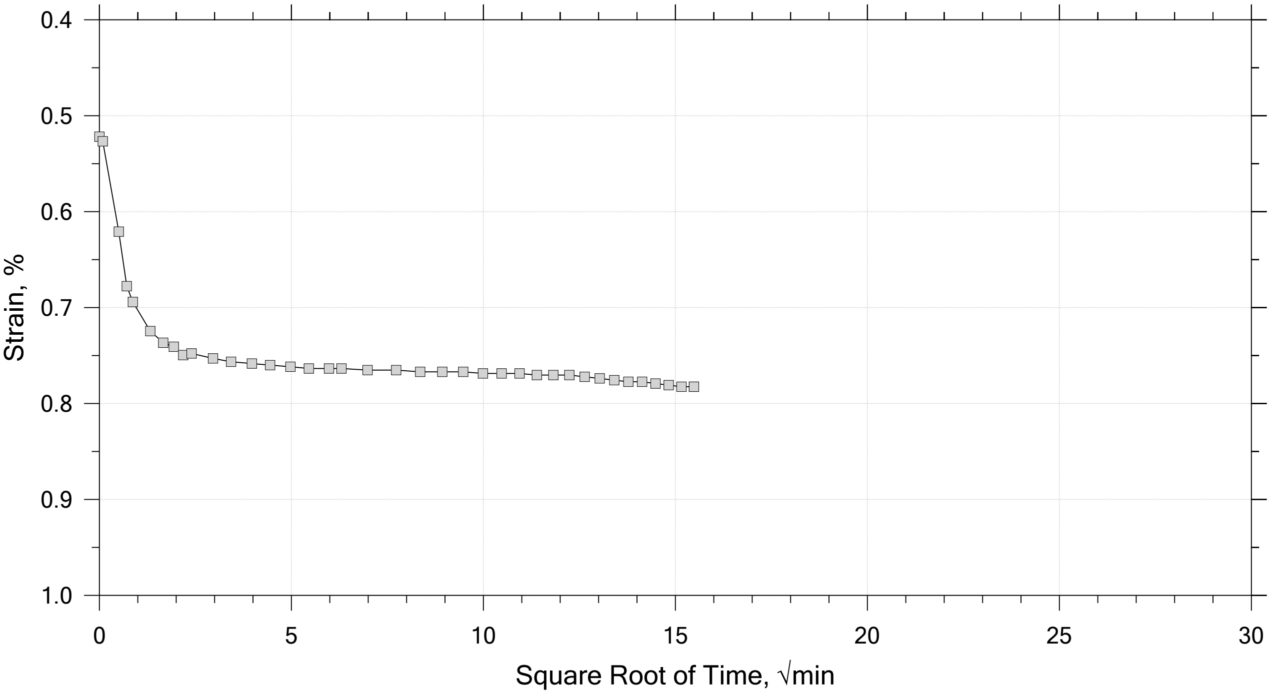
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 2 of 15

Constant Load Step

Stress: 0.125 tsf





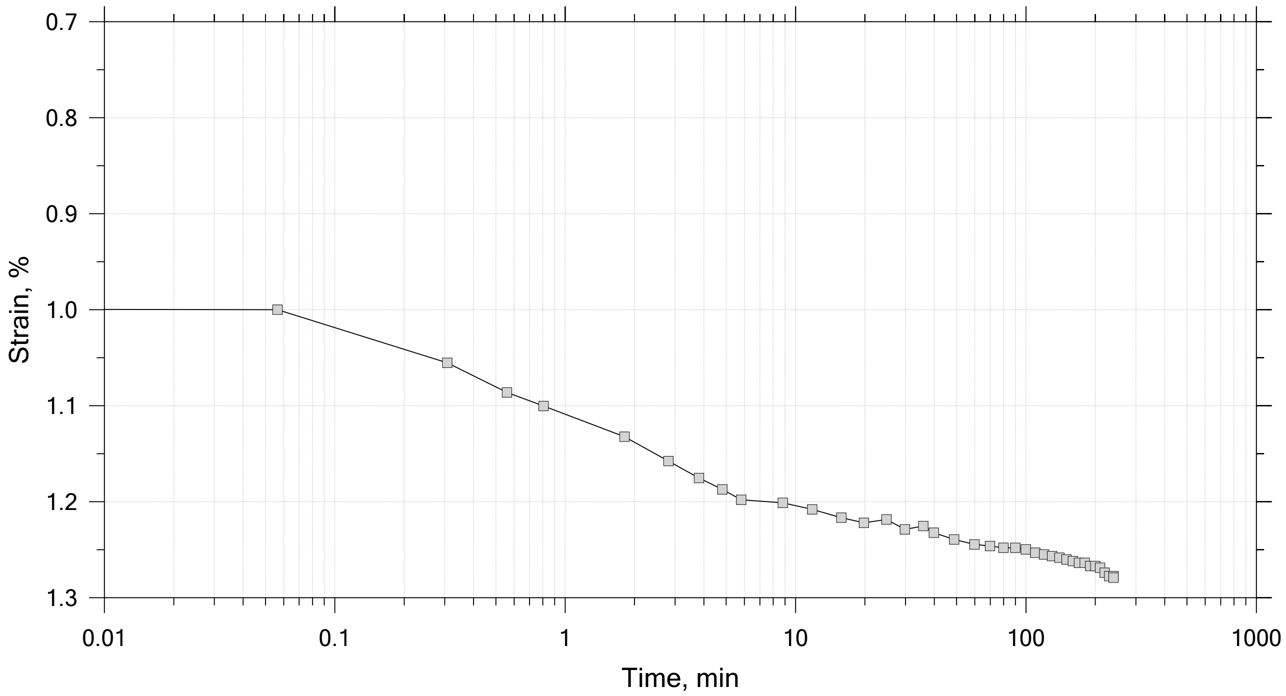
Project: Prescott Park Ph 1 Final Design	Location: Portsmouth, NH	Project No.: GTX-314269
Boring No.: B-3	Tested By: trm	Checked By: anm
Sample No.: ST-1	Test Date: 9/9/21	Depth: 10-12
Test No.: IP-1	Sample Type: intact	Elevation: ---
Description: Moist, greenish gray clay		
Remarks: System LTIII-F, Swell Pressure = 0.0667 tsf		

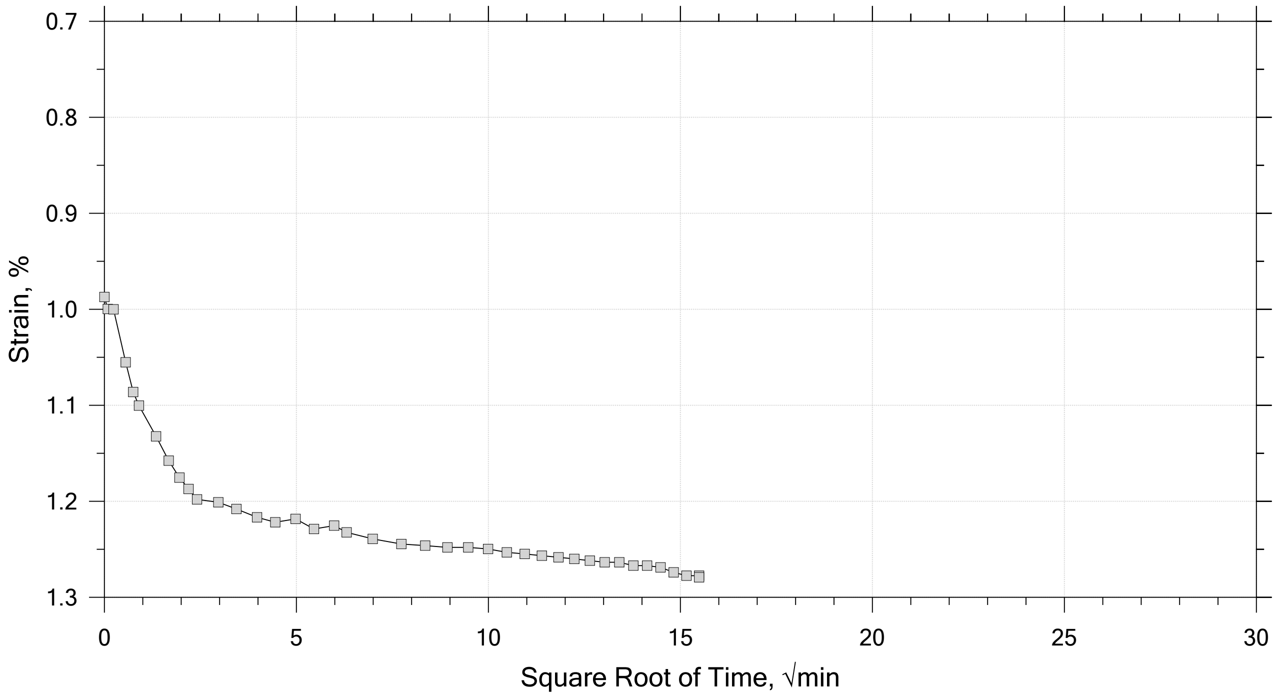
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 3 of 15

Constant Load Step

Stress: 0.25 tsf





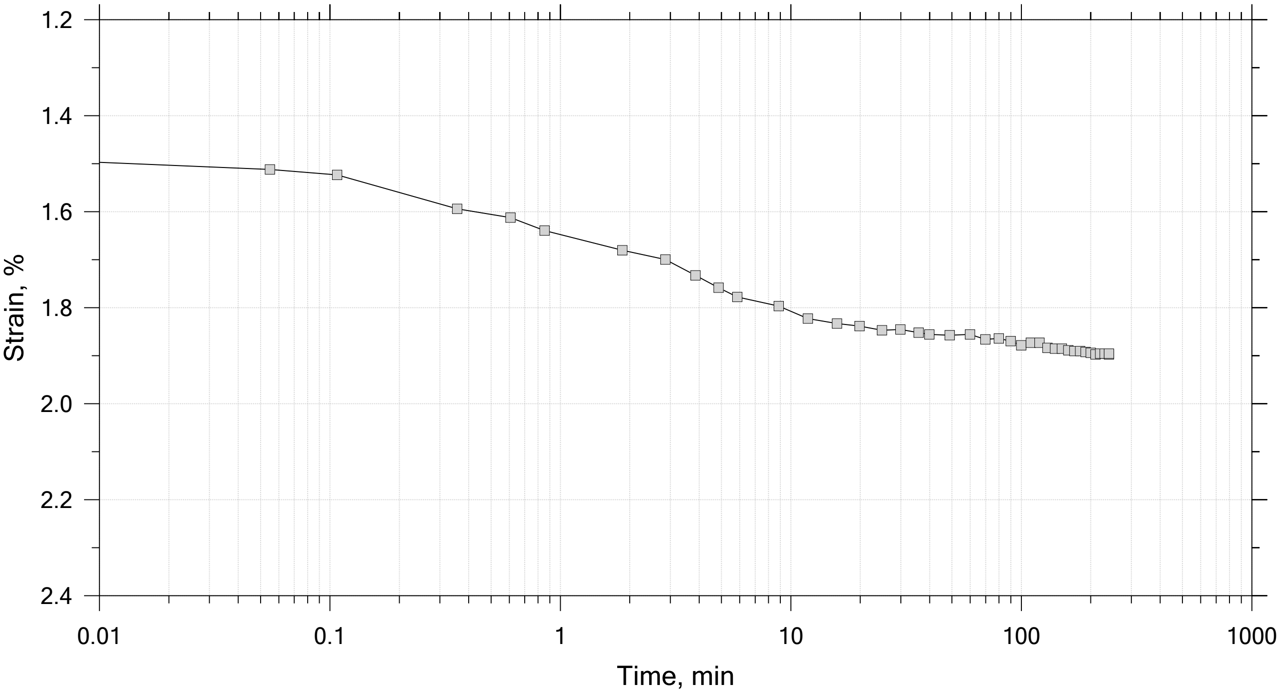
GeoTesting EXPRESS	Project: Prescott Park Ph 1 Final Design	Location: Portsmouth, NH	Project No.: GTX-314269
	Boring No.: B-3	Tested By: trm	Checked By: anm
	Sample No.: ST-1	Test Date: 9/9/21	Depth: 10-12
	Test No.: IP-1	Sample Type: intact	Elevation: ---
	Description: Moist, greenish gray clay		
	Remarks: System LTIII-F, Swell Pressure = 0.0667 tsf		

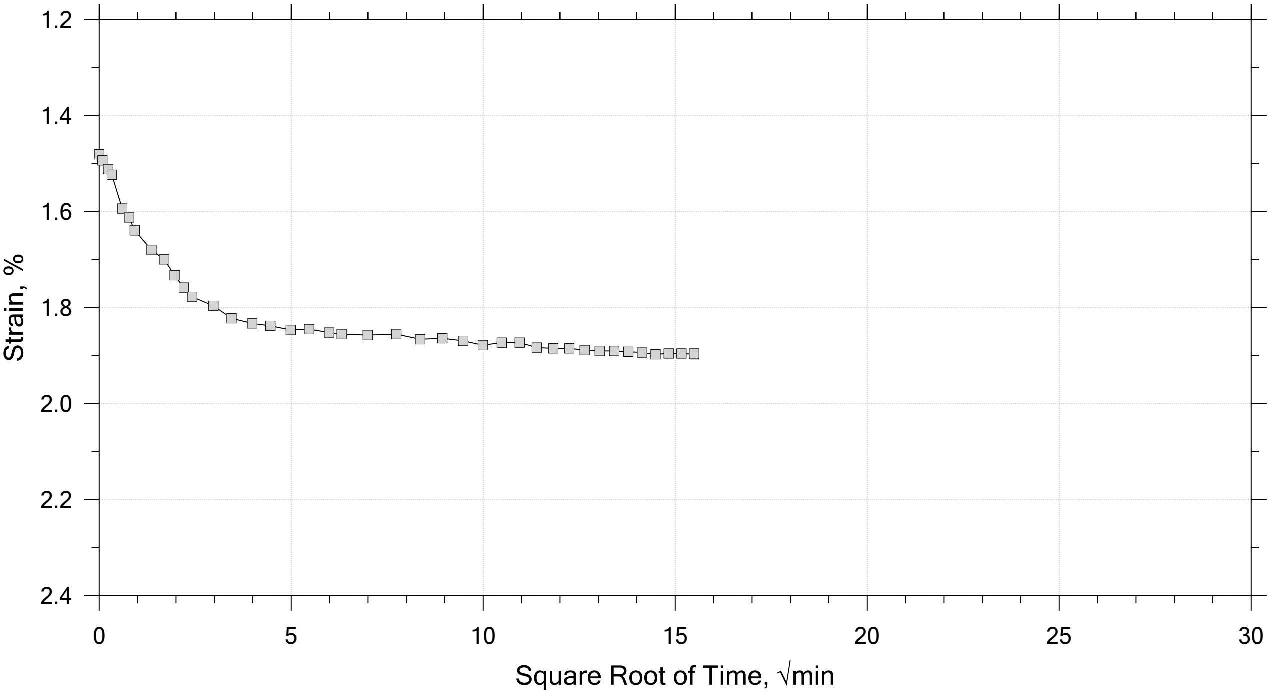
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 4 of 15

Constant Load Step

Stress: 0.5 tsf





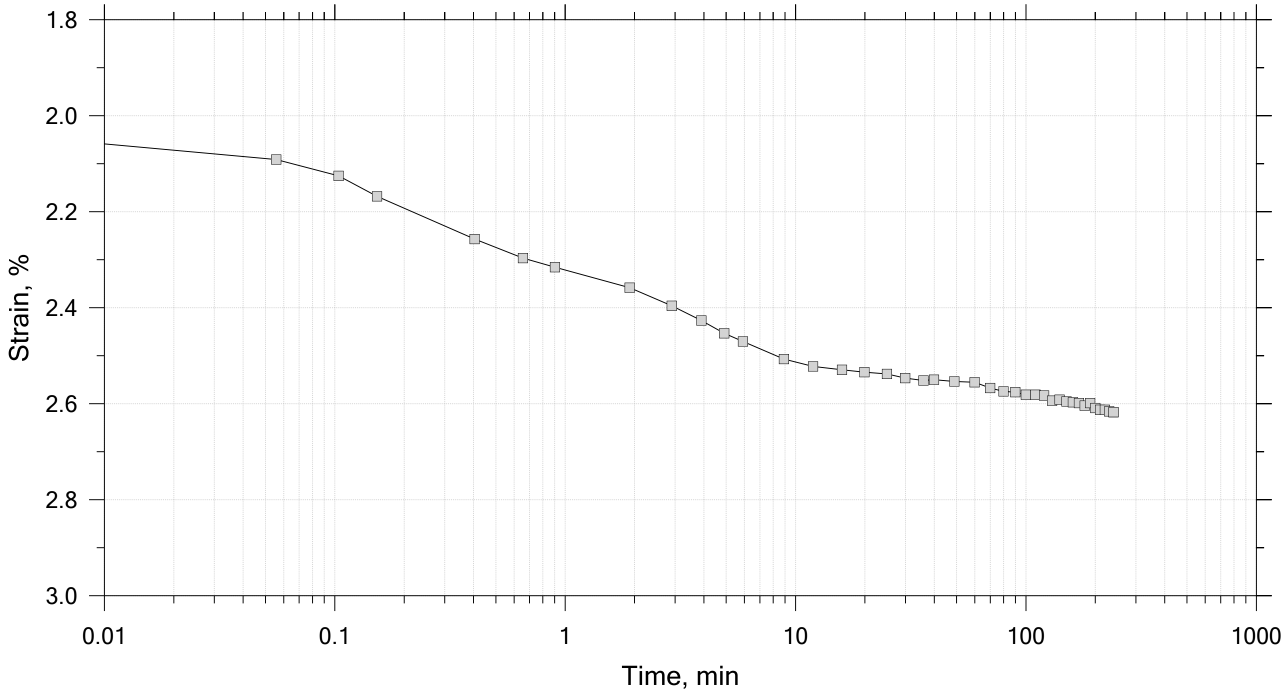
GeoTesting EXPRESS	Project: Prescott Park Ph 1 Final Design	Location: Portsmouth, NH	Project No.: GTX-314269
	Boring No.: B-3	Tested By: trm	Checked By: anm
	Sample No.: ST-1	Test Date: 9/9/21	Depth: 10-12
	Test No.: IP-1	Sample Type: intact	Elevation: ---
	Description: Moist, greenish gray clay		
	Remarks: System LTIII-F, Swell Pressure = 0.0667 tsf		

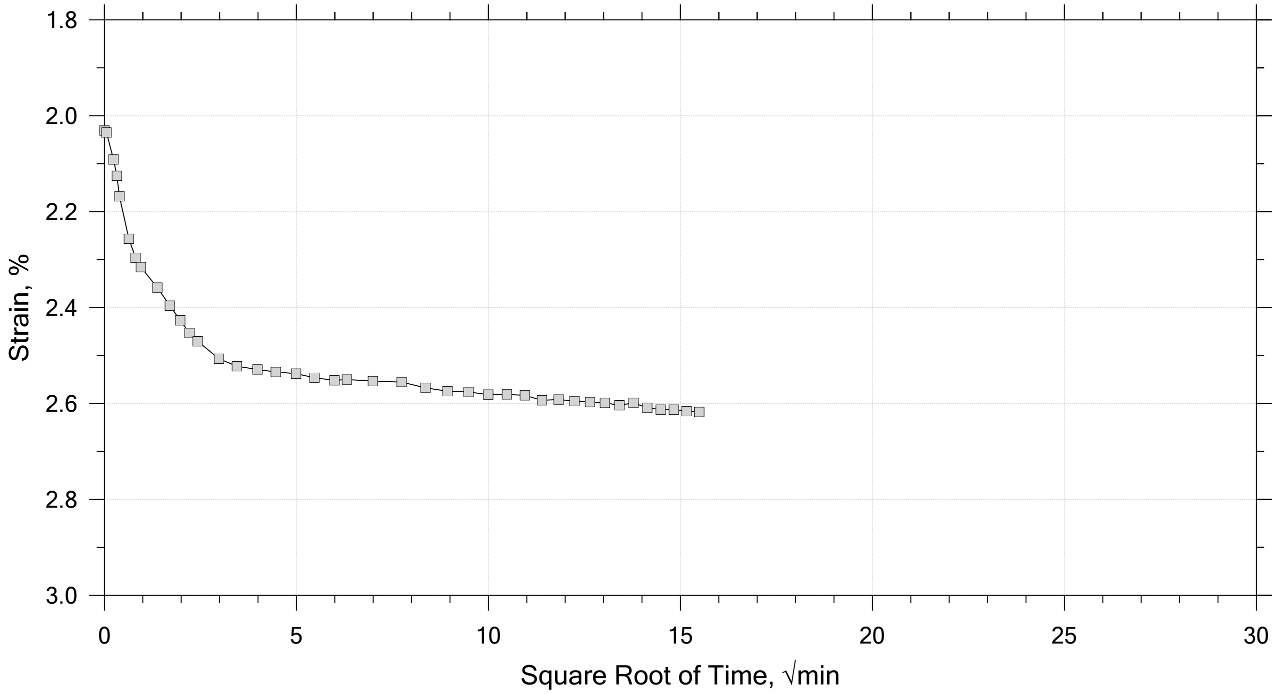
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 5 of 15

Constant Load Step

Stress: 1 tsf





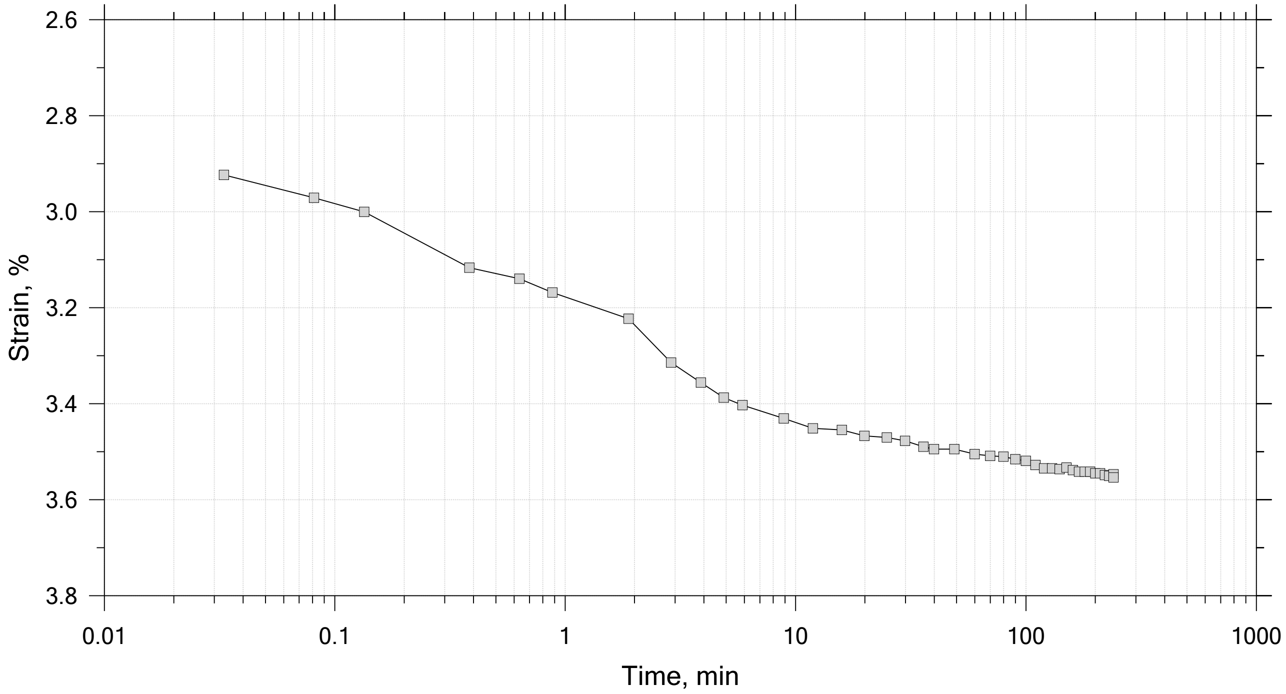
	Project: Prescott Park Ph 1 Final Design	Location: Portsmouth, NH	Project No.: GTX-314269
	Boring No.: B-3	Tested By: trm	Checked By: anm
GeoTesting EXPRESS	Sample No.: ST-1	Test Date: 9/9/21	Depth: 10-12
	Test No.: IP-1	Sample Type: intact	Elevation: ---
	Description: Moist, greenish gray clay		
	Remarks: System LTIII-F, Swell Pressure = 0.0667 tsf		

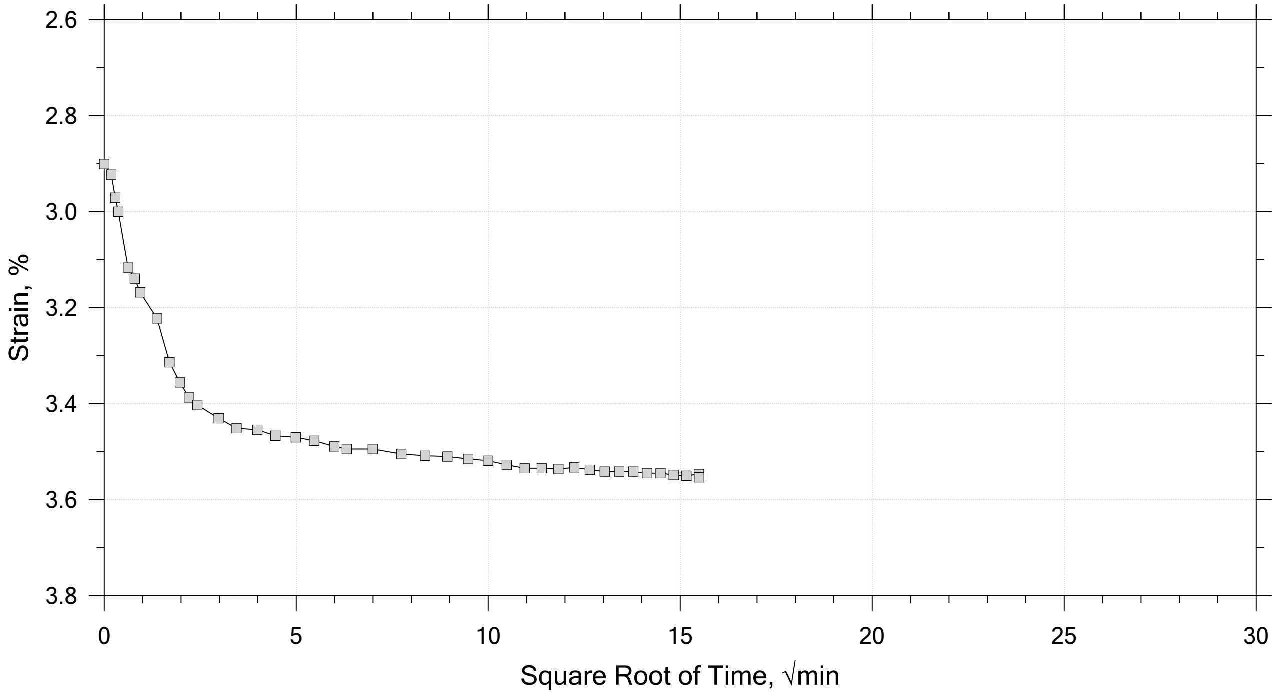
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 6 of 15

Constant Load Step

Stress: 2 tsf





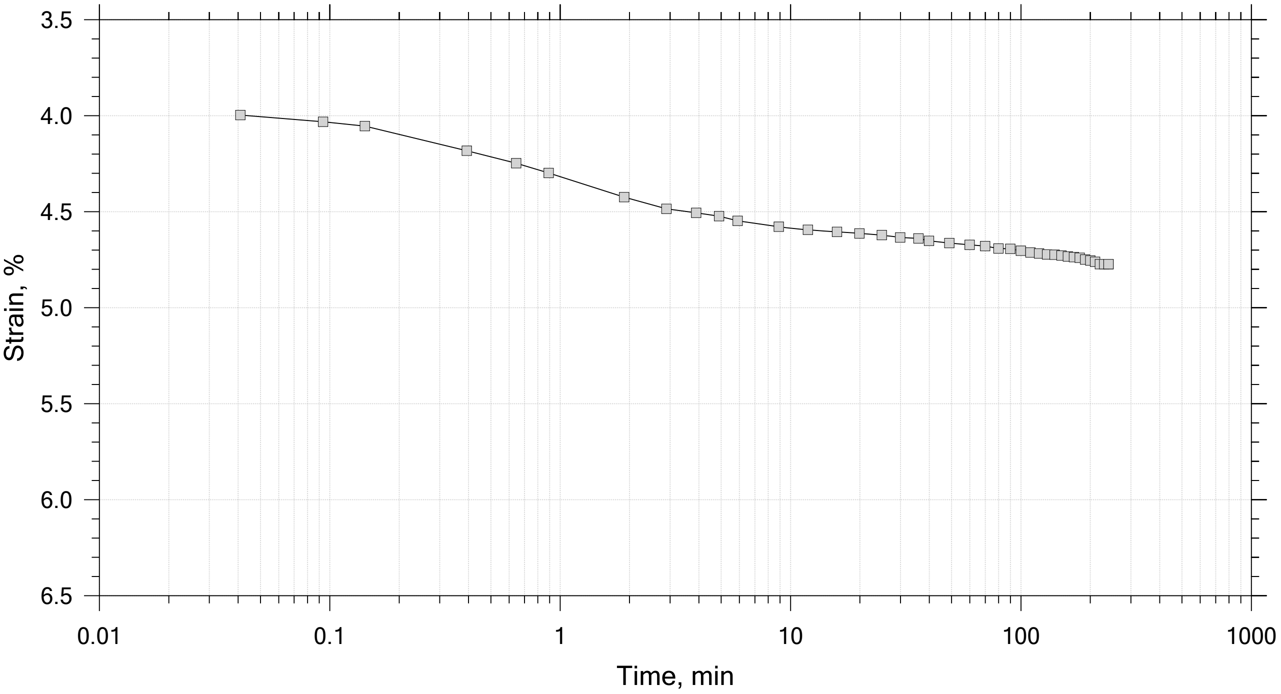
Project: Prescott Park Ph 1 Final Design	Location: Portsmouth, NH	Project No.: GTX-314269
Boring No.: B-3	Tested By: trm	Checked By: anm
Sample No.: ST-1	Test Date: 9/9/21	Depth: 10-12
Test No.: IP-1	Sample Type: intact	Elevation: ---
Description: Moist, greenish gray clay		
Remarks: System LTIII-F, Swell Pressure = 0.0667 tsf		

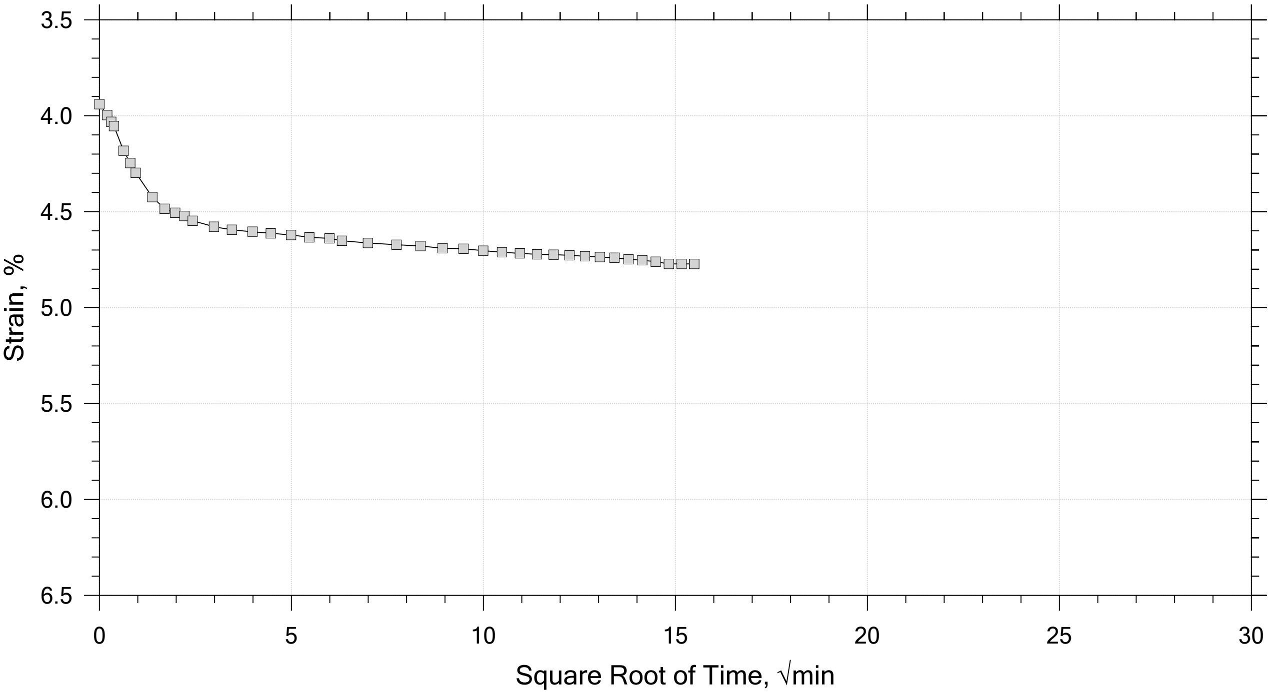
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 7 of 15

Constant Load Step

Stress: 4 tsf





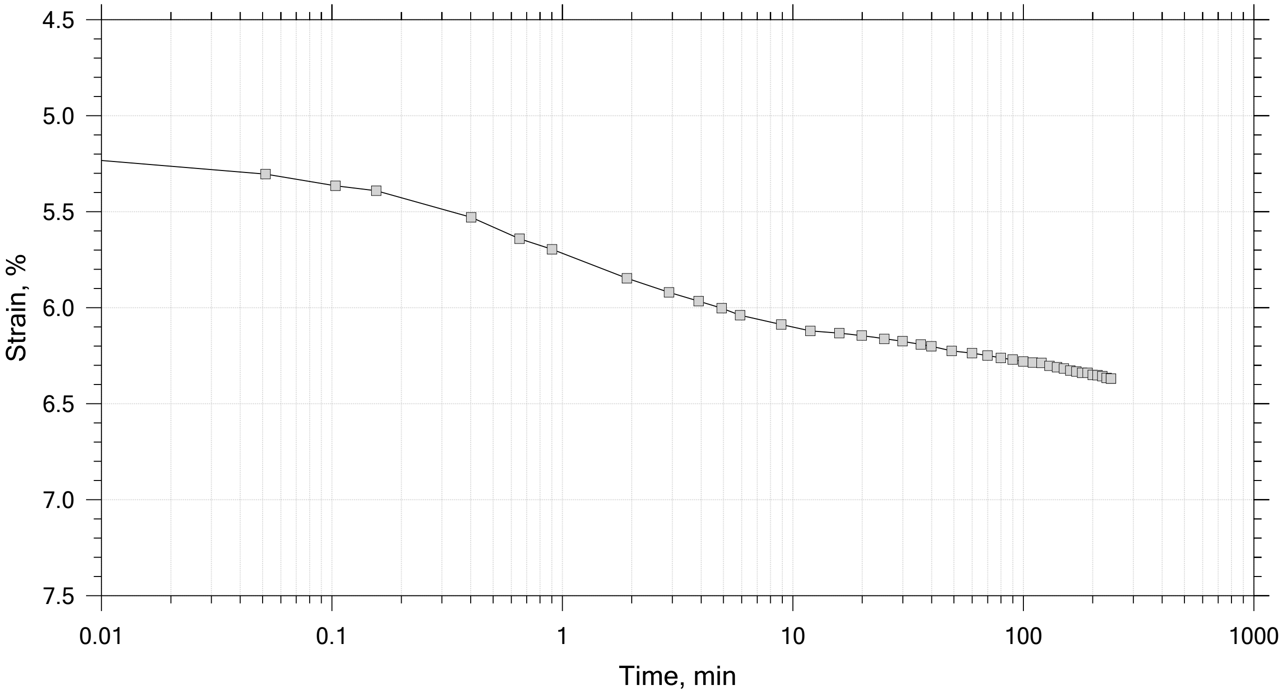
Project: Prescott Park Ph 1 Final Design	Location: Portsmouth, NH	Project No.: GTX-314269
Boring No.: B-3	Tested By: trm	Checked By: anm
Sample No.: ST-1	Test Date: 9/9/21	Depth: 10-12
Test No.: IP-1	Sample Type: intact	Elevation: ---
Description: Moist, greenish gray clay		
Remarks: System LTIII-F, Swell Pressure = 0.0667 tsf		

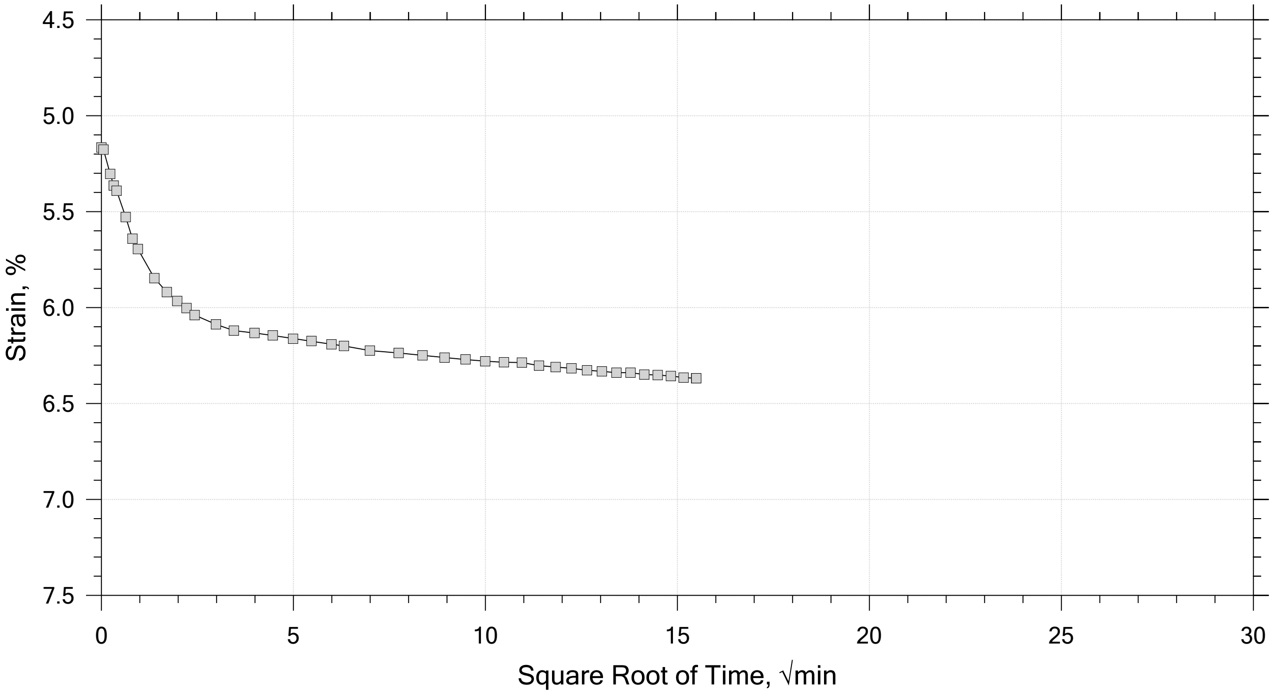
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 8 of 15

Constant Load Step

Stress: 8 tsf





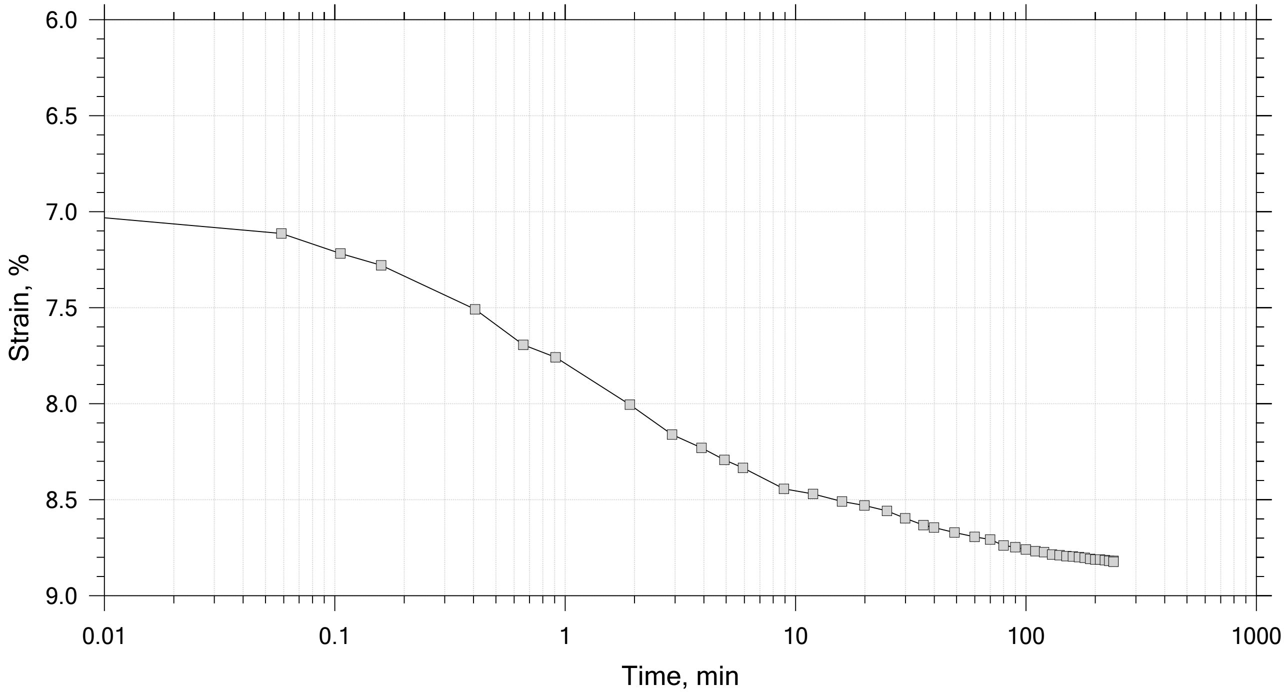
Project: Prescott Park Ph 1 Final Design	Location: Portsmouth, NH	Project No.: GTX-314269
Boring No.: B-3	Tested By: trm	Checked By: anm
Sample No.: ST-1	Test Date: 9/9/21	Depth: 10-12
Test No.: IP-1	Sample Type: intact	Elevation: ---
Description: Moist, greenish gray clay		
Remarks: System LTIII-F, Swell Pressure = 0.0667 tsf		

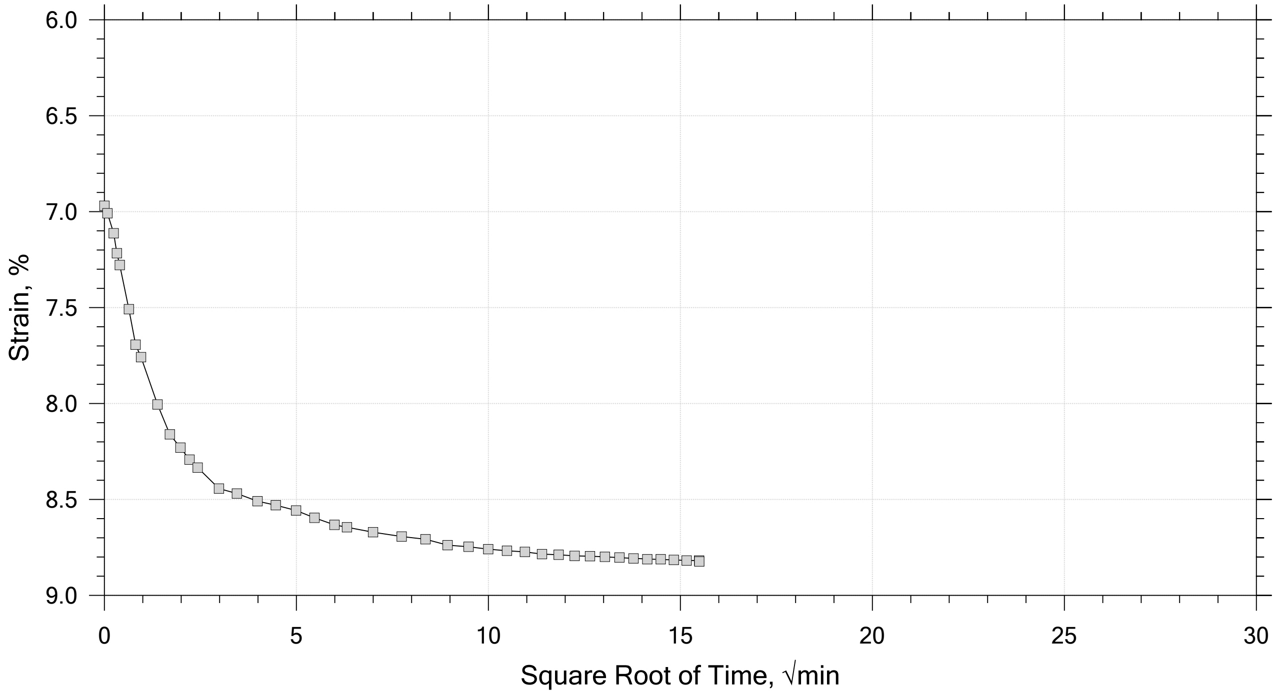
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 9 of 15

Constant Load Step

Stress: 16 tsf





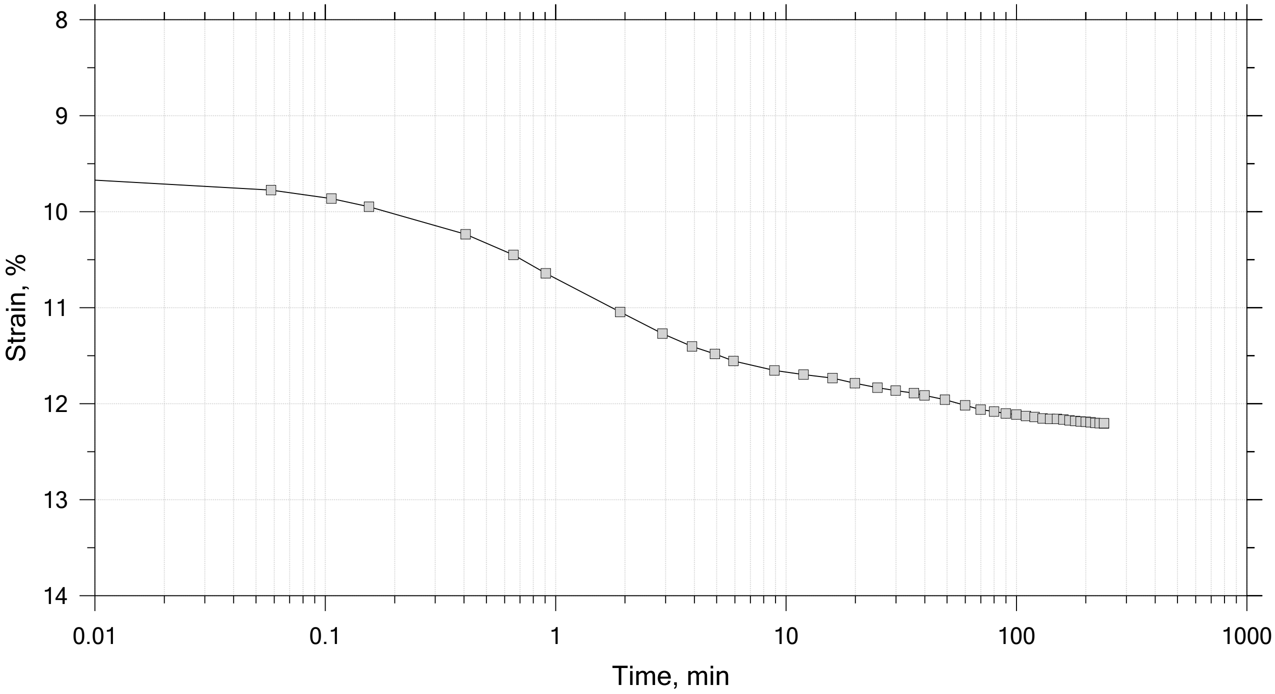
Project: Prescott Park Ph 1 Final Design	Location: Portsmouth, NH	Project No.: GTX-314269
Boring No.: B-3	Tested By: trm	Checked By: anm
Sample No.: ST-1	Test Date: 9/9/21	Depth: 10-12
Test No.: IP-1	Sample Type: intact	Elevation: ---
Description: Moist, greenish gray clay		
Remarks: System LTIII-F, Swell Pressure = 0.0667 tsf		

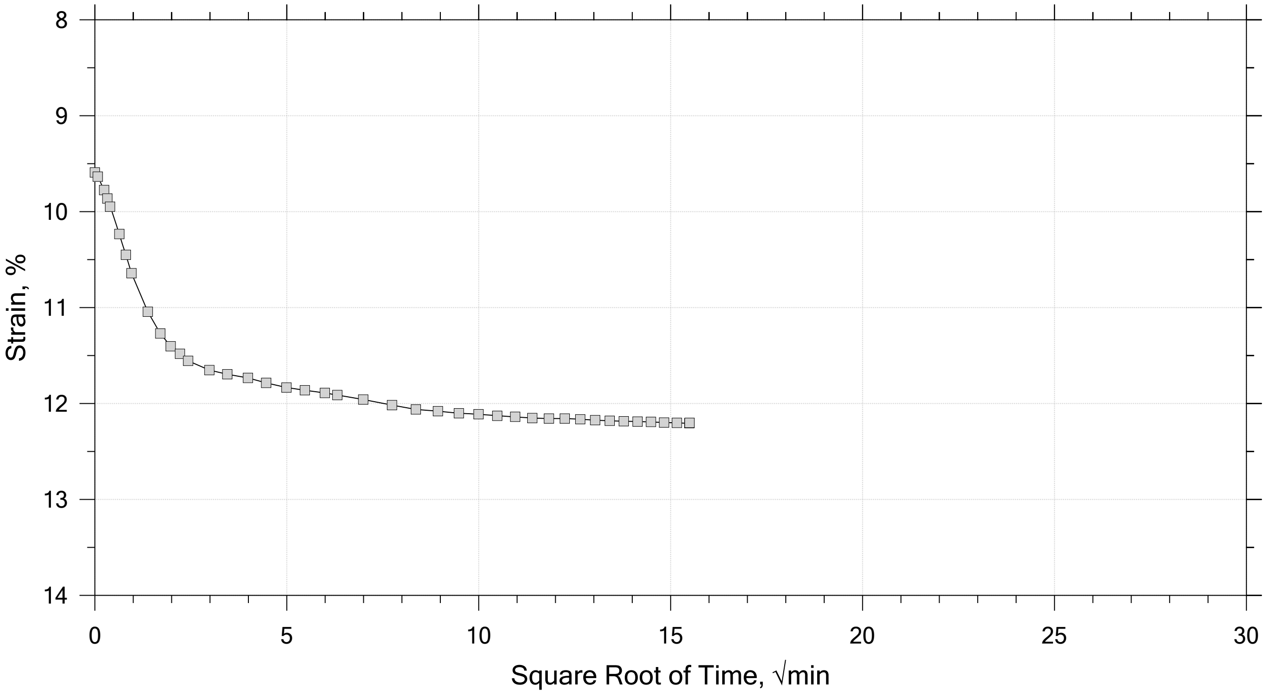
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 10 of 15

Constant Load Step

Stress: 32 tsf





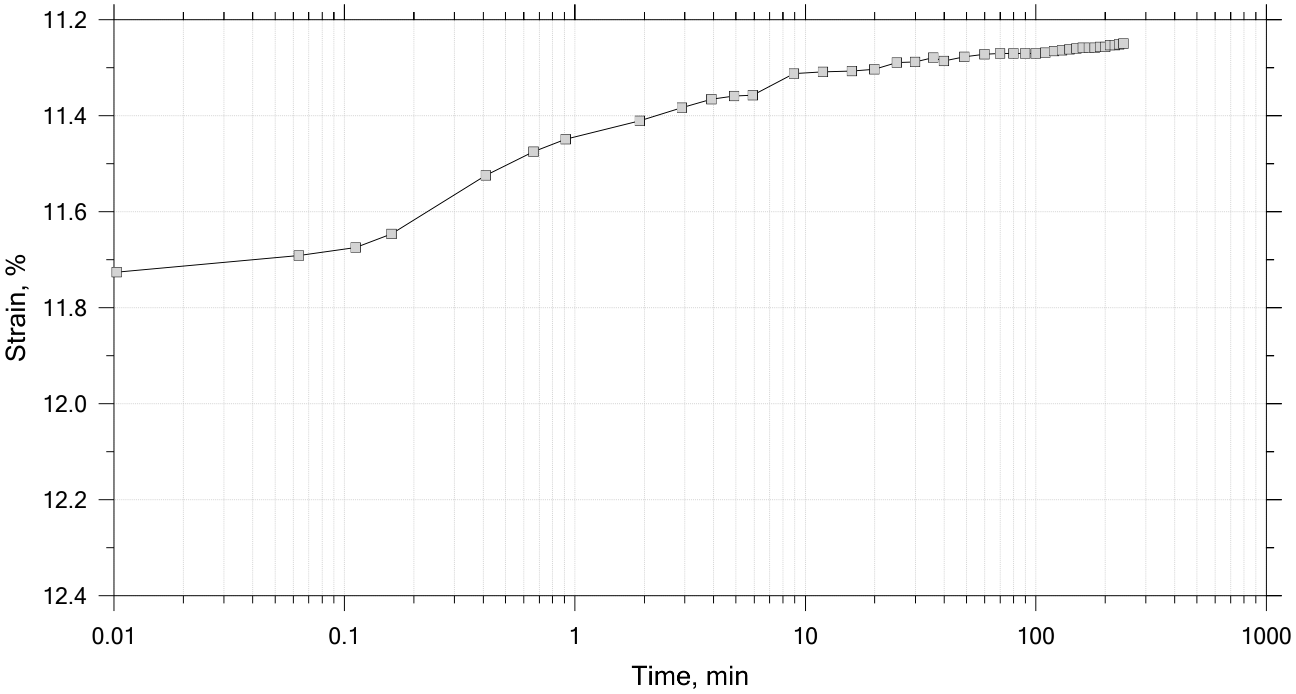
Project: Prescott Park Ph 1 Final Design	Location: Portsmouth, NH	Project No.: GTX-314269
Boring No.: B-3	Tested By: trm	Checked By: anm
Sample No.: ST-1	Test Date: 9/9/21	Depth: 10-12
Test No.: IP-1	Sample Type: intact	Elevation: ---
Description: Moist, greenish gray clay		
Remarks: System LTIII-F, Swell Pressure = 0.0667 tsf		

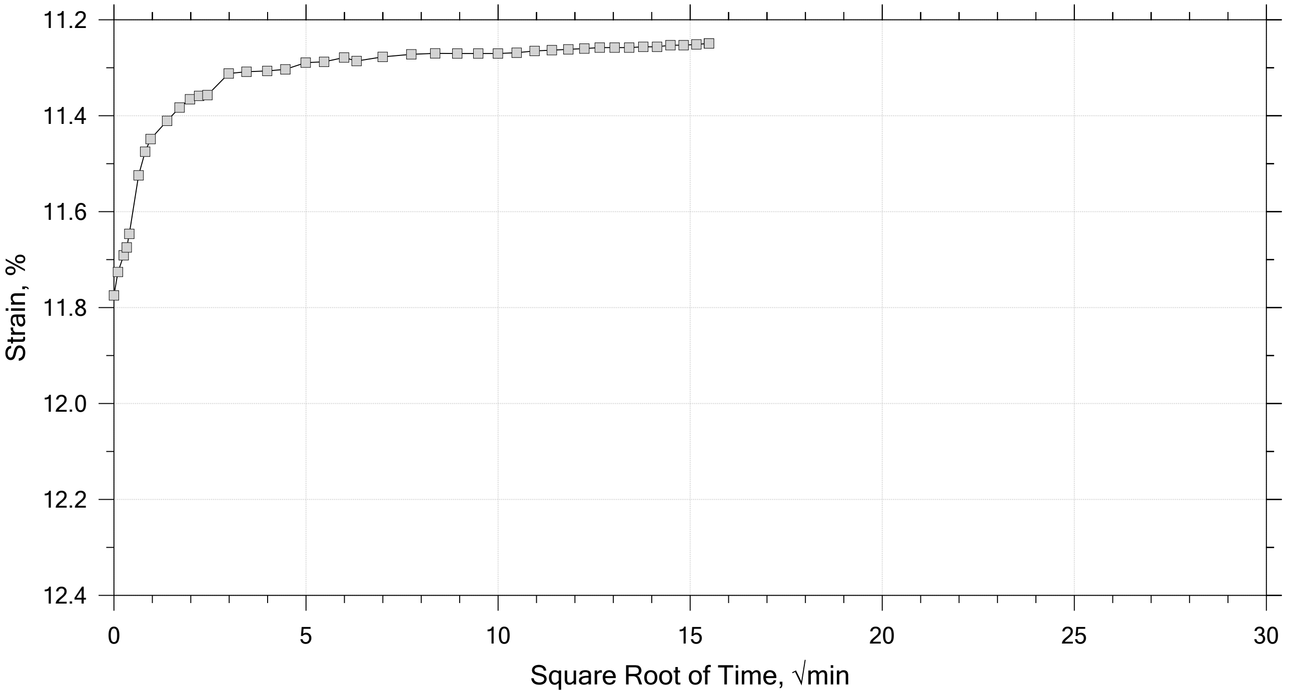
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 11 of 15

Constant Load Step

Stress: 8 tsf





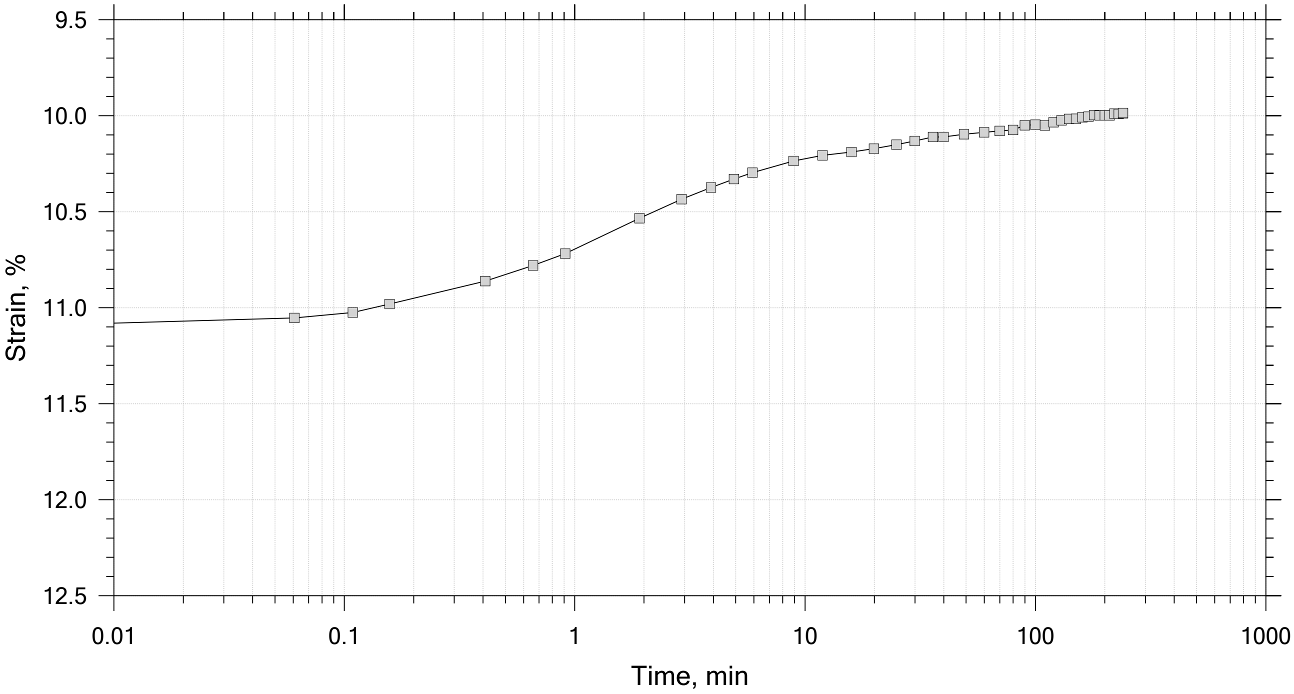
GeoTesting EXPRESS	Project: Prescott Park Ph 1 Final Design	Location: Portsmouth, NH	Project No.: GTX-314269
	Boring No.: B-3	Tested By: trm	Checked By: anm
	Sample No.: ST-1	Test Date: 9/9/21	Depth: 10-12
	Test No.: IP-1	Sample Type: intact	Elevation: ---
	Description: Moist, greenish gray clay		
	Remarks: System LTIII-F, Swell Pressure = 0.0667 tsf		

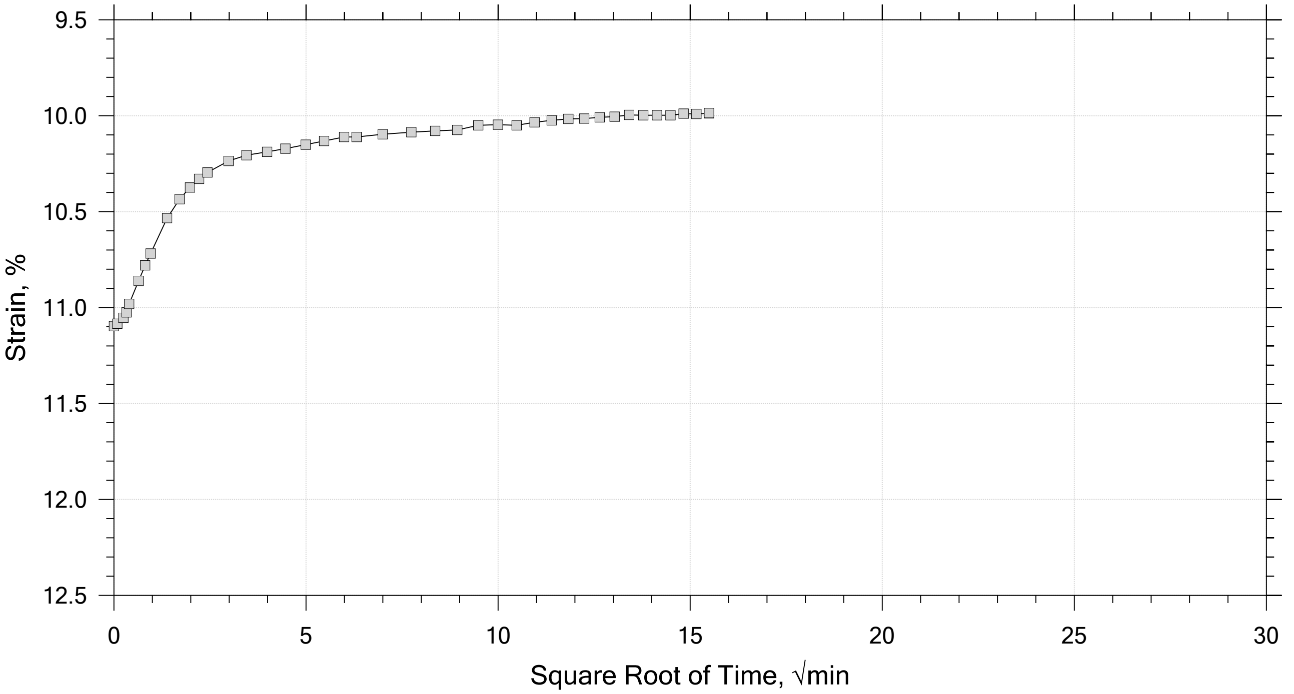
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 12 of 15

Constant Load Step

Stress: 2 tsf





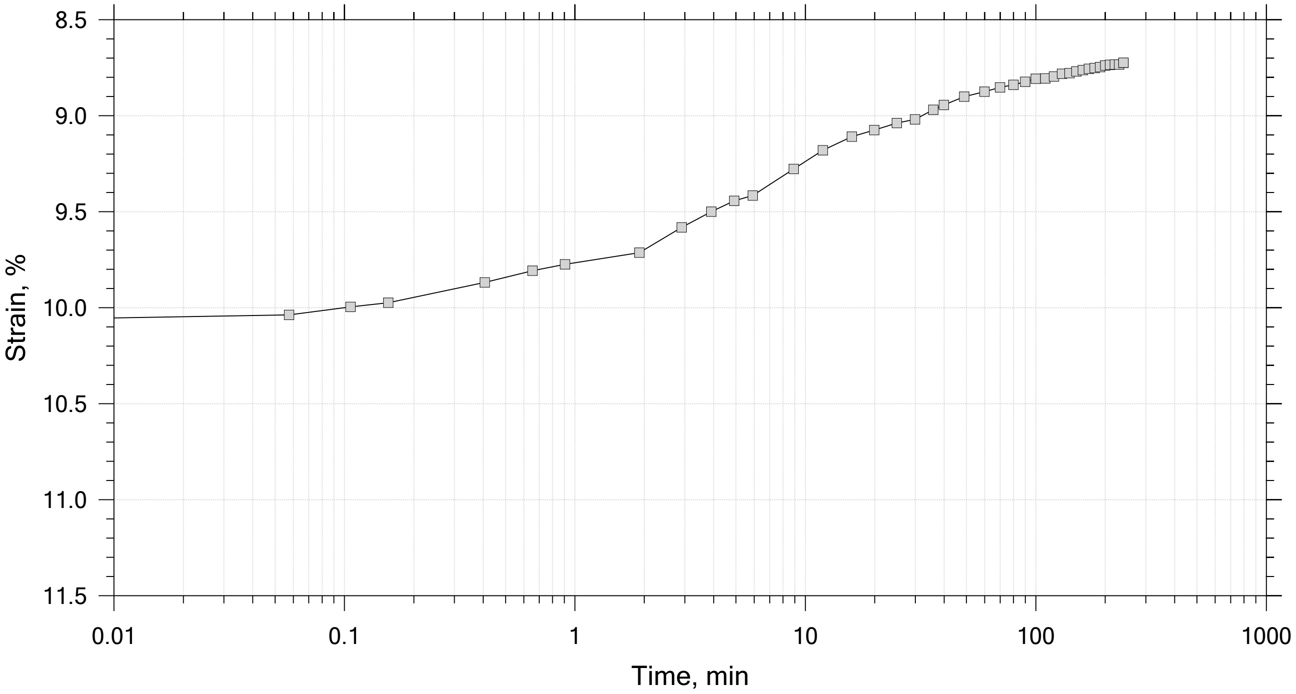
Project: Prescott Park Ph 1 Final Design	Location: Portsmouth, NH	Project No.: GTX-314269
Boring No.: B-3	Tested By: trm	Checked By: anm
Sample No.: ST-1	Test Date: 9/9/21	Depth: 10-12
Test No.: IP-1	Sample Type: intact	Elevation: ---
Description: Moist, greenish gray clay		
Remarks: System LTIII-F, Swell Pressure = 0.0667 tsf		

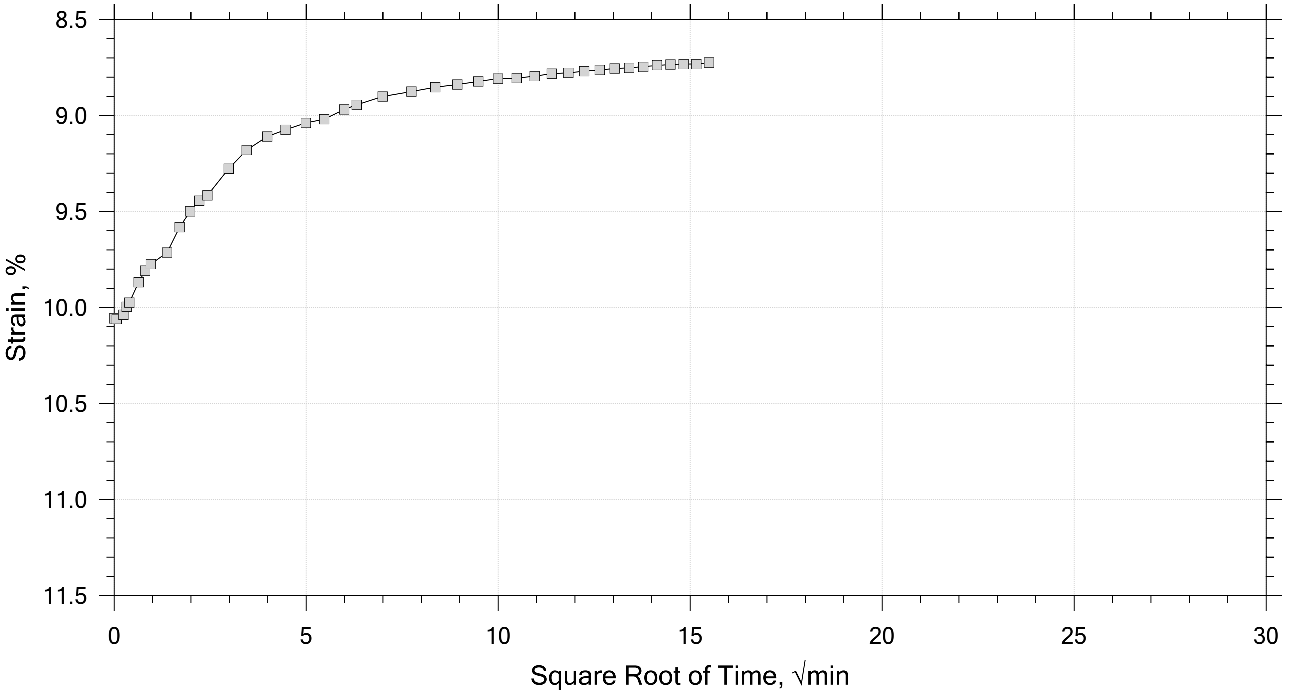
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 13 of 15

Constant Load Step

Stress: 0.5 tsf

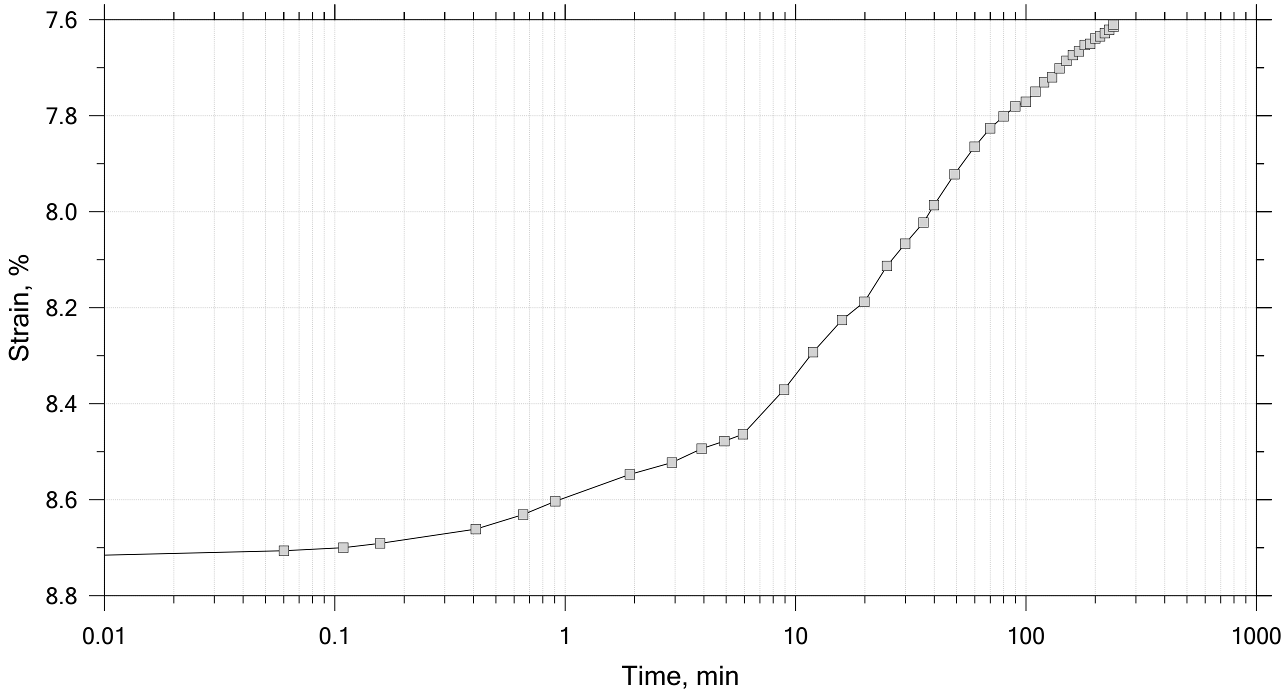


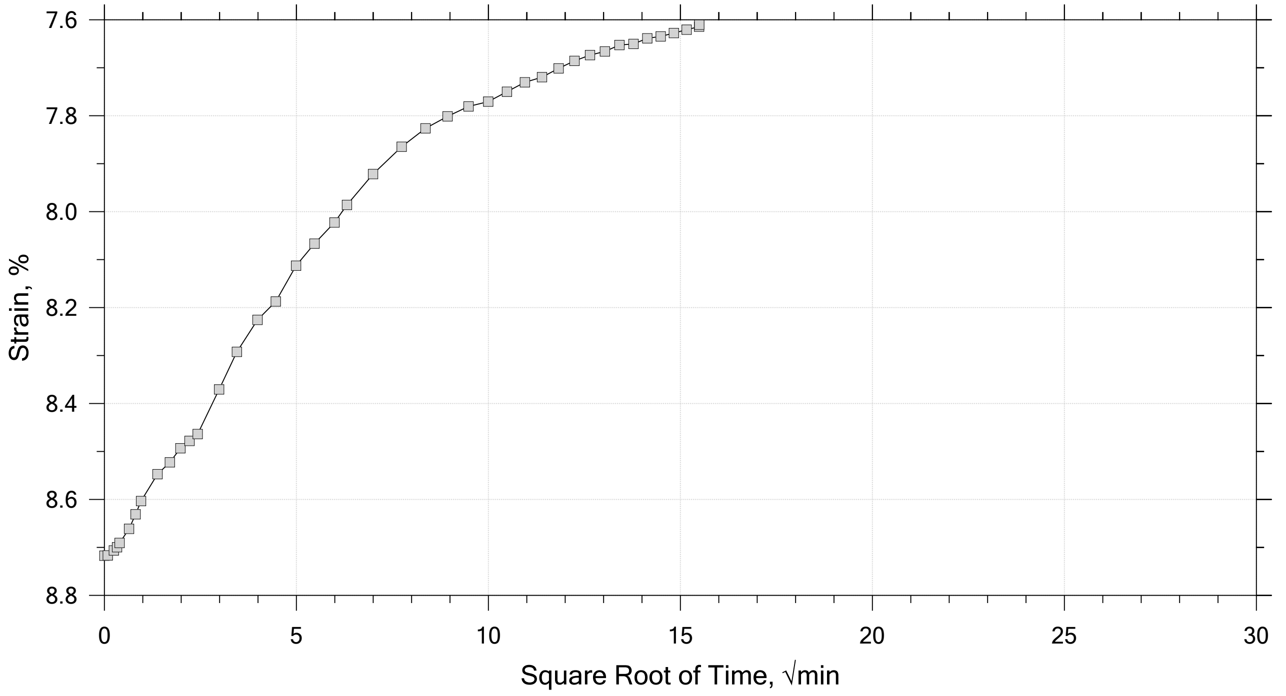


GeoTesting EXPRESS	Project: Prescott Park Ph 1 Final Design	Location: Portsmouth, NH	Project No.: GTX-314269
	Boring No.: B-3	Tested By: trm	Checked By: anm
	Sample No.: ST-1	Test Date: 9/9/21	Depth: 10-12
	Test No.: IP-1	Sample Type: intact	Elevation: ---
	Description: Moist, greenish gray clay		
	Remarks: System LTIII-F, Swell Pressure = 0.0667 tsf		

One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 14 of 15
Constant Load Step
Stress: 0.125 tsf

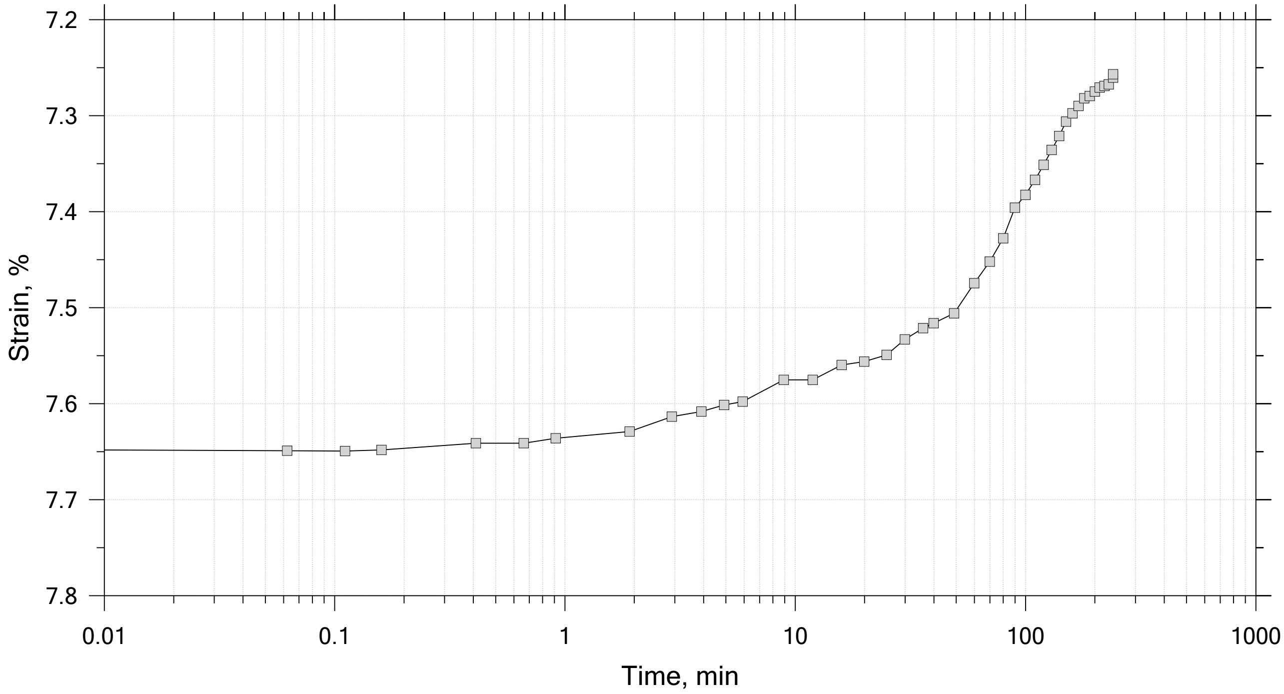


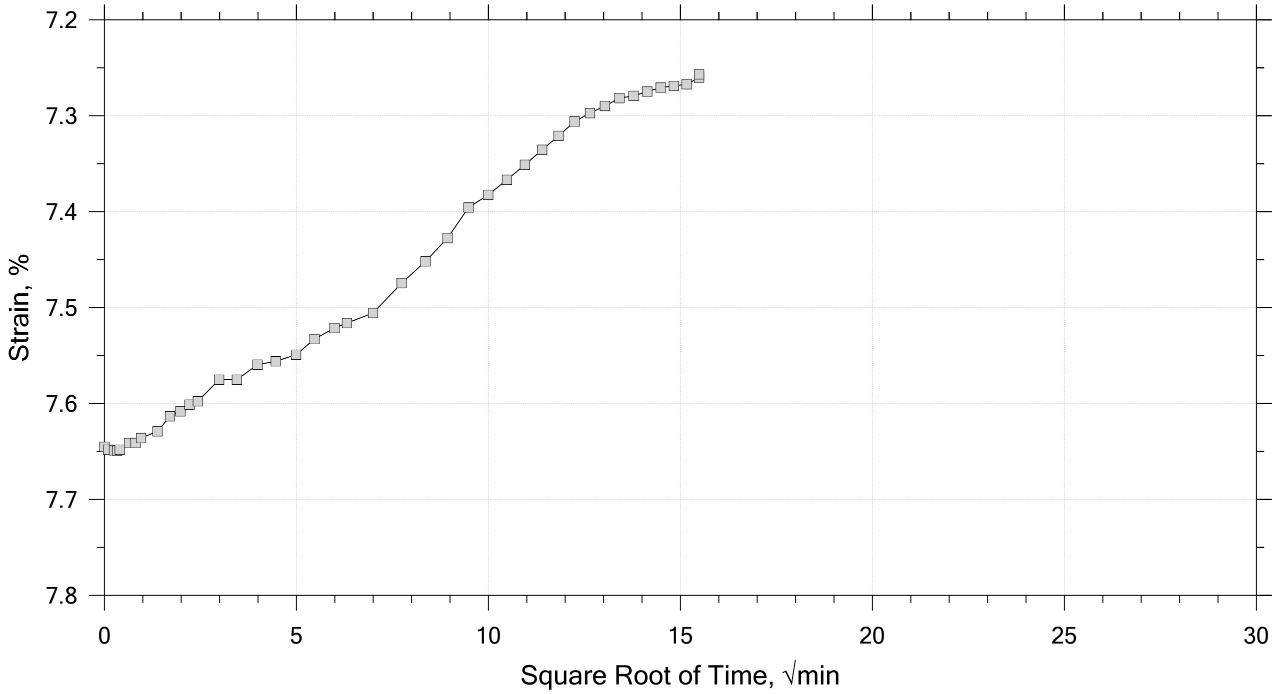


GeoTesting EXPRESS	Project: Prescott Park Ph 1 Final Design	Location: Portsmouth, NH	Project No.: GTX-314269
	Boring No.: B-3	Tested By: trm	Checked By: anm
	Sample No.: ST-1	Test Date: 9/9/21	Depth: 10-12
	Test No.: IP-1	Sample Type: intact	Elevation: ---
	Description: Moist, greenish gray clay		
	Remarks: System LTIII-F, Swell Pressure = 0.0667 tsf		

One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 15 of 15
Constant Load Step
Stress: 0.0625 tsf





Project: Prescott Park Ph 1 Final Design	Location: Portsmouth, NH	Project No.: GTX-314269
Boring No.: B-3	Tested By: trm	Checked By: anm
Sample No.: ST-1	Test Date: 9/9/21	Depth: 10-12
Test No.: IP-1	Sample Type: intact	Elevation: ---
Description: Moist, greenish gray clay		
Remarks: System LTIII-F, Swell Pressure = 0.0667 tsf		

One-Dimensional Consolidation by ASTM D2435 - Method B

Specimen Diameter: 2.50 in	Estimated Specific Gravity: 2.75	Liquid Limit: ---
Initial Height: 1.00 in	Initial Void Ratio: 0.759	Plastic Limit: ---
Final Height: 0.95 in	Final Void Ratio: 0.671	Plasticity Index: ---

	Before Test Trimmings	Before Test Specimen	After Test Specimen	After Test Trimmings
Container ID	E2959	RING		E3709
Mass Container, gm	8.21	109.78	109.78	8.57
Mass Container + Wet Soil, gm	60.19	269.29	266	165.27
Mass Container + Dry Soil, gm	49.61	235.3	235.3	134.48
Mass Dry Soil, gm	41.4	125.52	125.52	125.91
Water Content, %	25.56	27.07	24.45	24.45
Void Ratio	---	0.76	0.67	---
Degree of Saturation, %	---	97.89	100.00	---
Dry Unit Weight, pcf	---	97.417	102.54	---

Note: Specific Gravity and Void Ratios are calculated assuming the degree of saturation equals 100% at the end of the test.
Therefore, values may not represent actual values for the specimen.

GeoTesting EXPRESS	Project: Prescott Park Ph 1 Final Design	Location: Portsmouth, NH	Project No.: GTX-314269
	Boring No.: B-3	Tested By: trm	Checked By: anm
	Sample No.: ST-1	Test Date: 9/9/21	Depth: 10-12
	Test No.: IP-1	Sample Type: intact	Elevation: ---
	Description: Moist, greenish gray clay		
	Remarks: System LTIII-F, Swell Pressure = 0.0667 tsf		

One-Dimensional Consolidation by ASTM D2435 - Method B

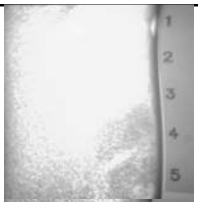
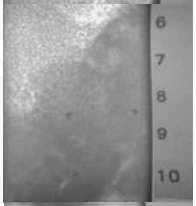
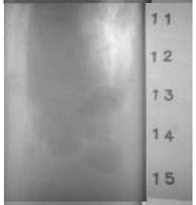
Square Root of Time Coefficients

Step	Applied Stress tsf	Final Displacement in	Void Ratio	Strain at End %	Sq.Rt. T90 min	Cv in²/s	Mv 1/tsf	k ft/day
1	0.0667	0.004412	0.752	0.441	207.328	1.70e-05	6.61e-02	2.10e-05
2	0.125	0.007826	0.746	0.783	2.674	1.31e-03	5.86e-02	1.43e-03
3	0.250	0.01279	0.737	1.28	6.310	5.48e-04	3.97e-02	4.08e-04
4	0.500	0.01896	0.726	1.90	6.911	4.95e-04	2.47e-02	2.29e-04
5	1.00	0.02618	0.713	2.62	5.641	5.98e-04	1.44e-02	1.62e-04
6	2.00	0.03554	0.697	3.55	5.995	5.54e-04	9.36e-03	9.70e-05
7	4.00	0.04773	0.675	4.77	5.594	5.80e-04	6.10e-03	6.62e-05
8	8.00	0.06369	0.647	6.37	6.220	5.07e-04	3.99e-03	3.79e-05
9	16.0	0.08824	0.604	8.82	4.917	6.14e-04	3.07e-03	3.53e-05
10	32.0	0.1220	0.545	12.2	6.056	4.67e-04	2.11e-03	1.85e-05
11	8.00	0.1125	0.561	11.2	2.900	9.50e-04	3.97e-04	7.06e-06
12	2.00	0.09986	0.584	9.99	6.426	4.39e-04	2.11e-03	1.73e-05
13	0.500	0.08724	0.606	8.72	14.857	1.95e-04	8.41e-03	3.08e-05
14	0.125	0.07610	0.625	7.61	83.844	3.55e-05	2.97e-02	1.98e-05
15	0.0625	0.07257	0.632	7.26	185.725	1.63e-05	5.66e-02	1.73e-05

Project: Prescott Park Ph 1 Final Design	Location: Portsmouth, NH	Project No.: GTX-314269
Boring No.: B-3	Tested By: trm	Checked By: anm
Sample No.: ST-1	Test Date: 9/9/21	Depth: 10-12
Test No.: IP-1	Sample Type: intact	Elevation: ---
Description: Moist, greenish gray clay		
Remarks: System LTIII-F, Swell Pressure = 0.0667 tsf		
Displacement at End of Increment		

Client:	Weston & Sampson Engineers
Project Name:	Prescott Park Ph 1 Final Design
Project Location:	Portsmouth, NH
GTX #:	314269
Test Date:	09/24/21
Tested By:	trm
Checked By:	bfs
Boring ID:	B-3
Sample ID:	ST-1
Depth:	10-12 ft

X-Ray of Soil Sample by ASTM D4452

Section	Top of Tube
1	
2	
3	
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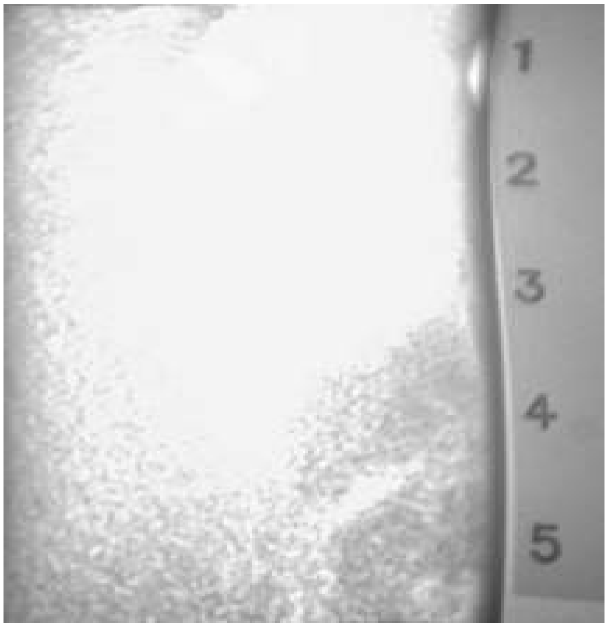
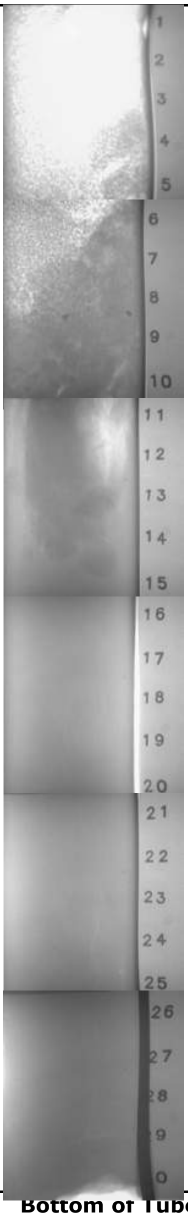


GeoTesting
EXPRESS

Client:	Weston & Sampson Engineers
Project Name:	Prescott Park Ph 1 Final Design
Project Location:	Portsmouth, NH
GTX #:	314269
Test Date:	09/24/21
Tested By:	trm
Checked By:	bfs
Boring ID:	B-3
Sample ID:	ST-1
Depth:	10-12 ft

X-Ray of Soil Sample by ASTM D4452

Section	Top of Tube
1	
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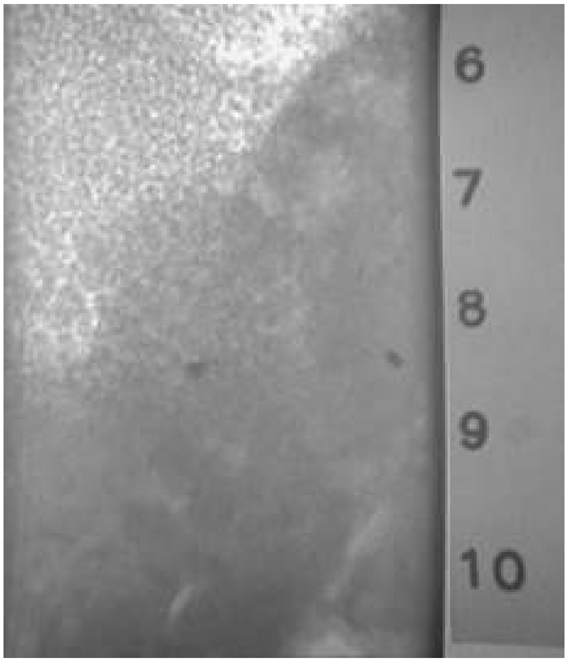
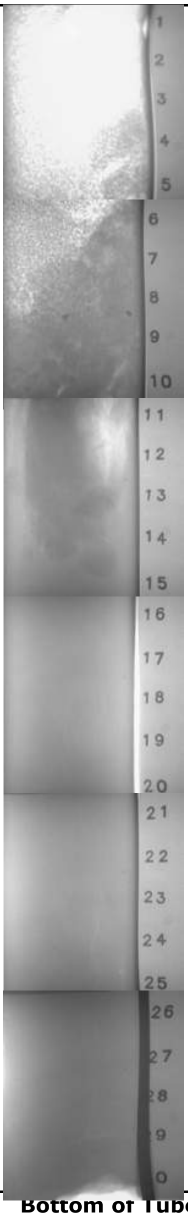


Client:	Weston & Sampson Engineers
Project Name:	Prescott Park Ph 1 Final Design
Project Location:	Portsmouth, NH
GTX #:	314269
Test Date:	09/24/21
Tested By:	trm
Checked By:	bfs
Boring ID:	B-3
Sample ID:	ST-1
Depth:	10-12 ft

X-Ray of Soil Sample by ASTM D4452

Section	Top of Tube
1	
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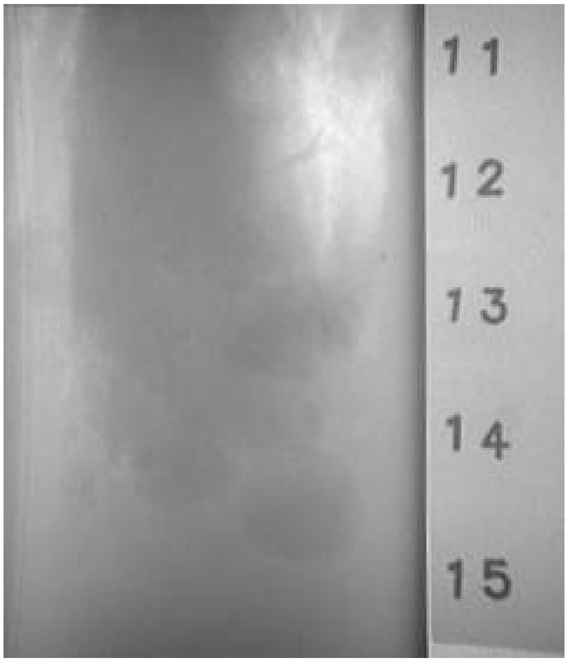
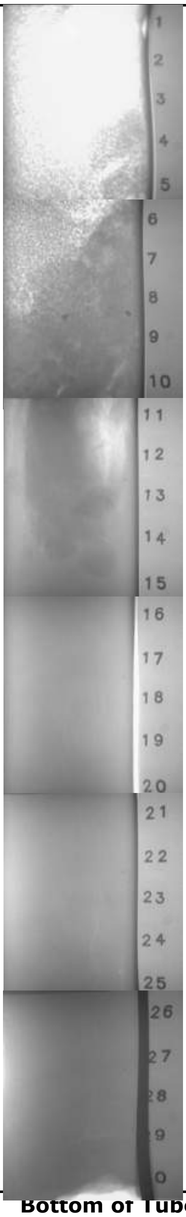


Client:	Weston & Sampson Engineers
Project Name:	Prescott Park Ph 1 Final Design
Project Location:	Portsmouth, NH
GTX #:	314269
Test Date:	09/24/21
Tested By:	trm
Checked By:	bfs
Boring ID:	B-3
Sample ID:	ST-1
Depth:	10-12 ft

X-Ray of Soil Sample by ASTM D4452

Section	Top of Tube
1	
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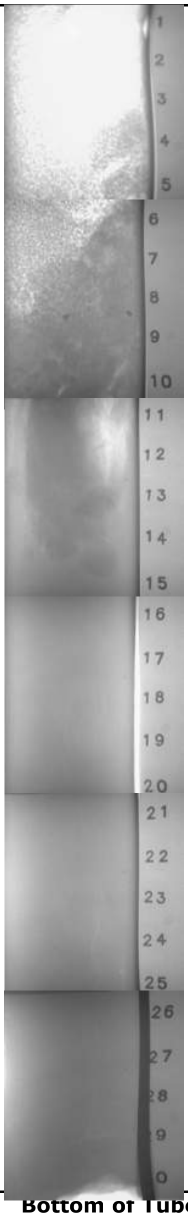
SECTION 4

Client:	Weston & Sampson Engineers
Project Name:	Prescott Park Ph 1 Final Design
Project Location:	Portsmouth, NH
GTX #:	314269
Test Date:	09/24/21
Tested By:	trm
Checked By:	bfs
Boring ID:	B-3
Sample ID:	ST-1
Depth:	10-12 ft

X-Ray of Soil Sample by ASTM D4452

Section	Top of Tube
1	
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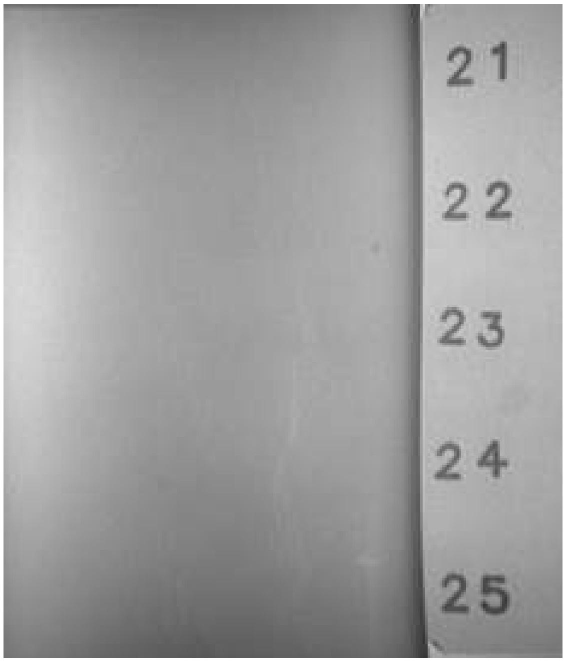
	Bottom of Tube

SECTION 5



Client:	Weston & Sampson Engineers
Project Name:	Prescott Park Ph 1 Final Design
Project Location:	Portsmouth, NH
GTX #:	314269
Test Date:	09/24/21
Tested By:	trm
Checked By:	bfs
Boring ID:	B-3
Sample ID:	ST-1
Depth:	10-12 ft

X-Ray of Soil Sample by ASTM D4452

Section

Top of Tube

1

2

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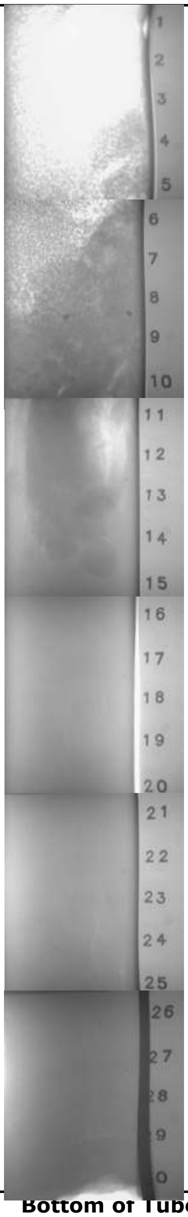
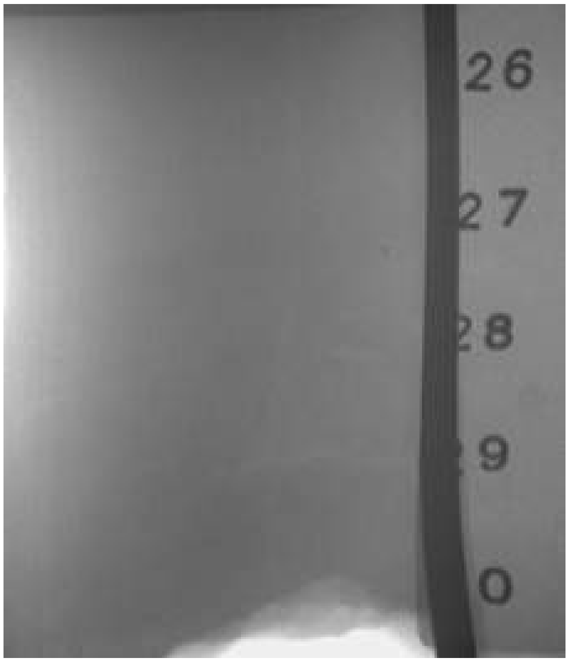


Bottom of Tube

SECTION 6



Attachment D

Important Information about This Geotechnical-Engineering Report

Important Information about This

Geotechnical-Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

The Geoprofessional Business Association (GBA) has prepared this advisory to help you – assumedly a client representative – interpret and apply this geotechnical-engineering report as effectively as possible. In that way, you can benefit from a lowered exposure to problems associated with subsurface conditions at project sites and development of them that, for decades, have been a principal cause of construction delays, cost overruns, claims, and disputes. If you have questions or want more information about any of the issues discussed herein, contact your GBA-member geotechnical engineer. Active engagement in GBA exposes geotechnical engineers to a wide array of risk-confrontation techniques that can be of genuine benefit for everyone involved with a construction project.

Understand the Geotechnical-Engineering Services Provided for this Report

Geotechnical-engineering services typically include the planning, collection, interpretation, and analysis of exploratory data from widely spaced borings and/or test pits. Field data are combined with results from laboratory tests of soil and rock samples obtained from field exploration (if applicable), observations made during site reconnaissance, and historical information to form one or more models of the expected subsurface conditions beneath the site. Local geology and alterations of the site surface and subsurface by previous and proposed construction are also important considerations. Geotechnical engineers apply their engineering training, experience, and judgment to adapt the requirements of the prospective project to the subsurface model(s). Estimates are made of the subsurface conditions that will likely be exposed during construction as well as the expected performance of foundations and other structures being planned and/or affected by construction activities.

The culmination of these geotechnical-engineering services is typically a geotechnical-engineering report providing the data obtained, a discussion of the subsurface model(s), the engineering and geologic engineering assessments and analyses made, and the recommendations developed to satisfy the given requirements of the project. These reports may be titled investigations, explorations, studies, assessments, or evaluations. Regardless of the title used, the geotechnical-engineering report is an engineering interpretation of the subsurface conditions within the context of the project and does not represent a close examination, systematic inquiry, or thorough investigation of all site and subsurface conditions.

Geotechnical-Engineering Services are Performed for Specific Purposes, Persons, and Projects, and At Specific Times

Geotechnical engineers structure their services to meet the specific needs, goals, and risk management preferences of their clients. A geotechnical-engineering study conducted for a given civil engineer will not likely meet the needs of a civil-works constructor or even a different civil engineer. Because each geotechnical-engineering study is unique, each geotechnical-engineering report is unique, prepared *solely* for the client.

Likewise, geotechnical-engineering services are performed for a specific project and purpose. For example, it is unlikely that a geotechnical-engineering study for a refrigerated warehouse will be the same as one prepared for a parking garage; and a few borings drilled during a preliminary study to evaluate site feasibility will not be adequate to develop geotechnical design recommendations for the project.

Do not rely on this report if your geotechnical engineer prepared it:

- for a different client;
- for a different project or purpose;
- for a different site (that may or may not include all or a portion of the original site); or
- before important events occurred at the site or adjacent to it; e.g., man-made events like construction or environmental remediation, or natural events like floods, droughts, earthquakes, or groundwater fluctuations.

Note, too, the reliability of a geotechnical-engineering report can be affected by the passage of time, because of factors like changed subsurface conditions; new or modified codes, standards, or regulations; or new techniques or tools. *If you are the least bit uncertain* about the continued reliability of this report, contact your geotechnical engineer before applying the recommendations in it. A minor amount of additional testing or analysis after the passage of time – if any is required at all – could prevent major problems.

Read this Report in Full

Costly problems have occurred because those relying on a geotechnical-engineering report did not read the report in its entirety. Do not rely on an executive summary. Do not read selective elements only. *Read and refer to the report in full.*

You Need to Inform Your Geotechnical Engineer About Change

Your geotechnical engineer considered unique, project-specific factors when developing the scope of study behind this report and developing the confirmation-dependent recommendations the report conveys. Typical changes that could erode the reliability of this report include those that affect:

- the site's size or shape;
- the elevation, configuration, location, orientation, function or weight of the proposed structure and the desired performance criteria;
- the composition of the design team; or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project or site changes – even minor ones – and request an assessment of their impact. *The geotechnical engineer who prepared this report cannot accept* *responsibility or liability for problems that arise because the geotechnical engineer was not informed about developments the engineer otherwise would have considered.*

Most of the "Findings" Related in This Report Are Professional Opinions

Before construction begins, geotechnical engineers explore a site's subsurface using various sampling and testing procedures. *Geotechnical engineers can observe actual subsurface conditions only at those specific locations where sampling and testing is performed.* The data derived from that sampling and testing were reviewed by your geotechnical engineer, who then applied professional judgement to form opinions about subsurface conditions throughout the site. Actual sitewide-subsurface conditions may differ – maybe significantly – from those indicated in this report. Confront that risk by retaining your geotechnical engineer to serve on the design team through project completion to obtain informed guidance quickly, whenever needed.

This Report's Recommendations Are Confirmation-Dependent

The recommendations included in this report – including any options or alternatives – are confirmation-dependent. In other words, they are not final, because the geotechnical engineer who developed them relied heavily on judgement and opinion to do so. Your geotechnical engineer can finalize the recommendations *only after observing actual subsurface conditions* exposed during construction. If through observation your geotechnical engineer confirms that the conditions assumed to exist actually do exist, the recommendations can be relied upon, assuming no other changes have occurred. *The geotechnical engineer who prepared this report cannot assume responsibility or liability for confirmation-dependent recommendations if you fail to retain that engineer to perform construction observation.*

This Report Could Be Misinterpreted

Other design professionals' misinterpretation of geotechnical-engineering reports has resulted in costly problems. Confront that risk by having your geotechnical engineer serve as a continuing member of the design team, to:

- confer with other design-team members;
- help develop specifications;
- review pertinent elements of other design professionals' plans and specifications; and
- be available whenever geotechnical-engineering guidance is needed.

You should also confront the risk of constructors misinterpreting this report. Do so by retaining your geotechnical engineer to participate in prebid and preconstruction conferences and to perform construction-phase observations.

Give Constructors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can shift unanticipated-subsurface-conditions liability to constructors by limiting the information they provide for bid preparation. To help prevent the costly, contentious problems this practice has caused, include the complete geotechnical-engineering report, along with any attachments or appendices, with your contract documents, *but be certain to note conspicuously that you've included the material for information purposes only.* To avoid misunderstanding, you may also want to note that "informational purposes" means constructors have no right to rely on the interpretations, opinions, conclusions, or recommendations in the report. Be certain that constructors know they may learn about specific project requirements, including options selected from the report, *only* from the design drawings and specifications. Remind constructors that they may perform their own studies if they want to, and *be sure to allow enough time* to permit them to do so. Only then might you be in a position to give constructors the information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions. Conducting prebid and preconstruction conferences can also be valuable in this respect.

Read Responsibility Provisions Closely

Some client representatives, design professionals, and constructors do not realize that geotechnical engineering is far less exact than other engineering disciplines. This happens in part because soil and rock on project sites are typically heterogeneous and not manufactured materials with well-defined engineering properties like steel and concrete. That lack of understanding has nurtured unrealistic expectations that have resulted in disappointments, delays, cost overruns, claims, and disputes. To confront that risk, geotechnical engineers commonly include explanatory provisions in their reports. Sometimes labeled "limitations," many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Geoenvironmental Concerns Are Not Covered

The personnel, equipment, and techniques used to perform an environmental study – e.g., a "phase-one" or "phase-two" environmental site assessment – differ significantly from those used to perform a geotechnical-engineering study. For that reason, a geotechnical-engineering report does not usually provide environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated subsurface environmental problems have led to project failures.* If you have not obtained your own environmental information about the project site, ask your geotechnical consultant for a recommendation on how to find environmental risk-management guidance.

Obtain Professional Assistance to Deal with Moisture Infiltration and Mold

While your geotechnical engineer may have addressed groundwater, water infiltration, or similar issues in this report, the engineer's services were not designed, conducted, or intended to prevent migration of moisture – including water vapor – from the soil through building slabs and walls and into the building interior, where it can cause mold growth and material-performance deficiencies. Accordingly, ***proper implementation of the geotechnical engineer's recommendations will not of itself be sufficient to prevent moisture infiltration. Confront the risk of moisture infiltration*** by including building-envelope or mold specialists on the design team. ***Geotechnical engineers are not building-envelope or mold specialists.***

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Telephone: 301/565-2733
e-mail: info@geoprofessional.org www.geoprofessional.org

APPENDIX B

Weston & Sampson

85 Devonshire Street, 3rd Floor, Boston, MA 02109
Tel: 617.412.4480

MEMORANDUM

TO:	City of Portsmouth, NH
FROM:	Cheri Ruane, FASLA, Weston & Sampson Julie Eaton, PE, Weston & Sampson Indrani Ghosh, PhD, Weston & Sampson Andrew Walker, PH, CFM, Weston & Sampson
DATE:	December 29th, 2020
SUBJECT:	Analyses of current and future flood risks at Prescott Park, Portsmouth, NH

Introduction

The Prescott Park Master Plan Implementation Project includes evaluating potential present and future climate threats at Prescott Park (the Park). As part of the project, the Weston & Sampson team evaluated coastal flood risk from sea level rise and storm surge, as well as inland flood risk due to and extreme precipitation at the Park. The results of our analyses are summarized in this memorandum. Additional details on the methodology and approach are provided in the technical reports attached to this memorandum. We propose to use the results of these analyses to inform design choices at Prescott Park to increase climate resilience.

Site Description

Prescott Park is a 10-acre waterfront park located along the tidally influenced Piscataqua River. The Park is bounded between two bridges: Memorial Bridge on the north and Pierce Island Bridge on the south with nearly 1150 ft. waterfront edge. It hosts two important historic structures to the City of Portsmouth: the Shaw building and the Sheafe Warehouses. Based on the goals of the project and the scale of existing flooding, Weston & Sampson team evaluated areas outside the Park for flood risk, including Puddle Dock Pond, Strawbery Banke Parking Lot, and Marcy Street between Mechanic Street and Court Street.

Climate Scenarios

Present and future flood risks were evaluated for the Park using several scenarios for coastal and inland flooding, which are listed in Table 1. The future planning horizons that were considered are 2050 and 2100. The 2050 planning horizon was selected since it corresponds to the time frame of the likely useful life of the Park programming. The 2100 planning horizon was selected to evaluate longer term climate impacts at the Park. Two recurrence intervals were selected: the 10-yr storm (or 10% annual chance of occurring) and the 100-yr storm (or the 1% annual chance of occurring)

Table 1. Summary of climate scenarios developed for Prescott Park

Climate Parameter	Flood Risk	Planning Horizons	Recurrence Intervals	Data Source
Extreme Precipitation	Inland Flooding	• Present • 2050 • 2100	• 2-yr • 5-yr • 10-yr • 25-yr • 100-yr	Climate change projections for Portsmouth by Dr. Cameron Wake as part of NHDES publication on New Hampshire Coastal Flood Risk Summary Part 1: Science, released September 3rd, 2019
Sea Level Rise and Storm Surge	Coastal Flooding	• Present • 2050 • 2100	• 10-yr • 100-yr	NH Coastal Flood Risk Summary Report, STAP 2019

Rainfall depths associated with the 24-hour duration design storms of different recurrence intervals (2-, 5-, 10-, 25- and 100-year) for Portsmouth were determined for both present and future climate scenarios as listed in Table 1. The design storms' rainfall depths under present climate conditions (baseline) were derived from the NOAA Atlas 14 Point Precipitation Frequency Estimates (NOAA 14). Design storms' rainfall depths under future climate conditions were calculated as a percent increase over these baseline values. The percent increase for each design storm was determined using a statistical analysis of annual maximum daily precipitation depths from an ensemble of global climate models (GCMs), which were part of the New Hampshire Coastal Flood Risk Summary Part 1: Science document. The design storm rainfall depths for present, 2050 (using a 20-year averaging period from 2040-2059) and 2100 (using a 20-year averaging period from 2080-2099) are summarized in Figure 1. The inland stormwater flood risks at the Park and surrounding areas were evaluated using a hydrologic and hydraulic (H&H) model of the City's existing stormwater system in and upgradient of Prescott Park. Additional details on the model results for inland flood risks at the Park are presented in the technical appendix titled "Summary of Stormwater Modeling" authored by Weston Sampson team.

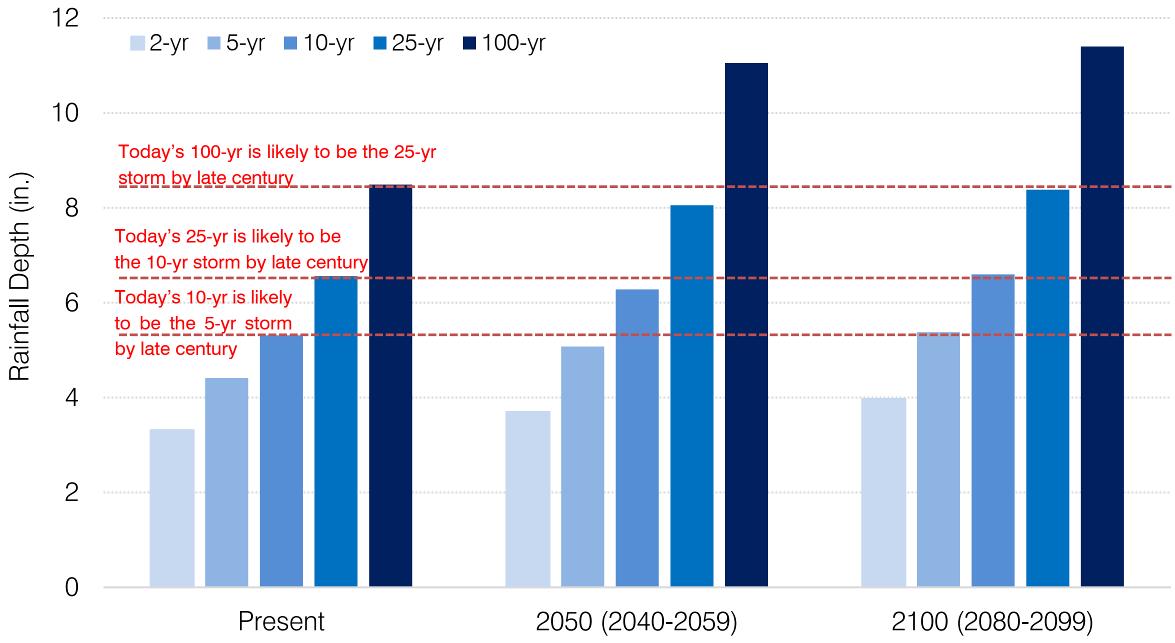

Figure 1. Stormwater flooding impacts due to changes in extreme rainfall events

Sea Level Rise (SLR) scenarios for costal flood risk analysis are based on the New Hampshire Coastal Flood Risk Summary Part 1: Science document[1], which was published by New Hampshire Coastal Flood Risk Science and Technical Advisory Panel (STAP) Steering Committee and the New Hampshire Department of Environmental Services (NHDES) in September 2019. The storm surge depths at the Park were determined from the North Atlantic Coastal Comprehensive Coastal Study (NACCS) modeling effort that was conducted by the US Army Corps of Engineers (USACE) in 2015. The coastal flood risks at the Park and surrounding area in downtown Portsmouth were evaluated under a variety of SLR and storm surge scenarios using a bathtub modeling approach and inputs from the NACCS model. Additional details on the model inputs and scenarios are presented in the technical appendix titled "Coastal modeling at Prescott Park, NH 19-P-206014" authored by the RPS Group as part of the Weston Sampson team for this project.

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[1] Wake, C., Knott, J., Lippmann, T., Stampone, M., Ballestero, T., Bjerklie, D., Burakowski, E., Glidden, S., Hosseini-Shakib, I., Jacobs, J. (2019). New Hampshire Coastal Flood Risk Summary – Part I: Science. Prepared for the New Hampshire Coastal Flood Risk Science and Technical Advisory Panel. Report published by the University of New Hampshire, Durham, NH. (https://scholars.unh.edu/cgi/viewcontent.cgi?article=1209&context=ersc)

Inland Flood Risk Summary

The inland stormwater flood risks at the Park and surrounding areas were evaluated using a hydrologic and hydraulic model, developed in with the popular stormwater modeling software, PC-SWMM. This H&H model included sub-basins representative of the park grounds as well as the City streets and neighborhoods upgradient of the park. The model also included the City's existing stormwater system and a representation of the dynamic tidal conditions downstream in the Piscataqua River. The H&H model was used to simulate the 25-year 24-hour design storm under present, 2050 and 2100 scenarios. The 25-year storm (4% annual change of occurring) was selected as the focus for this evaluation as it represents a reasonable target for managing stormwater runoff in an urban setting. The rainfall depths associated with the 25-year event under the three climate scenarios identified above are presented in Table 3.

Table 3. Summary of inland rainfall depths modeled for Prescott Park

Planning Horizon	Design Storm	Rainfall Depth
Present Day	25-year, 24-hour	6.56 inches
2050	25-year, 24-hour	8.05 inches
2100	25-year, 24-hour	8.38 inches

Present Day Inland Flood Risk: For the present day 25-year, 24-hour design storm, approximately 67% of flooding occurs upgradient of Prescott Park in the Strawbery Bank area (Puddle Dock Pond and Strawbery Banke Parking Lot), with an additional 16% occurring on Marcy Street at the Park's upgradient edge. Only 17% of the flooding occurs within the Park itself, which primarily originates from the Park's dry wells.

2050 Planning Horizon Inland Flood Risk: A similar trend is observed for the 2050 25-year, 24-hour design storm (8.05 inches), where approximately 62% of flooding occurs in the Strawbery Bank area, 24% on Marcy Street, and only 14% originates from the dry wells in Prescott Park. However, it is likely that surcharging on Puddle Lane and Marcy Street may cause overland flow downgradient towards the Park.

2100 Planning Horizon Inland Flood Risk: By late 21st century (2090-2100), the pattern of flooding for the 25-year, 24-hour storm is expected to change significantly as sea level rise impacts the tidally influenced Piscataqua River, which in turn propagates back into the low-lying drainage systems in the Park through their respective outfalls. This projected change causes surcharging at drainage manholes and associated catch basins in the Park. For this scenario, 60% of the flooding originates in the Park itself, compared to 29% in the Strawbery Banke area and 11% on Marcy Street.

Proposed Improvements to Reduce Inland Flood Risks

To reduce the stormwater flooding impacts from Prescott Park dry wells under the present day and mid-century climate scenarios and to reduce the significant flooding increase everywhere in the study area under the late-century climate scenario, Weston & Sampson evaluated a range of stormwater infrastructure improvement projects that could be developed within Prescott Park to reduce the impacts of inland flooding. These proposed improvements are visualized in Figure 2 and include the following:

1. All existing outfalls will get tide gates to prevent backflow during high tide.
2. The existing 24-in. storm drain through the Great Lawn area will be upsized to 36 in.
3. Above ground storage will be incorporated into the grading of proposed Great Lawn area improvements.
4. A 12-in. storm drain will be installed down the length of Water Street to convey overflows from existing Marcy Street storm drains and to capture any roadway flooding on Marcy Street.
5. Approximately 0.146 MG of underground storage chambers will be installed beneath a portion of the Liberty Lawn area. An outlet with valves will allow captured runoff to be drained to the proposed 12-in. storm drain beneath Water Street, after a storm event has passed.

Figure 2. Proposed stormwater infrastructure improvements at Prescott Park

A complete discussion of these and several smaller recommended projects is included in the Summary of Stormwater Modeling memorandum attached to this document. The series of recommended projects identified in that memorandum are expected to eliminate inland flooding in Prescott Park and on Marcy and Water Streets during the 25-year, 24-hour design storm under the present climate. Inland flooding would also be nearly eliminated in these areas during the corresponding event under a mid-century climate scenario. Under the late-century scenario, inland flooding would be expected in Prescott Park as well as Marcy and Water Streets during the 25-year, 24-hour storm event, however, flood volumes would be significantly reduced (e.g. by 97% in Prescott Park). The attached Summary of Stormwater Modeling memorandum describes these expected benefits in greater detail.

Coastal Flood Risk Summary

The coastal flood modeling for Prescott Park and the surrounding areas were conducted for a variety of SLR and storm surge scenarios.

Table 2. Summary of coastal flood elevations evaluated for Prescott Park

Planning Horizon	Sea Level Rise	Recurrence Interval	Water Surface Elevation*
Present Day	0 ft.	10-yr	8.6 ft.
		100-yr	10.2 ft.
2050	2 ft.	10-yr	10.6 ft.
		100-yr	12.2 ft.
2100	5.3 ft.	10-yr	13.9 ft.
		100-yr	15.5 ft.

* All elevations are in NAVD88 datum

Present Day Coastal Flood Risk: The modeling results demonstrated that with the present day 10-year storm, flooding is expected to occur in the northern/central portions of Prescott Park including areas inland of the “T” Pier and Prescott Pier including the Whale Area, Open Lawn B, the Railway Headhouse, the Shaw Warehouse, and portions of Open Lawn C. For the present day 100-year storm, flooding is expected to occur in most of the Park, except small sections of Open Lawn A Stage, the Formal Entry/Hovey fountain, the concession/restroom location, and portions of the Formal Garden

2050 Planning Horizon Coastal Flood Risk: The modeling results demonstrated that by 2050, for the 10-year and 100-year storms, progressively larger areas of the Park are likely to be flooded with only the northwest corner of the North Parking Lot and Entry/Fountain Area remaining unaffected.

2100 Planning Horizon Coastal Flood Risk: The modeling results demonstrated that by 2100, for the 100-yr storm, the entire Park has the potential to become inundated. Higher elevations on Four Tree Island prevent the Island from becoming fully inundated as quickly as other areas of Prescott Park. However, the Island is likely to be fully inundated by 2100 for the 10-year storm.

In addition to evaluating flood extents and depths at the Park, flood pathways to the Park were also identified by incrementally analyzing flood elevations between different scenarios. This analysis showed that the Park first floods in the Prescott Pier area at an elevation of 7 ft-NAVD 88. Between flood elevations of 9 and 10 ft-NAVD88, most of the Park becomes flooded. At 9 ft-NAVD88, portions of the pedestrian causeway that connects Pierce Island and Four Tree Island begins to flood, restricting access to the Park. At flood elevations of 12 ft-NAVD88, the entire Park (excluding Four Tree Island) is flooded, and at flood elevation 13 ft-NAVD88, Four Tree Island is completely inundated. Additional details on the modeling methodology, results and flood maps for the different scenarios are included in the technical appendix titled “Coastal modeling at Prescott Park, NH 19-P-206014” authored by the RPS Group as part of the Weston Sampson team for this project.

ATTACHMENTS:

- Summary of Stormwater Modeling (Weston & Sampson)
- Coastal modeling at Prescott Park, NH 19-P-206014 Report (RPS Group)

MEMORANDUM

TO: Cheri Ruane, FASLA, Weston & Sampson

FROM: Andrew Walker, PH, CFM, Weston & Sampson

DATE: December 29th, 2020

SUBJECT: Summary of Stormwater Modeling

Weston & Sampson evaluated the magnitude and locations of inland flooding caused by rainfall-induced runoff that surcharges the current stormwater system in and upgradient of Prescott Park. Inland flooding is shown to occur in four primary areas, which are depicted in Figure 1.

1. Prescott Park – Overflow of dry wells and surcharging of manholes and catch basins within the park.
2. Marcy Street – Surcharging of manholes and catch basins on Marcy Street between Mechanic Street and Court Street.
3. Puddle Dock Pond – Surcharging of manholes and catch basins upgradient of Puddle Dock Pond, namely along Court Street, Washington Street, and Puddle Lane.
4. Strawbery Banke (SB) Parking Lot – Surcharging of manholes and catch basins upgradient of the Strawbery Banke parking lot, namely along Hancock Street and Marcy Street, south of Mechanic Street.

Figure 1: Schematic of Existing Stormwater Infrastructure in and Upgradient of Prescott Park

Given the goals of the project and the scale of existing flooding, our analyses of inland flooding – locations, magnitudes, and potential solutions – focuses on the 25-year storm even. To ensure those designs remain useful throughout their design life, we evaluated inland flooding under three climate conditions – baseline, 2050, and 2090. Climate scenarios were defined through design rainfall depths and by dynamic tidal conditions that incorporate potential sea level rise.

Existing Conditions

Based on the three climate scenarios defined in this manner – baseline, 2050, and 2090 – Weston & Sampson developed a hydrologic and hydraulic (H&H) model of the City's existing stormwater system in and upgradient of Prescott Park. Model simulations of existing conditions are summarized in Tables 1 and 2. To better understand which areas are experiencing the most inland flooding, Table 1 presents flood magnitudes, expected from the 25-year event, as a percentage of total flooding during each of the three climate scenarios:

Table 1: Relative Magnitude of Flooding by Area and Climate Scenario (Existing Conditions)

Flooding Area	% of Total Flooding by Climate Scenario		
	Baseline	*2050*	*2090*
Prescott Park	17%	14%	60%
Marcy Street	16%	24%	11%
Puddle Duck Pond	33%	33%	24%
Strawbery Banke Parking	34%	29%	5%
Total	100%	100%	100%

Under baseline climate conditions, approximately 67% of flooding occurs upgradient of Prescott Park in the Strawbery Bank area (Puddle Dock Pond and Parking Lot), with an additional 16% occurring on Marcy Street at the Park's upgradient edge. Only 17% of flooding during the baseline climate scenario occurs within Prescott Park itself, originating from the park's dry wells. The dry wells flood because they simply were not designed to contain storms as large as the 25-year event and they have no downstream discharge point.

This trend remains quite similar under the 2050 climate scenario, as well, with 62% of flooding occurring in the Strawbery Bank area, 24% on Marcy Street, and only 14% originating from the dry wells in Prescott Park. That is not to say that Prescott Park will not suffer the impact of much of the flooding originating upgradient; it is entirely possible that surcharging on Puddle Lane and Marcy Street will flow overland downgradient towards the Park, particularly to the Water Street area, which bisects the park.

The pattern of flooding is expected to change significantly during the late 21st century as sea level rises more significantly and many of the smaller outfalls and drain systems in the park begin to backwater as a result, causing surcharging from their associated manholes and catch basins. That process, which is evident in Table 2 as well, is the driving force behind the dramatic shift in flooding distribution, with 60% of total flooding occurring within the park while 11% occurs on Marcy Street and 29% occurs in the Strawbery Banke area.

Table 2 summarizes the expected magnitude of flood volumes, in millions of gallons (MG), that are expected to be generated during the 25-year event and how those volumes may change under future climate scenarios.

Table 2: Total Flooding and % Increase over Baseline Climate by Area (Existing Conditions)

Flooding Area	Flooding by Climate Scenario				
	Baseline	2050		2090	
	Volume (MG)	*Volume (MG)*	Δ (%)	*Volume (MG)*	Δ (%)
Prescott Park	0.295	0.376	27%	9.582	3148%
Marcy Street	0.279	0.662	137%	1.713	514%
Puddle Dock Pond	0.580	0.914	58%	3.767	549%
Strawbery Banke Parking	0.578	0.796	38%	0.858	48%
Total	1.732	2.748	59%	15.920	819%

Under the baseline climate scenario, a total of 1.732 MG of flooding is anticipated during the 25-year rain event, of which 0.574 MG is expected on City property in Prescott Park and Marcy Street. Under the 2050 climate scenario, total flooding is expected to increase by 59% while flooding on City property is simulated to increase by 81%. As noted above, flooding is expected to increase dramatically under the 2090 climate scenario, 819% over existing conditions in fact, due to sea level rise backwatering the existing stormwater system and surcharging from the lowest manholes and catch basins. Again, the most extreme increases are anticipated on City property where an increase of 1,868% is expected. While Prescott Park is likely to experience the most dramatic increase in flooding, due primarily to sea level rise, all four areas are expected to experience significant increases in flooding volumes due to sea level rise and the more intense rainfall expected by the end of the 21st century.

Proposed Conditions

To address the uncontrolled flooding from Prescott Park dry wells under the baseline and 2050 climate scenarios and the dramatic increases to flooding everywhere in the study area under the 2090 climate scenario, Weston & Sampson has evaluated a range of stormwater infrastructure projects that can be developed within Prescott Park to reduce the impacts of inland flooding. Based on simulations of the H&H model, we recommend the following stormwater-related projects:

1. All existing outfalls will get tide gates to prevent backflow during high tide.
2. The existing 24-in. storm drain through the Great Lawn area will be upsized to 36 in.
3. Approximately 0.337 MG of above ground storage will be incorporated into the grading of proposed Great Lawn area improvements. A valved outlet will allow captured runoff to be drained to the proposed 36-in. storm drain that runs beneath the Great Lawn area, after a storm event has passed.
4. A broken 12-in. storm drain in Marcy Street, between Fish Pond Lane and Water Street will be replaced in kind.
5. A 12-in. storm drain will be installed down the length of Water Street.
6. Inflow to this proposed Water Street storm drain will be via overflow weir from the storm drains on Marcy St.

7. Catch basins will be added as needed near the Marcy Street-Water Street intersection to capture any roadway flooding, discharging it to the proposed Water Street storm drain.
8. The Water Street storm drain will be discharge through an existing outfall located near the end of the straight. The outfall will likely need to be lowered and upsized to accommodate the additional runoff.
9. Two existing dry wells located northeast of the Liberty Lawn area will be discharged via new 6-in. drains to the outfall at the end of Water Street.
10. Approximately 0.146 MG of underground storage chambers will be installed beneath a portion of the Liberty Lawn area. A valved outlet will allow captured runoff to be drained to the proposed 12-in. storm drain beneath Water Street, after a storm event has passed.

Figure 2: Schematic of Existing Stormwater Infrastructure in and Upgradient of Prescott Park

These Prescott Park Improvements are expected to significantly reduce flood volumes originating in the park. Tables 3-5 identify the simulated flood volume totals by area and the percent reduction from existing conditions for baseline, 2050, and 2090 climate scenarios, respectively.

Table 3: Proposed Conditions Improvements under Baseline Climate Scenario

Flooding Area	Existing Conditions	Proposed Conditions	
	Flooding (MG)	*Flooding (MG)*	*% Reduction*
Prescott Park	0.295	0.000	100%
Marcy & Water St.	0.279	0.000	100%
Puddle Dock Pond	0.580	0.194	67%
Strawbery Banke Parking	0.578	0.561	3%
Total	1.732	0.755	56%

Table 4: Proposed Conditions Improvements under 2050 Climate Scenario

Flooding Area	Existing Conditions	Proposed Conditions	
	Flooding (MG)	*Flooding (MG)*	*% Reduction*
Prescott Park	0.376	0.000	100%
Marcy & Water St.	0.662	0.068	90%
Puddle Dock Pond	0.914	0.581	36%
Strawbery Banke Parking	0.796	0.788	1%
Total	2.748	1.437	48%

Table 5: Proposed Conditions Improvements under 2090 Climate Scenario

Flooding Area	Existing Conditions	Proposed Conditions	
	Flooding (MG)	*Flooding (MG)*	*% Reduction*
Prescott Park	9.582	0.306	97%
Marcy & Water St.	1.713	1.038	39%
Puddle Dock Pond	3.767	1.741	54%
Strawbery Banke Parking	0.858	0.867	-1%*
Total	15.920	3.952	75%

**Negative value indicating increased flooding under proposed conditions is within the "white noise" associated with the H&H model.*

As shown in Table 3, the proposed improvements are expected to make an immediate impact on inland flooding. Under baseline climate conditions, the 25-year rainfall event is no longer expected to produce any uncontrolled flooding in Prescott Park or within the Marcy Street and Water Street roadways, a marked improvement to the 0.574 MG of flooding anticipated with the existing infrastructure. The Puddle Dock Pond area is also expected to experience a notable reduction, approximately 67%, in flooding.

The improvements to City property, namely Prescott Park, Marcy and Water Streets, are also expected to remain relatively dry during the 25-year event under the 2050 climate scenario, with Prescott Park experiencing no uncontrolled flooding and the roadways experiencing only 0.068 MG, a 90% reduction. Reductions in flooding upgradient in the Puddle Dock Pond area of Strawbery Banke are significant as well, approximately 36%, although they are reduced from those anticipated under baseline climate conditions.

The proposed stormwater improvement projects would also produce a significant reduction in uncontrolled flooding under the 2090 climate scenario. Flooding in Prescott Park itself would be reduced by approximately 97%, while flooding in Marcy and Water Streets would be reduced by 39%, although more than 1 MG of flooding is still expected in those roadways during the 25-year event under a late century climate scenario. The Puddle Duck Pond area is also expected to experience a significant reduction, approximately 54%. Counterintuitively, the H&H model indicates that the Strawbery Banke area will experience slightly more uncontrolled flooding under the proposed conditions. This result is very likely explained by the uncertainty of hydraulic models, that 1% increase in flooding is within the error bounds or the “white noise” of the model.

While the stormwater improvement projects identified above were shown, through the H&H model, to significantly improve flooding in the project area, a number of other projects or concepts were considered as well that were ultimately deemed infeasible or were found to offer no significant benefit. Some of those projects include:

- Additional underground storage chambers within Prescott Park were ultimately rejected due to the high water table, particularly under future climate scenarios. The Liberty Lawn area has some of the highest grades available and so short chambers were retained in that area. Elsewhere, underground chambers would be excessively difficult to drain post-event.
- Preliminary model simulations indicated that there may be a potential benefit to developing underground storage beneath the grassy field in the Puddle Dock Pond and beneath the Strawbery Banke parking lot. However, we did not include those projects in our recommended stormwater improvements as they are outside the project area and would require intense landowner collaboration.
- Additional reductions in the impervious surface area of sub-basins. Greater impervious surface area tends to increase peak runoff rates and total runoff volumes. The impervious surface areas of sub-basins within Prescott Park represent Weston & Sampson’s best attempt to balance the need to reduce flooding but also to maintain and improve enjoyment of the park and its facilities. Consideration of reducing impervious surface areas outside the park was not considered given the scope of the project.
- Upsizing of the storm drains beneath Marcy Street was evaluated. However, the benefits of that improvement were minor at best.
- Regrading Water Street to support preferential surface flow down the roadway towards Portsmouth Harbor during large storm events was considered. This concept was ultimately rejected due to plans to elevate much of Water Street and the existing buildings that sit along its edge. Instead, this concept was replaced with the installation of a 12-in. storm drain project that was incorporated into our recommended proposed conditions.

In summation, the stormwater improvement projects identified above will immediately and significantly reduce uncontrolled flooding in Prescott Park and on Marcy and Water Streets during flood events up to and including the 25-year storm event, and likely beyond. Significant benefits are expected to continue under mid- and late-century climate scenarios as well.

COASTAL MODELING AT PRESCOTT PARK, NH

19-P-206014

Inundation Modeling

Weston & Sampson
19-P-206014
Final
December 29, 2020

www.rpsgroup.com

Document Status

Version	Purpose of document	Authored by	Reviewed by	Approved by	Review date
Final	Coastal Modeling at Prescott Park, NH	LM, MF, TT, KK	KK	LM	12/29/2020
Draft v1	Coastal Modeling at Prescott Park, NH	LM, MF, TT, KK	KK	LM	12/02/2019
Draft	Coastal Modeling at Prescott Park, NH	LM, MF, TT, KK	KK	LM	11/27/2019

Approval for issue

Lisa McStay	2020-12-29

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Prepared by:

RPS Group, Inc.

Lisa McStay, Matthew Frediani, Tayebeh Tajalli Bakhsh, Kelly Knee

Project Manager: Lisa McStay
55 Village Square Drive
South Kingstown, RI 02879

T 401-789-6224
E lisa.mcstay@rpsgroup.com

Prepared for:

Weston & Sampson

Julie Eaton
55 Walkers Brook Drive, Suite 100
Reading, MA 01867

T 978-532-1900
E eatonj@wseinc.com

EXECUTIVE SUMMARY

This study employed a bathtub modeling approach using inputs from the North Atlantic Coastal Comprehensive Study (NACCS) storm surge model results to evaluate the potential for future inundation under a variety of storm and sea level rise (SLR) scenarios for Prescott Park in downtown Portsmouth, NH. The suite of storm surge and SLR scenarios were developed by RPS, Weston & Sampson, and the city of Portsmouth. Results of the analysis showed the following:

- At the present day, a 10-year water level corresponding to 8.6 ft. NAVD88 water elevation (Scenario 1) has the potential to inundate northern/central portions of Prescott Park including areas inland of the “T” Pier and Prescott Pier including the Whale Area, Open Lawn B, the Railway Headhouse, the Shaw Warehouse, and portions of Open Lawn C
- At the present day, a 100-year water level corresponding to a water elevation of 10.2 ft. NAVD88 (Scenario 2) has the potential to inundate most of the park. Areas excluded from inundation include small sections of Open Lawn A Stage, the Formal Entry/Hovey fountain, the concession/restroom location, and portions of the Formal Garden.
- In year 2100 (using a high SLR estimate), a 100-yr water level (Scenario 8), corresponding to a water elevation of 15.5 ft. NAVD88, the entire park has the potential to become inundated.
- Higher elevations on Four Tree Island prevent the island from becoming fully inundated as quickly as other areas of Prescott Park. However, it does have potential to become fully inundated in year 2100 (using a high SLR estimate) under 10-year water level conditions, which corresponds to a water elevation of 15.5 ft. NAVD88 (Scenario 5).

In addition to evaluating each scenario individually, RPS also identified inundation pathways by incrementally analyzing water levels between the scenarios. This evaluation was completed to provide additional information about where and how flood waters enter the park for consideration in the park design process. The results of this analysis showed:

- The park first floods in the Prescott Pier area, this inundation is triggered by a water elevation of 7 ft. NAVD 88.
- Between water elevations of 9 and 10 ft. NAVD88, most of the park becomes flooded. At 9 ft. NAVD88, portions of the pedestrian causeway that connects Pierce Island and Four Tree Island begins to flood, restricting access. Four Tree Island is completely inundated at 13 ft. NAVD88.
- At a water elevations of 12 ft. NAVD88, the entire park (excluding Four Tree Island) is flooded. Four Tree Island is entirely inundated at 13 ft. NAVD88.

This report describes modeling approach, the inputs to the modeling, an inundation pathways analysis, and the results of the modeling. This study was undertaken in order to identify the vulnerabilities of the park to flooding resulting from a combination of storm surge and sea level rise. The results of this modeling study are provided as input into the re-design of Prescott Park.

Contents

Tables

Figures

1 INTRODUCTION

RPS was contracted by Weston & Sampson to perform a bathtub modeling approach to identify areas of Prescott Park that are vulnerable to flooding. RPS evaluated the potential for future inundation under a variety of storm and sea level rise (SLR) scenarios developed together with Weston & Sampson and the city of Portsmouth.

Prescott Park, located in downtown Portsmouth, is one of the few access points to the Piscataqua River and is an open space and outdoor arts venue. The Park includes over 10 acres of waterfront property along the River. As outlined by the city (City of Portsmouth, 2019), there are five distinct areas found within the park boundary (Figure 1-1):

1. Upper (North) Park: Includes a parking area, municipal docks, a walking pier, and a fountain.
2. Center Park: Includes the "T-pier", the performing amphitheater and stage, as well as public restrooms and a snack bar.
3. Formal Gardens: Includes pathways, fountains and full planting beds.
4. Lower (South) Park: Includes the two main park buildings, the liberty pole and the "trial garden".
5. Four Tree Island Park: Located across the Peirce Island Bridge. Pierce Island is connected to Four Tree Island by a pedestrian causeway.

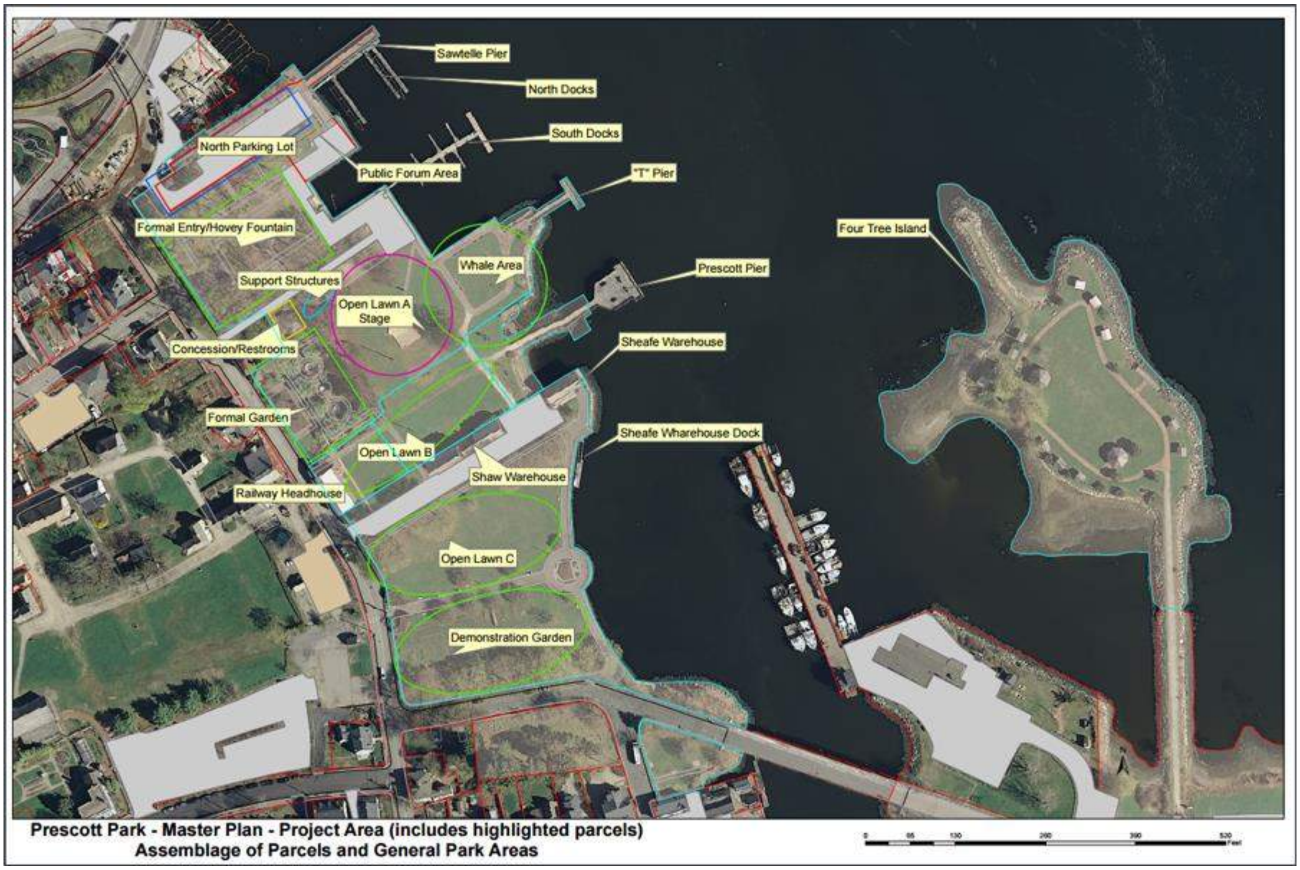

Figure 1-1. Location of Prescott Park in coastal Portsmouth, NH (City of Portsmouth, 2016).

This report describes bathtub modeling approach, the inputs to the modeling, a inundation pathways analysis, and the results of the modeling that was undertaken in order to identify the vulnerabilities of the park to flooding resulting from a combination of storm surge and sea level rise. The results of this modeling study are provided as input into the re-design of Prescott Park.

2 MODEL APPROACH AND SCENARIOS

This study employed a bathtub modeling approach. Although bathtub inundation modeling may not accurately predict coastal flooding due to dynamic forces that are not included (e.g., friction), it can effectively be used in lower energy regions to provide approximations of potential inundation while also being computationally inexpensive (Spaulding, 2014). Additionally, using values from a dynamic storm surge model as input to the bathtub model (as completed in this study) allows for some consideration of the spatial variability of storm surge.

Together with the city of Portsmouth and Weston & Sampson, RPS developed a suite of modeling scenarios – ranging from “Present Day (no SLR) + 10-year water level” to “Year 2100 with high SLR estimates +100-year water level”. In total, eight different scenarios were developed (Table 2-1). Storm water levels were extracted from the North Atlantic Coastal Comprehensive Study (NACCS) database and high and low SLR projections were added to the storm water levels. Finally, a GIS-based bathtub modeling approach was used to predict resulting inundation in the region of the park.

2.1 Model Inputs

2.1.1 Sea Level Rise

Sea level rise (SLR) projections were defined using an approach described in the New Hampshire Coastal Flood Risk Summary - Guidance for Using Scientific Projections (N.H. Coastal Flood Risk STAP, 2019):

1. Define project type, location, and timeframes.
2. Define the project risk tolerance.
3. Select the Relative Sea Level Rise Scenario (RLSR)

Together with Weston & Sampson, RPS determined that Prescott Park (primarily due to its historic significance and importance to the city) has between a medium and low risk tolerance (see New Hampshire Coastal Flood Risk Summary report for details, N.H. Coastal Flood Risk STAP, 2019) (Figure 2-1). The project team also determined that the park re-design needed to consider long term impacts, thus timeframes of 30 (2050) and 80 (2100) years were used. Based on these determinations, the RSLR value for a medium risk tolerance was used to define the low SLR projection for this study in 2050 and 2100 and the RSLR value for a low risk tolerance was used to define the high SLR projection for 2050 and 2100. For 2050, the low and high projections were 1.6 and 2 ft, respectively (Figure 2-1). Because these values are so similar, only a high SLR scenario was used for 2050. The low and high projections, 3.8 and 5.3 ft. respectively (Figure 2-1), diverge between 2050 and 2100 and thus both low and high scenarios were defined for this timeframe.

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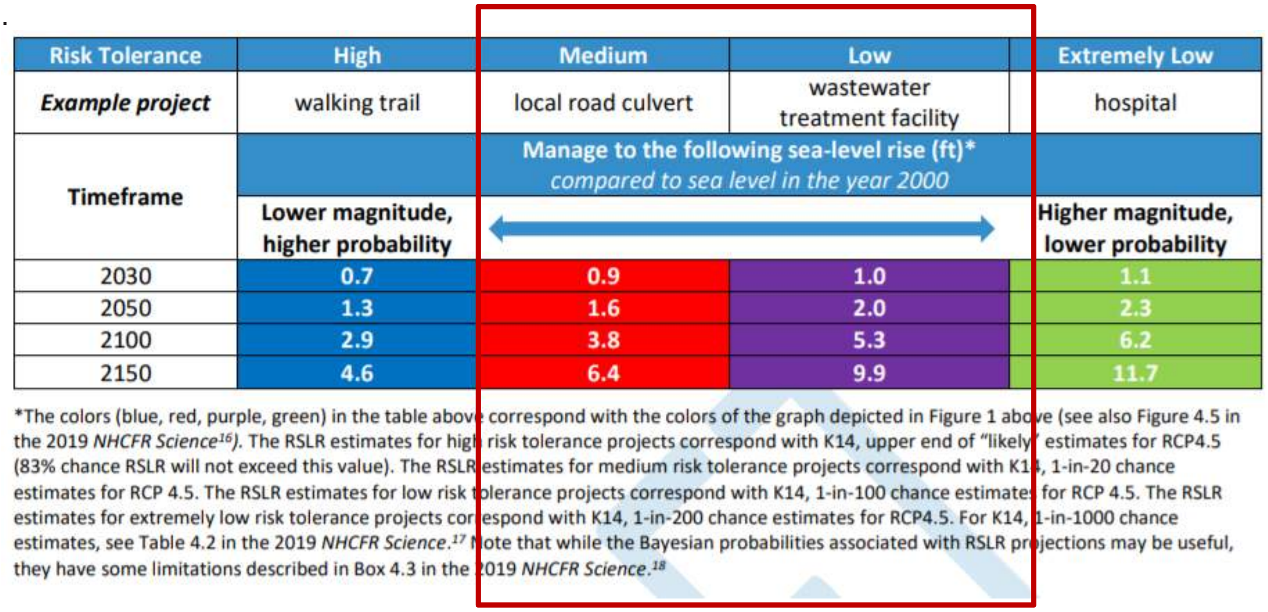

Risk Tolerance	High	Medium	Low	Extremely Low
Example project	walking trail	local road culvert	wastewater treatment facility	hospital
Timeframe		**Manage to the following sea-level rise (ft)*** *compared to sea level in the year 2000*		
	Lower magnitude, higher probability			**Higher magnitude, lower probability**
2030	0.7	0.9	1.0	1.1
2050	1.3	1.6	2.0	2.3
2100	2.9	3.8	5.3	6.2
2150	4.6	6.4	9.9	11.7

*The colors (blue, red, purple, green) in the table above correspond with the colors of the graph depicted in Figure 1 above (see also Figure 4.5 in the 2019 *NHCFR Science*[16]). The RSLR estimates for high risk tolerance projects correspond with K14, upper end of "likely" estimates for RCP4.5 (83% chance RSLR will not exceed this value). The RSLR estimates for medium risk tolerance projects correspond with K14, 1-in-20 chance estimates for RCP 4.5. The RSLR estimates for low risk tolerance projects correspond with K14, 1-in-100 chance estimates for RCP 4.5. The RSLR estimates for extremely low risk tolerance projects correspond with K14, 1-in-200 chance estimates for RCP4.5. For K14, 1-in-1000 chance estimates, see Table 4.2 in the 2019 *NHCFR Science*.[17] Note that while the Bayesian probabilities associated with RSLR projections may be useful, they have some limitations described in Box 4.3 in the 2019 *NHCFR Science*.[18]

Figure 2-1. Screenshot of the risk tolerance table from the New Hampshire Coastal Flood Risk Summary (N.H. Coastal Flood Risk STAP, 2019). The low and medium risk tolerances (outlined in red) were considered for this study.

2.1.2 Storm Water Levels – NACCS

The NACCS was a modeling effort completed by the US Army Corps of Engineers (USACE) in 2015 that used ADCIRC to simulate flooding and inundation from thousands of tropical and extratropical storms along the U.S. East Coast (Cialone et al., 2015). Results of the NACCS include a large catalog of storm surge and wave model parameters at thousands of model stations (known as "save points") along the coast. The NACCS also included a return period analysis at each point to characterize flooding at various return periods (1-year to 10,000-year). There are two publicly available NACCS databases:

1. Base Conditions: Simulations of storm surge were performed at the mean sea level; however, no tides or sea level change were included.
2. Base Conditions + 96 Random Tides: Simulations of storm surge were performed at the mean sea level. After the completion of the simulations, 96 random tidal phases were linearly superimposed onto to the base conditions storm surge.

Both storm datasets were investigated for use in this study, however due to the lack of information on the random tidal phases linearly superimposed to the surge, the "Base Conditions" storm set was selected. The return period storm data from the nearest NACCS save point (#7390) from the "Base Conditions" dataset was extracted for use in this study (Figure 2-2). NACCS provides the data described above at various confidence intervals. Both the mean and the 95th percentile were investigated for use in this study. Although the 95th percentile provides a more conservative estimate (accounts for uncertainties in the rarer storm events), Weston & Sampson requested that the study be carried out using the mean values only. Both the mean and the 95th percentile confidence interval water levels from save point #7390 are provided in Table 2-1 for comparison. The values (storm water level elevation with sea level rise) used in the inundation analysis are indicated by the red box in Table 2-1.

Table 2-1. Modeled inundation scenarios. Column outlined in red denoted the values that were used to create figures of inundation at Prescott Park.

ID	SLR		Storm Water Level	Mean Confidence Interval		95th Percentile Confidence Interval	
				NACCS Water Level[1] (ft. NAVD88)	Water Level + RSLR (ft. NAVD88)[2]	NACCS Water Level[1] – 95th % (ft. NAVD88)	Water Level + RSL (ft. NAVD88)
1	Present Day	0 ft.	10-yr	8.6	**8.6**	10.8	**10.8**
2	Present Day	0 ft.	100-yr	10.2	**10.2**	12.5	**12.5**
3	Year 2050 **high** SLR	2 ft.	10-yr	8.6	**10.6**	10.8	**12.8**
4	Year 2050 **high** SLR	2 ft.	100-yr	10.2	**12.2**	12.5	**14.5**
5	Year 2100 **low** SLR	3.8 ft.	10-yr	8.6	**12.4**	10.8	**14.6**
6	Year 2100 **high** SLR	5.3 ft.	10-yr	8.6	**13.9**	10.8	**16.1**
7	Year 2100 **low** SLR	3.8 ft.	100-yr	10.2	**14.0**	12.5	**16.3**
8	Year 2100 **high** SLR	5.3 ft.	100-yr	10.2	**15.5**	12.5	**17.8**

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[1] Data was extracted from Save Point #7390 as it was the closest to the park.

[2] These values were used in the inundation analysis. Note that Weston & Sampson requested RPS use the mean confidence interval water levels

Figure 2-2. Location of NACCS Save Point #7390 in relation to Prescott Park (Cialone et al., 2015).

2.1.3 Elevation Data

The elevation data used for the study is a combination of a high-resolution regional LiDAR dataset and a site-specific survey conducted by Weston & Sampson. The regional digital elevation model (DEM) was obtained from the New England Coastal and Marine Geology Program (CMGP) Sandy LiDAR Project (OCM Partners, 2019). This LiDAR dataset was compiled for approximately 2,120 mi^2 in the New England coastal zone following Hurricane Sandy. The DEM is referenced to the UTM Zone 19N, North American Datum (NAD) 1983 and NAVD88, in meters. Weston & Sampson provided survey elevation data as points in an XYZ file for locations within the park boundary. There were very small (< 10 cm) differences between the LiDAR DEM and the survey data.

Using ArcGIS, the data was combined using the following steps:

1. The DEM was converted to points (center of each grid cell) and projected into NAD 1983 State Plane New Hampshire FIPS.
2. Elevation was converted from meters NAVD88 to feet NAVD88.
3. The XYZ file of survey datapoints was converted to a point dataset.
4. The DEM points were merged with the survey data points.

5. The merged point dataset was then interpolated onto grid cells with a 1 m resolution and snapped to the original DEM. The dataset was analyzed to ensure that any discontinuity did not arise during the interpolation.
6. The resulting DEM was a dataset that included the Post-Sandy LiDAR as well as the high-resolution survey elevations within the park boundaries in feet NAVD88 - NAD 1983 State Plane New Hampshire FIPS.
7. The interpolation was analyzed and compared to the original DEM to ensure continuity.

2.2 Inundation Pathways Analysis Approach

Using the merged DEM, RPS created a series of raster datasets representing inundation depth, each associated with one of the eight scenarios in Table 2-1.

1. Create rasters of static values corresponding to the total water elevations for each scenario in Table 2-1 (see column outlined in red) at the same resolution of the DEM (1 m).
2. Subtract the DEM from the water surface level rasters to create the inundation depth raster.
3. Convert the depth rasters to polygons representing inundation extents.
4. Edit to remove inundated regions that appear hydraulically disconnected.

Based on the analysis described above, figures of inundation at increments between several of the scenario water levels were created in order to show the inundation pathways to help aid future designs of Prescott Park. As described in Section 2.1.2, figures of inundation were created for the various scenarios which defined water elevations ranging between 8.6 and 15.5 ft. NAVD88 (Table 2-1). Since portions of the park are inundated by the lowest scenario and there are large differences in the amount of inundation between scenarios, figures of inundation were created at 1 ft. intervals between 5 and 15 ft. NAVD88 in order to show possible inundation pathways. The lower value of 5 ft. was initially selected because Mean Higher High Water (MHHW) at the closest tide gauge (Station # 8423898 at Fort Point, NH) is 4.4 ft. NAVD88 (NOAA, 2019). Where large differences in predicted inundation between 1 ft. intervals were seen, additional intervals were added to provide more insight into how and where water enters the park.

3 MODEL RESULTS

3.1 Scenario Results

The figures below correspond to each of the eight scenarios outlined in Section 2. These figures illustrate the predicted extent and depth (in feet) of inundation in and around Prescott Park for each scenario. Each of the figures was created with the same color-scale for consistency; the maximum inundation depth for each scenario is noted in the upper right corner of each figure.

At the present day, a 10-yr water level of 8.6 ft. NAVD88 (Scenario 1) causes flooding in the northern portions of the park, shown in (Figure 3-1). Inundated areas include parts of the North Parking Lot, and Public Forum Area, the Whale Area and parts of Open Lawn A. A large area of inundation crosses Open Lawn B and continues into the neighborhood behind the park. Open Lawn C and the Demonstration Garden have higher elevations and are not predicted to experience much flooding from the present day 10-year storm.

At the present day, a 100-yr water level of 10.2 ft. NAVD88 (Scenario 2) causes flooding in most of the park (Figure 3-2) with only the backside of the North Parking lot and Entry/Fountain area and part of the Formal Garden predicted to remain unaffected. In 2050, the 10-year and 100-year water level scenarios that include 2 feet of SLR (Scenarios 3 and 4) show progressively more inundation of the park with only the northwest corner of the North Parking Lot and Entry/Fountain Area unaffected (Figure 3-3 and Figure 3-4). As the water level increases in Scenarios 5 through 7, these areas experience more flooding (Figure 3-5, Figure 3-6, Figure 3-7) until the park is completely inundation by Scenario 8 (100-yr water level in year 2100 with a high estimate of SLR)(Figure 3-8). Four Tree Island does not become fully inundated until Scenario 5 (Year 2100 High SLR Estimate + 10-yr Storm) (Figure 3-5).

Figure 3-1. Scenario 1: Inundation depths in the region of Prescott Park (Portsmouth, NH) associated with present-day sea-level conditions + a 10-year return period water level.

Figure 3-2. Scenario 2: Inundation depths in the region of Prescott Park (Portsmouth, NH) associated with present-day sea-level conditions + a 100-year return period water level.

Figure 3-3. Scenario 3: Inundation depths in the region of Prescott Park (Portsmouth, NH) associated with 2050 sea level rise (2 ft.) + a 10-year return period water level.

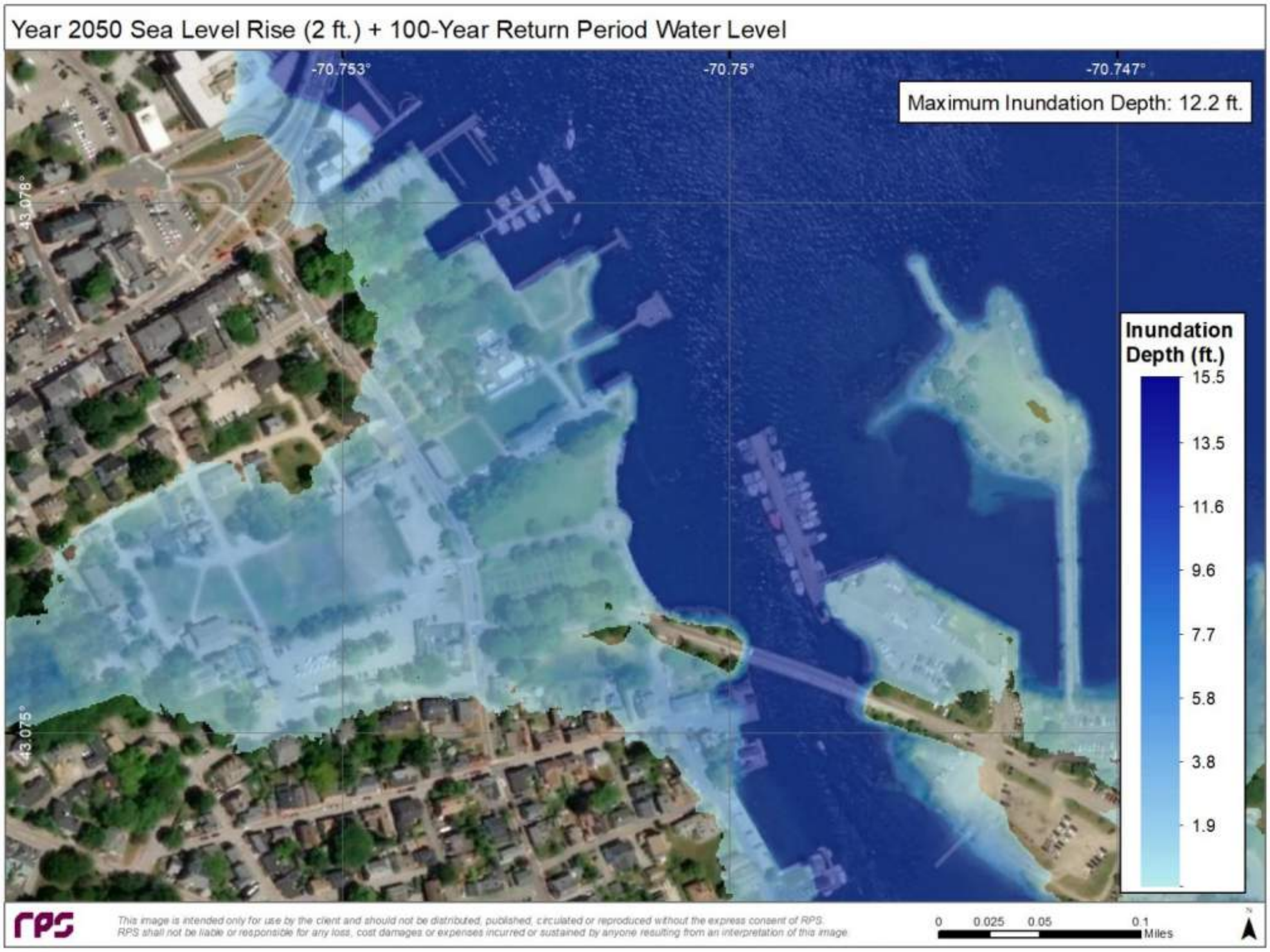

Figure 3-4. Scenario 4: Inundation depths in the region of Prescott Park (Portsmouth, NH) associated with 2050 sea level rise (2 ft.) + a 100-year return period water level.

Figure 3-5. Scenario 6: Inundation depths in the region of Prescott Park (Portsmouth, NH) associated with a low predicted 2100 sea level rise (3.8 ft.) + a 10-year return period water level.

Figure 3-6. Scenario 7: Inundation depths in the region of Prescott Park (Portsmouth, NH) associated with a high predicted 2100 sea level rise (5.3 ft.) + a 10-year return period water level.

Figure 3-7. Scenario 7: Inundation depths in the region of Prescott Park (Portsmouth, NH) associated with a low predicted 2100 sea level rise (3.8 ft.) + a 100-year return period water level.

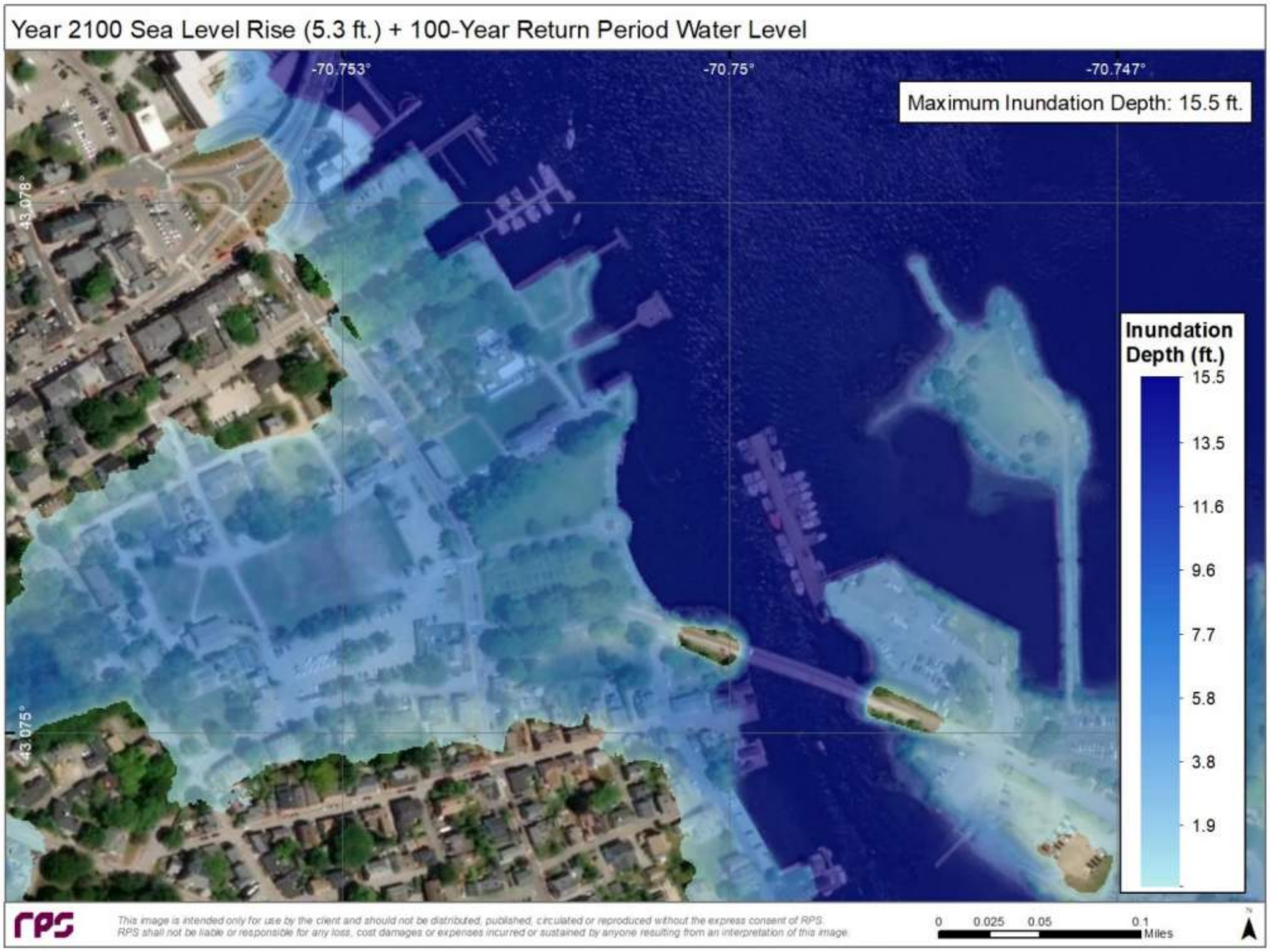

Figure 3-8. Scenario 8: Inundation depths in the region of Prescott Park (Portsmouth, NH) associated with a high predicted 2100 sea level rise (5.3 ft.) + a 100-year return period water level.

3.2 Inundation Pathways

The inundation pathways portion of the analysis was completed in order to provide more information about how and where flooding enters the park as input to the park design. The analysis was started with a water level of 5 ft. NAVD, which is approximately half a foot higher than MHHW. The results of this analysis show that at water levels of 5 ft., 6 ft., and 6.5 ft. NAVD88 the park experiences little to no flooding (Figure 3-9, Figure 3-10, Figure 3-11). At a water level of 7 ft. NAVD88 (Figure 3-12) the park begins to experience flooding. This initial flooding occurs in the region of the Prescott Pier and continues into Open Lawn B and becomes progressively worse at water levels of 7.5 and 7.75 ft. NAVD88 (Figure 3-13, Figure 3-14). A water level of 8 ft. NAVD88 causes significantly more flooding along this pathway, almost completely inundating Open Lawn B and continuing into the neighborhood behind the park (Figure 3-15). In between 8 and 9 ft. NAVD88 the northern portions of the park being to experience flooding, including the North Parking Lot, Public Forum Area, Whale Area, and Open Lawn A and the initial inundation pathway along Open Lawn B widens, extends, and comes back into Demonstration Garden from the neighborhood behind the park (Figure 3-16). At 10 ft. NAVD88 inundation of the northern areas of the park progresses inland and most of Open Lawn C and the Demonstration Gardens are flooded; a small amount of inundation in the Formal Gardens is also present (Figure 3-17). At 11 ft. NAVD88 the Formal Garden begins to experience more significant flooding (Figure 3-18). This is consistent with Scenario 2, which shows inundation of the Garden at 10.2 ft. NAVD88. Between 11 and 15 ft. NAVD88 (Figure 3-19 through Figure 3-22) the northwest corner of the park becomes almost completely inundated.

As described in Section 3.1, Four Tree Island (located across the Pierce Island Bridge) does not become inundated as quickly as other regions of the park due to higher elevations. At 9 ft. NAVD88, the park begins to flood around the edges of the island. Furthermore, the center of the pedestrian causeway that connects Pierce Island and Four Tree Island begins to flood. At 10 ft. NAVD88, the entire causeway is flooded, restricting access to Four Tree Island. At 11 ft. NAVD only the center of Four Tree Island remains dry and by 13 ft. NAVD88 the entire island is inundated.

Figure 3-9. Inundation Pathways at 5 ft. NAVD88 at Prescott Park.

Figure 3-10. Inundation Pathways at 6 ft. NAVD88 at Prescott Park.

Figure 3-11. Inundation Pathways at 6.5 ft. NAVD88 at Prescott Park.

Figure 3-12. Inundation Pathways at 7 ft. NAVD88 at Prescott Park.

Figure 3-13. Inundation Pathways at 7.5 ft. NAVD88 at Prescott Park.

Figure 3-14. Inundation Pathways at 7.75 ft. NAVD88 at Prescott Park.

Figure 3-15. Inundation Pathways at 8 ft. NAVD88 at Prescott Park.

Figure 3-16. Inundation Pathways at 9 ft. NAVD88 at Prescott Park.

Figure 3-17. Inundation Pathways at 10 ft. NAVD88 at Prescott Park.

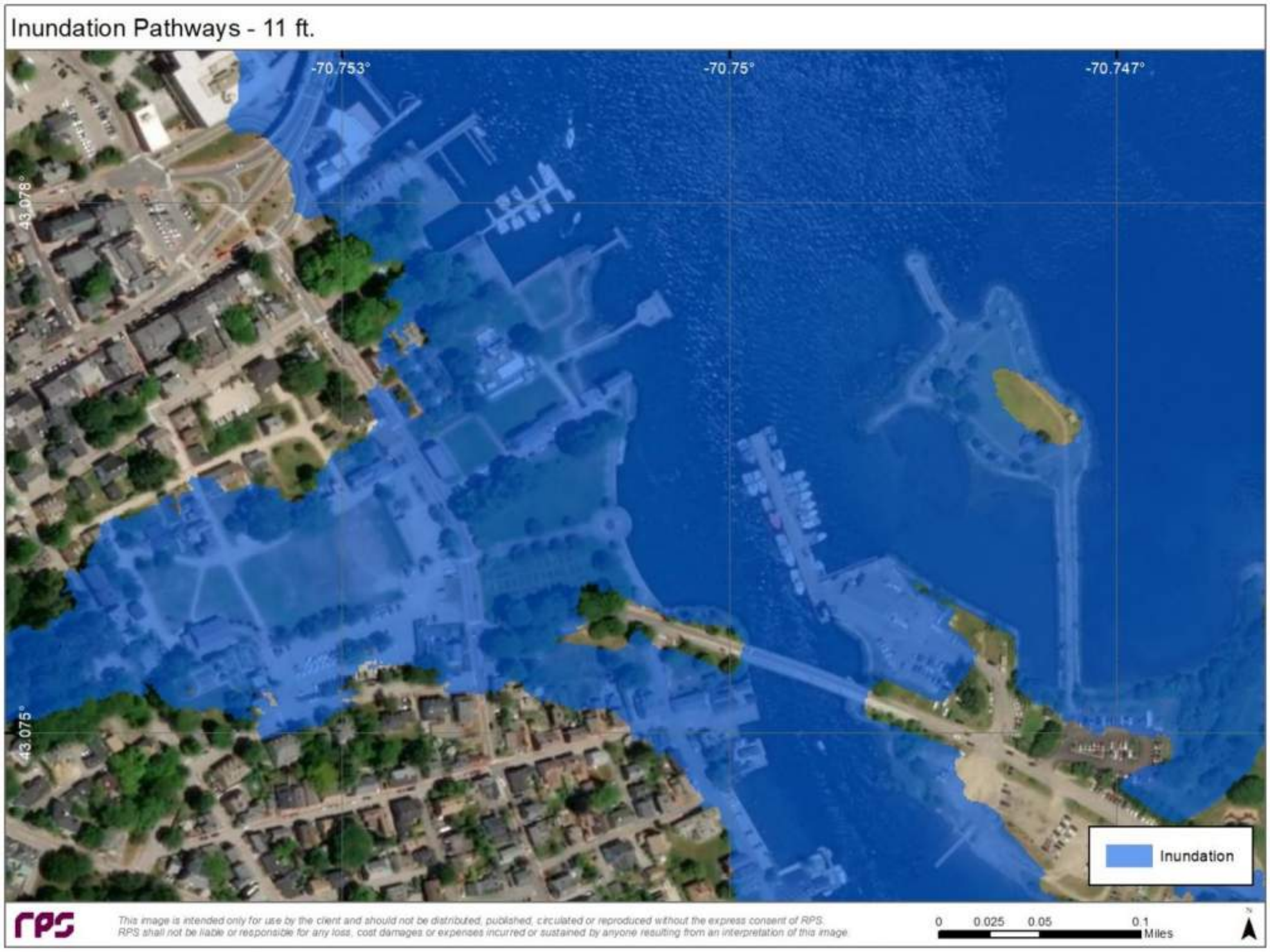

Figure 3-18. Inundation Pathways at 11 ft. NAVD88 at Prescott Park.

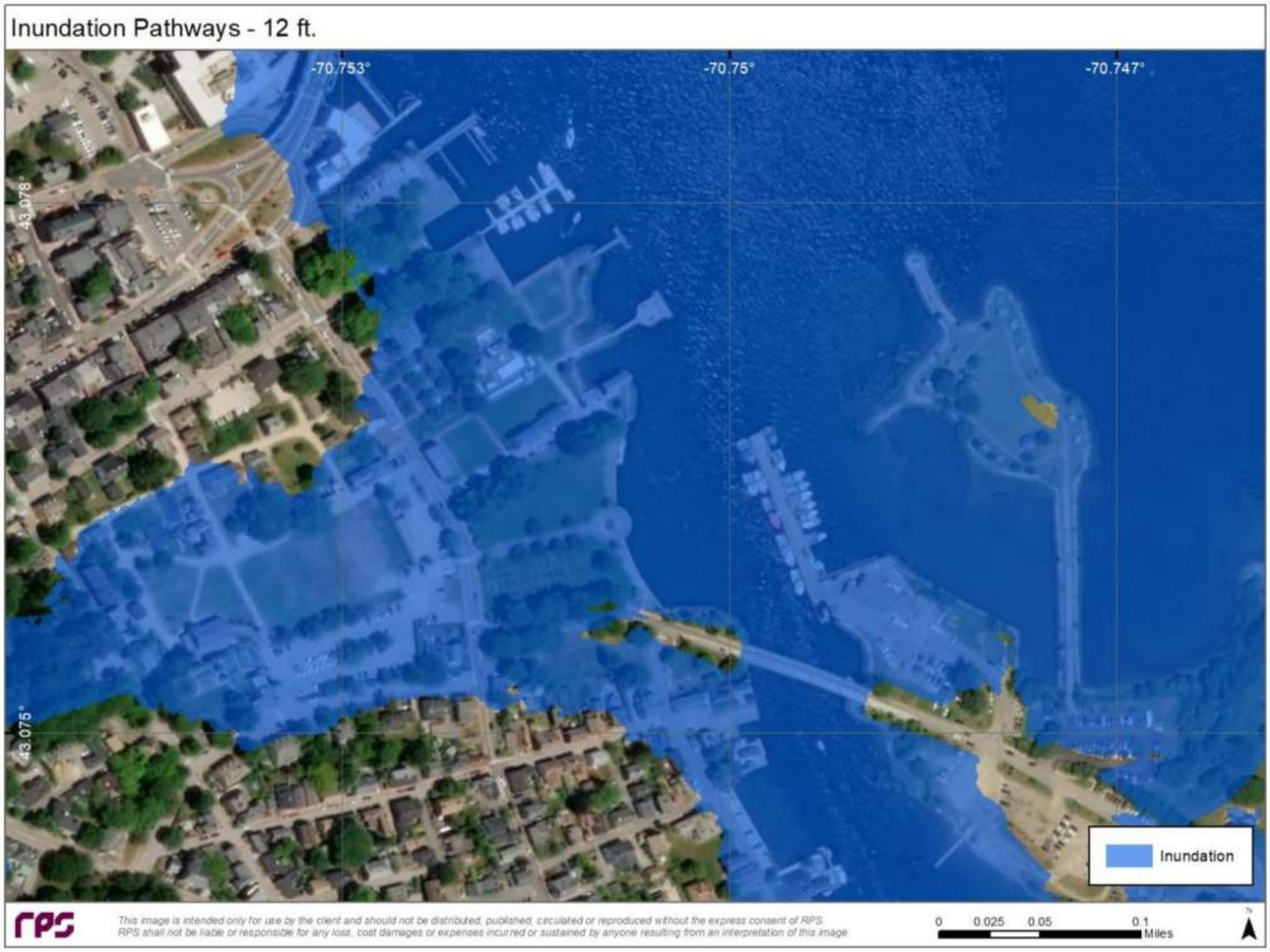

Figure 3-19. Inundation Pathways at 12 ft. NAVD88 at Prescott Park.

Figure 3-20. Inundation Pathways at 13 ft. NAVD88 at Prescott Park.

Figure 3-21. Inundation Pathways at 14 ft. NAVD88 at Prescott Park.

Figure 3-22. Inundation Pathways at 15 ft. NAVD88 at Prescott Park.

4 DISCUSSION AND CONCLUSIONS

This study employed a bathtub modeling approach using inputs from the dynamic storm surge model results from the NACCS “Base Conditions” storm set to evaluate the potential for future inundation under various storm and SLR scenarios at Prescott Park in downtown Portsmouth, NH. The suite of storm surge and SLR scenarios were developed by RPS, Weston & Sampson, and the city of Portsmouth.

The results of the modeling showed that at the present day, a 10-year storm water level of 8.6 ft. NAVD88 (Scenario 1) has the potential to inundate northern and centrals portions of Prescott Park (i.e., areas inland of the “T” Pier and Prescott Pier including the Whale Area, Open Lawn B, the Railway Headhouse, the Shaw Warehouse, and portions of Open Lawn C). A low elevation area in between Open Lawn C and the Demonstration Garden are also inundated in Scenario 1. At the present day, a 100-year storm water level of 10.2 ft. NAVD88 (Scenario 2) has the potential to inundate most of the park (excluding small sections of Open Lawn A Stage, the Formal Entry/Hovey fountain, the concession/restroom location, and portions of the Formal Garden). Higher elevations on Four Tree Island prevents the island from becoming fully inundated as quickly as other areas of Prescott Park.

The inundation pathways analysis was completed to provide more detail into how and where inundation is likely to occur, as input to the park re-design. The results of this analysis showed that a water level of 7 ft. NAVD88 is a trigger for inundation as the park begins to experience flooding in the region of Prescott Pier and across Open Lawn B. In between 9 and 10 ft. NAVD88, most of the park becomes flooded. At 9 ft. NAVD88, portions of the pedestrian causeway that connects Pierce Island and Four Tree Island begins to flood, restricting access. Four Tree Island is completely inundated at 13 ft. NAVD88.

It should be noted that this study was conducted using the mean confidence interval from the “Base Conditions” NACCS storm set. In using the mean confidence interval, there is a known 50% chance that the surge water level could be higher. The inundation predictions would be more conservative (i.e., show larger extends/deeper flooding) if the study were conducted using the “Base Conditions + 96 Random Tides” (which accounts for a level of high tide) or the 95th percentile confidence interval (which hedges against the large uncertainty for the rare storm events).

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APPENDIX C

MEMORANDUM

TO: Cheri Ruane, FASLA, Weston & Sampson

FROM: Andrew Walker, PH, CFM, Weston & Sampson

DATE: December 29th, 2020

SUBJECT: Summary of Stormwater Modeling

Weston & Sampson evaluated the magnitude and locations of inland flooding caused by rainfall-induced runoff that surcharges the current stormwater system in and upgradient of Prescott Park. Inland flooding is shown to occur in four primary areas, which are depicted in Figure 1.

1. Prescott Park – Overflow of dry wells and surcharging of manholes and catch basins within the park.
2. Marcy Street – Surcharging of manholes and catch basins on Marcy Street between Mechanic Street and Court Street.
3. Puddle Dock Pond – Surcharging of manholes and catch basins upgradient of Puddle Dock Pond, namely along Court Street, Washington Street, and Puddle Lane.
4. Strawbery Banke (SB) Parking Lot – Surcharging of manholes and catch basins upgradient of the Strawbery Banke parking lot, namely along Hancock Street and Marcy Street, south of Mechanic Street.

Figure 1: Schematic of Existing Stormwater Infrastructure in and Upgradient of Prescott Park

Given the goals of the project and the scale of existing flooding, our analyses of inland flooding – locations, magnitudes, and potential solutions – focuses on the 25-year storm even. To ensure those designs remain useful throughout their design life, we evaluated inland flooding under three climate conditions – baseline, 2050, and 2090. Climate scenarios were defined through design rainfall depths and by dynamic tidal conditions that incorporate potential sea level rise.

Existing Conditions

Based on the three climate scenarios defined in this manner – baseline, 2050, and 2090 – Weston & Sampson developed a hydrologic and hydraulic (H&H) model of the City's existing stormwater system in and upgradient of Prescott Park. Model simulations of existing conditions are summarized in Tables 1 and 2. To better understand which areas are experiencing the most inland flooding, Table 1 presents flood magnitudes, expected from the 25-year event, as a percentage of total flooding during each of the three climate scenarios:

Table 1: Relative Magnitude of Flooding by Area and Climate Scenario (Existing Conditions)

Flooding Area	% of Total Flooding by Climate Scenario		
	Baseline	*2050*	*2090*
Prescott Park	17%	14%	60%
Marcy Street	16%	24%	11%
Puddle Duck Pond	33%	33%	24%
Strawbery Banke Parking	34%	29%	5%
Total	100%	100%	100%

Under baseline climate conditions, approximately 67% of flooding occurs upgradient of Prescott Park in the Strawbery Bank area (Puddle Dock Pond and Parking Lot), with an additional 16% occurring on Marcy Street at the Park's upgradient edge. Only 17% of flooding during the baseline climate scenario occurs within Prescott Park itself, originating from the park's dry wells. The dry wells flood because they simply were not designed to contain storms as large as the 25-year event and they have no downstream discharge point.

This trend remains quite similar under the 2050 climate scenario, as well, with 62% of flooding occurring in the Strawbery Bank area, 24% on Marcy Street, and only 14% originating from the dry wells in Prescott Park. That is not to say that Prescott Park will not suffer the impact of much of the flooding originating upgradient; it is entirely possible that surcharging on Puddle Lane and Marcy Street will flow overland downgradient towards the Park, particularly to the Water Street area, which bisects the park.

The pattern of flooding is expected to change significantly during the late 21st century as sea level rises more significantly and many of the smaller outfalls and drain systems in the park begin to backwater as a result, causing surcharging from their associated manholes and catch basins. That process, which is evident in Table 2 as well, is the driving force behind the dramatic shift in flooding distribution, with 60% of total flooding occurring within the park while 11% occurs on Marcy Street and 29% occurs in the Strawbery Banke area.

Table 2 summarizes the expected magnitude of flood volumes, in millions of gallons (MG), that are expected to be generated during the 25-year event and how those volumes may change under future climate scenarios.

Table 2: Total Flooding and % Increase over Baseline Climate by Area (Existing Conditions)

Flooding Area	Flooding by Climate Scenario				
	Baseline	2050		2090	
	Volume (MG)	*Volume (MG)*	Δ (%)	*Volume (MG)*	Δ (%)
Prescott Park	0.295	0.376	27%	9.582	3148%
Marcy Street	0.279	0.662	137%	1.713	514%
Puddle Dock Pond	0.580	0.914	58%	3.767	549%
Strawbery Banke Parking	0.578	0.796	38%	0.858	48%
Total	1.732	2.748	59%	15.920	819%

Under the baseline climate scenario, a total of 1.732 MG of flooding is anticipated during the 25-year rain event, of which 0.574 MG is expected on City property in Prescott Park and Marcy Street. Under the 2050 climate scenario, total flooding is expected to increase by 59% while flooding on City property is simulated to increase by 81%. As noted above, flooding is expected to increase dramatically under the 2090 climate scenario, 819% over existing conditions in fact, due to sea level rise backwatering the existing stormwater system and surcharging from the lowest manholes and catch basins. Again, the most extreme increases are anticipated on City property where an increase of 1,868% is expected. While Prescott Park is likely to experience the most dramatic increase in flooding, due primarily to sea level rise, all four areas are expected to experience significant increases in flooding volumes due to sea level rise and the more intense rainfall expected by the end of the 21st century.

Proposed Conditions

To address the uncontrolled flooding from Prescott Park dry wells under the baseline and 2050 climate scenarios and the dramatic increases to flooding everywhere in the study area under the 2090 climate scenario, Weston & Sampson has evaluated a range of stormwater infrastructure projects that can be developed within Prescott Park to reduce the impacts of inland flooding. Based on simulations of the H&H model, we recommend the following stormwater-related projects:

1. All existing outfalls will get tide gates to prevent backflow during high tide.
2. The existing 24-in. storm drain through the Great Lawn area will be upsized to 36 in.
3. Approximately 0.337 MG of above ground storage will be incorporated into the grading of proposed Great Lawn area improvements. A valved outlet will allow captured runoff to be drained to the proposed 36-in. storm drain that runs beneath the Great Lawn area, after a storm event has passed.
4. A broken 12-in. storm drain in Marcy Street, between Fish Pond Lane and Water Street will be replaced in kind.
5. A 12-in. storm drain will be installed down the length of Water Street.
6. Inflow to this proposed Water Street storm drain will be via overflow weir from the storm drains on Marcy St.

7. Catch basins will be added as needed near the Marcy Street-Water Street intersection to capture any roadway flooding, discharging it to the proposed Water Street storm drain.
8. The Water Street storm drain will be discharge through an existing outfall located near the end of the straight. The outfall will likely need to be lowered and upsized to accommodate the additional runoff.
9. Two existing dry wells located northeast of the Liberty Lawn area will be discharged via new 6-in. drains to the outfall at the end of Water Street.
10. Approximately 0.146 MG of underground storage chambers will be installed beneath a portion of the Liberty Lawn area. A valved outlet will allow captured runoff to be drained to the proposed 12-in. storm drain beneath Water Street, after a storm event has passed.

Figure 2: Schematic of Existing Stormwater Infrastructure in and Upgradient of Prescott Park

These Prescott Park Improvements are expected to significantly reduce flood volumes originating in the park. Tables 3-5 identify the simulated flood volume totals by area and the percent reduction from existing conditions for baseline, 2050, and 2090 climate scenarios, respectively.

Table 3: Proposed Conditions Improvements under Baseline Climate Scenario

Flooding Area	Existing Conditions	Proposed Conditions	
	Flooding (MG)	*Flooding (MG)*	*% Reduction*
Prescott Park	0.295	0.000	100%
Marcy & Water St.	0.279	0.000	100%
Puddle Dock Pond	0.580	0.194	67%
Strawbery Banke Parking	0.578	0.561	3%
Total	1.732	0.755	56%

Table 4: Proposed Conditions Improvements under 2050 Climate Scenario

Flooding Area	Existing Conditions	Proposed Conditions	
	Flooding (MG)	*Flooding (MG)*	*% Reduction*
Prescott Park	0.376	0.000	100%
Marcy & Water St.	0.662	0.068	90%
Puddle Dock Pond	0.914	0.581	36%
Strawbery Banke Parking	0.796	0.788	1%
Total	2.748	1.437	48%

Table 5: Proposed Conditions Improvements under 2090 Climate Scenario

Flooding Area	Existing Conditions	Proposed Conditions	
	Flooding (MG)	*Flooding (MG)*	*% Reduction*
Prescott Park	9.582	0.306	97%
Marcy & Water St.	1.713	1.038	39%
Puddle Dock Pond	3.767	1.741	54%
Strawbery Banke Parking	0.858	0.867	-1%*
Total	15.920	3.952	75%

**Negative value indicating increased flooding under proposed conditions is within the "white noise" associated with the H&H model.*

As shown in Table 3, the proposed improvements are expected to make an immediate impact on inland flooding. Under baseline climate conditions, the 25-year rainfall event is no longer expected to produce any uncontrolled flooding in Prescott Park or within the Marcy Street and Water Street roadways, a marked improvement to the 0.574 MG of flooding anticipated with the existing infrastructure. The Puddle Dock Pond area is also expected to experience a notable reduction, approximately 67%, in flooding.

The improvements to City property, namely Prescott Park, Marcy and Water Streets, are also expected to remain relatively dry during the 25-year event under the 2050 climate scenario, with Prescott Park experiencing no uncontrolled flooding and the roadways experiencing only 0.068 MG, a 90% reduction. Reductions in flooding upgradient in the Puddle Dock Pond area of Strawbery Banke are significant as well, approximately 36%, although they are reduced from those anticipated under baseline climate conditions.

The proposed stormwater improvement projects would also produce a significant reduction in uncontrolled flooding under the 2090 climate scenario. Flooding in Prescott Park itself would be reduced by approximately 97%, while flooding in Marcy and Water Streets would be reduced by 39%, although more than 1 MG of flooding is still expected in those roadways during the 25-year event under a late century climate scenario. The Puddle Duck Pond area is also expected to experience a significant reduction, approximately 54%. Counterintuitively, the H&H model indicates that the Strawbery Banke area will experience slightly more uncontrolled flooding under the proposed conditions. This result is very likely explained by the uncertainty of hydraulic models, that 1% increase in flooding is within the error bounds or the “white noise” of the model.

While the stormwater improvement projects identified above were shown, through the H&H model, to significantly improve flooding in the project area, a number of other projects or concepts were considered as well that were ultimately deemed infeasible or were found to offer no significant benefit. Some of those projects include:

- Additional underground storage chambers within Prescott Park were ultimately rejected due to the high water table, particularly under future climate scenarios. The Liberty Lawn area has some of the highest grades available and so short chambers were retained in that area. Elsewhere, underground chambers would be excessively difficult to drain post-event.
- Preliminary model simulations indicated that there may be a potential benefit to developing underground storage beneath the grassy field in the Puddle Dock Pond and beneath the Strawbery Banke parking lot. However, we did not include those projects in our recommended stormwater improvements as they are outside the project area and would require intense landowner collaboration.
- Additional reductions in the impervious surface area of sub-basins. Greater impervious surface area tends to increase peak runoff rates and total runoff volumes. The impervious surface areas of sub-basins within Prescott Park represent Weston & Sampson’s best attempt to balance the need to reduce flooding but also to maintain and improve enjoyment of the park and its facilities. Consideration of reducing impervious surface areas outside the park was not considered given the scope of the project.
- Upsizing of the storm drains beneath Marcy Street was evaluated. However, the benefits of that improvement were minor at best.
- Regrading Water Street to support preferential surface flow down the roadway towards Portsmouth Harbor during large storm events was considered. This concept was ultimately rejected due to plans to elevate much of Water Street and the existing buildings that sit along its edge. Instead, this concept was replaced with the installation of a 12-in. storm drain project that was incorporated into our recommended proposed conditions.

In summation, the stormwater improvement projects identified above will immediately and significantly reduce uncontrolled flooding in Prescott Park and on Marcy and Water Streets during flood events up to and including the 25-year storm event, and likely beyond. Significant benefits are expected to continue under mid- and late-century climate scenarios as well.

APPENDIX D

Weston & Sampson

100 International Drive, Suite 152, Portsmouth, NH 03801
Tel: 603.431.3937

MEMORANDUM

TO: Peter Rice, Joe Almeida, and City of Portsmouth Department of Public Works Staff

FROM: Andrew Walker, PH, CFM; Cheri Ruane, FASLA, Cassie Bethoney, RLA

DATE: March 8, 2021

SUBJECT: Prescott Park Resiliency Recommendations

Weston & Sampson has reviewed the cost-effectiveness of several proposed stormwater infrastructure improvements for Prescott Park that were previously identified in our “Analyses of current and future flood risks at Prescott Park, Portsmouth, NH” memo, dated December 29, 2020. That memo summarized nearly two dozen potential stormwater improvements for Prescott Park, adjacent city streets, and private properties in the upgradient watershed. The goal was to reduce flooding in Prescott Park and vicinity under a range of design storms, tidal conditions, and climate scenarios.

Based on feedback from City staff, Weston & Sampson revisited that menu of stormwater infrastructure projects to identify those that are particularly effective at reducing flooding impacts and mindful of construction costs, potential interruptions to City services, and future maintenance requirements. The following memo summarizes our recommendations and addresses several specific questions and concerns that were raised by City staff.

Based on our review, Weston & Sampson recommends the following stormwater improvement projects:

1. Install tide gates at six existing outfalls to prevent tidal backflow which limits pipe storage and discharge capacity.
2. Regrade the Performance Lawn to incorporate approximately 300,000 gallons of above-ground storage and concentrate flooding on the northeast side of the park. Impacts to historic buildings and park infrastructure would be minimized as a result.
3. Regrade around the Shaw to direct runoff towards Water Street and minimize low spots prone to ponding.
4. Construct a new 24-inch diameter storm drain running the length of Water Street to drain roadway runoff from low-lying areas near the Shaw and at the Marcy-Water Street intersection. Lower the outfall at the end of Water Street to accommodate the new drain.

5. Replace the existing 24-inch diameter storm drain under the Performance Lawn, running from Marcy Street to Portsmouth Harbor, with a 36-inch diameter pipe to provide additional system storage and discharge capacity.

Generally, the potential benefits of these five recommended projects are understood by comparing the extents and depths of flooding at key locations in and around Prescott Park (See Figure A and B below). Additional details regarding how and why each of these stormwater improvements was recommended and the relative importance of each improvement can be found in Appendix A: "2D Stormwater Model Results."

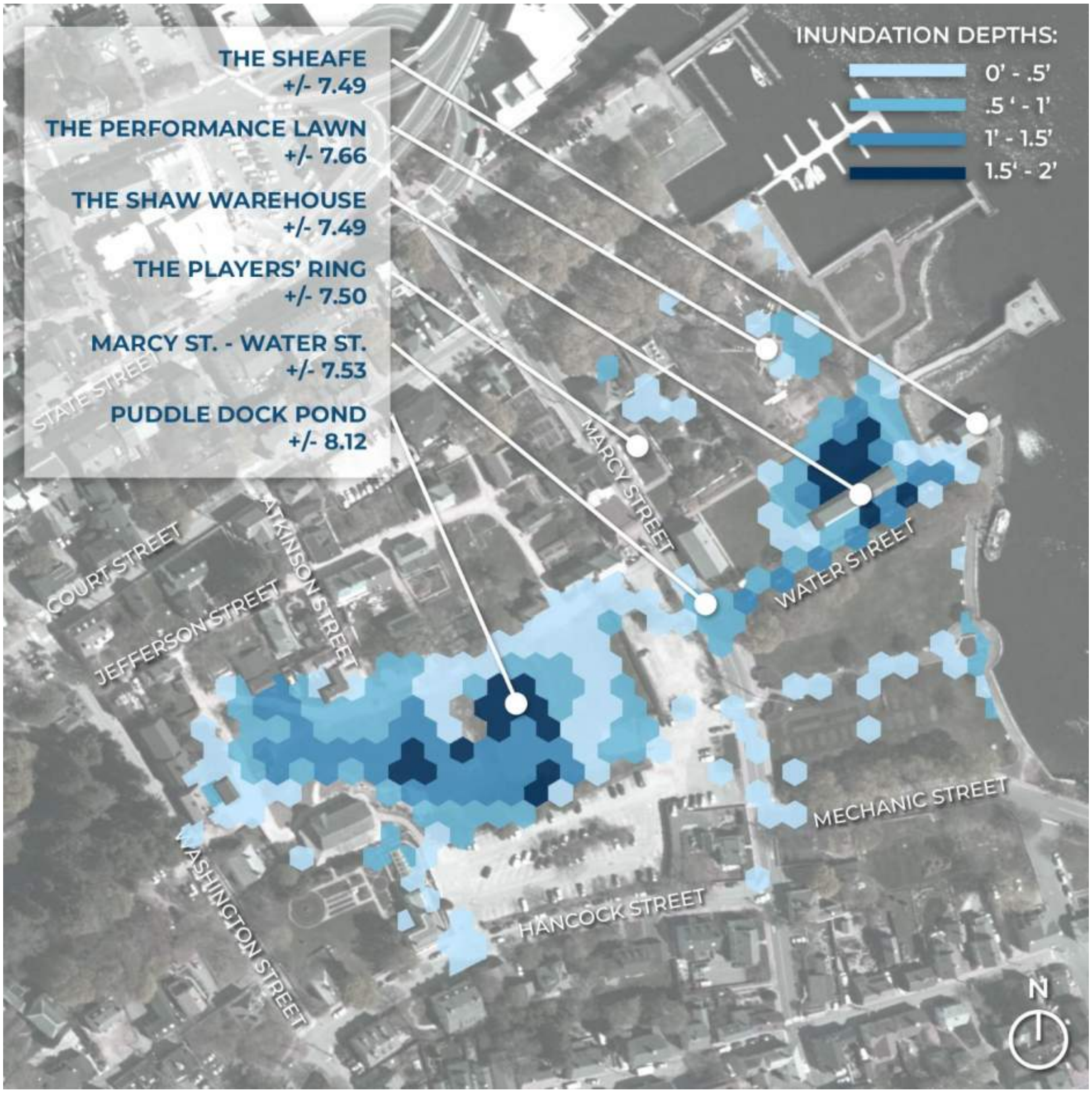


Figure A: Anticipated flooding in Prescott Park during a baseline climate, 10-year event – existing conditions

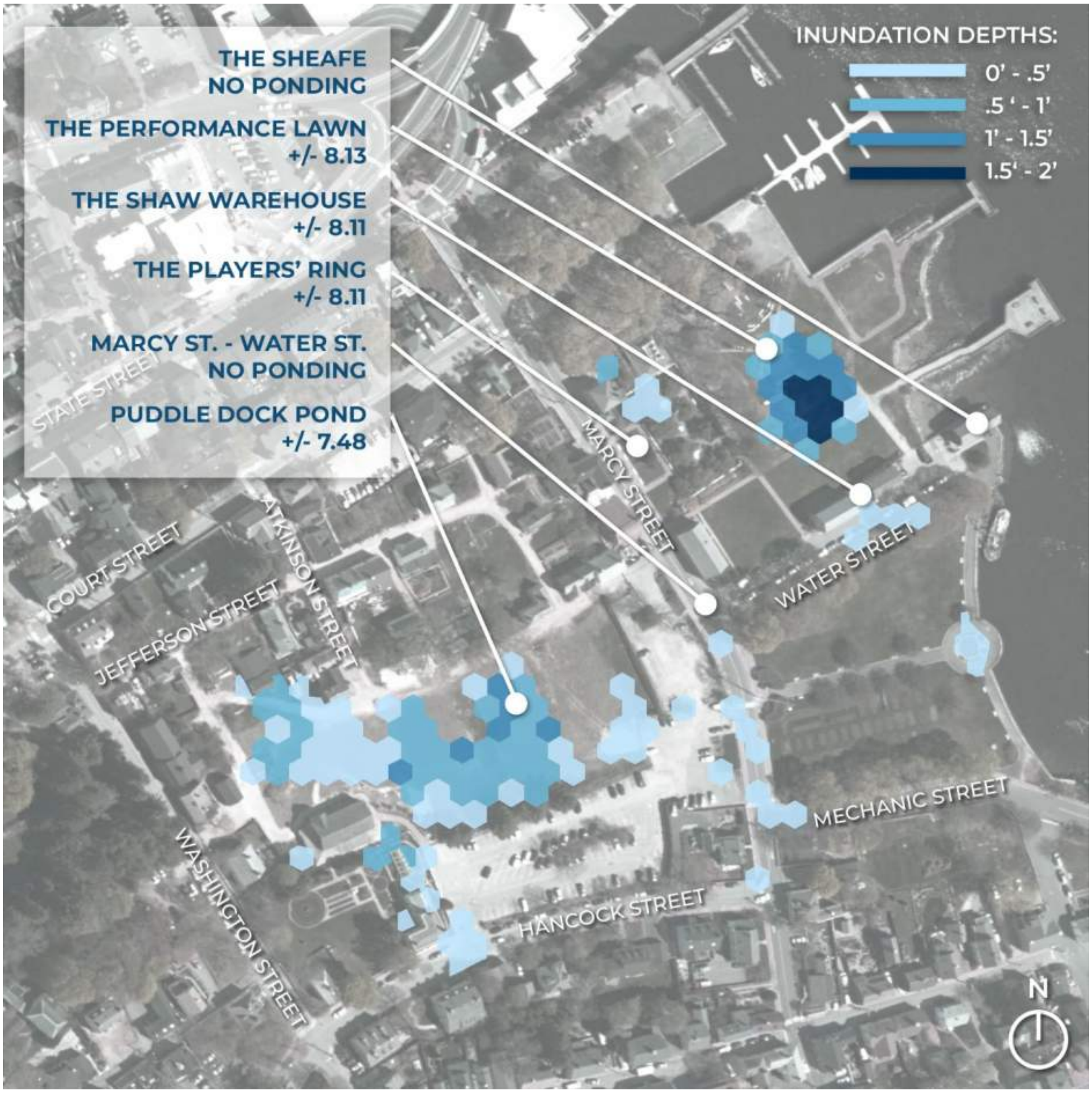


Figure B: Anticipated flooding in Prescott Park during a baseline climate, 10-year event – proposed recommendations scenario

As shown above, regrading of the park and construction of the five recommended stormwater improvements together will shift and reduce significant flooding from the low-lying area abutting the backside of the Shaw to proposed above ground storage in the Performance Lawn area and, to a lesser degree, to Water Street at the Shaw, where it can be collected into the proposed 24-inch diameter storm and associated catch basins. The proposed regrading plan and Water Street drainage system combine to eliminate ponding in the historically flood-prone Marcy-Water Street intersection and significantly decrease impacts to historical buildings within the park during moderate storm events (e.g. 10-year storm). If the 24-inch diameter central conduit beneath the Performance Lawn were replaced with a 36-

inch storm drain, those benefits would extend to more extreme events (e.g. 50-year storm) and into mid-century climate scenarios.

In addition to identifying and exploring the potential benefits of the five recommended stormwater improvement projects, this memo addresses several specific questions or concerns that were raised by City staff on the topic:

1. How often will Marcy-Water Street flood?

City staff were concerned with how often the Marcy-Water Street intersection will flood with and without the recommended improvements. The intersection is in a low-lying area that has historically flooded or ponded so much that the road was temporarily closed to traffic at times. The recommended improvements significantly decrease flooding extents, depths, and durations in this area. Under existing conditions, the Marcy-Water Street intersection is expected to experience at least 6 inches of ponding, approximately every other year; this depth would require a road closure.

With the implementation of the recommended improvements, that intersection would not be expected to experience any ponding, even during the 50-year storm event. Our analyses suggests that, even under a mid-century climate scenario, this mixture of improvements would keep that intersection from ponding until at least the 10-year storm event. Even then, significant ponding would occur for only a few minutes rather than hours. Additional details regarding maximum flooding extents, depths, and durations are available in Appendix A.

2. How quickly can the above ground storage in the Performance Lawn drain?

Given that the benefits of regrading the Performance Lawn area extend beyond its stormwater holding capacity, City staff have expressed concern about how quickly collected floodwaters would drain to ground or to Portsmouth Harbor (and interfere with use of the park). With fill material underlying this area, Weston & Sampson envisions the use of at least a 6-inch diameter drainpipe at the bottom of the storage area. The drainpipe would be capable of fully draining the maximum storage volume in less than a single typical low tide cycle following the end of a storm event, even with downstream tidal influences and the proposed tide gates. This drain time increases towards the middle and end of the 21st century due to sea level rise, but the maximum storage volume would still be expected to drain during a single typical low tide cycle in 2100.

3. Why aren’t extreme tidal conditions and extreme rain events assumed to occur concurrently?

Sizing and design of stormwater infrastructure is generally guided by peak runoff rates caused by extreme precipitation events. In New England, such extreme precipitation events are unlikely to occur with the same 24-hour window as similarly extreme storm surge events, generally because our greatest rainfall or runoff events tend to occur in the spring and our greatest storm surge events tend to occur in the fall and winter. The non-coincidence of these two types of extreme phenomenon is documented in “Climate Change and Sea Level Rise Projections for Boston – Boston Research Advisory Group Report,” dated June 1, 2016.

APPENDIX L

Compensatory Mitigation

Env-Wt 311.08 Required Information for Projects with Compensatory Mitigation. For any project for which compensatory mitigation is required, the applicant shall submit the following as part of the application:

(a) The type of compensatory mitigation to be proposed by the applicant and, if permittee-responsible mitigation will be proposed, the following preliminary information:

Not Applicable – In Lieu Fee Proposed

(b) A complete compensatory mitigation proposal as specified in Env-Wt 312.04.

Env-Wt 801.03 Determination of Type of Compensatory Mitigation Required.

(a) The applicant shall first consider permittee-responsible mitigation opportunities by determining whether on-site mitigation is practicable and, if not, obtaining a list of local mitigation projects from the conservation commission of the municipality in which the project is proposed. If permittee-responsible mitigation is practicable, the applicant shall propose such mitigation.

Due to the urban developed nature of Prescott Park on-site mitigation is not possible. The amount of permanent impact for which mitigation is required (14SF) is so small that it is not practicable to complete a municipal mitigation project.

(b) If on-site mitigation is not practicable for permanent wetlands impacts and the conservation commission does not have a list of local mitigation projects when the list is requested or if none of the projects on the list are appropriate mitigation for the applicant's proposed project, the applicant shall provide an explanation and documentation relative to:

(1) Why preservation of an aquatic resource buffer as specified in Env-Wt 803.01(h) is not practicable;

Prescott Park is an urban, developed park space that is used by residents and tourists alike for large City events. Any reduction to the park space would be a detriment to the City and not practicable.

(2) Why restoration, enhancement, or creation of wetlands on the property, as applicable, as specified in Env-Wt 803.01(i) is not practicable; and

Prescott Park is bounded by the Piscataqua River via a seawall. In order to create additional space in tidal waters, for which 14SF of permanent impact is proposed, the seawall would need to be relocated which is not practicable.

(3) Calculation of an in-lieu mitigation payment as specified in RSA 482-A:30.

See attached calculation sheet. Mitigation payment amount $180.17.

(c) If permittee-responsible mitigation is not practicable for permanent stream impacts and the municipality does not have a list of local mitigation projects or if none of the projects on the list are appropriate mitigation for the applicant's proposed project, the applicant shall provide an explanation and documentation relative to:

(1) Why preservation of an aquatic resource buffer as specified in Env-Wt 803.01(h) is not practicable;

Prescott Park is an urban, developed park space that is used by residents and tourists alike for large City events. Any reduction to the park space would be a detriment to the City and not practicable.

(2) Why stream restoration and enhancement activities as specified in Env-Wt 803.01(j) on the property and within the same Hydrologic Unit Code 12-digit (HUC 12-digit) watershed as the impacts is not practicable; and

The amount of permanent impact for which mitigation is required (14SF) is so small that it is not practicable to complete a separate project within the same watershed. Prescott Park is bounded by the Piscataqua River via a seawall. In order to create additional space in tidal waters, for which 14SF of permanent impact is proposed, the seawall would need to be relocated which is not practicable.

(3) Calculation of an in-lieu payment as specified in RSA 482-A:30-a.

See attached calculation sheet. Mitigation payment amount $180.17.

2022 VALUES

TOWN	LAND VALUE
Acworth	2015
Albany	1166
Alexandria	3283
Allenstown	11545
Alstead	3107
Alton	28465
Amherst	33150
Andover	5187
Antrim	5186
Ashland	17888
Atkinson	53267
Auburn	25811
Barnstead	10183
Barrington	14071
Bartlett	10785
Bath	2148
Bean's Grant	494
Bean's Purchase	494
Bedford	53267
Belmont	16815
Bennington	5777
Benton	494
Berlin	2091
Bethlehem	1170
Boscawen	8475
Bow	22793
Bradford	5543
Brentwood	25013
Bridgewater	21888
Bristol	19371
Brookfield	3208
Brookline	24118
Cambridge	494
Campton	6327
Canaan	5832
Candia	13335
Canterbury	4856
Carroll	4102
Center Harbor	43396
Chandler's Purchase	494
Charlestown	3287
Chatham	742
Chester	16676
Chesterfield	9817
Chichester	10581
Claremont	5788
Clarksville	681

NHDES AQUATIC RESOURCE MITIGATION FUND
WETLAND PAYMENT CALCULATION

*****INSERT AMOUNTS IN YELLOW CELLS*****

	1	**Convert square feet of impact to acres:**	
INSERT SQ FT OF IMPACT		Square feet of impact	14.00
			43560.00
		Acres of impact =	0.0003
	2	**Determine acreage of wetland construction:**	
		Forested wetlands:	0.0005
		Tidal wetlands:	0.0010
		All other areas:	0.0005
	3	**Wetland construction cost:**	
		Forested wetlands:	$49.39
		Tidal Wetlands:	$98.79
		All other areas:	$49.39
	4	**Land acquisition cost (See land value table):**	
INSERT LAND VALUE FROM TABLE WHICH APPEARS TO THE LEFT. (Insert the amount do not copy and paste.)		Town land value:	53267
		Forested wetlands:	$25.68
		Tidal wetlands:	$51.36
		All other areas:	$25.68
	5	**Construction + land costs:**	
		Forested wetland:	$75.07
		Tidal wetlands:	$150.14
		All other areas:	$75.07
	6	**NHDES Administrative cost:**	
		Forested wetlands:	$15.01
		Tidal wetlands:	$30.03
		All other areas:	$15.01
	************	**TOTAL ARM PAYMENT*************	
		Forested wetlands:	$90.09
		Tidal wetlands:	$180.17
		All other areas:	$90.09

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

APPENDIX M

No revenue stamps required.

Book 966 Page 139
Date of Recording March 15 1940
9:00 AM

Know All Men by these Presents.

That I, Josie F. Prescott of Portsmouth, in the County of Rockingham and State of New Hampshire,

for and in consideration of the sum of ---------------One and No/100 Dollars------------ and other valuable considerations--- to me in hand before the delivery hereof well and truly paid by the City of Portsmouth, a municipal corporation, lying and being in the County of Rockingham, in said State of New Hampshire,

the receipt whereof I do hereby acknowledge, have granted, bargained and sold, and by these presents do give, grant, bargain, sell, alien, enfeoff, convey and confirm unto the said City of Portsmouth, its successors ~~heirs~~ and assigns forever

A certain lot or parcel of land situated on the Easterly side of Marcy Street, formerly called Water Street, in said Portsmouth, and bounded and described as follows: Beginning at the Northwesterly corner of said parcel on said Marcy Street at land of the heirs of Charles E. Walker and running thence in an Easterly direction by said last mentioned land to the Piscataqua River; thence turning and running in a Southerly direction by said Piscataqua River to land of the Portsmouth Gas Company; thence turning and running in a Westerly direction by said last mentioned land to other land of the Grantor, formerly of Alta Roberts; thence turning and running in a Northerly direction by said last mentioned land, as the fence now stands, Twenty-seven (27) feet; Six (6) inches, more or less, to the corner of said fence; thence turning and running Westerly by said other land of the Grantor, as the fence now stands, Sixty-two (62) feet, Six (6) inches, more or less, to said Marcy Street; thence turning and running Northerly by said Marcy Street to the point of beginning.

Being the same premises conveyed to me by deed of Charles M. Dale, dated January 15, 1940, and recorded in Rockingham Registry of Deeds, and by deed of James A. Jameson et als, dated May 16, 1938, and recorded in Rockingham Registry of Deeds, Book 940, Page 347.

This conveyance is made upon the express conditions and essential part consideration that the granted premises shall be forever used and improved as a public park and for no other purpose; that no alcoholic beverages of any description shall ever be sold on said premises and that the granted premises shall forever be designated as Prescott Park and in the event that any of the foregoing conditions shall be violated by the Grantee, its successors or assigns, this conveyance shall thereupon become null and void and the Grantor, or her heirs, may thereupon enter for condition broken and by such entry shall become possessed as of her former estate to the same affect as if this conveyance had not been made.

To have and to hold the said granted premises, with all the privileges, and appurtenances to the same belonging to it the said City of Portsmouth, and its successors ~~heirs~~ and assigns, to it and their only proper use and benefit forever. And I the said Josie F. Prescott, for myself and for my heirs, executors and administrators do hereby covenant, grant and agree, to and with the said City of Portsmouth and its successors ~~heirs~~ and assigns that until the delivery hereof I am the lawful owner of the said premises, and am seized and possessed thereof in my own right in fee simple; and have full power and lawful authority to grant and convey the same in manner aforesaid; that the premises are free and clear from all and every incumbrance whatsoever;

and that I and my heirs, executors and administrators, shall and will WARRANT and DEFEND the same to the said City of Portsmouth and its successors ~~heirs~~ and assigns, against the lawful claims and demands of any person or persons whomsoever.

And I, Josie F. Prescott, am a ~~of the said~~ single woman. ~~in consideration aforesaid, do hereby relinquish all rights as such in the before mentioned premises.~~

And I ~~we and each of us~~ do hereby release all rights of HOMESTEAD, secured to me ~~us, or either of us~~, by the laws of New Hampshire.

In witness whereof I have hereunto set my hand and seal this second day of March, in the year of our Lord 19 40.

Signed, sealed and delivered in the presence of us:

Charles M. Dale

Josie F. Prescott

State of New Hampshire, Rockingham, ss. March 2, A. D. 19 40.

Personally appeared the above named Josie F. Prescott and acknowledged the foregoing instrument to be her voluntary act and deed—Before me:

Charles M. Dale *Justice of the Peace.*

No Revenue Stamps Required.

KNOW ALL MEN BY THESE PRESENTS

THAT Charles M. Dale of Portsmouth in the County of Rockingham and State of New Hampshire and Edwin H. Buck of Wilmington in the County of Middlesex and Commonwealth of Massachusetts, trustees under the will of Josie F. Prescott, late of said Portsmouth, by virtue and in pursuance of the authority conferred upon us by said will, for and in consideration of the sum of One Dollar ($1.00) and other valuable consideration to us in hand before the delivery hereof, well and truly paid by the City of Portsmouth, a municipal corporation lying and being in the County of Rockingham in the State of New Hampshire, the receipt whereof we do hereby acknowledge, have granted, bargained and sold and by these presents do give, grant, bargain, sell alien enfeoff, convey and confirm unto the said City of Portsmouth, its successors and assigns forever, the several parcels of land below described situate easterly or northeasterly of Marcy Street in said Portsmouth and bounded and described as follows, viz:

A certain piece or parcel of land, together with the buildings thereon, situated on the Easterly side of Marcy Street in said Portsmouth and bounded and described as follows, viz: On the North by land of one Marconi; on the East by Piscataqua River; on the South by a right of way of the City of Portsmouth and on the West by said Marcy Street. Said right of way is more fully described in deed of Charles H. Stewart to said City of Portsmouth, dated November 18, 1932, and recorded in Rockingham Registry of Deeds, Book 885, Page 168.

Also a second parcel of land in said Portsmouth bounded on the West by said Marcy Street; on the North by said right of way; on the East by said Piscataqua River; and on the South by land of the heirs of William H. Phinney and the third and fifth parcels of land hereinafter described.

The two parcels above described are those conveyed to Josie F. Prescott by deed of Charles H. Stewart dated March 2, 1940 and recorded in Rockingham Registry of Deeds, Book 966, Page 115.

Also a third parcel of land, situate on the Northerly side of Mechanic Street in said Portsmouth and bounded Southerly by said Street, One Hundred Forty-three and Five Tenths (143.5) feet; Easterly by the Piscataqua River; Westerly by the fifth parcel of land hereinafter described, and extending Northerly from said Mechanic Street to include the premises described in the deed of Charles S. Drowne, dated June 12, 1912, and recorded in Rockingham County Registry of Deeds, Book 666, Page 475.

Also a fourth parcel of land, being a certain island in the Piscataqua River known as "Four-Tree Island," and being the same premises described in the deed of Mary M. Whitney et al, dated August 21, 1908, and recorded in said Registry, Book 646, Page 221.

Said third parcel and said island are the second and third parcels conveyed to Josie F. Prescott by deed of Charles M. Dale dated June 21, 1940 and recorded in Rockingham Registry of Deeds, Book 970, Page 363.

Also a fifth parcel of land situated in said Portsmouth and bounded Westerly by said Marcy Street; Northerly by land of the heirs of William H. Phinney; Easterly in part by said Piscataqua River and in part by the third parcel herein above described; and Southerly by said Mechanic Street.

Being the first parcel of land described in deed of Charles M. Dale to Josie F. Prescott dated June 27, 1941, recorded in Rockingham Registry of Deeds, Book 987, Page 84.

Also a sixth parcel of land situated on the Easterly side of Mechanic Street, and bounded Easterly by the Piscataqua River two hundred and twelve feet (212), more or less; Northerly by said River and by land formerly of Joseph W. Peirce and others; Westerly by said Mechanic Street two hundred and twelve feet (212), more or less; and Southerly by land formerly of the Proprietors of the Portsmouth Aqueduct and more recently of the City of Portsmouth.

Being the same premises conveyed to Josie F. Prescott by deed of Charles M. Dale dated June 2, 1940, recorded in Rockingham Registry of Deeds, Book 958, Page 496.

The second, third, fifth and sixth parcels together now form a single parcel of land.

This conveyance is upon the express condition and essential part consideration that the premises shall be used only for park and public recreational purposes and that no intoxicating liquors shall ever be sold thereon.

TO HAVE AND TO HOLD the said granted premises, with all the privileges and appurtenances to the same belonging, to the said Grantee, its successors and assigns forever. And we the said Charles M. Dale and Edwin H. Buck, trustees as aforesaid, covenant with the said City of Portsmouth, its successors and assigns, that we are duly authorized to make sale of said premises, that in all our proceedings in the administration of said trust we have complied with all requirements of law relating thereto, and that we will, in our said capacity, warrant and defend the same to the said City of Portsmouth, its successors and assigns against the lawful claims of persons claiming by, from or under us in the capacity aforesaid.

IN WITNESS WHEREOF, in our said capacity we have hereunto set our hands and seals this fifth day of January, A. D. 1954.

Signed, sealed and delivered in the presence of us:

Ray E Burkitt

D. S. Goodhue

Charles M Dale

Edwin H. Buck

STATE OF NEW HAMPSHIRE

COUNTY OF ROCKINGHAM

On this the fifth day of January, 1954, before me, the undersigned officer, personally appeared Charles M. Dale known to me to be the person whose name is subscribed to the within instrument and acknowledged that he executed the same for the purposes therein contained.

In witness whereof I hereunto set my hand and official seal.

Ray E Burkitt
Justice of the Peace

COMMONWEALTH OF MASSACHUSETTS   COUNTY OF SUFFOLK

On this the fifth day of January, 1954, before me, the undersigned officer, personally appeared Edwin H. Buck known to me to be the person whose name is subscribed to the within instrument and acknowledged that he executed the same for the purposes therein contained.

In witness whereof I hereunto set my hand and official seal.

John E.

Notary Public

My Commission Expires March 2, 1956

Rec. & recorded Feb. 20, 10 A.M., 1954

11692

MAR 7 10 27 AM '86
Rockingham County
Registry of Deeds

QUITCLAIM DEED

Raymond Brighton, Philip Weeks, Kevin Guy, and John Foley, all of P.O. Box 1103, Portsmouth, County of Rockingham, State of New Hampshire, individually and as present or former Trustees of the Trust Funds of the City of Portsmouth, hereby convey any and all interest which they may have in either capacity in the following described lots or parcels of land, with quitclaim covenants, to the City of Portsmouth, a New Hampshire municipal corporation having a usual place of business at 126 Daniel Street, Portsmouth, County of Rockingham, for consideration paid:

> Two certain lots or parcels of land described as Lots 1 and 3 on a Subdivision Plan for Portsmouth Land Bank Trust dated May 12, 1982 as approved and recorded in Rockingham County Registry of Deeds as Plan D-11121. Said lots also being described as Lots 3 and Lot 3-3 on Portsmouth City Assessor's Map U-4.
>
> For title of the grantors, reference is made to Book 2549, Page 1390, Rockingham County Registry of Deeds.

The purpose of this deed is to complete conveyance to the City of Portsmouth of all property formerly owned by Portsmouth Land Bank Trust, 853 Circuit Road, Portsmouth, County of Rockingham, Joseph G. Sawtelle, Trustee, which had been acquired by deed of Columbus J. Marconi, William Marconi, Eugene Marconi, and Joseph Marconi dated May 29, 1980, recorded at Rockingnam County Registry of Deeds, Book 2364, Page 0766. For an earlier conveyance of Lot 2 on said Plan for the Portsmouth Land Bank Trust to the City of Portsmouth, see Book 2425, Page 432, Rockingham Registry of Deeds, recorded October 26, 1982.

This deed is accepted pursuant to vote of the Portsmouth City Council dated November 18, 1985.

Witness	Raymond Brighton, Trustee
Cynthia L. Vandawat Witness	Philip Weeks, Trustee
Witness	Kevin Guy
Witness	John Foley, Trustee

STATE OF NEW HAMPSHIRE
ROCKINGHAM, SS

Personally appeared Raymond Brighton on February 13, 1986, Philip Weeks on March 6, 1986, Kevin Guy on February 18, 1986, and John Foley on February 20, 1986, known to me to be the persons whose names are subscribed to the foregoing instrument and acknowledged that they executed the same for the purposes therein contained and that they were authorized to perform this act.

Before me,

Justice of the Peace

APPENDIX N

Env-Wt 313.05 Processing of Related Wetlands and Shoreland Permit Applications.

> (a) *For the projects listed in (d), below, that require both an EXP or standard permit under RSA 482-A and a shoreland permit under RSA 483-B, the applicant may file the individual permit applications for the project concurrently, with a written request to process the applications together.*

Per Env-Wt 313.05 Weston & Sampson on behalf of the City of Portsmouth is requesting concurrent processing for the Wetlands and Shoreland submissions for the proposed Phase 1A improvements to Prescott Park.

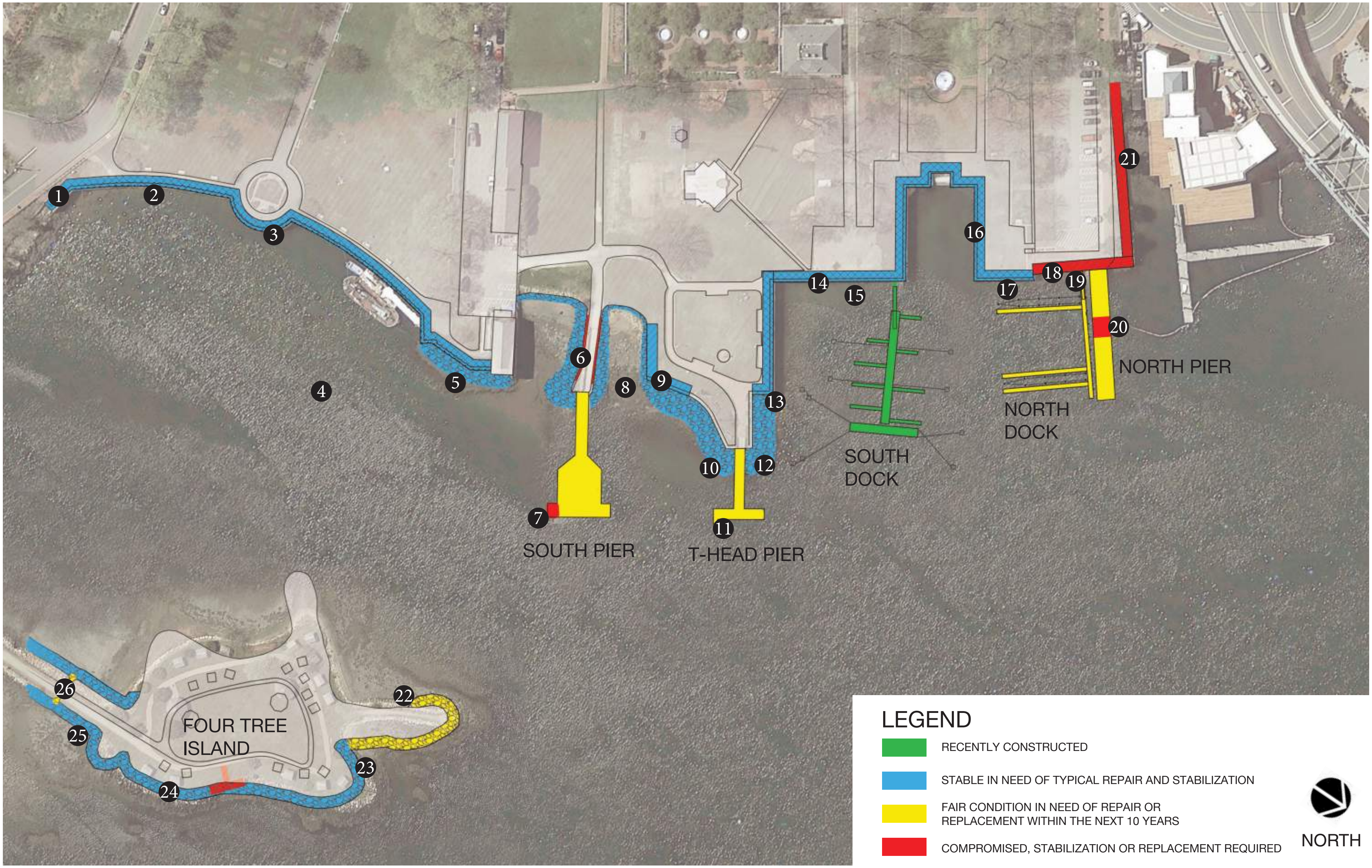
APPENDIX O

February 13, 2017

Weston & Sampson
transform your environment

MEMORANDUM

RE: Seawall Assessment
Prescott Park Master Plan



SEAWALL ASSESSMENT

1. Quaywall
-Graffiti gate, blocks are level.
-Missing grout top course, mortar missing, repoint & rechink
-Fence is rusting

2. Quaywall
Survey marker

3. Quaywall
Missing mortar steel shim plates

4. Harbor
- Lobster Pots
- Floats ±2 feet with 2-3 traps each

5.
Top course to be mortared.
(Sheafe warehouse in background)

6. South pier
Undermining of concrete

SEAWALL ASSESSMENT

7. South pier
Broken cross members under deck, it is recommended to replace the failed bracing member as soon as possible. The structure has 15 years of service life remaining, assuming it is repaired and maintained.

8.
Stromwater outfall. (Player's ring theatre in background)

9. Adjacent to T-Head pier
Steel sheeting with granite coping and placed rip rap armoring.

10. T-Head pier
Slumping rip rap in front of set granite blocks.

11. T-Head pier
Recent repair from arson event. It is estimated that the T-Head Pier has 20 years of service life remaining, assuming it is repaired and maintained.

12. T-Head pier
Sloped placed rip rap, top course to be reset.

SEAWALL ASSESSMENT

13. At T-Head pier
Repoint existing blocks. Water very shallow here.

14. Quaywall
Repoint and mortar joints.

15. Quaywall
Stromwater out fall.

16. Quaywall
Repointing existing block.

17. Quaywall
Stormwater out fall.

18. From quaywall to steel bulkhead
Transition to steel sheeting.
Estimated age 20 years.

note: Appledore estimated 30 years service life remaining, and replacing the timber bracing within 5 years.

SEAWALL ASSESSMENT

19. At north pier
Steel is deteriorating with significant pitting with visible holes at high tide line.

20. Steel bulkhead
Significant settlement and slumping visible. Wall requires reconstruction.

21. North Pier
It is recommended to replace the timber bracing as soon as possible.

22. Four Tree Island
Rip rap at north end of island.

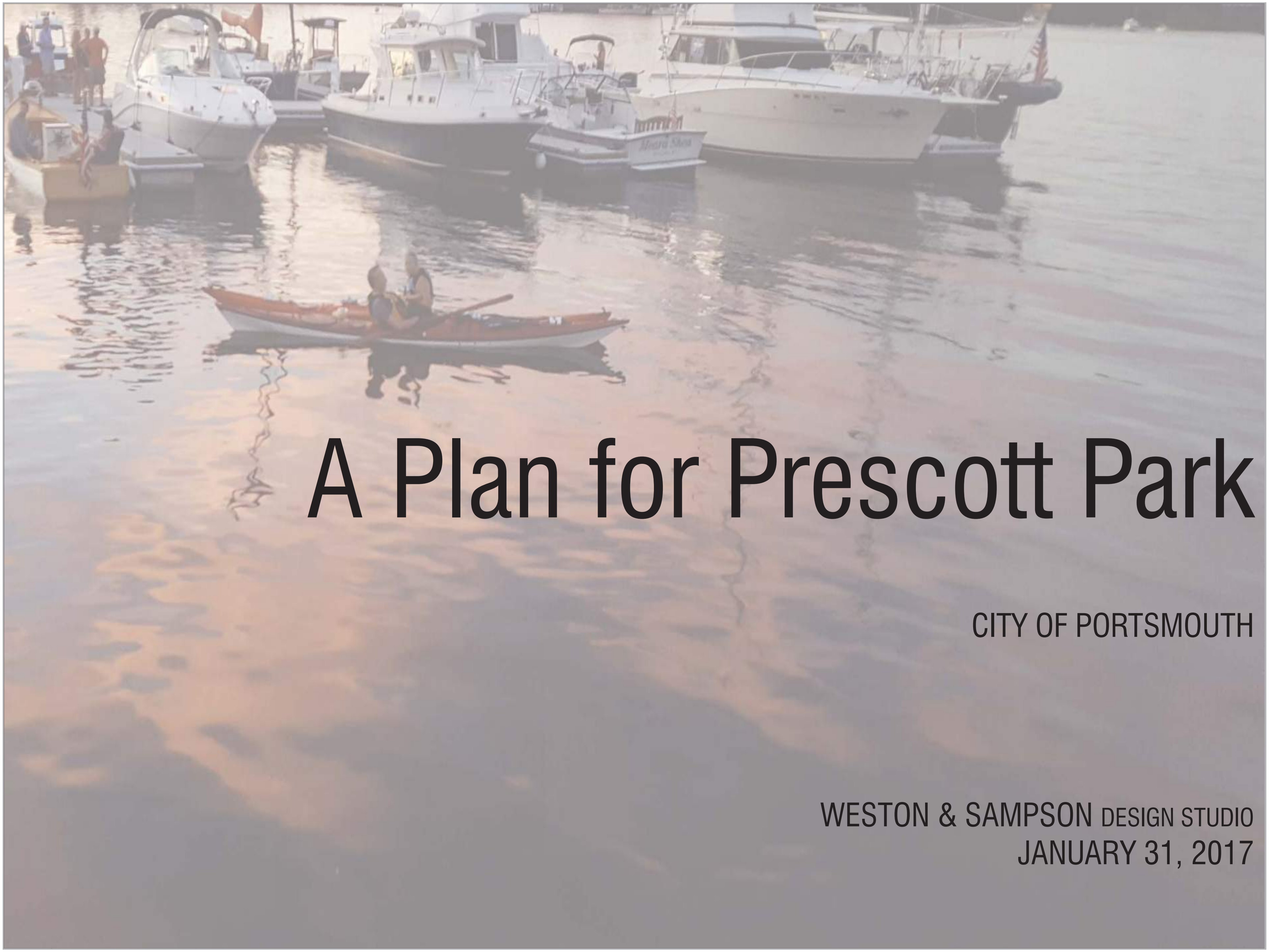
23. Four Tree Island
Beach at northeast end of island

24. Four Tree Island
Deck with missing rip rap and erosion undermining structure along east shore.

25. Four Tree Island
Dumped rip rap along east shore.

26. Four Tree Island
Culvert under causeway requires lining or reinforcement. Excessive section loss in areas.

APPENDIX P



A Plan for Prescott Park

CITY OF PORTSMOUTH

WESTON & SAMPSON DESIGN STUDIO
JANUARY 31, 2017

January 25, 2017

Weston & Sampson

Mr. John Bohenko
City Manager
City of Portsmouth
1 Junkins Avenue
Portsmouth, NH 03801

Re: A Plan for Prescott Park (DRAFT)

Dear City Manager Bohenko:

It is our pleasure to present to you “A Plan for Prescott Park.” This master plan document is the culmination of over a year of effort and leadership by the Blue Ribbon Committee for the Prescott Park Master Plan. Thank you for entrusting us with this important work. The rejuvenation of this park is a legacy opportunity for the city, its residents and all who visit. We have had the pleasure of collaborating closely with the Blue Ribbon Committee whose guidance and representation on behalf of the City of Portsmouth has been clear and democratic. Throughout the project there has been a robust public engagement process that has shown an incredibly wide and deep passion for Prescott Park and all it represents to this community. We especially appreciate the commitment of those who fully engaged with the process, appearing at every meeting and articulating their concerns as well as their support for various plan developments.

Amidst all of the conversation and debate there is clearly hope and optimism for the future of Prescott Park. You will find that in response to the input we received, a Park First Approach which confirmed the tenets of design.

Key design tenets helping to define the future of Prescott Park:

- A waterfront park for Portsmouth residents, workers, and visitors
- A venue for the arts
- An opportunity for resilient design to mitigate the effects of climate change

We are proud of the work that has been accomplished by the Blue Ribbon Committee and believe that this master plan provides a strong framework with actionable outcomes for all future decisions and critical investments that are to be made within Prescott Park.

Sincerely,

WESTON & SAMPSON
Design Studio

Cheri Ruane Eugene R. Bolinger

Cheri Ruane, ASLA
Vice President

Eugene Bolinger, ASLA
Vice President

cc: Councilor Chris Dwyer, Blue Ribbon Committee Chair
David Moore, Assistant City Manager

table of contents page

executive summary

Prescott Park is an incredible asset for the City of Portsmouth. Generations of memories have been made here with many more to come. Currently, park stewards face the growing challenge of supporting increasing demands for usage. As Portsmouth continues to evolve as a vibrant waterfront downtown, more and more residents and visitors gravitate here. Prescott Park, with all it offers, is an integral part of the Portsmouth experience and a "must visit" by any measure.

As one of the few points of access to the mighty Piscataqua River, Portsmouth Park is an open space and outdoor arts venue that is cherished by the community. However, the park's physical infrastructure systems continue to age and endure a harsh waterfront environment. As elements wear and as usage increases it is becoming harder and harder to maintain and operate a safe and accessible waterfront park. The City of Portsmouth understands that capital investment is necessary to support the health, safety and welfare of its residents. With the intention of making smart investments that support a bright and successful future for Prescott Park, the master plan process was initiated.

Months of outreach, engagement, and listening were accessible to everyone who wanted to participate through a multitude of venues and formats. Results were compiled and assessed to generate a design approach we have termed "Park First". The park first approach guides and informs all design decisions within the master plan. As a public open space, there is a desire to have the park be all things to all people, but this is rarely possible. With ten acres of land, sensitive natural resources immediately adjacent, and an incredibly diverse programming agenda, Prescott Park manages to support an significant volume of formal and informal use. It is critical to put the park first in our thinking, otherwise it will not survive its growing fan base.

The tenets of design that were derived from this park first approach are included below. With these assertions as our guide, we developed A Plan for Prescott Park.

1. Recognition of city-owned nature of the park
2. Use "for park and recreational purposes" per the trust
3. Pedestrian through-route accessibility at all times
4. Maximize waterfront connection
5. Integrate coastal resilience/adaptation strategies
6. Maintain and enhance maritime historical connection
7. Integrate into the neighborhood
8. Ensure presence for theater, dance, music and visual arts (including public art)
9. Maintain different areas for a variety of park experiences
10. Plan for gatherings (informal and formal)
11. Maintain a public forum area
12. Include meaningful invitations for youth to play
13. Precious waterfront space should not be taken up by parking
14. Protect and preserve historic resources

A democratic waterfront promenade serves as the organizing spine for the park. The park has been organized to support flexible programming with large open lawns, shade trees, civic plazas and a more connected and accessible waterfront. The Formal Garden remains an important design element in a new location. A new movable stage facility for seasonal use is proposed to support existing and future performing arts while playable sculpture, tributes to the Prescott sisters, and annual art shows expand visual art programming. Infrastructure systems will be upgraded to promote storm water management, energy efficiency and resiliency to the impacts of climate change.

These improvements, including permitting and design costs, are projected to cost about $16,000,000 in today's dollars. Unless the park is going to be renovated all at once, a phasing strategy is needed. We recommend starting with the areas of the park most under-performing and in need of improvement and working outward from there. Interface between renovations and existing conditions must be carefully choreographed to ensure smooth transitions and minimal disruption to park programming as well as recently built work.

While the time and money required to make this new vision for Prescott Park a reality is significant, the potential improvement in Portsmouth's quality of life and city fabric is even greater. The outreach and engagement of this process has fostered an immense amount of good will and enthusiasm for what is possible here. As the quartercentenary of Portsmouth approaches the 2023, there is great momentum to realize much of this plan through concerted focus, fundraising, and investment. Now is the time to seize this energy and invest not only in the future of Prescott Park but in the future of Portsmouth.

introduction

Prescott Park is a special place. It is here, probably more than anywhere else in Portsmouth, that generations of memories have been made, photographed and cherished. From the Formal Garden to Four Tree Island, there are countless settings for meaningful time to be spent with friends and family. The park is steeped in maritime history with an incredibly unique aesthetic quality. Its location on the tidal Piscataqua River is a draw for those seeking a sea breeze and a breathtaking view of the water.

The city recognizes the incredible value that Prescott Park brings to Portsmouth's residents and visitors alike. Despite the impressive length of shoreline in Portsmouth, there is very little public open space immediately adjacent to the waterfront. This understanding and the realization that significant infrastructure investments were needed to keep the park functional spurred the city to make the investment in a master plan for Prescott Park.

Mayor Jack Blalock appointed the Blue Ribbon Committee of the Prescott Park Master Plan in January 2016 to manage this process. The Committee has been holding regular meetings to guide the master plan through to completion and ultimately make a recommendation to the City Council. The Blue Ribbon Committee members include:

Councilor Chris Dwyer, Chair
Mayor Jack Blalock
Councilor Nancy Pearson
Stefany Shaheen
Phyllis Eldridge, Trustee of Trust Funds
Dana Levenson, Trustee of Trust Funds
Thomas Watson, Trustee of Trust Funds

This endeavor is not the city's first foray into a planning effort for Prescott Park. In 1964 Moriece and Gary, landscape architects from Cambridge, Massachusetts, authored a master plan report for Prescott Park. Hand drawn plans, axonometric and perspective sketches, supported by a few pages of text, showed an alternative future for the park. Making use of existing tree allees and converting pavement into lawn, the plan proposed a band shell, colonial garden, open lawn and groves of trees, as well as a children's play area.

This master plan is intended to be a living document that guides both the operations and ongoing capital improvement at Prescott Park. By taking a constructive look at a facility in its entirety, resources can be allocated most efficiently and with greatest impact. This ensures that each effort of improvement, executed as resources become available, will contribute to the singular vision established through the master planning process. The sum becomes greater than the individual parts. In addition, investments are made in a logical sequence that responds to the current set of priorities.

It is important to note the primary purpose of a master plan and how best to make use of it going forward. The Plan for Prescott Park represents an approximate 12 month snapshot in time (early 2016 through early 2017) and it chronicles an expansive community conversation that took place during its evolution. That conversation and the community preferences garnered during that conversation helped to establish the community endorsed tenets of design and community preferences are reflected throughout the written document and within the physical plan. The master planning effort also inventoried the condition of existing park structures, features and systems to help prioritize the order of future refurbishment efforts based on need.

It is intended that The Plan for Prescott Park will be referenced and reviewed frequently, particularly as capital improvements are contemplated. Most importantly, a master plan is a general guide and intentionally intended to be flexible with specific phases, costs, and design precedents and details to be vetted and confirmed through future interactions with key stakeholder groups and the community at large. And as time passes, it is recognized that adjustments to the master plan may be required to comport with continually evolving community needs and desires.

Often a master plan will take a number of years to fully realize its completed vision. Sometimes, as phases of work are implemented, current issues and events can further inform the final master plan. Adjustments to the plan are not uncommon in vibrant, growing communities, and more often than not, the integrity of the original master plan remains the primary framework for decision making decades into the future.

one

The History and Evolution of Prescott Park

By the 1930s, this area of Portsmouth had fallen on hard times, was quite rundown and had become home to the city's notorious red-light district. Two local schoolteachers—sisters Josie and Mary Prescott, who had grown up in this neighborhood—had a dream of cleaning up and beautifying this section of town to create a park that would be open to everyone.



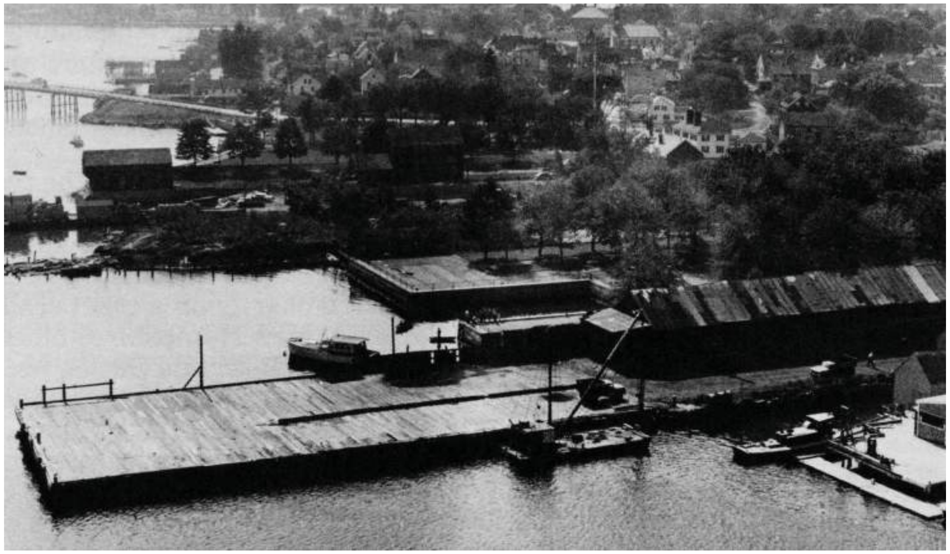
Born on Marcy Street in the 1850's, the Prescott children attended Portsmouth public schools, and the sisters went on to teach. Their brother Charles found great success in business and died in 1932, leaving his $3 million inheritance, a fortune the sisters later secured. By that time, the sisters were in their seventies and intent on giving back to their hometown. Unsatisfied with the condition of their neighborhood, the sisters, with the help of their lawyer Charles Dale, began to buy derelict properties along the waterfront.

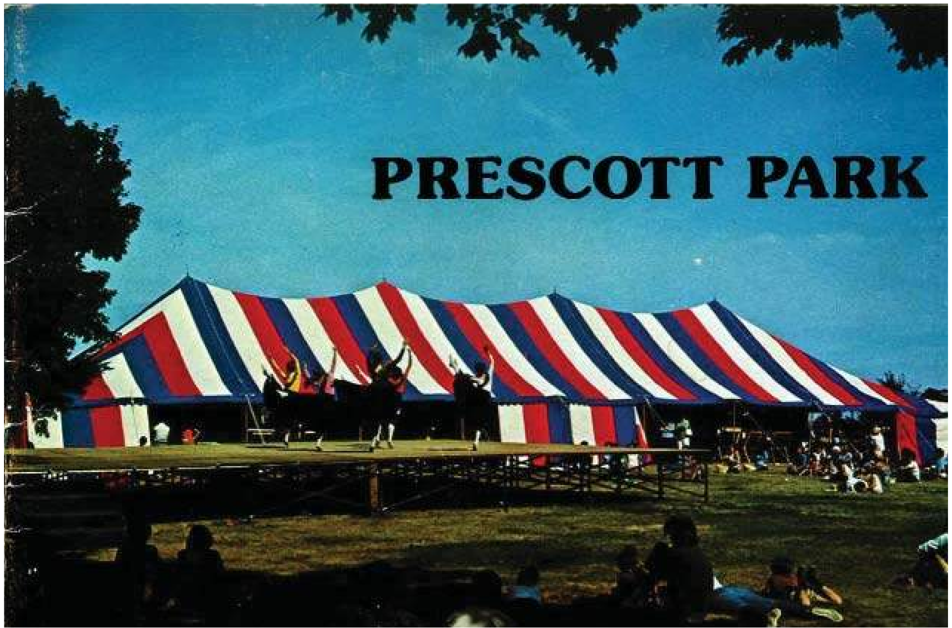
Their goal was to create a public waterfront park, free and accessible to all, replacing what had become a run down and seedy industrial area. The first parcels of land were deeded to the city in 1940, and the Prescott sisters' trust was established in 1949, upon the death of Josie. The Prescott Trust continues to financially maintain and preserve Prescott Park. The city manages this money through the Trustees of Trust Funds. In addition to the brothels and saloons that populated the area in the early part of the 20th century, the district also included Puddle Dock, a multicultural neighborhood full of historic homes that would later become Strawbery Banke Museum in the late 1960s.

While no one disputes the pleasure derived from the more than 10-acre Prescott Park today, back in the early '50s when the city took possession of the trust and the park land, many grumbled about the stringent rules governing the "Prescott gift." Editorials mentioned many other better uses for the money - such as a new high school or the improvement of Peirce Island." reported Laura Pope on the 7/25/02 Seacoast Online website.

The Prescott Trust continues to manage, maintain and preserve Prescott Park, though increasingly in recent years the proceeds from the Trust have been unable to keep up with operating costs and certainly not capital costs.

The parklands began to be improved and converted from oil tanks and industrial yards into lawn and trees for recreational use. People began to use Prescott Park as the pleasure grounds they were intended to be. The neighborhood of the South End began to change because it wasn't just the Prescott Sisters who were intolerant of the debauchery that was pervasive in the area. Others began to take action to establish the South End and Prescott Park as a safe and vibrant community.





PRESCOTT PARK ARTS FESTIVAL

In 1974 The Trustees of Trust Funds for the City of Portsmouth, led by Trustee Paul McEachern, and with the help of the New Hampshire Art Association, brought an outdoor theatrical summer production to Prescott Park. Spurred by the celebration of the country's bicentennial, with the assistance of several local arts groups, the inaugural year for the Prescott Park Arts Festival (PPAF) was a wonderful success. Every year since, there have been annual summer festivals of performing and visual arts to the delight of multi-generational audiences.

In the early 1980's the leadership and responsibility for making the summer arts festival happen shifted from the Prescott Park Trustees to The Prescott Park Arts Festival Inc. (PPAF), a not-for-profit corporation, whose sole purpose is to provide Prescott Park and the greater Portsmouth community with arts-based family entertainment. Forty years later, PPAF remains one of the city's premiere arts and cultural mainstays.

Over the years the Festival has grown and evolved with expanded programming attracting bigger acts, which in turn attract larger audiences. The PPAF's growing success supports much of its mission: "The primary objective of the Festival is to provide quality family entertainment, promote artistic excellence in the community and maintain quality presentations of both entertainment and educational events. Implicit in this charge is the exercise of cultural leadership, sensitivity to the community and fiscal responsibility." A tension has emerged recently between these goals and some in the South End neighborhood, which is arguably the most impacted by sounds and cars generated by the Festival.

THE 1964 MASTER PLAN

In 1964 the landscape architecture firm of Moriece and Gary was commissioned by the Trustees of Trust Funds to come up with a comprehensive design for the park. As parcels were acquired and cleared of industrial residue, a master plan was needed in order to consider the park as one contiguous piece of land. Historic images clearly show the South End was a different place at this time with a strong industrial presence on this working waterfront.

A summary of this plan is worthy of review as it sheds light on the current thinking for public waterfront open spaces when the park was coming into its own. It also allows us to understand what has persisted over many years and what elements have come and gone with the times. Perhaps the most influential and important part of the document on Prescott Park today is the paragraph on Page 13 of the report that calls for the Trustees “to employ a superintendent or caretaker to supervise and coordinate the care and protection of the park.” This is an important recommendation that was realized from that report. It has shaped and changed and informed the nuances of the park and created a sense of place that is absolutely unique to Prescott Park.

The original goal set for the 1964 master plan was to create a design “having a distinct feeling of Colonial New England” and to meet the passive recreational needs of the community. The maritime history and traditions of the Piscataqua’s inland tidewaters were a strong influence over the plan. A maritime exhibit area and children’s play area were intended for direct interaction while models of the Ranger and Gundalow were intended to further “lend atmosphere” to the park. Wharfs in their original locations were to provide docking space for pleasure boaters and allow visitors clear views up and down the river from the decks.

The colonial elements of the design were based on the original architecture of the Shaw and Sheafe Warehouses as well as Strawbery Banke’s collection of buildings. What is currently known as the Formal Garden was identified as a “Colonial Garden” in this plan. It was noted that “no large New England Park would be complete without a Garden – an arrangement of flowers, sculpture, pools and walks.” The Master Plan shows the design of a garden in the traditional English “manor-style,” which is typically enclosed and includes formal lines with informal planting that all support a focal point of either a vista or garden structure. While not an exact replica of the Master Plan drawings, the current Formal Garden closely resembles the original Colonial Garden in location, scale, and quality of space. Of note is the comment in the plan that suggests “in the center of the garden is placed the statue-fountain (now next to the Post Office) surrounded by a reflecting pool.” It is possible that this refers to the Hovey Fountain. This element was never placed in the Colonial Garden, but instead was relocated from two earlier Portsmouth locations to the entrance mall where it resides today.

A large oval lawn with groves of trees, identified as The Commons, was designed to mitigate the dearth of open spaces for public use in Portsmouth at the time. The Liberty Pole and central walk to the water existed when this Master Plan was written. The center walk was specifically identified to be removed and replaced with a large circular brick walk with benches around the perimeter of the lawn. Based on current conditions in the park, it appears this was never implemented.

The plan proposed a sloped lawn amphitheater facing the water with a band shell positioned at the water’s edge (facing the South End neighborhood). The band shell was intended for use in “simple dramatic productions or other civic events.” This element was never constructed, though performing and visual art events began occurring in the park in 1974.

The rows of Norway Maple trees that populate the northern side of the park and the formal entrance bollards were in place when the 1964 document was drafted. This area of the park was designed by the Prescott sisters themselves and the women could be seen watching the construction to ensure it was done correctly. The plan proposed an Entrance Mall with a viewing balcony or overlook into the park and down to the water replacing the paved ramp that existed at the time. This design element was never built.

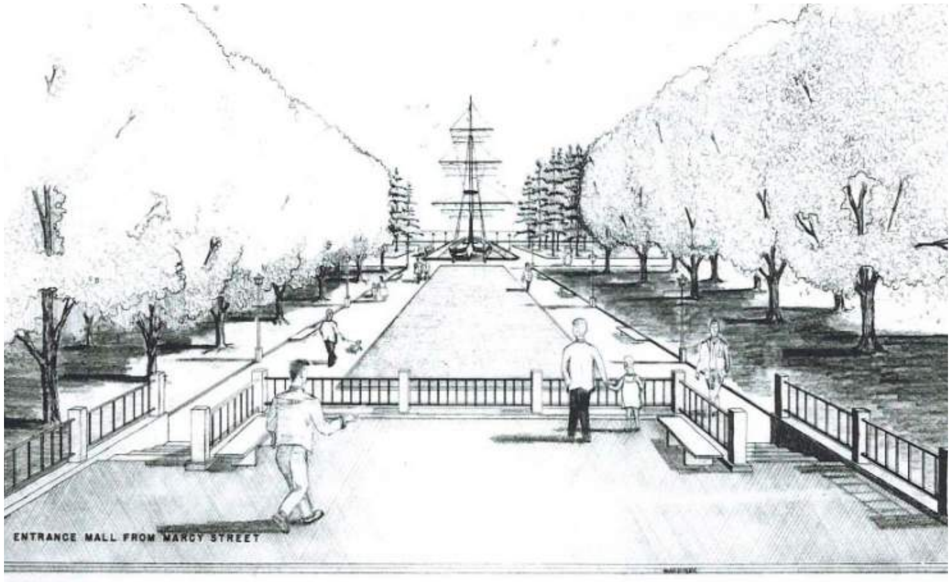
Four Tree Island was to be treated as part of the overall park plan. It was suggested that four large trees be planted to replace the remaining two failing specimens that earned the island its name.

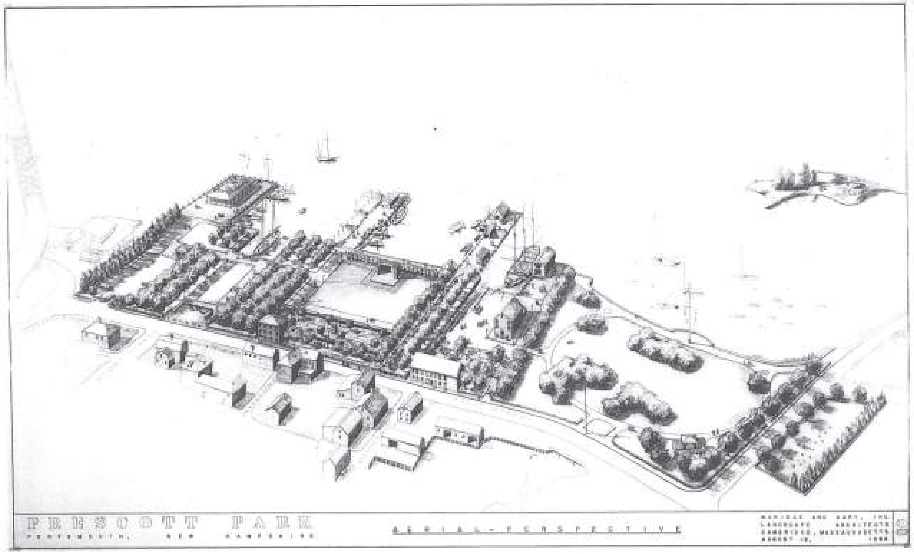
A few other notable recommendations from the plan:

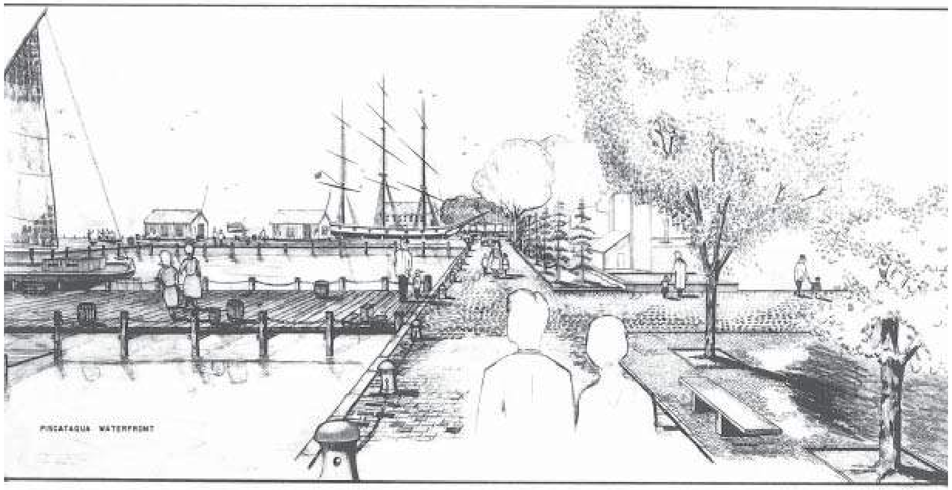
- Planting, lighting and park structures such as benches, fencing, etc. were all to be in the "colonial style."
- "Precious waterfront park land should not be used for general parking." A minimum of off-street parking was proposed off of Marcy Street and all other parking should occur "nearby."

The 1964 Master Plan provided a useful framework for improvements to be completed with the whole park in mind. While many of these features were not implemented precisely as described, several of them were built and merged with existing park conditions with current park use in mind to create the Prescott Park we know and love today.

PRELIMINARY MASTER PLAN
PRESCOTT PARK - Portsmouth
#52
Moriece & Gary, Landscape Architects







Images from the 1964 Master Plan, Moriece and Gary Landscape Architects

two

Prescott Park Today

Prescott Park is located in Portsmouth, NH, on the banks of the Piscataqua River, about six blocks from downtown and Market Square. Where maritime industry once proliferated the riverbanks of the park, retail shops, restaurants, and above-market rate housing has infiltrated. Fishing piers with private fishing boats are still present along this stretch of shoreline, which makes for highly engaging views that emanate seacoast heritage. Prescott Park has evolved not from one singular vision but from a community of voices in service of the people of Portsmouth. People come from outside Portsmouth to enjoy this park as well, but it is the character of place that these visitors find compelling. That character was built brick by brick over many years by many different hands starting with those of the Prescott Sisters and continuing through the present with the passionate labor of the park superintendent on a daily basis.

By intentional design, public parks endure a great deal of concentrated use. The impacts of that use are compounded further in Prescott Park by density of population, exposure to New England's seasonal weather fluctuations, and proximity to the tidal marine conditions of the Piscataqua River. The initial investments that were made when the properties were first converted to parkland and the second wave of improvements that resulted from the 1964 Master Plan have reached a critical point in their lifespan. Specific park infrastructure that required urgent attention has been replaced when critical need arises. These projects have included the South Docks, electrical upgrades, sea wall repair, and building improvements, among others. The net result is park infrastructure that is stable and supporting daily use, but it is taking more and more resources to perform basic operational and maintenance functions.

Park-wide capital improvements are required on a regular basis in order to maintain a high level of service to the public and visitors alike. These improvements have not been consistently realized and as a result, the park has significant need for investment in improvement and repair. If the park were to be repaired in place, with the conditions as they are today based on current construction pricing, it is likely that a comprehensive refurbishment would cost between $10M and $12M. This would include the full replacement of pavements and fencing, benches and lighting, seawalls, plantings and lawns. It would include sewer and drainage systems, water supply and electrical networks that are quickly reaching the end of their useful life. While this list is not complete, it gives a glimpse of the significant money that must be invested in order to sustain the gem that is Prescott Park.

In this chapter we take a closer look at these park elements and provide analysis and assessment of how they contribute to the whole of Prescott Park. More detailed information for each major system or component can be found in Appendix A.

In addition to the physical assets of the park, it is equally as important to assess how the park is used by the people that occupy it today. Together, this information will provide a clear picture of existing conditions and allow us to craft a plan that will not only meet today's needs but look ahead and embed flexibility for future uses.

PHYSICAL FEATURES ASSESSMENT

This section has been organized by system or element within the park. As these features typically appear in multiple locations or span several areas, they have been grouped together by type versus geographic location. This assessment is intended as an overview of park conditions and not a deep dive into the details of Prescott Park today. This information outlines general current conditions as they relate to park operations and maintenance functions.

HISTORIC FEATURES

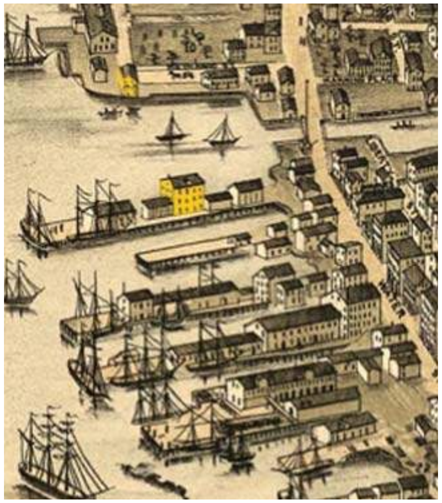
Of importance is the collection of historic resources within the park. From structures to monuments there are several built features within the park that have been identified for special care, restoration and

preservation within the new plan.
These features include:

- Shaw Warehouse
- Sheafe Warehouse
- Liberty Pole
- Hovey Fountain
- Anchor
- The Whale
- My Mother, The Wind

WAREHOUSE BUILDINGS

The Shaw Warehouse was built around 1806 and was owned by Abraham Shaw, a merchant active in privateering during the War of 1812. It was later the home and storehouse of Portsmouth's notorious "Cappy" Stewart. Still on its original site, the western end is the warehouse. It now houses office and work space for the Prescott Park maintenance staff on the ground floor, while Prescott Park Arts Festival works out of the second floor and uses the third floor for costume and prop storage. There are public restrooms on the driveway side of the building. The eastern end of the complex is more modern and houses garage and shop facilities for the grounds crew in two single-story additions. The overall condition of the building is considered good though fire suppression has been identified as an important need to protect the wood construction.



The Sheafe Warehouse is a ca. 1740 timber frame warehouse with a waterside overhanging second story, useful for lifting cargo directly from the decks of smaller vessels into the building. The 1935 drawing to the right shows the original locations of the two warehouses. It was originally located on the southern side of the park, near the present Peirce Island Bridge. Since its heyday, the building has been used as a boat building shop, a carpentry shop, a storage facility, and a museum of folk art. It currently hosts the New Hampshire Art Association summertime juried show, from late June through August and serves as storage for the park and PPAF in the other months. This building is also considered to be in "good" condition, but again, fire suppression is a prudent improvement that will protect the aging wood infrastructure.

This 1935 photograph, taken by Clement Moran for the Historic American Buildings Survey, shows the decrepit condition of the Sheafe Warehouse by the early 20th century.

MONUMENTS, MEMORIALS AND SCULPTURE

The Liberty Pole is the oldest and most honored monument in the park. At one time much of the lower section of Prescott Park, where the Trial Gardens are today, was part of an open water inlet into what was called Puddle Dock. Puddle Dock continued west under a bridge on Marcy Street (then called Water Street) into a docking and residential area. During the Revolutionary War this bridge was patriotically named the Liberty Bridge by the local citizenry. In 1824, as part of a fourth-of-July celebration honoring the revolutionary past, a very prominent Liberty Pole was commissioned. Today, Puddle Dock and the outlet to the channel have been long since filled in and the bridge replaced by asphalt roadway. The Liberty Pole, however, with its replica historical plaque and gilded liberty eagle atop remains. Every day this prominent Prescott Park feature flies the American Flag reminding all of the patriotic participation in events of the past and present the Portsmouth sons and daughters have played.

“The Whale” and “My Mother, The Wind” are both the work of Cabot Lyford. Four of his large public sculptures can be found in Portsmouth, two of them in Prescott Park. “The Whale”, sitting on the aptly named Whale Lawn, was carved from a massive block of black granite from Australia, which had originally been imported during the construction of a large Portsmouth high rise. Lyford had purchased the leftover Australian granite to create “The Whale,” as well as another landmark Portsmouth monument, “My Mother the Wind”, which was installed on Four Tree Island on the city’s waterfront in 1975, facing the Portsmouth Naval Shipyard. “My Mother the Wind”, now a city landmark, is composed of seven tons of Australian black granite.

“The Whale” has become the prime destination for antsy children whose caregivers happen to be visiting the park. While there once was a children’s play area located near the Liberty Pole, those relics have long since been removed leaving no playful way to engage children. The Whale, an easily recognizable sea creature, with its smooth slide-like back and friendly features, has become a magnet for kids of all ages.

“Neptune,” more commonly known as The Emerson Hovey Fountain, was given to the City of Portsmouth by Mrs. Louise Folsom Hovey in memory of her son Charles Emerson Hovey who was killed in the Philippines. The fountain was first located at Daniel Street near the spot of today’s McIntyre Building and later to the sidewalk at the corner of State and Pleasant streets. Some years later,

Mrs. William W. Howells, the niece of Ensign Hovey, campaigned to have it moved to a more prominent location. In 1974, the proposed site of Prescott Park was accepted. The original marble base of the fountain proved too damaged by the move to retain, so it was decided to abandon the drinking fountain arrangement in favor of a new circular brick basin, which was designed by Portsmouth architect Chester P. Keefe II.

The Formal Garden was constructed in the 1960s and includes three fountains. These fountains are lit at night and have been the subject of countless photographs and paintings and the backdrop for infinitely more. They require significant attention to keep them clean and functioning throughout the season. The basins are starting to leak more frequently and the outer brick facades are showing decay.

A larger anchor was placed in Prescott Park at some point in the late 1960's. While the source of the anchor is unknown, it appears to have been installed in response to the 1964 Master Plan that called for "old anchors, figureheads and other seaport relics placed on exhibit" within the park.

There are countless memorial plaques and signs throughout the park. Despite several attempts to catalog them all, it's likely there are more beyond what has been recorded.

PARK SUPPORT BUILDINGS

The Pavilion was opened in 2014 through the collaboration of the city and the PPAF. The building replaced the former concession and bathroom structure with an expanded footprint to accommodate park need. Accessible bathrooms for men and woman are maintained by PPAF from May through October 1st. The second floor of the building has storage space.

The PPAF Support Building was constructed with the permission of the Trustees in 2013 to house much of the control equipment for lighting and sound on the upper level. The lower level accommodates first aid, command and control for PPAF event operations, merchandise sales, as well as the rental of chairs and blankets for use during PPAF events. This building allowed for the demolition of two smaller "shacks" on site, which improved this area considerably.

The Sound Pavilion is an open air structure constructed with the intention of housing sound and light technicians during performances.

The Electrical Control Enclosure is an old structure that is quickly reaching the end of its useful life and has been identified for replacement as soon as electrical systems are upgraded and a new stage facility is implemented. Currently it houses the main power switches for two different zones within the park and the PPAF's dimmer rack housing.

STAGE PLATFORM

While originally performing art productions were held under a giant tent, more robust programming required a raised platform. This was originally built in the early 80's and over time, the stage has been bolstered with additional structural members and expanded to accommodate stage and set requirements of the PPAF. The platform is the base for PPAF's rigging that is erected and then removed each season. The rigging supports PPAF's lighting and sound equipment used during performances.

When the rigging and sets are removed at the end of the season, the stage platform remains in place year round. Though warning signs state that people should not climb on the stage, it's too compelling for kids and others. This makes it an attractive nuisance within the park when not in use and protected by PPAF. Its location and aesthetics are sub-optimal. Visually, without fancy sets and rigging, the stage is an unattractive wood conglomeration that is positioned in the midst of what are known as "Open Lawns B and A." Its position cuts off what would be a larger contiguous open green space and creates a sense of segmentation.

PARK ENTRANCES AND EDGES

In the planning and design world there has long been a debate about the front and back of an establishment. For example, some argue that your front door is not your formal mailing address but instead the door you actually use to enter and exit most often. Sometimes those are the same, but often, they are not. If this were the case for Prescott Park, the front door would be the driveway entrance on State Street, complete with a full frontal view of the dumpsters. Months of observation and pedestrian mapping confirm that this entrance is by and far the most well-used by pedestrians entering the park. The proximity to downtown and Market Square make it the fastest way to gain entrance to the park whether on foot or by car. This entrance was designed for cars to access the parking lot, but people will always find and employ the path of least resistance and the most direct route.

The adjacent entrance off of Marcy Street was designed as the intended primary formal entrance for pedestrians into the park. With the large granite bollards and bluestone paved plaza, the formal language is intended to draw you into the park to take in the long vistas to the water. This, however, is not how it functions today. As a result, the space feels awkward and out of place.

The interface between the park and the public right of way at this prominent corner is dominated by evenly spaced 6’ tall brick piers connected by a black metal picket fence. This creates an institutional aesthetic that is not in keeping with the overall feel of the park and functions more to keep people out than to create a feeling of security and enclosure within the park. This fence and pier treatment continues down Marcy Street and ends after the vehicular gate that secures the driveway that is limited to maintenance and concession delivery access next to 57 Marcy Street, the privately owned apartment building flanked by the park on three sides. Next door to the apartment building is a utility building that houses a substation for the natural gas distribution in the neighborhood.

The park frontage picks back up to the south of the utility building with an ornamental planting bed that frames the most prominent park sign and is backed by the white picket fence of the Formal Garden and fronted by a series of backless white benches along the sidewalk. The shrubs in the planting bed are overgrown and overpower the sign and other annual and perennial vegetation. This planting bed provides a buffer between Marcy Street and the Formal Garden but also creates a barrier between foot traffic on the sidewalk and the park itself, including views through the park to the water.

The Marine Railroad Headhouse sits abruptly at the back of the public sidewalk. The two-story brick building is handsome and in good repair, thanks to the stewardship of the Players Ring. Immediately to the right of the building is a vehicular entrance used for deliveries and de-facto not de-jure parking. There are two handicap access parking spots at the end of this way that are used by the Gundalow dock for handicapped patrons. This entrance is blocked by a makeshift configuration of cord and a hook and signage noting “STAFF ONLY.” The barrier is an operational headache, as it is often down allowing personal cars to enter. A brick sidewalk to the south offers an accessible route for pedestrians to traverse the site all the way to the water.

The drive itself bifurcates the site and reinforces the impression that the park is a series of different areas instead of one contiguous place. Where the drive terminates at the Sheafe is particularly awkward. This location is an important node of pedestrian circulation where historic buildings, waterfront views, access to the Gundalow dock, and a change in grade all occur.

A row of stately mature shade trees create a legible edge to Open Lawn C. Here we find sweeping views to the fishing pier and boats in the Piscataqua and often the tilted mast of the Gundalow is present, tying the maritime activities directly into the park experience. The Liberty Pole sits immediately behind the curb on Marcy Street, an awkward location, which begs revisiting while recognizing historic integrity.

This is a very popular point of entry into the park by people visiting Strawbery Banke. The programmatic and visual connections between these two historic assets cannot be overstated. As Strawbery Banke proceeds with improvements to its campus, considerations for a stronger relationship to Prescott Park will be important. The brick sidewalk transitions to an asphalt pathway that is about 10 feet wide. It feels generous and is further formalized by an allee of flowering crab apples and a collection of benches and light poles. The terminus is a cobble plaza with a curbed planting bed and large anchor set on a mill stone. Memorial events happen here from time to time because of the ceremony of the space. The circular plaza is further reinforced by the seawall, which projects out into the river offering impressive views.

To the right of the Liberty Pole, the rectangular beds of the Trial Gardens create an impressive view of annuals and perennials on display. The beds closest to Marcy Street often host an artistic installation that changes seasonally.

The corner of Marcy Street and Mechanic Street had recent underground utility work performed. As a result the, shrubs at this corner have been impacted, but the large shade trees that line Mechanic Street remain intact. This is an important view into the park, but has never functioned as an entrance. The draw of the Liberty Pole only a short distance away is enough to keep people from cutting across the lawn here.

The Mechanic Street edge offers classic park views with the brick sidewalk, stately shade trees with benches in between, and long views into the park where flowers, lawn, and trees create memorable scenes. Recently the city removed the parallel parking spaces from this right-of-way, ensuring a strong visual connection into the park whether on foot or in a car.

The corner where the park meets the Peirce Island Bridge is lacking in definition and presence. This is an important gateway into the park for pedestrians who have parked on Peirce Island and are connecting back to the South End. In addition, drivers have a moment of interface at this point and a more clearly defined entrance with identifying signage would create a far more integrated park presence.

If you cross Mechanic Street at this point you come across a small triangular parcel of land that is enclosed by the Peirce Island Bridge and a two-story house. Vegetation has grown in towards the river blocking views of the water.

Identified in the 1964 Master Plan to be a “Spruce Grove,” this land is nothing short of forgotten by all but the park maintenance staff who continue to care for this lonely corner of the park. The city recently purchased some of the land and buildings adjacent to this site, creating potential for expanding park features and experientially reconnecting this area to the whole of Prescott Park.

Crossing Peirce Island Bridge can be a breathtaking experience. Visually, the sweeping views of the Piscataqua and the South End’s historic architecture create a memorable journey. The pedestrian right-of-way, however, is narrow and separated from the two-lane road by a 6” curb and a recent installation of black metal post and chain fencing as part of the waster water treatment plant project. The area for walking feels compressed and if there is a stroller or a dog on a leash when encountering a person heading in the other direction, it quickens the pulse as you navigate the passing. This connection is important to the overall master plan for Prescott Park because it is currently the only connection to Four Tree Island. While some have argued that Four Tree Island is better off as the best kept secret in Portsmouth, it is underutilized as a public waterfront open space.

Once you’ve made the crossing over the Piscataqua, the entrance to Four Tree Island is not immediately obvious. The gateway is hidden amongst the shoreline vegetation without proper signage and wayfinding. Those in the know arrive by car and park right at the entrance.

The current gateway structure reads as a bit hostile upon initial approach. The locked gates effectively keep out unwanted cars but also confuse first-time visitors as to whether or not they should even be there. This is an important threshold from Peirce Island back into the tranquil confines of parkland and potential for improvement abounds.

CIRCULATION & ACCESSIBILITY

There are lots of pathways within Prescott Park to facilitate pedestrian movement. However, there is not sufficient alignment between how the park is used and where the paths are located. Pathway surfacing and widths are widely varied throughout the property. Asphalt is used for wide paths that double as maintenance access. Brick is deployed for secondary pathways that are narrow and typically internal to the larger routes of travel. Stonedust surfacing is used as well, though given the intensive use, maintenance is a challenge.

Accessibility within the site is not universal and there are awkward moments between sections of pathway and lawn or the transition from one pavement to another that are patched periodically to eliminate vertical barriers.

There is parking within the park in the lot to the north, and spaces for park and PPAF staff exist along Water Street with two handicapped spaces near the Sheafe for guests accessing the Gundalow. A driveway for deliveries and maintenance access only sits next to the 57 Marcy Street apartment building. It has been noted that for major events in the park, cars tend to populate the small residential streets taking much needed parking for residents. Strawbery Banke has provided parking for major events and indicated in the public process that a more formal agreement can be reached to support parking for Prescott Park.

To reach Four Tree Island you must traverse a causeway that connects one island (Four Tree) to another (Peirce). There is a generous parking lot on Peirce Island at the entrance of Four Tree Island. This gravel way is mostly used for maintenance purposes but has been known to transport the occasional cooler of food and drink for large gatherings or mobility impaired visitors. The surface is relatively even and well graded with no signs of erosion. The brick pathways on the island have settled over time making them navigable by able-bodied visitors but would not they be considered universally accessible.

PLAZAS AND PROMENADES

The most “grand” plaza is the formal entrance off of Marcy Street at Court Street. It is intended to be the “main entrance” of Prescott

Park, though it is rarely used as such. Heavy granite bollards are set within a field of bluestone pavement that slopes down into the park. On either side of this entrance are large brick piers and a tall, black metal picket fence. Very mature Norway maple trees populate the immediate area. The general experience does not seem to meet the design intention of grandeur. The 1964 Master Plan had called for a series of improvements at this location that were only partially realized. The best feature of this plaza is the view from Marcy Street to the beloved Hovey Fountain and then on to the water.

The public forum also functions as a plaza space. Its location on the water is desirable, but the rest of the infrastructure that makes up this space leaves much to be desired. The asphalt pavement is pervasive. Some of it has traces of green paint that was applied as a beautification effort. The surrounding sea walls are deteriorating slowly, allowing for tidal infiltration behind the walls, which then leads to settlement of the pavement creating an uneven surface that is constantly being patched by the city. The rusting chain link fence guard rail detracts significantly from the waterfront experience. As a result, this area is used informally and formally only about three or four times a year for public forum permitted events.

Prescott Park is a prime location for a public walk, or promenade, especially one along a waterfront. The current park layout includes a series of narrow paths that generally run perpendicular or parallel to the water, though none in an interrupted route nor wide enough to accommodate multiple strollers walking next to one another. Arts programming often spills beyond the lawn area and across walkways. Current crowd management practices include roping off a designated area for events. This almost always spans major pathways and pedestrian routes across the park. When an event is in progress, one cannot traverse the park unimpeded by a monitored gateway. Throughout the public engagement process this was a consistent criticism of current park conditions with respect to open circulation.

OPEN LAWN AREAS

There are several zones of open lawn area. The largest have been identified for the purposes of permitting of formal events as Open Lawn A, B, and C. They include the lawns across the path from the Trial Gardens, behind the Players Ring building, and to the front of the stage. These areas provide endless enjoyment for visitors by supporting informal uses like picnicking, reading, kite flying, Frisbee throwing, and hula hooping, among other things. In areas that do not sustain repeated, heavy foot traffic, the lawn is in great condition. The front and back of the stage area endure far more use and are often compromised in quality as a result. This limits their usability by the general public outside of formal performances.

SAND BEACH AREAS

There are two areas where people can currently interact with the water via a gently sloping sand beach. They sit on either side of the South Pier. The conditions at low tide welcome people of all ages to explore the beach and mudflats looking for treasures and sea critters.

PLANTING AND VEGETATION

The park's stately mature shade trees contribute greatly to the overall experience and aesthetic. There are many specimen trees that provide great shade and habitat as well as create vertical structure that frame water views.

From the 1950s through the 1980s the infamous Norway maple was used prolifically throughout New England. As a fast growing, hardy, salt-tolerant tree it was particularly attractive in replanting efforts after

major storms and the Dutch Elm disease that decimated most of the elm and maple trees in the region. As a result, many areas of northern New England were reforested with this infamous species. Unfortunately, in addition to dense shade, the roots release a chemical that is toxic to many plants, making it very difficult to get anything to grow in the understory. They are also considered an exotic invasive due to their propensity to reproduce through seed distribution, take root in even the most hostile conditions, and then out-compete native tree species for light and water. Prescott Park is home to many mature Norway maple trees that are reaching the end of their healthy life.

There are a few evergreen trees that exist across the site. Most have been aggressively limbed up very high in order to allow for views through the site and appear scraggly. This compromises the aesthetics of these trees whose natural habit is pyramidal and often low branching. They do, however, provide year-round habitat for urban wildlife and effectively screen unwanted views to adjacent parcels.

There are several locations where shrubs have been used to provide woody structure and height to ornamental planting beds. These areas include the park sign garden along Marcy Street and the planting beds that flank the Liberty Pole. Historic photos show these shrubs in their early days as relatively small and understated. Today they are overgrown and towering. They have outgrown the space they occupy and have created visual barriers in places that were not originally intended nor do they serve the park well.

Annuals and perennials are prolific in designated areas of the park. The Formal Garden is awash with color from May through September thanks to the artful combination of plantings that line the brick walks and surround the cultivar specimen Japanese crabapple trees. Artists and photographers are frequently seen at work along the brick paths that circle the three display fountains. White bench seating lines the perimeter for a quiet visit in the gardens. This is also a popular spot for wedding photos.

The Trial Gardens are so named for their function as the location for UNH Extension services to test out new varieties of annuals and perennials starting around 1975. The testing function is no longer, however the Trial Gardens of today are beautiful displays of color that host the annual Fairy House Tour, countless photo shoots, butterfly watching, and picnics. There are also ornamental beds around the Anchor in proximity to the Trial Gardens. These photogenic areas of the park are sought after, especially the Formal Garden where many prom, engagement, wedding, and family photos can be traced for generations.

The New England climate doesn't allow for a concerted planting effort until around Mother's Day which lasts until September due to frost, which is fatal for the annuals and ends the season for most perennials. The hands-on labor that is required to maintain these beds on a seasonal basis is intensive. Prepping beds, planting, weeding, watering, fertilizing, dead heading, staking, and pruning for individual plants by the thousands is no small feat, but the results are universally admired and photographed.

NORTH AND SOUTH DOCKS

There are two dock structures in Prescott Park. They are owned and operated by the city. The South Docks, in the foreground of the image below, were recently replaced with electrical and water utility services upgraded. This dock accommodates all of seasonal slip rental with some overnight spaces. The North Docks are much older and in need of replacement in the not too distant future. They are used for one or two night stays.

UNDERGROUND UTILITIES

During site assessment process, a team of engineers, architects, and landscape architects inspected each and every infrastructure system within the park. The ones that support important functions are the same ones that people often never think about when in the park. A network of pipes and conduit runs beneath Prescott Park delivering energy and conveying water from points of source to outlets of discharge. The subterranean system is critical for Prescott Park to support recreation, arts-based programming and tourism demand on a daily basis. These systems include: stormwater / drainage, sewer, water supply, electricity, and gas. While there were obvious and anticipated signs of their age, the underground utilities are in fair condition. They are stable, yet will require more and more attention and resources to keep them in working order.

The electrical network is made up of a number of smaller subsystems. Their coverage roughly matches general zones of use across the park though some features require dedicated power like the stage functions. While some recent improvements have upgraded specific service to stage-related facilities and new power was run to the recently rebuilt South Docks, the rest of the park requires similar attention.

Given the significant improvements called for in this master plan, removal and replacement of these systems is prudent. Reconfiguration will allow for more efficient service, ease of maintenance, and improved park resiliency in the face of climate change.

SITE FURNISHINGS

Prescott Park has an admirably eclectic mix of site furnishings. In fact, this collection is part of what makes the park so uniquely grounded in Portsmouth. There are benches, lights, and fences in a myriad of materials and styles that have been aggregated over time in this one special place. Whether born of tribute and memorial or ingenuity and ergonomics, each and every site feature seems to have a story and at least one adoring fan willing to wax poetic. Selected examples of the site furnishings illustrating the wide variety of styles and aesthetics have been assembled to the right.

The large covered grill and surrounding sheltered picnic tables with individual grills out at Four Tree Island makes it an ideal spot for big family, church, or corporate gatherings. The views from this location are unbeatable and the seclusion from the main park and bustle of downtown creates a true sense of retreat.

PARK USAGE ASSESSMENT

These acres serve hundreds of thousands of people every year. Location obviously plays a big part in the draw, but Prescott Park is so much more than that. There are four formal park licensees who currently make use of the park annually; they are

the PPAF, The Gundalow Company, The Players Ring, and New Hampshire Art Association (NHAA). PPAF uses office space in the Shaw Warehouse as well as the third floor for costume and prop storage, the Sheafe for off-season lighting and rigging storage, the Pavilion for concessions and bathroom facilities, the stage, and the Support Building for command and control, lighting and sound, and merchandise sales, as well as chair rentals and first aid. Parking on Water Street is used predominantly by the PPAF and park maintenance staff. The Gundalow Company makes use of the dock and ramp next to the Sheafe Warehouse, and their patrons walk down Water Street after purchasing tickets at their storefront on Marcy Street across from the Marine Railroad Head House. The Players Ring is the current tenant and steward of that building where its acclaimed black box theater productions and held. The NHAA uses the Sheafe Warehouse for the display of an annual juried exhibit by their members in the summer months.

Individual private boats are able to rent a slip for up to a couple of nights at the north or newly replaced South Docks. Seasonal slips are rented annually and often sell out. There has been a consistent call to maintain the capacity of the docks at Prescott Park. It has been cited as the one location in the area that is open to the public and offers one of the very few affordable places to dock overnight. Dozens of private permitted events also take place within the park; weddings, family reunions, public forum rallies, birthday parties, and yoga classes, memorial ceremonies, and the Fairy House Tour. The large grill and pavilion on Four Tree Island is a popular location that is routinely scheduled for events as is the Public Forum.

Informal daily happenings occur by the hundreds. These moments include hula hooping, picnics, moms with infants sharing time, meditation, reading, fishing, playing checkers, painting, school field trips, Frisbee throwing, kite flying, stilt walking; it goes on and on. The conclusion is that there’s a little something for everyone at Prescott Park; and what we heard repeatedly through the public process was “we don’t want to lose that!” Mapping of current park usage can be found in Appendix B.

SUPPORT FOR THE ARTS

It is important to note that support for the arts by the Blue Ribbon Committee, in its many forms, including public art and performance and, visual arts did not waver during this process. Inclusion of the arts was a mainstay of the public input, BRC discussions, and materials developed by the consultants throughout. The arts have become an inherent part of the park during the summer months and it is the intention of this plan to expand that vital relationship to be a component that improves the entire park experience. This evolution will deepen the sense of place that is so palpable within the park from June through October.

Elements that people noted were missing included children’s play, access for dogs, and permission to ride bikes through the park. While dogs and bikes are part of a larger city-wide conversation and would be addressed through new policies being developed, meaningful opportunities for well-integrated children’s play had traction with those involved in the engagement process.

THE CARE AND KEEPING OF PRESCOTT PARK

Prescott Park has become the life's work of Superintendent Michael Warhurst. He started as an intern from the Thompson School at UNH in 1975 and has put his heart and soul into every square foot of this place since then. Having made his way through the ranks, Warhurst became the superintendent in 1988. Since that time he's had a number of right-hand men and women who have faithfully and quietly nurtured these grounds. The collective contributions made by this team cannot be overstated and the passionate tenacity in the care and upkeep of Prescott Park are part of what make this place so magical.

three

Community Engagement and Public Outreach

From the outset of this process there has been a keen focus on a robust public engagement component. The goal was to create multiple, meaningful points of engagement and to reach as many people as possible from all parts of the City. Public meetings, site walks, and working sessions were bolstered with a web-based comment forum.

The Blue Ribbon Committee began meeting in February of 2016 and continued to meet a total of 25 times over the course of its work. Each meeting typically included an update from the consultant team and was followed by a thorough discussion between the BRC members. These meetings were all open to the public and a public comment session was held at the end of each meeting.

The City also established a dedicated Prescott Park Master Plan website the project, which served as a repository of Committee documents, presentations, meeting materials and other background information. A list of meeting dates along with agendas were posted along with links to videos of the meeting on the City's YouTube channel. Meeting minutes and actions were posted to the City's main meeting calendar and linked to from the project page. Throughout the process, members of the public wishing to submit comments to the Committee were able to do so via a web comment from, located on the City's. Over 200 comments were received through this tool and sent in batches to the Committee prior to each Committee meeting. A compendium of these comments were posted on the project website.

Several Committee-sponsored public input sessions were held throughout the process:

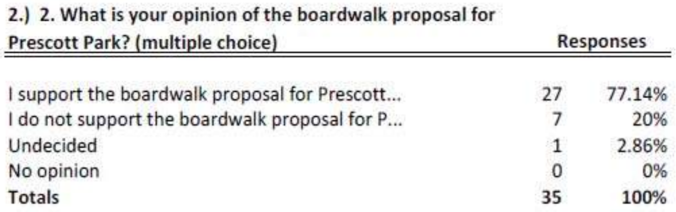
On Saturday June 12, 2016, two session were held in the park in the backstage tent behind the stage. The program – including a presentation and facilitated site observation walk – took place twice during the say (once in the morning and once in the afternoon) Each participant received a clipboard, pen and a "Walkabout Guide" (see Appendix X) to share personal thoughts about what was good, what needed work, what there should be more of and what could be reduced or eliminated. Over 100 Walkabout Guides (feedback forms) were returned that day and a few more trickled in afterwards.

On Thursday June 22nd, an additional public meeting (this one offered during a weeknight) was held in City Council Chambers, with the same presentation from the Saturday event and Walkabout Guides.

In the run-up to these meetings, the Committee made special effort to spread the word about the Committee's work and opportunities for input. Weston & Sampson staff members along with Committee members attended Little League games, Market Square Day, and Chowderfest in Prescott Park in order to speak directly with members of the public. Unique Post cards were sent to the City's schools as part of this same effort at promoting the input opportunities.

A second set of special public input meetings sponsored by the Committee was held in October. On Thursday October 13th a presentation and feedback session was held in City Council Chambers and an audience response system was used to poll the attendees about particular design alternatives. On the following Saturday (October 15th) a presentation and site walk were held based out of the TYCO Visitor Center at Strawbery Banke, where the polling system was also used.

Questions that were posed at these three engagements included important considerations for the overall design of the park like "Given the information presented on the Formal Garden, do you support relocation of this park feature?" Results of the answers were tallied in real time and displayed immediately. This spurred a very strong dialog about specific design issues as well as governance ideas.



2.) 2. What is your opinion of the boardwalk proposal for Prescott Park? (multiple choice)	Responses	
I support the boardwalk proposal for Prescott...	27	77.14%
I do not support the boardwalk proposal for P...	7	20%
Undecided	1	2.86%
No opinion	0	0%
Totals	**35**	**100%**

During the process, the project team and the Blue Ribbon Committee updated the City Council at two working sessions. There was one at the City Council's Saturday October 1st 2016 retreat held in the Levenson Room at the Portsmouth Public Library. Later, on December 19th, a work session with the City Council was held at which the project team, Committee members and City Councilors discussed the draft Master Plan and discussed the outline of Governance recommendations to date. Both sessions were well-attended by the public and televised.

A final public meeting was held on January 11th in the Council Chambers. The preferred master plan was presented and the audience participated in breakout sessions focused on particular elements of the plan. A recap of the breakout discussions was held in Council Chambers and the content from the meeting was discussed at the Committee's meeting on January 25, 2017. At this meeting, the Blue Ribbon Committee voted unanimously to submit this report to the City Council for adoption.

Overall the process followed by the Committee was widely viewed as effective in promoting public participation and providing ample opportunity to raise important questions and introduce new ideas into the design for the Park and discuss the governance recommendations.

PRESCOTT PARK PUBLIC ENGAGEMENT SUMMARY

Date	Meeting	Content
2/18/2016	MAYOR'S BLUE RIBBON COMMITTEE ON THE PRESCOTT PARK MASTER PLAN	- Discussion of Firm Selection a. Review of RFQ/RFP Process b. Next Steps - Selection of Next Meeting Date
3/14/2016	MAYOR'S BLUE RIBBON COMMITTEE ON THE PRESCOTT PARK MASTER PLAN	- Staff Update on Firm Selection & Review of Draft Work Plan - Committee Discussion re: Committee's Needs for Background Information
4/13/2016	MAYOR'S BLUE RIBBON COMMITTEE ON THE PRESCOTT PARK MASTER PLAN	- Introduction of Weston & Sampson and Presentation - Discussion on Master Plan Process and Committee Next Steps
5/4/2016	MAYOR'S BLUE RIBBON COMMITTEE ON THE PRESCOTT PARK MASTER PLAN	- Legal Framework for Prescott Park - Review of Public Participation Plan and Schedule - Communications Plan
5/18/2016	MAYOR'S BLUE RIBBON COMMITTEE ON THE PRESCOTT PARK MASTER PLAN	- Discussion on kick-off meeting and other public input preparations - Update from Trustees of Trust Funds on park operations
6/8/2016	MAYOR'S BLUE RIBBON COMMITTEE ON THE PRESCOTT PARK MASTER PLAN	- Discussion on Kick-off Meeting and Other Public Input Preparations - Update from Trustees of Trust Funds on Park Operations
6/12/2016	PUBLIC FORUM	- First Public Outreach
6/22/2016	PUBLIC FORUM	- A opportunity for people to submit their ideas for the future of Prescott Park
6/25/2016	PUBLIC FORUM	- Park Presence Day
6/29/2016	MAYOR'S BLUE RIBBON COMMITTEE ON THE PRESCOTT PARK MASTER PLAN	- Master Plan Process Update & Next Steps - Public Comments
7/13/2016	MAYOR'S BLUE RIBBON COMMITTEE ON THE PRESCOTT PARK MASTER PLAN	- Presentation on Site Analysis, Opportunities & Challenges - Discussion
8/3/2016	MAYOR'S BLUE RIBBON COMMITTEE ON THE PRESCOTT PARK MASTER PLAN	- Presentation - Park Usage Analysis - Discussion
9/7/2016	MAYOR'S BLUE RIBBON COMMITTEE ON THE PRESCOTT PARK MASTER PLAN	- Presentation: Diagrammatical Concepts - Discussion
9/20/2016	MAYOR'S BLUE RIBBON COMMITTEE ON THE PRESCOTT PARK MASTER PLAN	- Work session with Weston & Sampson – Getting into detail on Concepts 2 and 3 - Discussion on Planning for Phase 2 Public Input - Discussion of Process Next Steps
10/11/2016	MAYOR'S BLUE RIBBON COMMITTEE ON THE PRESCOTT PARK MASTER PLAN	- Presentation: Diagrammatical Concepts - Discussion
10/13/2016	PUBLIC FORUM	- Presentation of Conceptual Development - Public comments for Developing Master
10/15/2016	PUBLIC FORUM	- Park Walk Through
10/19/2016	MAYOR'S BLUE RIBBON COMMITTEE ON THE PRESCOTT PARK MASTER PLAN	- Debrief on Concept Plans Presentations and Public Forums (Oct. 13th and 15th) - Discussion of Next Steps Based on Input Received to Date
11/4/2016	MAYOR'S BLUE RIBBON COMMITTEE ON THE PRESCOTT PARK MASTER PLAN	- Status of Draft Preferred Master Plan - Discussion of Governance and Committee Recommendations
11/17/2016	MAYOR'S BLUE RIBBON COMMITTEE ON THE PRESCOTT PARK MASTER PLAN	- Draft Preferred Master Plan Presentation - Follow-up Discussion on Governance and other Committee Recommendations - Committee Process: Next Steps
11/30/2016	MAYOR'S BLUE RIBBON COMMITTEE ON THE PRESCOTT PARK MASTER PLAN	- Follow-up Discussion on Governance and other Committee Recommendations - Committee Process: Next Steps
12/5/2016	MAYOR'S BLUE RIBBON COMMITTEE ON THE PRESCOTT PARK MASTER PLAN	- Presentation on Preferred Master Plan - Follow-up Discussion on Governance Recommendations - Review of upcoming Master Plan dates
12/12/2016	MAYOR'S BLUE RIBBON COMMITTEE ON THE PRESCOTT PARK MASTER PLAN	- Presentation on Preferred Master Plan - Follow-up Discussion on Governance Recommendations - Preparation for City Council Work Session
1/11/2017	PULIC DISCUSSION	- Public input into the Draft Preferred Master Plan for Prescott park - Governance Recommendations Prepared by the Committee
1/25/2017	MAYOR'S BLUE RIBBON COMMITTEE ON THE PRESCOTT PARK MASTER PLAN	- Discussion of Public Input - Discussion of Draft Report and Final Recommendation to City Council

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A Park First Approach and Tenets of Design

When working on a beloved public open space, there is never a shortage of needs to be met. Prescott Park is no different. The volume of input that was collected throughout the master plan process is a testament to the many residents, groups, and event visitors and individuals with heart-felt interest in the park. Despite the incredibly varied and diverse interests at play, the goal of making Prescott Park the best it can be was shared by all.

First and foremost, Prescott Park is a waterfront open space for the people of Portsmouth. It is, in fact, one of the few places you can get close to the water and even touch it next to the South Pier. The city recognizes the value in making meaningful connections to the water that has informed so much of Portsmouth's sense of place.

Prescott Park is also an important venue for all arts. Currently, the PPAF is the primary permittee for arts-related programming within the park. The rise in popularity of these offerings brings increased park use, which inherently puts more pressure on the physical infrastructure. This development, coupled with deferred capital investment, creates a noticeable tension between programming and the sustainability of a well-maintained park.

Public waterfront access is also an immense opportunity to increase resiliency to the impacts of climate change for coastal cities. Portsmouth recently released a study on climate change and the impacts to the city. This report can be found at http://www.planportsmouth.com/cri/CRI-Report.pdf.

At just over 10 acres, this park cannot be all things to all people. The list of hopes, wants, and needs outweighs the carrying capacity of the park in its current condition and configuration. By developing the Park First approach, a framework for decision making was developed, which informed design strategy.

A park is a collection of public resources. Those resources are things like access to the water, green open space for passive recreation, public forum space for freedom of expression, and respite from the density of a busy downtown. A Park First approach puts these resources at the forefront of spatial planning and formal design.

The tenets of design were developed over several months of project engagement. They are born out of the discourse that was generated by the findings, assessment, public engagement, community meetings, analysis and design proposals presented for Prescott Park.

Recognize City ownership of the park and its structures
Prescott Park was assembled, built and improved with park amenities over many decades. The reality that the park's parcels were assembled and improved over-time adds depth to the story of the park. The park's programming has evolved overtime as well through the introduction of arts and culture programing and organizations who have run them. At times, these developments have blurred the lines to some about who owns the Park and some of its structures. Through the Master Plan process the city-owned nature of the land and structures has been clarified and emphasized as has the need to ensure future improvements are city-directed and controlled.

Use "for park and recreational purposes" per the Josie F. Prescott Trust
Per the Trust, the land is to be used "for park and recreation purposes." When the Trust was established, possible purposes were likely fairly limited given the ideology about parks and recreation at the time. As the park and community have evolved, definitions of recreation have expanded and now generally include passive and active outdoor pursuits as well as activities typically occurring indoors.

Ensure pedestrian through-route accessibility at all times
Events within the park draw a significant crowd at times. These larger gatherings have been known to spill beyond designated lawn areas and extend to the edges of the park. Throughout the community process it was noted that this occurrence impedes pedestrian circulation within the park. Many comments provided to the city on how best to improve Prescott Park included the request to design a plan that facilitates an unencumbered path of movement from one end of the park to the other, no matter the event happening at the time.

Maximize waterfront connection
Prescott Park is the largest contiguous section of waterfront with public access in the city and can be leveraged in the new master plan. With proximity to downtown, this park has the unique benefit of frontage along the Piscataqua River.

Integrate coastal resilience/adaptation strategies
The waterfront location makes the park a prime candidate to serve as the front line of defense for other low lying areas inland, including Strawbery Banke and much of the South End neighborhood. As our climate continues to change and sea levels rise, there is greater risk of storm surges, tidal inundation, and longer term flooding in these areas. Coordinated planning and resilient design can create much-needed defense within Prescott Park.

Maintain and enhance maritime historical connection
Strong connections to the maritime history can be expressed throughout the park. From interpretive features around historic architecture to the current Gundalow operations, there is no shortage of opportunity for Portsmouth to celebrate her maritime past in a very meaningful way.

Improve integration into the neighborhood
Prescott Park and the South End neighborhood have both evolved and adapted to meet contemporary societal needs. However they have done so largely independently. One goal of this master plan is to integrate the park and the surrounding neighborhood more effectively, both physically and programmatically.

Ensure presence for theater, dance, music and visual arts
It has been clear from the very beginning of this master plan process that Prescott Park's identity and heritage have been influenced by the integration of the arts, to the great benefit of all. Despite struggles to balance performing arts programming with neighborhood quality

of life and park capacity, there is an overarching belief that arts belong in this park. In order to do this effectively, a stage facility is required.

Maintain a Public Forum area

The Public Forum in Prescott Park is an outdoor plaza space designated for use by the public in their expression of freedom of speech and assembly. This space must be flexible and function as quality public park space even when not in use as a Public Forum.

Include meaningful invitations for youth to play

There are currently no formal opportunities for youth to play within the park. The small beach areas near the Sheafe and The Whale sculpture have become the de facto play spaces. Many people commented that well-integrated play elements would be welcome to provide multi-generational interest within the park. It was made clear that the interest was not in a traditional post and platform play structure made of primary colored plastic panels. Instead, play can be combined with public art or site furnishings in a way that fits within Prescott Park.

Preserve active maritime recreation, including public docking structures

The Gundalow Company is a vibrant presence in Prescott Park. Its operations contribute greatly to the aesthetic and cultural importance of the maritime recreation. The public docks are also incredibly popular and provide the only public accommodation for private boats to dock within the area.

Maintain/increase large open spaces for formal and informal activities

There are hundreds of informal activities that take place daily across the park and Four Tree Island. They are best supported by large open lawn areas that are flexible and accessible to all. Ideal lawn areas are mostly flat and uninterrupted by trees and structures. Time and again residents highlighted the value of the park for informal uses that are welcomed by such open spaces.

Ensure that parking does not take up precious waterfront park space

In general, there was acceptance of the approach to avoid surface parking within the park. Exceptions will be for handicap accessible parking and park vehicles, as well as access for deliveries and maintenance. A loading zone space will be included at the corner of State Street to allow people to drop people and belongings off at the park for events or to stock boats using the slips. Using nearby assets and partners like Strawbery Banke also seems to hold promise for the future.

Protect and preserve historic resources

There are tremendous historic assets within Prescott Park. The three buildings are rare architectural relics that show early maritime construction for both wood and brick structures. Monuments, sculptures and fountains can be found through out the park. Each element is uniquely embedded in the park and contributes to its sense of place.

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A Plan for Prescott Park


STRAWBERY
BANKE
ATKINSON STREET
COURT STREET
STATE STREET
DUTTON AVENUE
DANIEL STREET
MARCY STREET
MECHANIC STREET
PEIRCE ISLAND ROAD
MEMORIAL BRIDGE
FOUR TREE ISLAND
0
50
100
200FT

The preferred plan for Prescott Park is a comprehensive redesign of the full 10 acres including Four Tree Island. The goal of the plan is to create a well-integrated collection of beautifully designed flexible spaces connected through a main pedestrian waterfront promenade.

PARK ENTRANCES

Entrances should be located strategically to take advantage of key pedestrian arrival points and other pedestrian desire lines and connections. The corner of Marcy and State Streets (described as the “Grand Entrance”, Strawbery Bank, the corner of Marcy and Mechanic Streets and the approach to the Pierce Island Bridge) are all key points of pedestrian origin. Correspondingly, these locations should be considered primary with highly visible and easily identifiable design precedents that reinforce their desired prominence.

Secondary park entrances should also be established, particularly to honor the stated stakeholder desire to create a partially porous and highly accessible condition along Marcy Street and Mechanic Street. From a design perspective, secondary and primary entrances should relate, yet secondary entrances should present a simpler form and more intimate scale.

PATHWAYS AND PARK CIRCULATION

The “Prescott Passage” anchors a park-wide pathway hierarchy that will include a variety of surface types and widths to correspond with their purpose and anticipated level of use. While the Master Plan takes a position on pathway widths by graphically depicting a host of appropriate widths (from major 20’+ wide pedestrian promenades, which includes Prescott Passage, to far more intimate 5’ connector paths) the type of surface has purposefully been left to be vetted during subsequent design phases.

A highly evolved pathway system is envisioned, with an emphasis on seamlessly integrating the various zones of Prescott Park. Pathways should be highly functional, with a possible approach that includes the use of specially detailed surface treatments in places of great prominence and larger gatherings with less elaborate and costly solutions employed throughout much of the remaining park. In a setting like Prescott Park it will be the vertical elements (buildings, monuments and memorials, lights, trees, fence and rail systems, benches) and the Piscataqua River itself that captures one’s eyes. This allows for simpler solutions to pathway surfaces, which tend to be less visible and frequently lost in the landscape. Importantly, great attention should be paid to pathway alignments and in providing convenient, ADA compliant connections to all major park elements. In regard to park alignments, most pathways are envisioned to be gracefully curved or meandering and the level of elegance that this lends to this most elegant of parks will be significant.

MARCY STREET AND MECHANIC STREET PARK EDGES

Marcy Street and Mechanic Street form two critically important sides of Prescott Park. A park edge is important symbolically and functionally in that it provides an invitation to enter and hints as to what is contained within and beyond. At a signature park, edge treatments need to be carefully articulated and design detailing must live up to the greatness of the open space asset itself. The Prescott Park edge will be characterized by entry gateways, fences, park benches, landscape plantings, signage and other design embellishments. To meet constituent preferences, the Marcy and Mechanic Street edges will be of the highest visual quality and be porous such that frequent, uninterrupted views to park features and the mighty Piscataqua River are provided.

Future improvements to both Marcy Street and Mechanic Street should be considered in context with the needs of adjacent Prescott Park. Currently, the corridors (Marcy Street in particular) are relatively narrow and challenging from pedestrian and ADA conveyance/compliance perspectives. With Prescott Park being a huge destination, pedestrians seek to gain access across Marcy Street at interfaces with Hancock Street, Atkinson Street, Court Street and State Street and along the breadth of Strawbery Bank. Enhancing movement between Strawbery Bank and Prescott Park and along Marcy Street through the implementation of context appropriate upgrades to sidewalks, crosswalks, ADA ramps and other pedestrian accommodations can provide widespread benefit.

GRAND ENTRANCE

Visitors coming to the park from Downtown will be greeted by a prominent gateway structure that will also clearly identify one's arrival into the park. This threshold will welcome people into the park and is one end of the waterfront promenade that will move down to the water, continue along the Piscataqua, and connect to the Peirce Island Bridge, which takes people over to Four Tree Island. The piers and walls may be architecturally finished masonry with ornamental metal accents. Lighting, plaques, and specialized finishes should all support the importance of this entrance. Pavement from the park should extend onto the sidewalk to further reinforce a strong sense of arrival.

Once inside the main entrance on State Street, there are sweeping views to the water. The existing mature tree canopy will be pruned to allow for more filtered light and some of the aging trees in poor health will be removed. The failing evergreen trees along the northern seawall will be removed and replaced when the wall is stabilized.

FORMAL GARDEN

To the right of the path is the relocated Formal Garden. All design components from the existing Formal Garden have been recreated in this new position. The garden will be sunken into the ground by 12-18" and will be a replica of the existing configuration. Brick parapet walls with white picket fence will be buffered by plantings to their exterior with evergreen flowering shrubs. Entrance to the Formal Garden will be from the north side only in order to keep pedestrian pass-through to a minimum and to encourage only those who wish to intentionally visit this special place to enter. If possible, many of the perennials will be transplanted from the existing garden during construction. Planting plans and plant lists will be replicated from existing planting endeavors.

Views from within the garden will remain much the same accept for a new relationship to the water down the long axial view. From Court Street the view into the park over the garden and down to the water will be striking and foster a greater sense of connection to the neighborhood. As the site slopes from Marcy Street to the water there is a grade change of about three feet. The garden will be nestled into the ground much as it is today.

CHILDREN'S PLAY AREA

Throughout the community process there were several requests for consideration of compelling opportunities for children's play that were well-integrated into the park. To the north of the Formal Garden, in the blue ellipse on the plan shown to the left, is one of two proposed locations for this programming. Examples of public art being used as a forum for active recreation were well received and resonated with citizens in attendance. Rubberized safety surfacing, seating, and trees for shade will create a welcoming environment for multi-generational enjoyment. The design of the actual feature can be accomplished with a call for artists or through the development of customized play features. Certified Playground Safety Inspectors (CPSIs) should be engaged to ensure compliance with product and consumer safety requirements.

PUBLIC FORUM

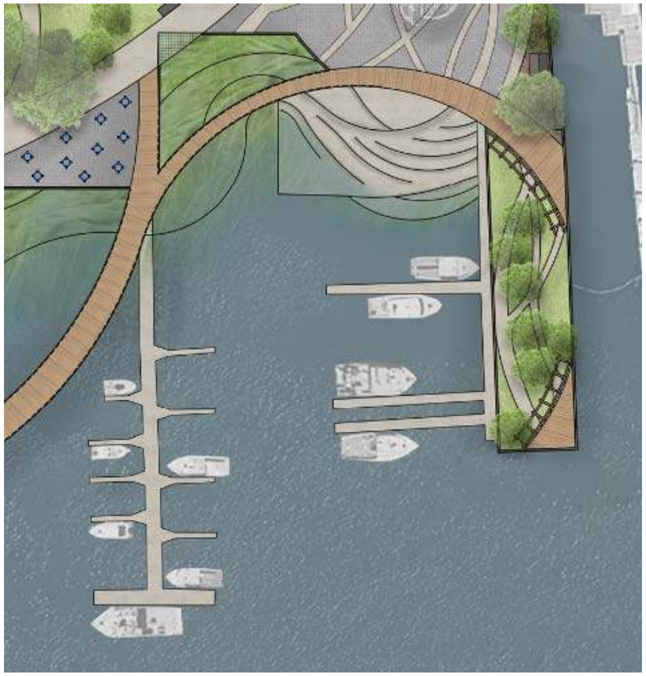
The Public Forum has been reconfigured and activated to be an engaging plaza for all park users as well as the designated area for Public Forum events. This plaza space will have opportunities for seating, deciduous shade tree plantings, and a civic fountain for both aesthetic presence and an opportunity to cool off in the summer. The pavement will be ornamental and durable, possibly granite or architectural pre-cast concrete. Fountain jets will be flush with the pavement so that when the fountain is not active the plaza is fully accessible for flexible use. Fountain mechanics may include a recirculation system or wastewater may be captured for reuse in irrigation. Considerations for temporary event structures can be integrated as sub-surface footings if deemed appropriate.

NORTH PIER

Moving towards the northern edge of the waterfront, the North Pier will be redeveloped into a wider structure that will support a more park-like environment. Original piers out over the water were much wider in order to support the industrial operations of the times. An expanded pier will facilitate a depth of interpretive environmental signage and art that will communicate the rich maritime history and allow people to gather in these spaces above the water. As a deck structure over pilings within the water, plantings will be focused on smaller root-zoned vegetation, typically lawn and under-story trees. An attractive guardrail will surround the pier and enclose seating areas, lawns for lounging and perhaps a shade structure or pavilion for protected gathering space. Beneath the pier structure, flood walls can be integrated for deployment in preparation for an impending storm. Beneath the pier along the river bottom, oyster beds can be established to mitigate subaqueous wave action and further protect the park from storm surges.

NORTHERN WATERFRONT

The interface of park and water adjacent to the public forum plaza will be constructed of terraced platforms that step down to the water and provide an opportunity to engage the water in a safe manner. This design feature was inspired by the consistent request for more connection to the water and selected areas within the park without fencing to separate people from the river. As an estuary, the Piscataqua River is subject to tidal fluctuation. In addition to an accessible route down the water, these stone terraces will also provide a legible datum for visitors to register the daily regime. There have been reports of boats pulling into the quay and functioning as a stage for musical performances while people sat on the now defunct granite stairs and lined the top of the seawall. Events and programming that include the water will be a new possibility with this site element.



Salt marsh terraces will be introduced in some of the interior corners of the seawall to expand habitat and improve resiliency through wave attenuation. The existing north pier boat docks would be rebuilt and the south dock structures would be relocated and secured to the proposed boardwalk infrastructure.

BOARDWALK

A new boardwalk feature will create a riverwalk experience for park visitors. In addition to serving as a secondary route of travel along the waterfront, this boardwalk will provide people the opportunity to be out over the water river and enjoy views of the river as well as back to the park. The boardwalk starts at the North Pier and wraps along the edge of the park then projects out into the river and sweeps back to meet the land at the Sheafe Warehouse.

A seating terrace will be introduced at this location along the water's edge. Tables and movable chairs will offer flexible seating for groups or individuals. This is an ideal spot to enjoy lunch, read the paper, people watch, or simply take a moment's rest. From this vantage point visitors will have the unique choice of gazing back into the park with a full 180-degree view or out over the salt marsh, terraced seawall, and boat docks.

WHALE LAWN

The Whale Lawn will be improved with new shoreline treatment, native plantings, and a guardrail that will frame the space. The pier that currently extends off of the this lawn would be removed and the boardwalk feature will connect at the farthest point to allow pedestrian movement between North and South Piers. These facilities will provide plenty of fishing and viewing opportunities to mitigate the loss of the middle pier.

THE BOWL

In the center of Prescott Park is The Bowl. This is an amphitheater lawn that supports informal use when not occupied by audiences enjoying a full complement of performing arts programming at the movable stage for seasonal use. The lawn will be sloped from north to south in order to support audience viewing, stormwater management, and provide flood storage capacity for major storm events that coincide with King Tides. Subsurface drainage and engineered root zone mix will facilitate the development of an athletic-quality grass surfacing that will endure intense use with proper maintenance and restoration practices. As the lawn slopes up to the north, granite stone terraces have been considered to provide a series of lawn steps that will accommodate large crowds, and offer an opportunity for reserved seating at the top level. The granite blocks, if wide enough, could also serve as routes for circulation and eliminate the need for paved pathways within this lawn area to support crowd management.

MOVABLE STAGE FOR SEASONAL USE

The provision of a stage facility in Prescott Park, rightfully garnered a significant amount of attention. As a result, the description of the final recommended approach for this element is laid out in more detail than others in this section. The Blue Ribbon Committee's final recommendation for a stage facility is for a movable, seasonal stage that will provide the community with a vibrant performing arts presence in the Park, in balance with the Park First Approach.

During its formulation of its final recommendation, the Committee sought to make plain: the presence of Arts in the Park is recommended to be a permanent feature. The Committee's support for performing and visual arts in the Park did not waiver throughout the process. In other words, the recommendation for a movable stage for seasonal use does not diminish the Committee's deep commitment to maintaining a vibrant presence for Arts in the Park. The new stage facility has the promise to greatly enhance the current performing arts programs in the Park.

Background on Stage Discussion

While the Committee's work began in February 2016, discussions in the City concerning a new stage in Prescott Park were raised in 2015. In summary, the Prescott Park Arts Festival proposed a new covered stage structure in the park in a different location. The proposed construction was permanent in nature and would have had a year round presence in the Park. In 2015, the City Council voted to permit the planning and land use reviews for a new stage to move forward, however, their vote also made clear no stage would move forward without another vote of the City Council. During this time, the Charitable Trust Unit of the State of NH Attorney's General office made known its concerns with the proposal for a permanent stage to City staff and other inquirers. It is around this time, the PPAF halted their land use reviews and this Master Plan process stewarded by the Mayoral-appointed Blue Ribbon Committee began its work.

Over the course of its work and gathering of extensive input from the public, the extent of needs of the physical infrastructure in the park and the many ways the park is used by many members of the public made clear the number of considerations needed for planning for the Park's future. In the end, water views from Marcy Street, the interest in year round park use, the need for compatibility of a stage structure adjacent to the historic park buildings, and the desire to avoid choice-limiting actions for the future (through the permanent location of a stage facility) led the Committee to favor a seasonal, movable stage, which would permit the vibrant arts programming on the stage to continue while preserving the overall Park First approach the community had articulated throughout the process. In the end these factors drove the final recommendation for the stage approach as opposed to any external regulatory guidance.

A great deal of consideration and research has gone into the movable stage proposal. As the master plan developed and the tenets of design were galvanized the movable stage offered the most benefits in keeping with the Park First Approach. First and foremost, the valuable land on which the stage would sit is returned to open lawn for seven months of the year restoring views to the water from Marcy Street and allowing additional informal use of the space. A movable stage opens up the possibility that the stage could be relocated if needed for a myriad of purposes including sound mitigation. Prescott Park is home to two of the most historically significant maritime warehouse buildings in all of New England. Immediately adjacent is the Marine Railroad Head House building. Architecturally, these structures are special and an integral part to the design tenets regarding maritime history and historic resource preservation. The proposed location for the stage is in close proximity to these important structures. The presence of this movable structure is mitigated by its seasonal nature. A new permanent building will negatively affect the aesthetic and visual integrity of the historic buildings as well as the quality of the open space of the Park.

A few other important statements are relevant prior to describing the physical aspects of the proposed stage facility.

The Committee sought to state clearly that a stage, which does not have the physical description as “permanent” does not mean the Committee is recommending anything less than a permanent presence for the performing arts in the Park. The Committee in the design tenants and throughout its process prioritized the presence of arts and culture programming in the Park. As a result, the recommendation of a seasonal and movable stage should not be viewed as a less strong commitment to the presence and vibrant operation of a stage facility.

No new stage facility will be introduced into the Park, which does not meet building codes and is a safe feature of the Park.

Safety was raised repeatedly in this process. This new stage facility would be designed and engineered to meet all current building code requirements with special considerations for the waterfront location and unique weather conditions present here.

Weston & Sampson sought guidance from a wide variety of professional sources as part of their extensive work on a proposed stage solution in coordination with the Committee.

Face-to-face meetings and consultations as well as follow-up e-mail communications with the Arts Festival deepened our knowledge of the existing operations as well as the performance requirements for a new stage. Production specialists with experience in outdoor productions provided expertise and perspective on the operations and maintenance of both permanent and movable stage facilities. Manufacturers of stages, rigging, trusses and sets offered information on design, engineering, safety and rental versus ownership logistics.

All told, there were many experts that contributed to the research and ultimate recommendation of a movable stage for seasonal use. Finally, the Weston & Sampson team consulted multiple times during the process with the City’s Building Inspector who was supportive of this final recommended stage approach and its ability to meet code requirements and ensure the public’s safety.

Details of Proposed Stage Facility

Other characteristics of the proposed stage include support systems for the stage facility that would be integrated into subsurface infrastructure. Concrete footing blocks would allow the seasonal

construction to be connected to secure foundations without the use of ballasts on the lawn area. Underground channels would accommodate electrical, sound, and lighting cables needed to connect control equipment with the stage. The stage would not be more than 30” off the ground to eliminate the need for barrier protection at the edges when not being used for a production.
The detailed design and engineering process will determine the feasibility of the integration of a cover over the stage as well as accommodations for back of stage elements required for marshaling during a performance.

Back of Stage Operations

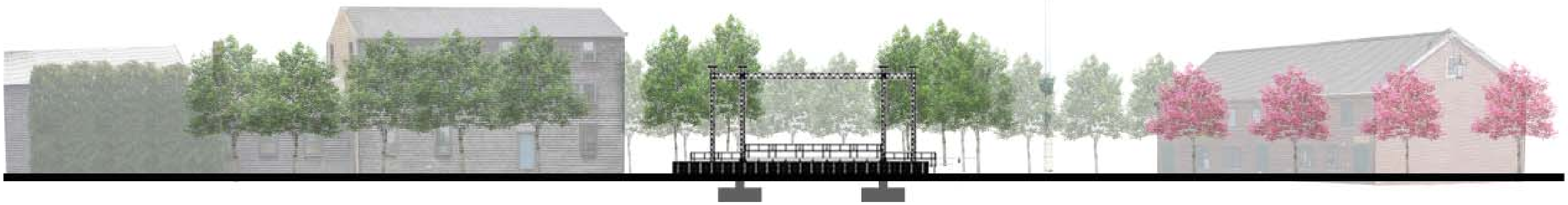
Beyond the needs for back of stage support during performances, there are a number of structures, trailers, green rooms, and other utilitarian supports for the stage production. There was widespread agreement throughout the community that a new solution to this set-up should be sought as part of the Master Plan. This Master Plan calls for the accommodation of back of stage uses within a portion of the existing first floor of the Shaw Warehouse, which could be reconfigured internally. This may require a reconfiguration of the maintenance facility in this portion of the building and relocation of other uses (such as office space).

The proposed stage implementation may include temporary ground coverings that will protect the landscape and support a seasonal tent that would not protrude above the stage and therefore be hidden behind the set.

The sections below include a conceptual representation of what may be possible. A thorough design and engineering process must be undertaken with industry experts in order to understand the full extent of stage, rigging, storage, covering, and equipment requirements. In the lower section, the seasonal tent us shown behind the stage. This area will function much as it currently does but with an improved tent structure to provide shade and protection during performances but also for summer camps and other stage uses.

Other Support Buildings and Temporary Structures

Currently, the Park has a number of temporary structures used in tandem with the stage facility. These include a sound booth, a “VIP” deck for patrons renting tables and chairs, a control booth (which also houses merchandise sales on the first floor); and a former sound booth building now used for storage. In the Master Plan these buildings are relocated, recommended for removal, or



shown as temporary in their existing footprint. The presence, final locations, and construction of these buildings are ultimately within control of future license agreements. In general, the Master Plan envisions reducing the footprint of these ancillary support buildings, which should be achievable through the removal of the outdated sound booth building, offering the VIP seating in a location within the bowl, and the introduction of a seasonal sound booth structure.

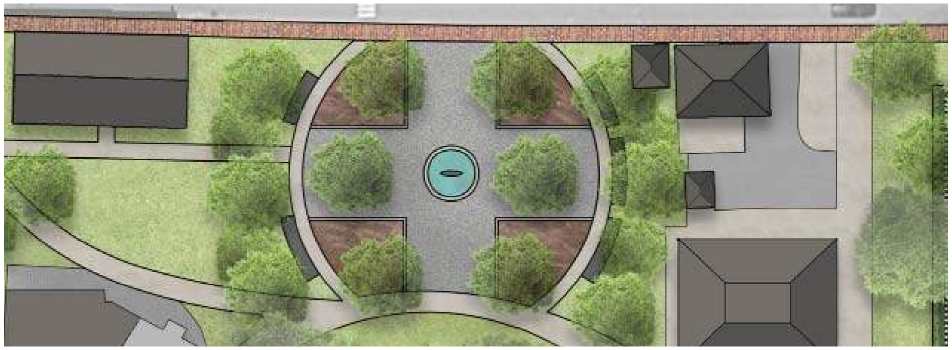
Comparison with Existing Stage Facility

The proposed stage facility is a significant improvement over the existing stage in the Park. The proposed stage configuration:

- includes annual erection of the stage set as well as trusses for lighting and speakers, which is done currently. No change is anticipated here.
- includes built-in provisions for electrical and other stage related cabling, which will reduce visual impacts to the park and remove unsightly utility accommodations above ground.
- is in a location which will allow the audiences to congregate without violating the pedestrian through-path.
- has the promise of drastically minimizing the footprint of back stage operations
- allows for a thoughtfully-designed immediate backstage area for marshaling during performances (with plans for screening) that also benefits from adjacency to the reconfigured Shaw Warehouse space.
- better ensures more effective sound mitigation (which will also be need to be addressed in license agreements).

HOVEY FOUNTAIN GARDEN

The Hovey Fountain will be relocated to this new garden space. The restoration of the Hovey Fountain is an aspiration of this plan that potentially includes returning it to its original condition through finding a basin more in keeping with the original. Shade trees will be planted on a grid around the fountain, and lower planting beds for shrubs, annuals, and perennials will establish a formal bosque. This threshold along Marcy Street will allow for a strong visual connection through the park and to the river that currently does not exist. Pavement on the walking surfaces will include additional texture like exposed aggregate or rolled stone in order to provide additional depth to the space. The fountain will be recirculating and include integral lighting for nighttime viewing.



57 MARCY STREET

If it were ever possible for the city to purchase 57 Marcy Street, it would provide a great benefit to Prescott Park. The building could be used by the city to support various park licensing opportunities. It appears the utility building is there to stay, at least for the foreseeable future.

SOUTH PIER

The South Pier / Prescott Pier would be expanded similar to the North Pier to introduce a park experience out over the water. Widening and softening these structures will provide a great diversity of waterfront experience for visitors.

GUNDALOW LANDING

A new wooden deck will be built around the front of the Sheafe Warehouse and connect to a seating area at the top of the Gundalow ramp. This will create a formalized area for Gundalow patrons to marshal before and after their cruise. This is also a great location for interpretive features that illustrate the maritime history so important to the region and the park.

The Gundalow docks will remain intact in their current location. Some discussion has been had about introducing a ticket booth at the top of the ramp for on-site sales and information.

WATER STREET

Water Street will be shortened so that it does not bifurcate the site between the Sheafe and the Shaw warehouses. Access will still be provided for handicapped parking and maintenance trucks. Parking arrangements with Strawbery Banke will be made to accommodate park staff and arts programming staff parking.

LIBERTY POLE

The Liberty Pole will remain in place for the time being. It is believed that this is the original location of the pole’s installation. When the pole reaches an inevitable need for replacement, consider relocation 5-10’ away from Marcy Street would ease pedestrian circulation at the street edge.

THE OVAL

A large oval lawn replaces the existing central path that connects the Liberty Pole to the Anchor. This lawn will be subtly crowned at the center and will be suitable for picnicking and informal recreation like kite flying and Frisbee. This oval will be bordered by a perimeter walkway that will have seating and trees alongside. Another opportunity for public art intended for children’s play is shown at the northern corner of this lawn area.

DISPLAY GARDENS

The Trial Gardens have been consolidated and reorganized into the Display Gardens. The planting approach and Fairy House Tour installations would remain the same, however the new layout will create a series of braided walkways with memorial benches for passive use.

PLEIN AIR GARDEN

The triangular parcel across Mechanic Street will be redesigned as the Plein Air Garden. The intention will be to provide adequate seating for use by artists interested in sketching and painting outside. Plantings would screen the traffic on the bridge, and the volunteer vegetation that currently blocks views to the water would be removed. The shoreline would be reconfigured to allow for pedestrian access under the bridge and a boardwalk connection around back to the park proper. This pedestrian way would create a missing connection between the park and this parcel of land as well as extending public access along the river.

PRESCOTT PASSAGE

The walkway over Peirce Island Bridge, as noted in section two, is narrow and harrowing at times. A more generous pedestrian right-of- way with vertical banners and lighting would create a far more welcoming connection between Prescott Park and Four Tree Island. Given the width of the bridge, it is possible this pedestrian walkway would have to be cantilevered along the north side of the bridge. There is a stone monument with a bronze plaque within the area of the new Plein Air Garden that memorializes the bridge as Prescott Bridge. This connection is widely known as the Peirce Island Bridge and perhaps the pedestrian passage would be a better opportunity for dedication to the Prescott family.

FOUR TREE ISLAND

The entrance to Four Tree Island would be opened up with a removable bollard to replace the gate and still prevent unwanted cars on the causeway. Signage along Mechanic Street will be consistent with the wayfinding system within Prescott Park. The layout of the pathways on Four Tree Island will be finessed and resurfaced with permeable asphalt. The restroom facilities would be improved, including new sewerage mechanics. The grille facility would be rebuilt and all circulation will be universally accessible. Rip

rap around the perimeter of point needs to be reset and stabilized. “My Mother, The Wind” sculpture will be cleaned and stabilized, and the pathway around the sculpture will be fortified. New site furnishings will be located strategically to endure increasingly frequent high tides and storm surging. The wood pier should be replaced in the same location. It is used for fishing on occasion. The only new intervention would be an at-grade boardwalk to be built along the south edge of the island to provide access for school groups, birders, and seal watchers to access the salt marsh without disturbing this valuable habitat.

SHEAFE WAREHOUSE

The Sheafe Warehouse is currently underutilized for all its historic maritime architectural prowess. Much discussion about creating a maritime history exhibit was had during the Master Plan process. Other uses bandied about included ticket sales for the Gundalow Company and permanent art installations. The building would remain unheated and unplumbed limiting possible programming. Fire suppression is highly recommended in this building.

SHAW WAREHOUSE

The Shaw Warehouse should be stabilized and renovated to better accommodate immediate park needs. Several visits through the building confirmed that it is possible to consolidate maintenance operations and centralize the storage of supplies and equipment not used on a regular basis. PPAF office space on the second floor and storage on the third floor could also be more efficiently arranged to maximize spatial layout. Off-site costume and prop storage is highly recommended. There has been discussion about the reconfiguration of the first floor of the building to support both maintenance operations and backstage functions. A fire suppression system should be installed regardless of the final decisions about the programming of the building.

MEMORIALS

There are dozens of memorials and tributes to individuals throughout the park. They range from plaques to fountains with locations ranging from highly visible to secluded and unseen. There are many ways to refine the memorial strategy for better effectiveness. While there are small plaques with words of thanks to the Prescott Sisters, it has been noted that a more grand tribute is warranted. A public art component may be suitable for an appropriate homage to Mary and Josie for their foresight and tenacity.

RESILIENCY

There is much consideration throughout this plan for resiliency in the face of sea level rise and climate change. From the boardwalk structure with deployable flood wall panels (shown below) to oyster beds along the river floor, there are many opportunities to integrate resilient design features into the park. Subsurface stormwater storage and drainage strategies will be integrated into every area of the park. Outlets to the river can be renovated with check dams to ensure rising tides do not back flow into the park system causing flooding and reducing capacity for rainwater coming from the land.

As each of the phases of work is designed and engineered it will be important to continuously build on the resilient features of Prescott Park as it is the sentry for many South End architectural treasures.

Prescott Park Master Plan

Formal Garden

view from Marcy Street

Formal Garden

view to the water

Hovey Fountain Garden

view from Marcy Street

Liberty Pole

view from Marcy Street

Display Gardens and The Oval

view from Mechanic Street

North Waterfront

view from North Pier

Public Forum and Civic Fountain

view from waterfront promenade

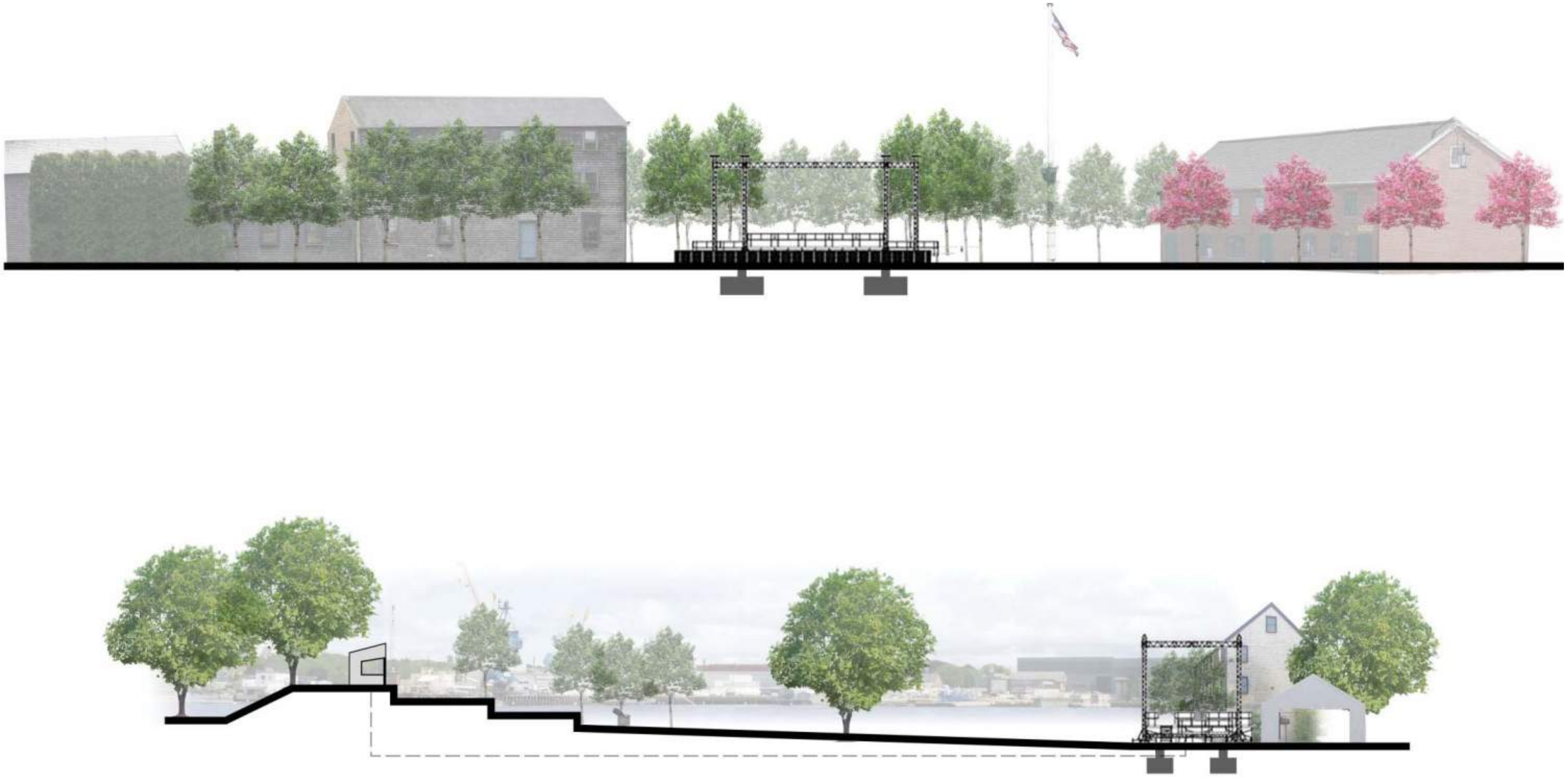
The Bowl

as open parkland

The Bowl

as performing arts venue

Movable Stage for Seasonal Use



cross sections

six

Park Usage, Capacity, and Governance Framework

The purpose of Park Use and Capacity Guidelines is to protect the park from overuse and damage but to ensure the overall park atmosphere is not negatively impacted by only one use or series of uses that compromise the park first approach. In general, all park areas are usable for both formal and informal events. However, some are better suited to support permitted programming than others. The following summary identifies those areas that have been historically or have the potential in the future to be sought after as an event location.

The occupancy numbers and description of intended uses of each section of the park are guidelines, which can be used to communicate to organizers of would-be permitted events. As mentioned below, in addition to numerical capacity of a space to hold attendees, the frequency of usage of a space as well as weather conditions are also important factors. The issues of capacity and use overlap with governance recommendations later in this report. For example, it is recommended future permits/license agreements specify areas allowed to be used on the license agreement and include plans for compliance with the capacity guidelines (in terms of number of people) of the areas.

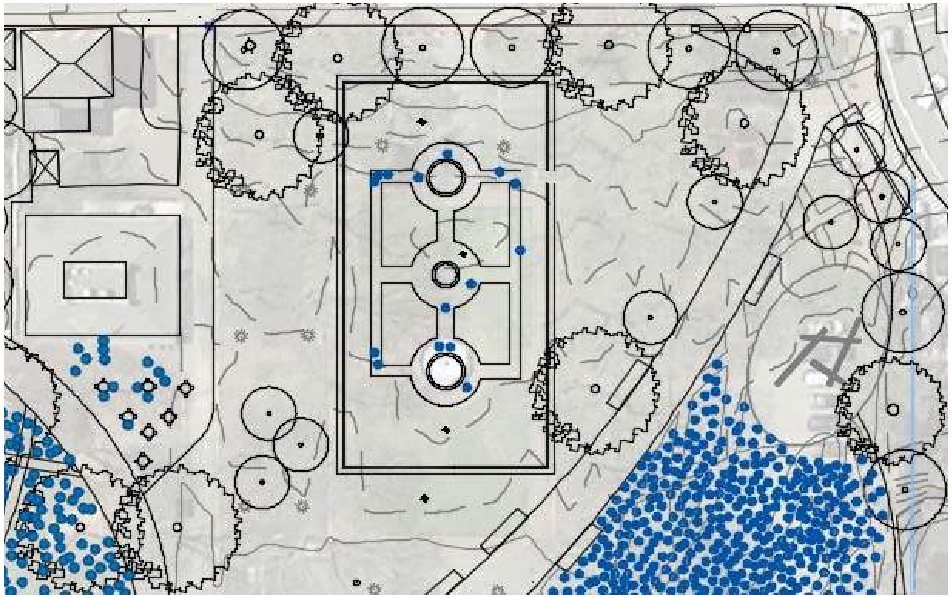
The physical design of the Master Plan is intended to reinforce compliance with the capacity and use guidelines. The size and shape of the "bowl" area and the concept of a through-way path are examples of the overall Park design working to reinforce preferred use patterns determined as a result of the Master Plan process.

When thinking about usage there must be sensitivity to the number of people, how often the events occur and weather conditions that might make spaces vulnerable to degradation more quickly. Each location should only be used for one event at a time and considerations for the resting of lawn areas must be integrated into scheduling. Turf management protocols have been included in Appendix C.

The park governance framework is intended to guide policies for park use into the future and to inform the terms of permits and license agreements.

THE PROMENADE

This park feature serves as the spine of all circulation and organizes the site around the intention of unimpeded passage regardless of



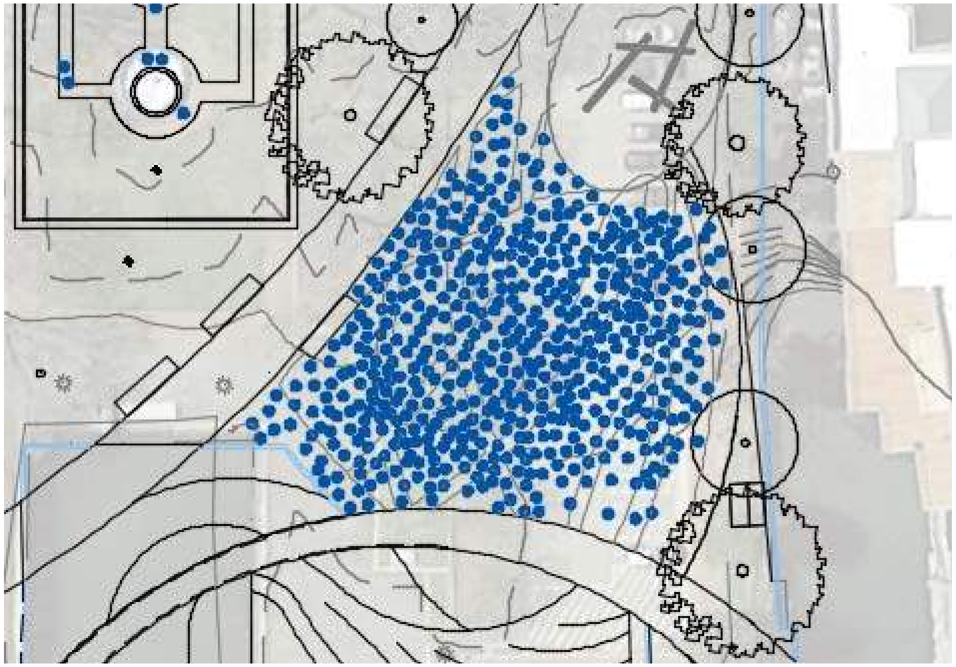
Formal Garden with 10 people

what is happening in the park. This area is to remain open at all times and shall not be impacted by any formal or informal park use. Crowd control must be employed for large events that have the potential of spilling into the walkway area. This is not only for the benefit of all users to have access through the park but to support public safety vehicles in emergencies.

FORMAL GARDEN

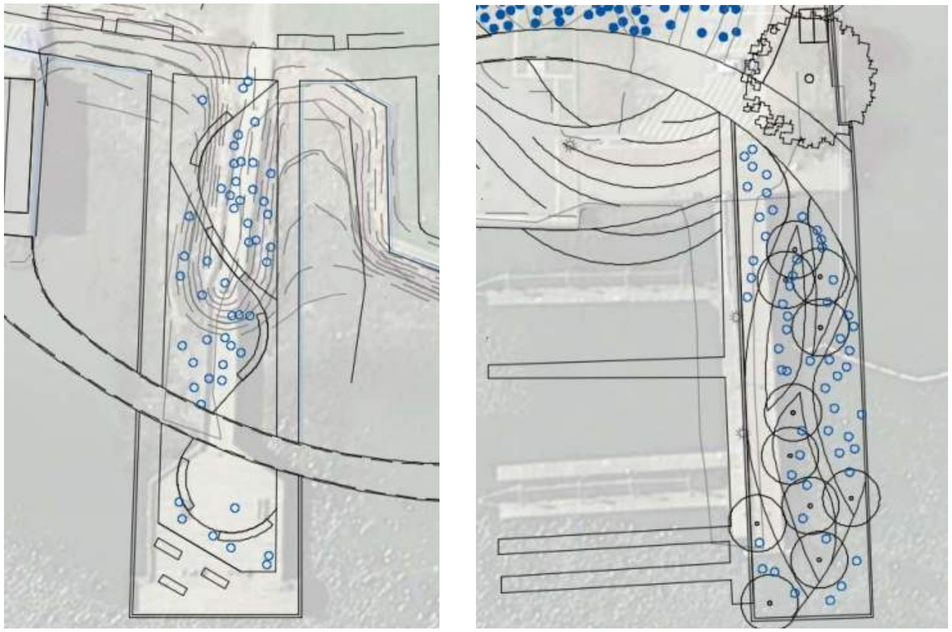
As in its former location, the Formal Garden will continue to be a coveted location for photography and very small ceremonies. Due to the fragile nature of the plantings and the narrow paths the maximum number of guests for any permitted event should be 10. No chairs or audio systems should be allowed. Small, portable archways that are commonly used in wedding ceremonies may be permitted.

PUBLIC FORUM



Public forum with 500 people

This area has been designated to support civic expressions of freedom of speech and the right to assemble. Specifically, “The Trustees of Trust Funds of the City of Portsmouth desire to accommodate the public policy and constitutional considerations which support the use of some portion of Prescott Park for the purpose of protected expressive activity while at the same time maintaining the Park as a place for the public to quietly enjoy its lawns, gardens and scenic attractions. This policy is adopted to accomplish those goals.” The plaza space will accommodate about 500 people when used for a large assembly. When not permitted for a gathering, a civic fountain will be user activated to provide aesthetic benefit and a spot to cool off in the warmer months. The entire space will be a resilient hard scape surfacing constructed of specialized pavement. The new configuration invites reassessing the Public Forum policy in light of improvements to desirability of the space and functionality of the paved surface.



Piers with 50 people each

NORTH AND SOUTH PIERS

With a widened pier structure that includes lawn and other landscape treatments, there will be an increased demand to have events out here. These piers can accommodate 50 people seated on blankets and on benches. These areas provide new spaces that assist in dispersing both formal and informal uses across more of the park. The lawn areas must be maintained per the turf management protocols outlined in Appendix C which will inform the frequency of events being scheduled.

The Bowl with 1200 people, Hovey Garden with 50 people, Players Ring Lawn with 100 people, and yoga with 100 people

THE BOWL

The sloped and terraced lawn space will be designed, constructed, and maintained as a high-intensity use athletic-quality turf grass field. These specialized maintenance requirements have been outlined in Appendix C. It is imperative that the lawn have time to rest between periods of intense use in order for the grass to be sustainable. The entire oval is a little less than one acre including the perimeter pathway. This space will support informal uses like picnicking and ball playing when not in use as audience space for a new seasonal stage facility. The lawn area within the oval walkway will accommodate about 1200 guests on blankets and lawn chairs. Permits / licensing agreements will specify strategies for delimiting permitted orders of occupancy.

It is anticipated, in practice, there may be occasional events which attract attendance in access of guidelines noted below. As guidelines, these figures are not intended to exclude these occurrences or result in ejecting attendees from events. However planning for use of these areas should strive for compliance with the capacity figures. Events not in compliance with these guidelines should be viewed as permissible exceptions by permission as opposed to regular deviations by right.

H**OVEY FOUNTAIN GARDEN**

This new garden space is designed as a passive area of quiet contemplation, with ornamental annual plantings to surround a restored Emerson Hovey Fountain complete with a new basin to collect the spray of water with the hope of returning the sculpture to its former glory. This garden area, much like the Formal Garden, is a place for passive use and limited gatherings. It is estimated that about 50 people could use the space for an event, making it a good alternative to the Formal Garden for groups of this size. If people are standing, there is capacity for up to 100 people to occupy paved areas around proposed shade trees and the relocated fountain. Chairs, ceremonial arches and other temporary appurtenances may be brought in to support gatherings but must be kept on paved areas and should not be physically secured to the ground with hardware.

The Oval with 150 people

PLAYERS RING LAWN

Plein Air Garden with 20 people

Already a popular spot for weddings, a renovated lawn area will support events of up to 100 people. Aside from the brick access path running behind the Players Ring, the rest of the surface area for events is, as the name suggests, lawn. Temporary tents can be erected and staked into the ground here as long as lawn is repaired following the breakdown of the event. Chairs and other furniture can be used but it should be noted that after a sustained rain event the ground will be soft and damage will be more likely. Appendix C has more specific turf-related guidelines that apply here.

YOGA

On the lawn behind the Shaw Warehouse, outside The Bowl, you can fit 100 people with ample spacing for mats and movement. This area is flexible lawn space to be used informally but can also support existing uses previously relegated to left-over lawn zones.

THE OVAL

The oval is about a half-acre of lawn area that supports any use deemed appropriate by the governance documents. Hundreds of people could gather as a group or several small picnics or a few people throwing a Frisbee. A high quality, resilient turf grass will be specified for ground cover. This area could also support the installation of a tent with tables and chairs for up to three days. After that the tents and other furnishings must be removed to allow air, light and water to return to the lawn surface and to rest and recover the turf. Roughly 500 people could occupy The Oval with relative ease assuming no other significant structures were in place to take up space. The diagram below shows a crowd of 150 people seated in chairs. There is additional flexible lawn area outside the perimeter walkway that can be used for larger crowds or protected for informal use when an event is taking place inside The Oval.

Four Tree Island with 100 people

PLEIN AIR GARDEN

Open lawn with shade trees that will buffer the Peirce Island Bridge traffic from a quiet green space is an ideal location for painting, with views opened to the river through pruned vegetation that has grown in along the shoreline. This space could also be used for small gatherings and simple events. The lawn surfacing will be able to accommodate small temporary tents secured to the ground with stakes. This area will accommodate about 20 people with chairs and easels for painting or about 40 for a gathering.

FOUR TREE ISLAND

Permitting for Four Tree Island will remain largely the same. Currently the maximum group size is about 100 people with a few exceptions through-out the year. It is our recommendation that no private cars ever traverse the causeway and only park staff vehicles access the island proper for maintenance and event support. Given the exposure of the site, tents and other temporary covers shall not be permitted. The picnic shelters and large pavilion covering the main grill will be refurbished and will provide adequate cover. A golf cart with a trailer may be considered for both maintenance and event support operations to ensure the least amount of damage.

GOVERNANCE FRAMEWORK

Throughout the Committee’s work, issues pertaining to activity and operations within the park were raised repeatedly. These discussions informed many design decisions having to do with the physical space planning and drove the need for establishing usage and capacity guidelines. For example, the creation of the walkway that connects each section of the park from State Street to Mechanic Street was an important design characteristic that helped ensure unimpeded access for park users without regard to the schedule of any formal park programming. In other words, operational concerns translated into physical improvements.

The Committee also addressed Governance more generally as part of this Master Plan, and its recommendations appear below. A series of understandings related to the Governance Framework appear first, followed by Recommendations for Governance Going Forward, followed by Principles for License Agreements, Recommended Provisions for License Agreements and Other Recommendations.

I. Governance Framework

Early on the committee established the need for a set of facts on which discussions surrounding the governance of the park could be based. Below is a series of understandings, which was the basis for all discussions about governance by the Committee.

1. The City Council is the policy making body of the City of Portsmouth and controls City-owned land and its uses.
2. The City of Portsmouth owns the land that makes up Prescott Park.
3. The Portsmouth City Charter Article V; section 5.3, charges the City Manager to oversee all City property.
4. Deed restrictions establish the eligible uses of the property (“parks and recreational purposes”).
5. The Will of Josie F. Prescott establishes a Trust (financial) whose income “shall be used for the maintenance” of the Park.
6. Current proceeds from the Trust are insufficient to fund the annual operating costs of the Park (full and part time salaries, supplies, and maintenance costs, etc.).
7. The City’s Trustees of Trust Funds oversee the Trust (financial) in their role as defined in State statute.
8. The City’s Trustees of Trust Funds have provided the supervision and oversight in the Park as a matter of tradition as opposed to a requirement of any document or law.
9. The Charitable Trust Division at the State of NH Attorney General’s Office oversees Trusts and property held in trust to ensure they are used in a manner consistent with the intent of the maker of the Trust.

II. Recommendations for Park Governance Going Forward

The Committee makes the following recommendations to the City Council concerning Park Governance.

1. The Blue Ribbon Committee on Prescott Park (BRC PP) recommends governance of the Park be carried out in a manner consistent with the deeds for the park parcels and city ordinances.
2. BRC PP recommends the City Council commit to implementing the physical space Master Plan for the future of Prescott Park, elements of which should be identified in the City’s Capital Improvement Plan.
3. BRC PP recommends Prescott Park come under the management control of the City Manager (as set forth in the City Charter) effective upon adoption of this report. As a result, the City Manager would be responsible for the day-to-day operations and maintenance of the Park facility (including upkeep of fountains, lawns, gardens, trees, paved surfaces, buildings, drainage and electrical systems and all other structures and facilities); negotiation and implementation of license agreements (currently known as operating agreements); on-site management; management of dock operations and reservations for Four Tree Island as well as weddings); the development of administrative and personnel structures necessary for operations; general oversight of licensed activities within the Park; and, in coordination with the City’s legal and public safety departments, ensure the enforcement of City policies, ordinances, and compliance with applicable deed restrictions and

life, safety, and health codes.

4. The BRC PP recommends the City Manager assume the duties of the Trustees of Trust Funds as referenced in existing agreements and leases with the exception of investment management.
5. BRC PP recommends the City Manager work immediately with park licensees (those with leases, operating agreements and other formal agreements) and the community to plan for 2017 in the Park (during which time new park licenses will be negotiated). As examples, the planning will include addressing schedule and frequency of Park activities, impacts on the neighborhood (including sound levels generated by park activities), signage, and general compliance by licensees and all users with park polices, deed restrictions, and City ordinances.
6. The BRC PP Committee recommends the City establish a separate Special Revenue Fund, which will reflect the costs of running Prescott Park and show the various revenue sources available to support park operating costs.
7. BRC PP Committee recommends the City assess a variety of models for ensuring desired activities and services within the Park (i.e. visual and performing arts; maritime history & culture; and refreshments/food, etc.). This may include the City providing programming; authorizing programming through contracts, licenses, and/or vendor permits with qualified entities; or a combination of both or some other method. Examples include operation of the concession stand for a longer number of hours or revisiting the model whereby one organization programs the Park for all arts and culture activities.
8. BRC PP Committee recommends replacing existing operating agreements with Park Licenses to be entered into with effective dates beginning no later than January 1, 2018. The City Council will approve park licenses.
9. BRC PP Recommends the Mayor appoint a Blue Ribbon Prescott Park Policy Advisory Committee (Advisory Committee) soon after the adoption of this Report to advise the City Manager with respect to park policies; events, activities, and services in the Park; and operations of licensees and serve as a communication forum. Representation on the Advisory Committee should be made up of at least one member of the City's Trustees of Trust Funds, a City Councilor, two residents of the City (at least one of whom should reside in the area surrounding the park), and a member of the City's Cultural Commission, Art-Speak. The City Manager shall appoint up to two staff advisers and staff from specific city departments as needed.

   Recommended charge for the Blue Ribbon Prescott Park Policy Advisory Committee: Using the 2017 Final Report of the Blue Ribbon Committee on the Prescott Park Master Plan as a guide, provide advice to the City Manager with respect to park policies, events, activities, and services in the Park; help oversee operations of licensees; and serve as a communication forum.
10. Because Blue Ribbon Committees expire with each City Council two-year term, the Committee recommends the City Council evaluate the Advisory Committee structure in December of 2017. Examples of questions, which may be asked at that time, could include: Should the Committee continue to be organized as a Blue Ribbon Committee? Should the Committee's duties be joined with other City Committees? Should the Committee be created via ordinance?
11. BRC PP recommends construction of park improvements and facilities be planned, funded (acknowledging a combination of funding sources including grants and private donations) and owned by the City in conformance with this Master Plan, including compliance with Park Usage and Capacity Guidelines in the 2017 Weston & Sampson Final Report and duly

adopted future updates. Participation by private donors or organizations is not intended to convey ownership or control.

12. BRC PP Committee recommends the City encourage and permit a variety of formal programs within the Park. Priority should be given to programs which celebrate the visual and performing arts, the City's maritime connection and history; Portsmouth's history & culture.
13. BRC PP Committee recognizes the value and function of the Public Forum area in Prescott Park and recommends it be retained and improved to make the area more attractive.
14. BRC PP Committee recommends the City provide and/or permit others to provide amenities, which directly enhance users' experience of Prescott Park as a park; including availability of restrooms and food and refreshments (this does not include alcohol, which is prohibited via Ordinance and deed restriction). This includes times outside the hours of formal programming.
15. BRC PP Committee recognizes the value and purpose of open green spaces and urban parks as places of respite, recreation and enjoyment. Maintaining this special status includes limiting commercialization, which unchecked, can disrupt the park atmosphere. In this vein, the City Manager should apply the following criteria when negotiating the terms of financial transactions in the park by licensees for three types of transactions (food and refreshments; services; other goods):

    a. Exchange of funds for goods and services should be limited.
    b. Exchanges of funds for food, goods or services which are permitted should be expressly addressed in license agreements (the type of items for sale shall be enumerated in the agreement) including area where transactions are permitted.
    c. Any proposed sale of goods should enhance the experience of the user in the park and not detract from a park atmosphere.
    d. Each proposal for the sale of goods or services should be reviewed through the lens of ensuring a high quality presentation in keeping with the aesthetic goals of the park. Square-footage, types of displays, and materials to be sold are all appropriate details to be considered in managing this type of activity.
16. Limiting commercialization in the park in order to maintain a park-like atmosphere also extends to park signage. Signage should be limited in the Park and, signage approved through license agreements, should be in keeping with aesthetic goals of the Park and not detract from the Park atmosphere.
17. BRC PP recommends the City Manager develop formal materials (such as park user request forms, guidelines for users, and other documents) to assist the City administration and potential users who may seek to hold events in Prescott Park. Documentation may vary for different types of events: major users that operate/reserve space in the park on a regular basis; occasional users requiring designated space (e.g., yoga, informal/spontaneous use (no approvals needed).
18. BRC PP Committee recommends the City Manager evaluate City ordinances (such as prohibition on bicycles in the park) in light of the adopted Prescott Park Master Plan and propose recommended ordinance changes accordingly.

III. Principles for Future License Agreements

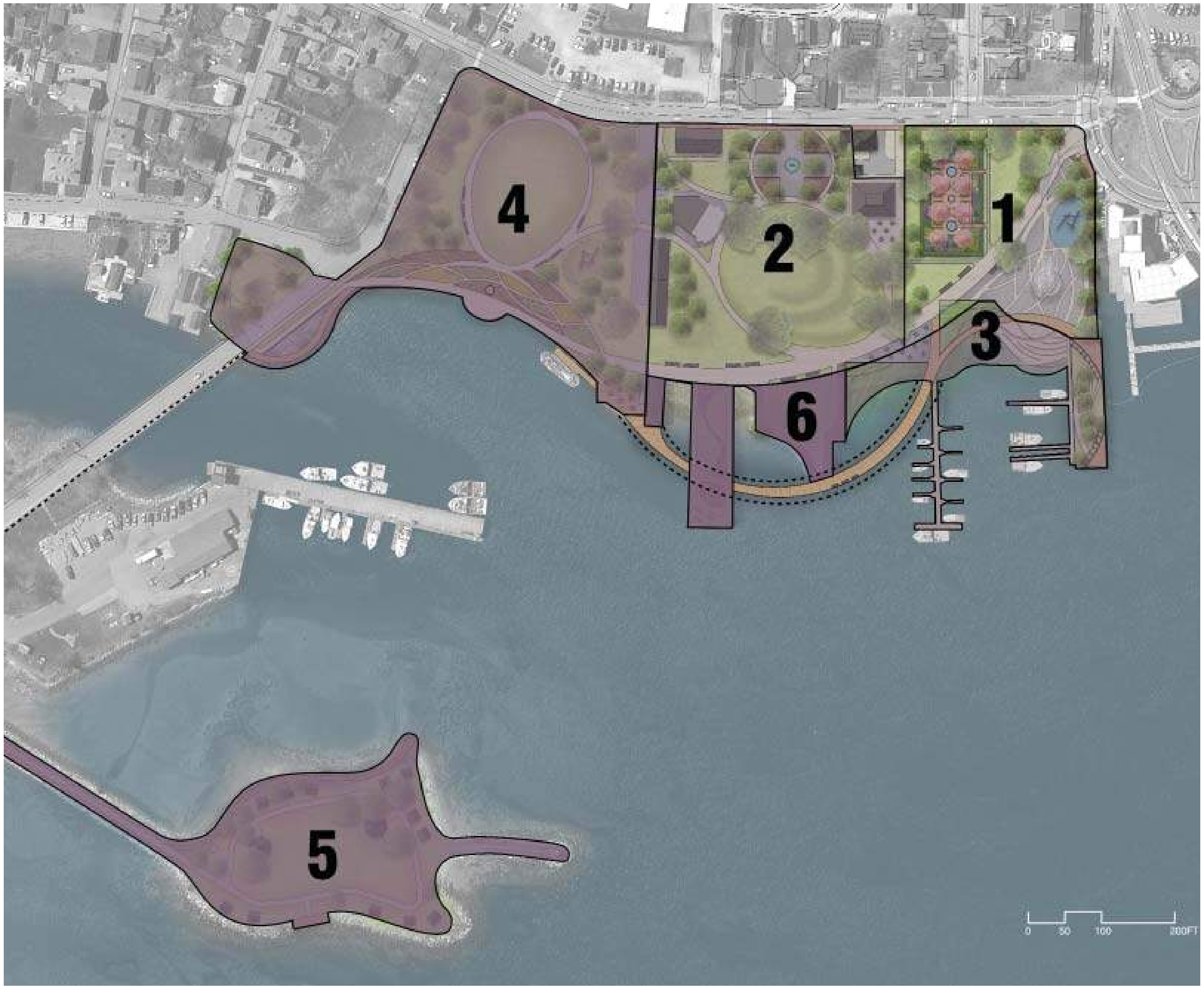
1. License agreements should be in compliance with this Master Plan (narrative, recommendations, and physical space plan) and consistent with the Governance

recommendations above, including Park Usage and Capacity Guidelines.
2. License should clearly outline the benefit to the public for the proposed use (public benefit) and how licensee's use and operation within the Park is consistent with Trust language.
3. License agreements shall make plain all City ordinances will apply (in addition to deed restrictions).
4. License agreements should require that unimpeded pedestrian access through the park be maintained at all times.
5. Revenues generated through license agreements and permit fees in the park should be used to fund maintenance costs and capital improvements for the Park.
6. License agreements for scheduling the stage should address the expectation and terms for use of the stage by community-based performance groups seeking to perform on the stage. License Agreements should include the terms of access to the stage by community groups including (for example) the number of community-based performance groups that will be provided access to the stage; description of the time the stage should be made available; process for making selections by the Licensee; description of artistic standards criteria; and terms for sharing revenues of any type.
7. The stage facility shall continue to be controlled by the municipality and shall not be established as a public forum.

IV. Recommended Provisions of License Agreements

1. Explanation of public benefit
2. Description of areas to be used, including dimensions of indoor and outdoor areas
3. Provisions for public access
4. Type and nature and schedule of activities (type, frequency, # per day, etc.)
5. Hours of operation
6. Plan for compliance with Park Usage and Capacity Guidelines
7. Responsibilities of the tenant
8. Responsibilities of the City
9. Sound/noise
10. Liability/insurance
11. Limitations or prohibitions
12. Signage approval protocol
13. Enforcement mechanisms and penalties
14. Risk Assessment and Plans for managing risk (public

Recreation. The discussions pertaining to City policies in Prescott Park are not unlike considerations needed for other parks and recreation assets in the City. As new and improved parks and recreation assets come on-line (Prescott Park to be managed by the City Manager;



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Opinions of Probable Cost and Phasing

The following section identifies work efforts related to implementing the new master plan for Prescott Park. The dollar amounts outlined herein are educated opinions of probable costs. These numbers were generated using current pricing information but are not cast-in-stone. Final construction estimates must be honed and require confirmation and refinement as actual improvements are scheduled. Cost estimates will also reflect the manner in which the improvements are grouped as well as the time that it takes to implement all phases. The more time that passes from this date of issue, the more costs will escalate due to inflation.

We have parsed out the overall master plan improvements into six phases of work. These are simply a point of departure and intended to create manageable stages of funding and active construction work within the context of the larger city. It is likely that as funding becomes available and construction estimation is completed based on actual bid documents, there will be shifting of some scopes of work from phase to phase. Transitions between new and existing park conditions will also inform final phasing strategies as well the goal of protecting park programming from major disruption. For example, phases 1 and 2 may be done together.

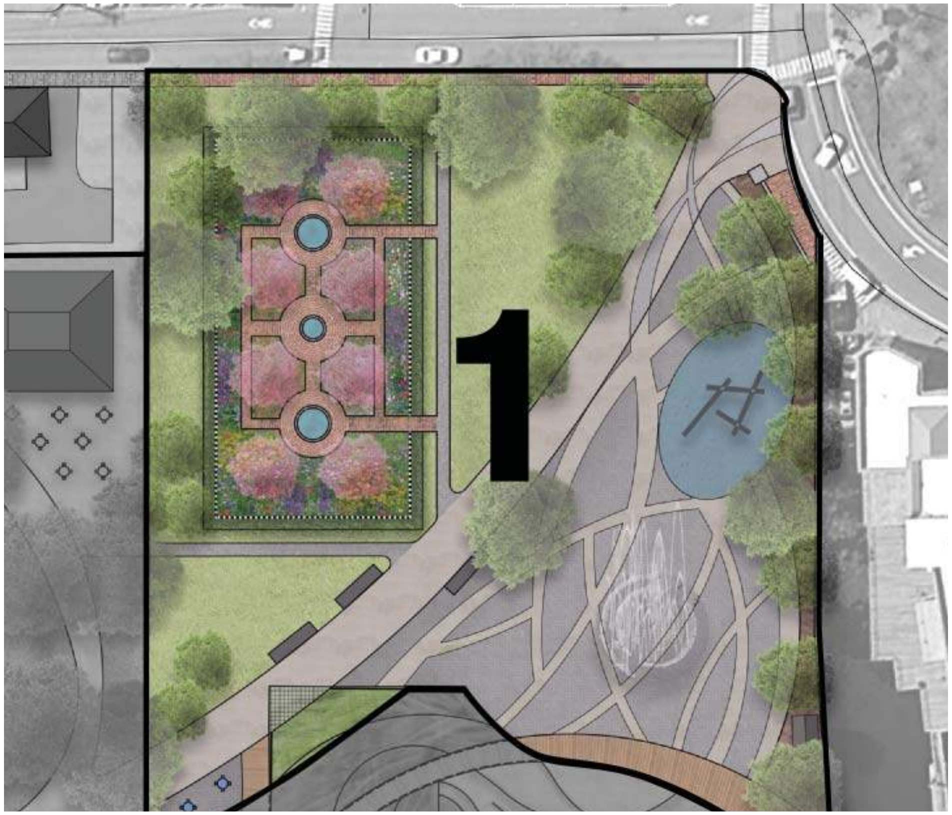
It is important to note that Prescott Park is beginning to show signs of aging and wear. Deficiencies will become harder and harder to maintain without a concerted capital investment program. If the park were to be improved as it sits today, with exactly the same walks, fencing, seawalls, drainage system, etc., the costs would be upwards of $10-$12 million.

On average urban, waterfront open space improvements range from $10 to $50 / square foot. These costs are affected by construction complexity, material finishes, and the magnitude of the overall scope being bid at one time. Based on our estimates, improvements to Prescott Park will cost an average of $30/square foot.

PHASING

Phase One - Grand Entrance - $3,250,000

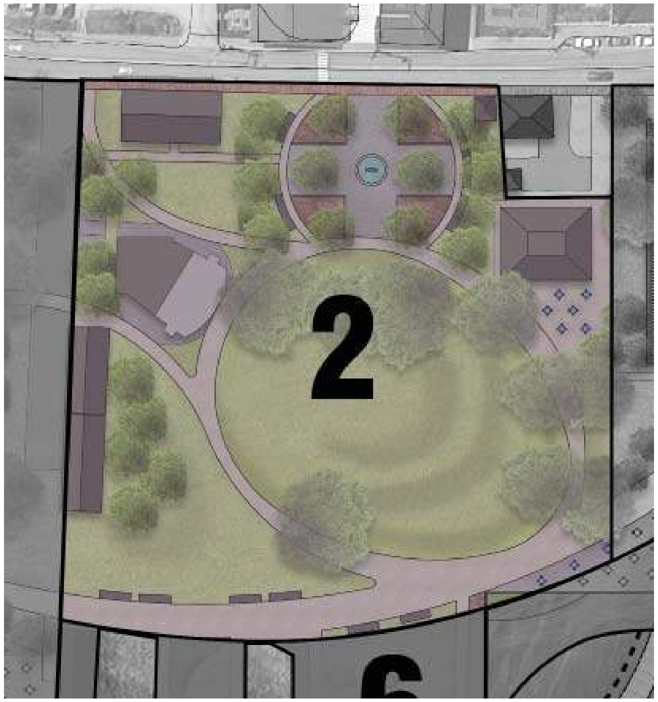
The first phase of any significant multi-phased project must generate significant excitement and create momentum that will carry future phasing through to implementation. With this in mind, phase one includes meaningful improvement to the north side of the site, which is currently the most underperforming section of the park. The parking lot will be removed and a pedestrian point of entry created. This is the start of the democratic waterfront walkway that sweeps through the park, remaining open at all times regardless of other permitted events taking place. A relocated Formal Garden will be constructed complete with new specimen Japanese Crabapples and fountains. An artful opportunity for play will be integrated into this area of the park. The Public Forum has been redesigned to



include a civic fountain / plaza that offers flexibility of programming for both permitted events and informal enjoyment. Much of the subsurface infrastructure will be addressed in this phase of work as well, increasing overall costs.

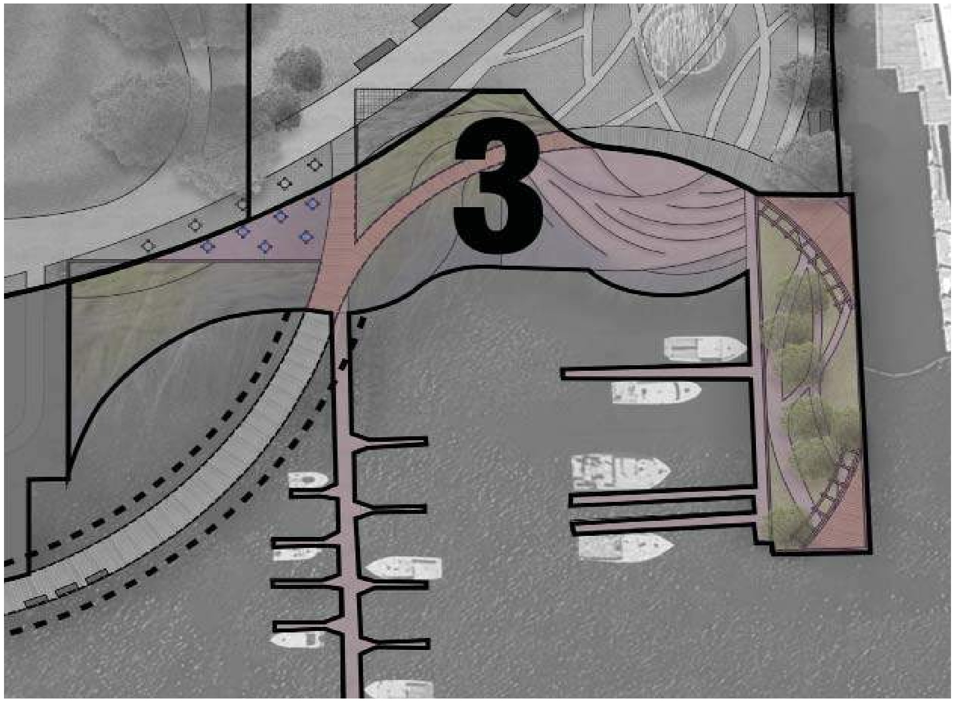
Phase Two - The Bowl + Hovey Garden - $1,400,000

While the existing permanent structures remain in place the rest of the landscape will be reconfigured to create contiguous areas of lawn organized with clear pedestrian circulation to support both best and highest use of the park for 12 months of the year. This area includes the removal of the existing stage platform and the investment in a seasonal stage facility that is completely movable and will vacate the park after the performance season is over. A “plug and play” strategy will be engineered to ensure appropriate foundational ballasts are installed below grade along with power and other digital lines required for production. Existing mature shade trees will be retained and a large sloped lawn area will support audiences and informal park users alike. The Pavilion (concession building) will remain in place and the merchandise and control room structure will be relocated. A seasonal sound pavilion will be installed in support of stage operations. The waterfront walkway will be continued through this section along with site lighting and other site furnishings. The Shaw Warehouse will require improvement and reconfiguration to accommodate back of stage requirements in part of the first floor of the building.



Phase Three - North Waterfront - $2,350,000

The seawalls in this area of the existing park are in most disrepair and in need of stabilization. The master plan proposes the rebuilding and widening of the North Pier to create more of a park-like experience over the water for visitors. This area is also the start of the boardwalk feature that extends beyond the physical limits of this phase (seen on the plan below) and projects out over the water. Docking for private boats will remain. The North Docks will be rebuilt and the South Docks will be relocated ensuring that docking capacity for pleasure boats is maintained. Landward of the North Docks shows a terraced edge of stone that will create a safe way for people to navigate down to the water’s edge by mitigating the large drop present at low tide. Lengths of seawall to the southeast



will be stabilized and fortified with salt marsh terracing. This feature will soften the interface of park and water, introduce more marine habitat, and increase the resilience of the park as sea levels and storm intensity continue to rise.

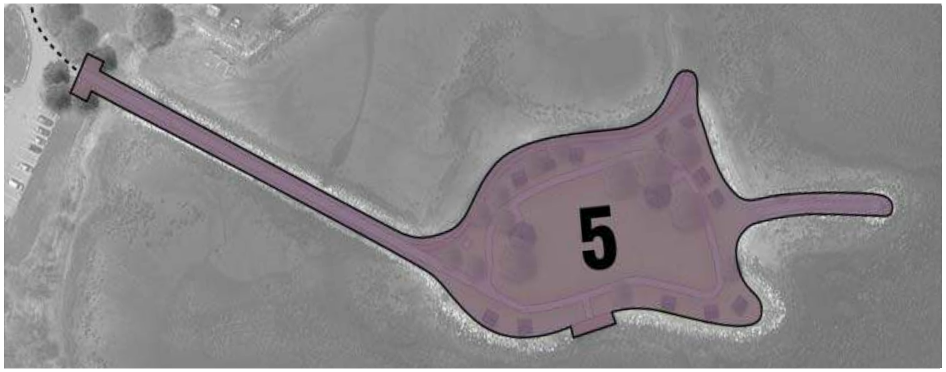
Phase Four - The Oval and Plein Air Garden - $2,100,000

Water Street will be renovated to read as primarily pedestrian with paved connections of circulation and connective lawn area between the Shaw and the Sheafe warehouses. Access will be limited to park staff and permitted event-related access. Three handicapped parking spaces will be installed adjacent to the Marine Railway Head House to support the Players Ring, the park, and Gundalow Company operations. An opportunity for active play will be integrated into the landscape through some form of artistic expression. The Gundalow docks remain in place with an improved deck area that provides organized space with tables and chairs for seating and marshaling of the Gundalow guests. The riverfront walkway continues along the top of the seawall with new, more elegant guardrail.

The former Trial Gardens will be reorganized and consolidated as Display Gardens along the pedestrian path. A large open lawn oval will be centered between the Liberty Pole and the Anchor. The perimeter walkway will be supported by benches and lighting. Lawn and shade trees will offer informal gathering and picnic spaces. A boardwalk structure will extend the pedestrian walkway down to the water and under the Peirce Island Bridge, which will connect to the newly designated Plein Air Garden. This is the triangular piece of land located across Mechanic Street, which has largely been forgotten as a part of Prescott Park. Gently sloped lawn will support quiet contemplation and painting while one views the Piscataqua.

Phase Five - Four Tree Island - $1,250,000

While there are not significant reconfigurations of space or amenities happening out at Four Tree Island, there will be basic infrastructure improvements and universal accessibility will be achieved. A new, more welcoming gateway and sign will grace the entrance to the island. The causeway will be graded and stabilized as a walking surface with limited access for park vehicles only. The culvert that makes the hydrological connection of the tidal river water is in need of lining or replacement. Walkways and picnic shelters as well as the main grill pavilion and the dock area will all be upgraded to promote optimal site access and drainage while supporting picnic-based gatherings both large and small. Site furnishings will be chosen and positioned to endure inundation by the rising tides. Lengths of rip rap will be restored and the land it protects stabilized for pedestrian access. The “My Mother, The Wind” sculpture will

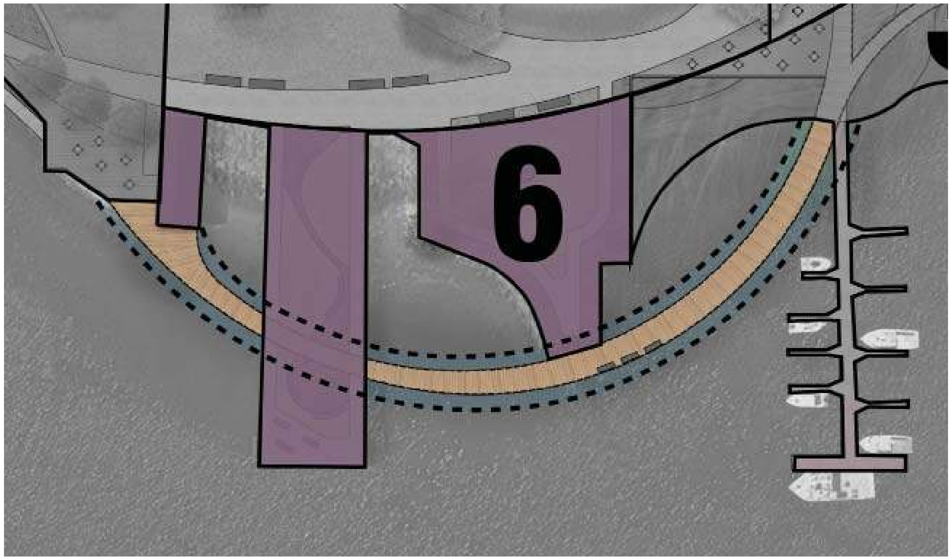


be cleaned and shored up to ensure resilience to storm surge. The one addition to current site features will be a boardwalk structure that will run along the bottom of the southern edge of the island to provide access and environmental education potential for visitors to explore the salt marsh and mud flat areas sometimes visited by harbor seals.

Phase Six - South Waterfront - $1,800,000

The South Waterfront includes the Whale Lawn area and surrounding seawalls, the South Pier and the Sheafe Warehouse foundations. The South Pier will be rebuilt and widened to support lawn and low plantings as well as seating and boardwalk features to expand the park experience over the water. The two beach areas on either side of the South Pier will be stabilized and have salt marsh beds seeded in this area.

The Boardwalk - $1,000,000



This has been identified as a stand-alone feature that can be implemented or not depending on current thinking, resiliency enhancement technology, and funding availability. The structure will consist of piers that run out into the water, connect with the end of the Whale Lawn (where the middle pier exists now) and onto the South Pier and then onto the Sheafe Warehouse. Decking and guardrails will be designed to accommodate pedestrian flow as well as seating opportunities. The boardwalk feature will be at the same elevation as the park and will enhance park user experience by facilitating movement of visitors out over the water. Tidal surge skirts and wave attenuators will be integrated into the structure and be deployed in preparation for storms during seasonal high tides. This feature will protect the park and help to stem potential storm damage within the park and further protect historic architectural assets inland.

Additional riverbed floor interventions are possible under the pier and include installations of oyster and mussel beds to support sub-aqueous wave attenuation and riverbed stabilization.

Peirce Island Bridge Pedestrian Connection - $900,000

Further study is required to understand what is the best solution for safe and comfortable pedestrian experience from Prescott Park

over to Four Tree Island. Current thinking includes a cantilevered steel walkway that provides more separation between cars and people.

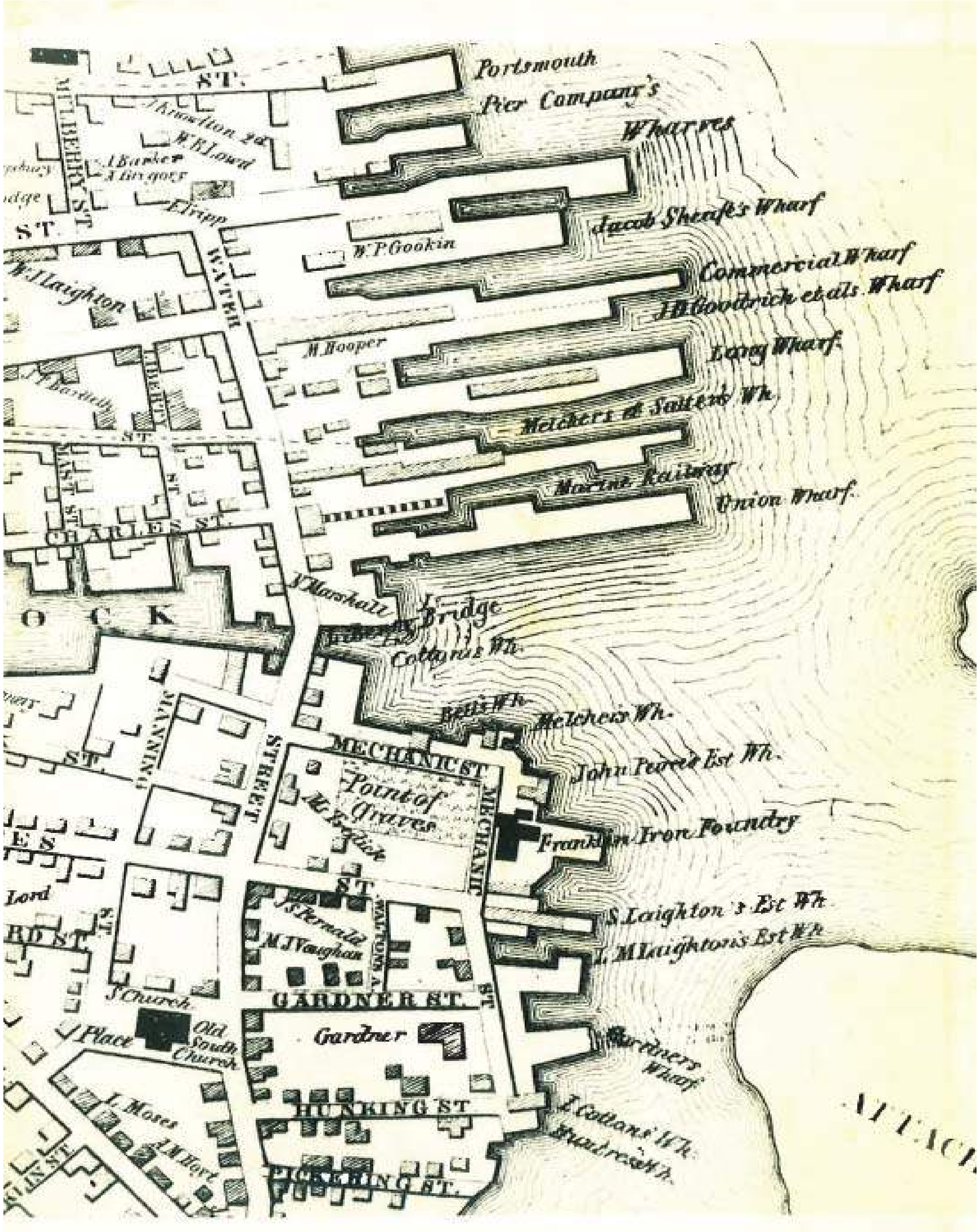
INTERIM CONDITIONS

Unless the park is constructed in one fell swoop there will be interim conditions where new work and existing park interface. These areas will need to be carefully considered to ensure that transitions are safe and maintainable until the next round of improvements are underway. Further, the Blue Ribbon Committee and city leadership are highly motivated to time construction so that the arts venue does not lose a season of performances. This will require a highly coordinated construction effort and no matter how well orchestrated there will be typical construction inconveniences. Temporary fencing will reroute pedestrians to new routes of safe access, and large areas within the park will be closed to use.

FUNDING

The proceeds of the Josie F. Prescott Trust are insufficient to support operating costs on an annual basis. In addition, these funds are not available for capital costs per the order of the Trust.

Multiple funding sources have been identified for initial phases of work. 2023 marks the 400th anniversary of Portsmouth. This event has triggered many aspirational investments and improvements within the city. Prescott Park has been identified as a primary focus for this effort. Donations will be sought for major improvement projects, and fundraising efforts will be coordinated. Proceeds from park activities and permit fees will also be collected for capital expenses. As climate change and resiliency efforts are becoming more and more urgent, federal and state funding sources are being funneled to these specific efforts. Other funding initiatives that may be successful in attracting grant monies include accessibility, stormwater management, green infrastructure, shellfish farming, waterfront access, and arts programming. Finally, the city may appropriate annual budgets for both improvement and operating costs within the park.


Portsmouth
Pier Company's
Wharves
Jacob Sheafe's Wharf
W.P. Gookin
Commercial Wharf
J.H. Goodrich et als. Wharf
Long Wharf
M. Hooper
Melchers et Salter's Wh.
Marine Railway
Union Wharf
J. Marshall
Liberty Bridge
Cotton's Wh.
Bell's Wh.
Melcher's Wh.
John Pearce Est Wh.
Franklin Iron Foundry
S. Laighton's Est Wh.
L.M. Laighton's Est Wh.
Gardners Wharf
J. Cotton's Wh.
Shadrer's Wh.
MULBERRY ST.
WATER
MARKET ST.
MAST ST.
CHARLES ST.
MECHANIC ST.
MECHANIC
STREET
MANNING
Point of Graves
WALTON AV.
GARDNER ST.
HUNKING ST.
PICKERING ST.
J.S. Fernald
M.J. Vaughan
Gardner
J. Church
Old South Church
Place
I. Moses
J.M. Hart
W.J. Laighton
W.B. Lowd
I. Barker
E. Tripp
Lord
ST.

conclusion

This is a legacy project with great possibility. Prescott Park is a beloved city asset that serves an incredibly diverse cross-section of people. From locals to workers and tourists, this place is a destination, haven, respite, and happy place for thousands of people each year.

As we examine the full breadth of work to be done here it is obviously significant. A full commitment of time, energy, and money is necessary to evolve this vision into reality. Portsmouth has never been a city to shy away from a worthy challenge though. As the 400th anniversary approaches, there is momentum and enthusiasm for investment in Portsmouth's future. The time for action is now and Prescott Park is poised for transformation.

As this park's infrastructure continues to age and crowds of visitors continue to grow, a tension has developed between the joy of this place and the ability to operate and maintain this important asset. The longer capital investment is deferred, the harder it is to keep up with maintenance and repairs that impact sense of place and park experience.

Through the Mayor's Blue Ribbon Committee for the Prescott Park Master Plan, a robust process of engagement and critical thinking ensued. The result is a comprehensive master plan that not only addresses today's needs but looks to a bright and prosperous future as a vibrant public waterfront park.

At the outset of the process the question was asked, "How would you define success for Prescott Park?" The answers were many. They came from across the city, from institutions, business people, elected officials, and residents. They ranged from simple improvements to visions of grandeur. However, they all had one thing in common; Prescott Park must be an amazing waterfront open space that serves the people of Portsmouth.

With that goal in mind we embarked on the development of a plan that was shaped by a Park First Approach. Along with the tenets of design, each decision about the design followed this framework for a successful outcome.

This plan for Prescott Park is aspirational. It is the culmination of nearly a year of intellectual investment of the Blue Ribbon Committee, city staff, an invested public, and Weston & Sampson. It represents a process that embraced difference of opinion and critical conversations and always ensured that the answer, whatever it was, put Prescott Park first.

In honor of Josie and Mary Prescott and their incredible gift to the residents of Portsmouth, the City can move forward with a strong and clear vision dedicated to the success of Prescott Park.

APPENDIX Q

SEE ATTACHED PLANS

City of Portsmouth, New Hampshire

Department of Public Works
PRESCOTT PARK PHASE 1A IMPROVEMENTS

OCTOBER 17, 2022

Sheet Index

CV	Cover Sheet
L100	Park-Wide Existing Conditions Plan
L101	Existing Conditions Plan
L110	Site Preparation and Demolition Plan
L111	Existing Flood Zone Plan
L112	Proposed Flood Zone Plan
L113	Soil Handling and Management Plan (Not included in this submission)
L120	Materials and Planting Plan
L121	Site Lighting Plan - ADD ALTERNATE #1
L130	Layout Plan
L140	Grading Plan
L141	Drainage and Utilities Plan
L150	Site Construction Sections
L500-L507	Site Construction Details
E001	Electrical Legend, Abbreviations, and General Notes
ED001	Electrical Demolition Plan
E002	Electrical Site Plan
S001	Seawall Repair Plan & General Notes - ADD ALTERNATE #3
S002	Seawall Repair Sections & Details - ADD ALTERNATE #3

ADD ALTERNATES

ADD ALTERNATE #1: PEDESTRIAN LIGHTING

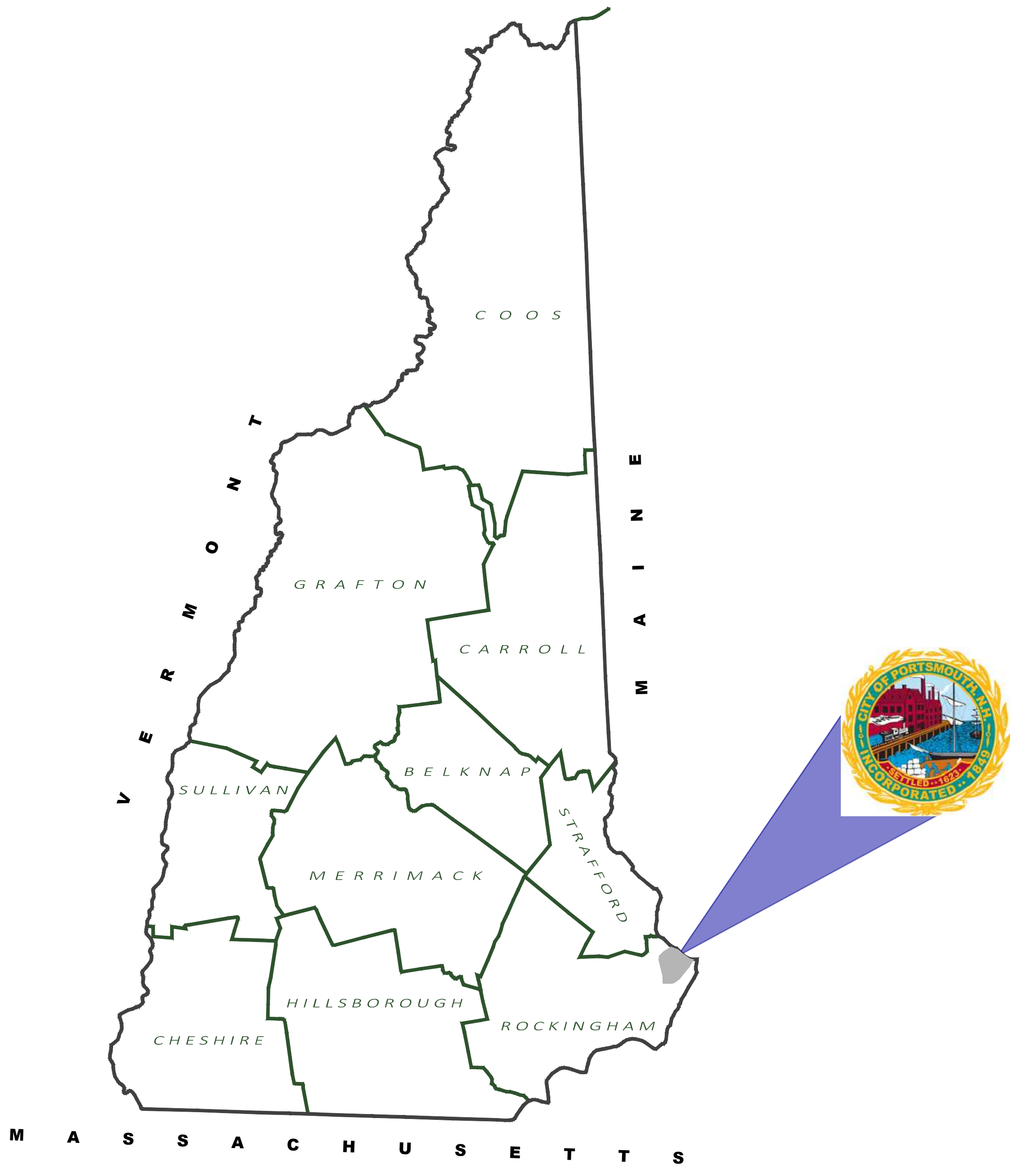
ADD ALTERNATE #1 SHALL INCLUDE THE INSTALLATION OF FIVE (5) PEDESTRIAN LIGHT POLES AND FIXTURES AS INDICATED ON THE PLANS AND AS SPECIFIED. BASE BID WORK SHALL INCLUDE RUNNING EMPTY CONDUITS AND HANDHOLES TO FUTURE LIGHT POLE LOCATIONS AS INDICATED ON THE PLANS.

ADD ALTERNATE #2: ADDITIONAL GUARDRAIL

ADD ALTERNATE #2 SHALL INCLUDE THE INSTALLATION OF NEW GUARDRAIL ALONG THE EXISTING SEAWALL SPANNING FROM THE LIMIT OF BASE BID WORK SOUTHWARD TO MECHANIC STREET AS INDICATED ON THE DRAWINGS.

ADD ALTERNATE #3: SEAWALL REPAIRS

ADD ALTERNATE #3 SHALL INCLUDE REPAIRS TO THE EXISTING SEAWALL CONSISTING OF RE-POINTING, SPOT REPAIRS, AND VEGETATION REMOVAL AS INDICATED ON THE DRAWINGS.



Locus Plan

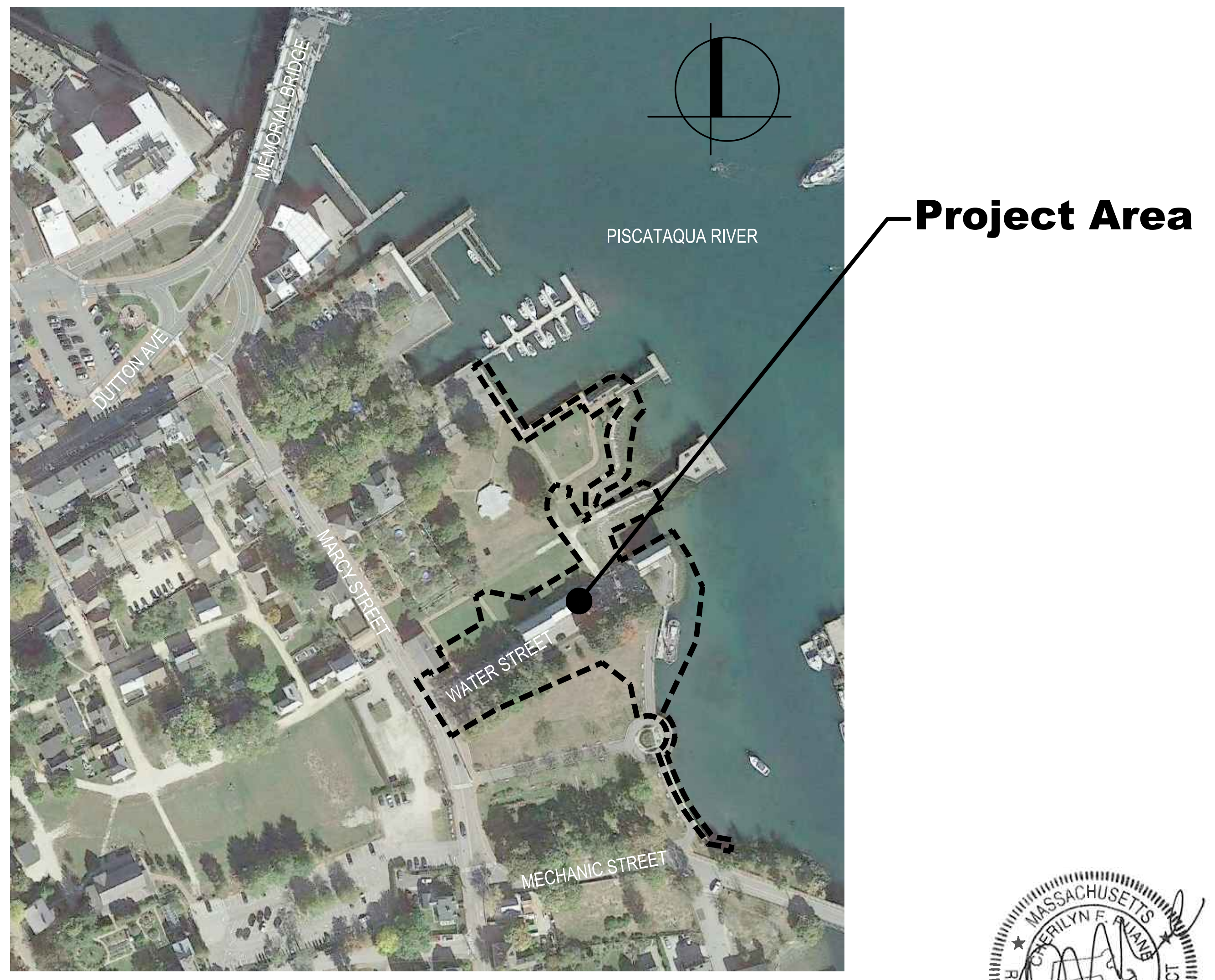
- FOR PERMITTING ONLY -
NOT FOR CONSTRUCTION

Prepared For:
City of Portsmouth
Department of Public Works
680 Peverly Hill Road
Portsmouth, New Hampshire 03801
PROJECT CONTACT: JOE ALMEIDA, FACILITIES DIRECTOR

Prepared By:
Weston & Sampson℠
design studio

85 Devonshire Street, 3rd Floor, Boston, MA, 02109
(617) 412-4480
www.westonandsampson.com

PROJECT CONTACT: CASSIE BETHONEY, RLA

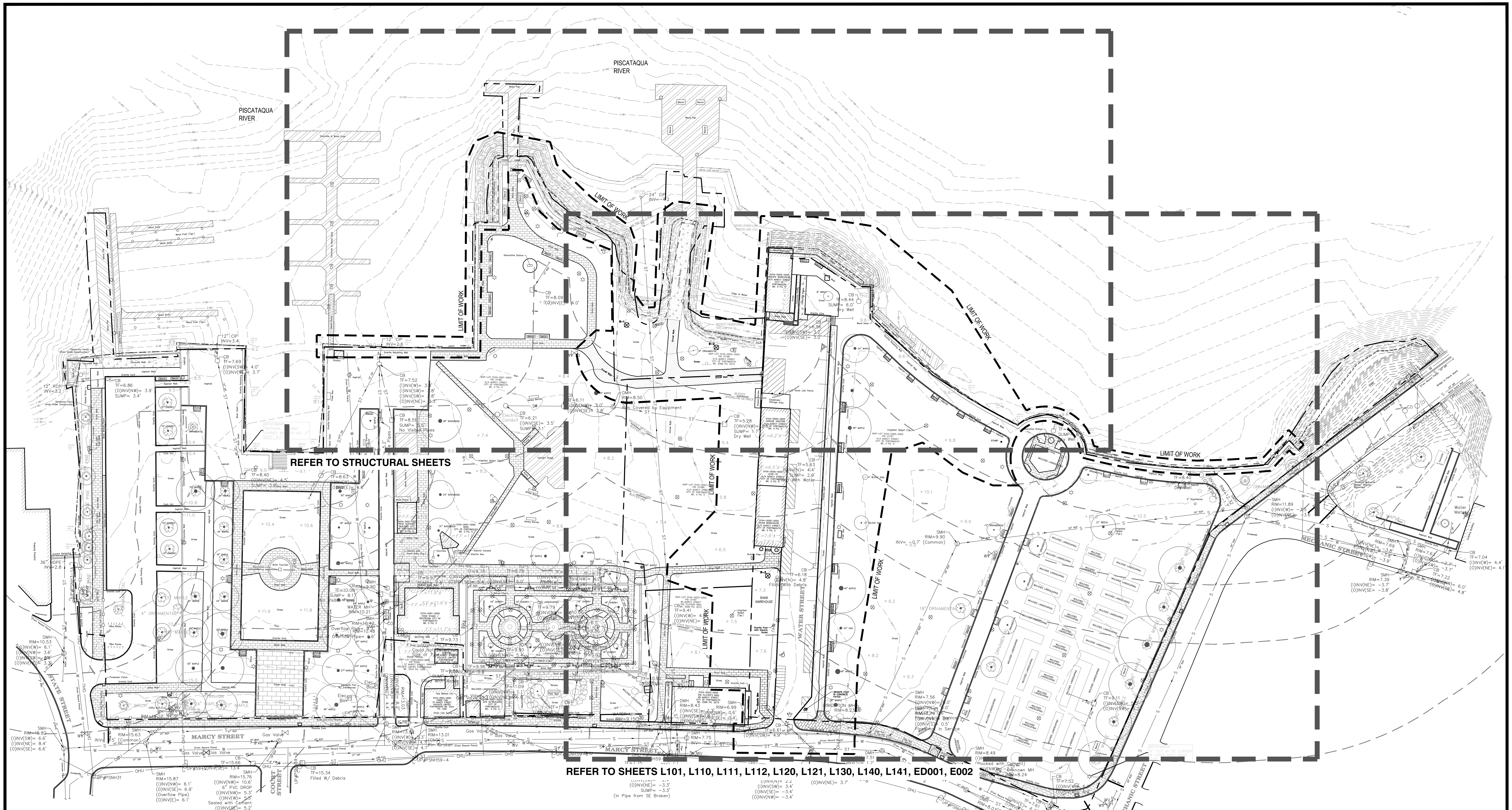


Project Location

0 200 400 600
Scale: 1" = 200'

CHERILYN F. RUANE
NO. 1220

\\wse03.local\WSE\Projects\NH\Portsmouth, NH\Prescott Park Phase 1\CAD\0_Current\SHEETS\L000-CV.dwg Date Plotted: Oct 18, 2022 – 12:52pm Plotted By: GAALA



GENERAL NOTES

1. REFER TO THE EXISTING CONDITIONS PLAN LEGEND. ANY QUANTITIES SHOWN ON THE PLANS ARE FOR BIDDING PURPOSES ONLY. ALL BIDDERS ARE REQUIRED TO INSPECT THE PROJECT SITE IN ITS ENTIRETY PRIOR TO SUBMITTING THEIR BID, AND BECOME FAMILIAR WITH ALL CONDITIONS AS THEY MAY AFFECT THEIR BID. CONTRACTOR AND SUB-CONTRACTOR SHALL UNDERSTAND ALL DRAWINGS AND SPECIFICATIONS PRIOR TO COMMENCING THE CONSTRUCTION.

2. LOCATIONS OF ANY UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE ONLY. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF SUCH UTILITIES, PROTECTING ALL EXISTING UTILITIES AND REPAIRING ANY DAMAGE DONE DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ON-SITE COORDINATION WITH UTILITY COMPANIES AND PUBLIC AGENCIES AND FOR OBTAINING ALL REQUIRED PERMITS AND PAYING ALL REQUIRED FEES. CONTRACTORS SHALL NOTIFY ALL UTILITY COMPANIES AND GOVERNMENT AGENCIES IN WRITING PRIOR TO EXCAVATION. CONTRACTOR SHALL ALSO CALL "DIG SAFE" AT (888) 344-7233 NO LESS THAN 72 HOURS, (EXCLUSIVE OF WEEKENDS AND HOLIDAYS), PRIOR TO SUCH EXCAVATION. DOCUMENTATION OF REQUESTS SHALL BE PROVIDED TO PROJECT REPRESENTATIVE PRIOR TO EXCAVATION WORK.

3. THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR THE AERATION AND ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE, AND ANY OTHER PRIVATE UTILITIES BY THE UTILITY OWNER AT NO ADDITIONAL COST TO THE CITY.

4. ANY DISCREPANCIES OR CONFLICTS BETWEEN THE DRAWINGS AND EXISTING CONDITIONS, EXISTING CONDITIONS TO REMAIN, TEMPORARY CONSTRUCTION, PERMANENT CONSTRUCTION AND WORK OF ADJACENT CONTRACTS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE BEFORE PROCEEDING. ITEMS ENCOUNTERED IN AREAS OF EXCAVATION THAT ARE NOT INDICATED ON THE DRAWINGS, BUT ARE VISIBLE ON SURFACE, SHALL BE THE CONTRACTOR'S RESPONSIBILITY AND SHALL BE REMOVED AT NO ADDITIONAL COST TO THE OWNER.

5. ANY ALTERATIONS TO THESE DRAWINGS MADE IN THE FIELD DURING CONSTRUCTION SHALL BE RECORDED BY THE GENERAL CONTRACTOR ON "AS-BUILT" DRAWINGS.

6. ALL AREAS DISTURBED BY THE CONTRACTOR'S OPERATIONS OUTSIDE THE PROJECT LIMITS, SHALL BE RESTORED TO THE ORIGINAL CONDITION BY THE CONTRACTOR AT NO ADDITIONAL COST AND TO THE SATISFACTION OF THE OWNER.

7. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS NEEDED TO PROTECT THEIR EMPLOYEES, AS WELL AS PUBLIC USERS FROM INJURY DURING THE ENTIRE CONSTRUCTION PERIOD AT NO EXPENSE TO THE OWNER USING ALL NECESSARY SAFEGUARDS, INCLUDING BUT NOT LIMITED TO, THE ERECTION OF TEMPORARY WALKS, STRUCTURES, PROTECTIVE BARRIERS, COVERING, OR FENCES AS NEEDED.

8. THE CONTRACTOR SHALL SUPPLY THE OWNER WITH THE NAME OF THE OSHA "COMPETENT PERSON" PRIOR TO CONSTRUCTION.

9. FILLING OF EXCAVATED AREAS SHALL NOT TAKE PLACE WITHOUT THE PRESENCE OR PERMISSION OF THE OWNER OR THE OWNER'S REPRESENTATIVE.

10. ALL EXISTING DRAINAGE FACILITIES TO REMAIN SHALL BE MAINTAINED FREE OF DEBRIS, SOIL, SEDIMENT, AND FOREIGN MATERIAL AND OPERATIONAL THROUGHOUT THE LIFE OF THE CONTRACT. REMOVE ALL SOIL, SEDIMENT, DEBRIS AND FOREIGN MATERIAL FROM ALL DRAINAGE STRUCTURES.

11. CONTRACTOR'S STAGING AREA MUST BE WITHIN THE LIMIT OF WORK AND/OR IN AREAS APPROVED BY OWNER. ANY OTHER AREAS THAT THE CONTRACTOR MAY WISH TO USE FOR STAGING MUST BE COORDINATED WITH THE OWNER. NO STAGING OR STOCKPILING OF MATERIALS SHALL BE PERMITTED WITHIN THE DRIPLINE OF TREES.

12. THE CONTRACTOR SHALL KEEP ALL STREETS AND WALKS THAT ARE NOT RESTRICTED FROM PUBLIC USE DURING CONSTRUCTION BROOM CLEAN AT ALL TIMES. THE CONTRACTOR SHALL USE ACCEPTABLE METHODS AND MATERIALS TO MAINTAIN ADEQUATE DUST CONTROL THROUGHOUT CONSTRUCTION.

13. CONTRACTOR SHALL COORDINATE ALL WORK WITH THE OWNER AND OWNER'S REPRESENTATIVE.

14. THE LIMIT OF WORK IS THE CONTRACT LIMIT LINE.

15. **SITE CONTRACTOR SHALL COORDINATE THE CONSTRUCTION SCHEDULE WITH THE BUILDING CONTRACTOR FOR THE SHAW WAREHOUSE RELOCATION THROUGHOUT THE DURATION OF THE CONSTRUCTION PERIOD.**

16. **SITE CONTRACTOR IS RESPONSIBLE FOR COORDINATING AND PROVIDING PROPOSED UTILITIES AND SITE WORK TO THE STUBBED LOCATIONS SHOWN IN THESE PLANS.THE SITE CONTRACTOR SHALL REFER TO SHAW WAREHOUSE RELOCATION PLANS IN THE APPENDIX AND FAMILIARIZE THEMSELVES WITH THE IMPROVEMENTS TO BE PROVIDED BY THE BUILDING CONTRACTOR.**

DEVIN KELTY BATCHELDER
NO. 300
CERTIFIED WETLAND SCIENTIST

LEGEND

▬ ▬ ▬	LIMIT OF WORK		SHRUB	E	ELEC. METER	☼	LIGHT POLE
- · ○ · -	WETLAND DELINEATION LINE / TOP OF BANK		SIGN	G	GAS METER	Elec. Box P	ELECTRIC PEDESTAL
— — —	SETBACK / BUFFER LINE (AS NOTED ON THE PLAN)	⊙	DECIDUOUS TREE	○ CO	CLEANOUT	⊗	IRRIGATION SPIGOT
— — —	EASEMENT		HYDRANT	□ YD	YARD DRAIN	←	GUY WIRE
— — 10.0 — —	MAJOR CONTOUR LINE		WATER SHUTOFF	8.9	SPOT ELEVATION	B-# ⊗	GEOTECHNICAL BORING LOCATION
— — 9.0 — —	MINOR CONTOUR LINE	⋈ GV	GAS VALVE	⊙	SANITARY MANHOLE (SMH)	TOB	TOP OF BANK
—— D ——	STORM SEWER LINE	⋈ WV	WATER VALVE	⊙	DRAINAGE MANHOLE (DMH)	F.F.	FINISHED FLOOR
—— S ——	SANITARY SEWER LINE	⊡	MONUMENT	□ □ ○	CATCHBASIN (CB)	Ⓣ	TELEPHONE MANHOLE (MHT)
—— W —— W ——	WATER LINE	HH □	HAND HOLE	○	METAL POST/BOLLARD (BOL)	VP ○	VENT PIPE
—— G —— G ——	GAS LINE			Ⓔ	ELECTRIC MANHOLE (MHE)	◎	IRON PIN / IRON ROD
—— OHU ——	OVERHEAD UTILITIES			Ⓤ	UNKNOWN MANHOLE	♿	HANDICAP SPACE
					UTILITY POLE		

0 40 80 120
Scale: 1" = 40'

Project:

PORTSMOUTH,
NEW HAMPSHIRE

PRESCOTT PARK
PHASE 1A IMPROVEMENTS

105 MARCY STREET,
PORTSMOUTH, NH, 03801

Weston & Sampson

85 Devonshire Street,
3rd Floor, Boston, MA 02109
617.412.4480 800.SAMPSON
www.westonandsampson.com

Consultants:

Revisions:

No.	Date	Description

Seal:

CHERILYN F. RUANE
NO. 1220

Issued For:

- FOR PERMITTING ONLY -
NOT FOR CONSTRUCTION

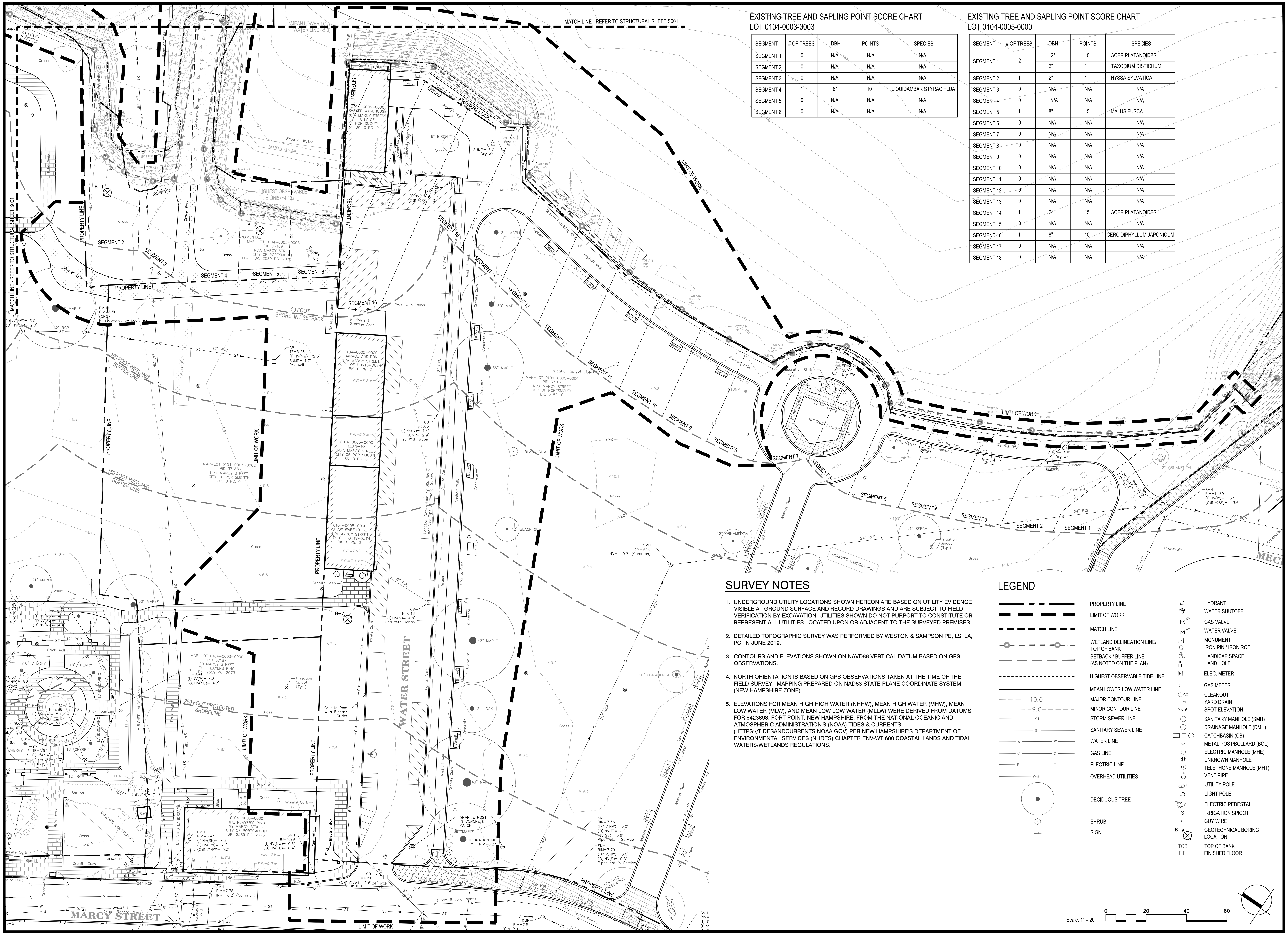
Scale:	AS NOTED
Date:	OCTOBER 17, 2022
Drawn By:	AG
Reviewed By:	CB
Approved By:	BK
W&S Project No:	ENG21-0591

Drawing Title:

PARK-WIDE
EXISTING
CONDITIONS PLAN

Sheet Number:

L100



EXISTING TREE AND SAPLING POINT SCORE CHART
LOT 0104-0003-0003

SEGMENT	# OF TREES	DBH	POINTS	SPECIES
SEGMENT 1	0	N/A	N/A	N/A
SEGMENT 2	0	N/A	N/A	N/A
SEGMENT 3	0	N/A	N/A	N/A
SEGMENT 4	1	8"	10	LIQUIDAMBAR STYRACIFLUA
SEGMENT 5	0	N/A	N/A	N/A
SEGMENT 6	0	N/A	N/A	N/A

EXISTING TREE AND SAPLING POINT SCORE CHART
LOT 0104-0005-0000

SEGMENT	# OF TREES	DBH	POINTS	SPECIES
SEGMENT 1	2	12"	10	ACER PLATANOIDES
		2"	1	TAXODIUM DISTICHUM
SEGMENT 2	1	2"	1	NYSSA SYLVATICA
SEGMENT 3	0	N/A	N/A	N/A
SEGMENT 4	0	N/A	N/A	N/A
SEGMENT 5	1	8"	15	MALUS FUSCA
SEGMENT 6	0	N/A	N/A	N/A
SEGMENT 7	0	N/A	N/A	N/A
SEGMENT 8	0	N/A	N/A	N/A
SEGMENT 9	0	N/A	N/A	N/A
SEGMENT 10	0	N/A	N/A	N/A
SEGMENT 11	0	N/A	N/A	N/A
SEGMENT 12	0	N/A	N/A	N/A
SEGMENT 13	0	N/A	N/A	N/A
SEGMENT 14	1	24"	15	ACER PLATANOIDES
SEGMENT 15	0	N/A	N/A	N/A
SEGMENT 16	1	8"	10	CERCIDIPHYLLUM JAPONICUM
SEGMENT 17	0	N/A	N/A	N/A
SEGMENT 18	0	N/A	N/A	N/A

SURVEY NOTES

1. UNDERGROUND UTILITY LOCATIONS SHOWN HEREON ARE BASED ON UTILITY EVIDENCE VISIBLE AT GROUND SURFACE AND RECORD DRAWINGS AND ARE SUBJECT TO FIELD VERIFICATION BY EXCAVATION. UTILITIES SHOWN DO NOT PURPORT TO CONSTITUTE OR REPRESENT ALL UTILITIES LOCATED UPON OR ADJACENT TO THE SURVEYED PREMISES.

2. DETAILED TOPOGRAPHIC SURVEY WAS PERFORMED BY WESTON & SAMPSON PE, LS, LA, PC. IN JUNE 2019.

3. CONTOURS AND ELEVATIONS SHOWN ON NAVD88 VERTICAL DATUM BASED ON GPS OBSERVATIONS.

4. NORTH ORIENTATION IS BASED ON GPS OBSERVATIONS TAKEN AT THE TIME OF THE FIELD SURVEY. MAPPING PREPARED ON NAD83 STATE PLANE COORDINATE SYSTEM (NEW HAMPSHIRE ZONE).

5. ELEVATIONS FOR MEAN HIGH HIGH WATER (NHHW), MEAN HIGH WATER (MHW), MEAN LOW WATER (MLW), AND MEAN LOW LOW WATER (MLLW) WERE DERIVED FROM DATUMS FOR 8423898, FORT POINT, NEW HAMPSHIRE, FROM THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION'S (NOAA) TIDES & CURRENTS (HTTPS://TIDESANDCURRENTS.NOAA.GOV) PER NEW HAMPSHIRE'S DEPARTMENT OF ENVIRONMENTAL SERVICES (NHDES) CHAPTER ENV-WT 600 COASTAL LANDS AND TIDAL WATERS/WETLANDS REGULATIONS.

LEGEND

━ ━ ━	PROPERTY LINE		HYDRANT
▬ ▬ ▬	LIMIT OF WORK	WS	WATER SHUTOFF
▪ ▪ ▪	MATCH LINE	⋈ GV	GAS VALVE
─○─	WETLAND DELINEATION LINE/ TOP OF BANK	⋈ WV	WATER VALVE
— — —	SETBACK / BUFFER LINE (AS NOTED ON THE PLAN)	⊡	MONUMENT
- - - -	HIGHEST OBSERVABLE TIDE LINE	◎	IRON PIN / IRON ROD
────	MEAN LOWER LOW WATER LINE	♿	HANDICAP SPACE
— — 10.0 — —	MAJOR CONTOUR LINE	HH ☐	HAND HOLE
- - 9.0 - -	MINOR CONTOUR LINE	E	ELEC. METER
—— ST ——	STORM SEWER LINE	G	GAS METER
—— S ——	SANITARY SEWER LINE	○ CO	CLEANOUT
—— W —— W ——	WATER LINE	☐ YD	YARD DRAIN
—— G —— G ——	GAS LINE	× 8.9	SPOT ELEVATION
—— E —— E ——	ELECTRIC LINE	⊙	SANITARY MANHOLE (SMH)
—— OHU ——	OVERHEAD UTILITIES	⊙	DRAINAGE MANHOLE (DMH)
●	DECIDUOUS TREE	▭ ☐ ○	CATCHBASIN (CB)
	SHRUB	○	METAL POST/BOLLARD (BOL)
	SIGN	Ⓔ	ELECTRIC MANHOLE (MHE)
		Ⓤ	UNKNOWN MANHOLE
		Ⓣ	TELEPHONE MANHOLE (MHT)
		VP ○	VENT PIPE
			UTILITY POLE
		☼	LIGHT POLE
		Elec. Box P	ELECTRIC PEDESTAL
		⊗	IRRIGATION SPIGOT
		←	GUY WIRE
		B-# ⊗	GEOTECHNICAL BORING LOCATION
		TOB	TOP OF BANK
		F.F.	FINISHED FLOOR

Project:

PORTSMOUTH,
NEW HAMPSHIRE

PRESCOTT PARK
PHASE 1A IMPROVEMENTS

105 MARCY STREET,
PORTSMOUTH, NH, 03801

Weston & Sampson

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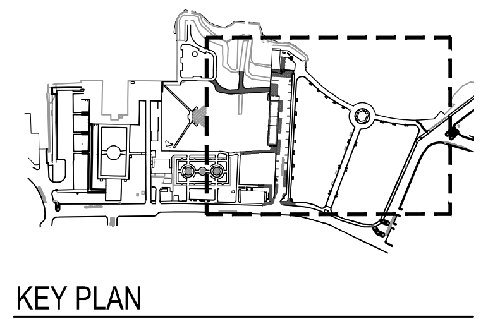
www.westonandsampson.com

Consultants:



KEY PLAN
SCALE: 1"=500'-0"

Revisions:

No.	Date	Description

Seal:

CHERILYN F. PUIANE
NO. 1220

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Drawn By: AG
Reviewed By: CB
Approved By: BK

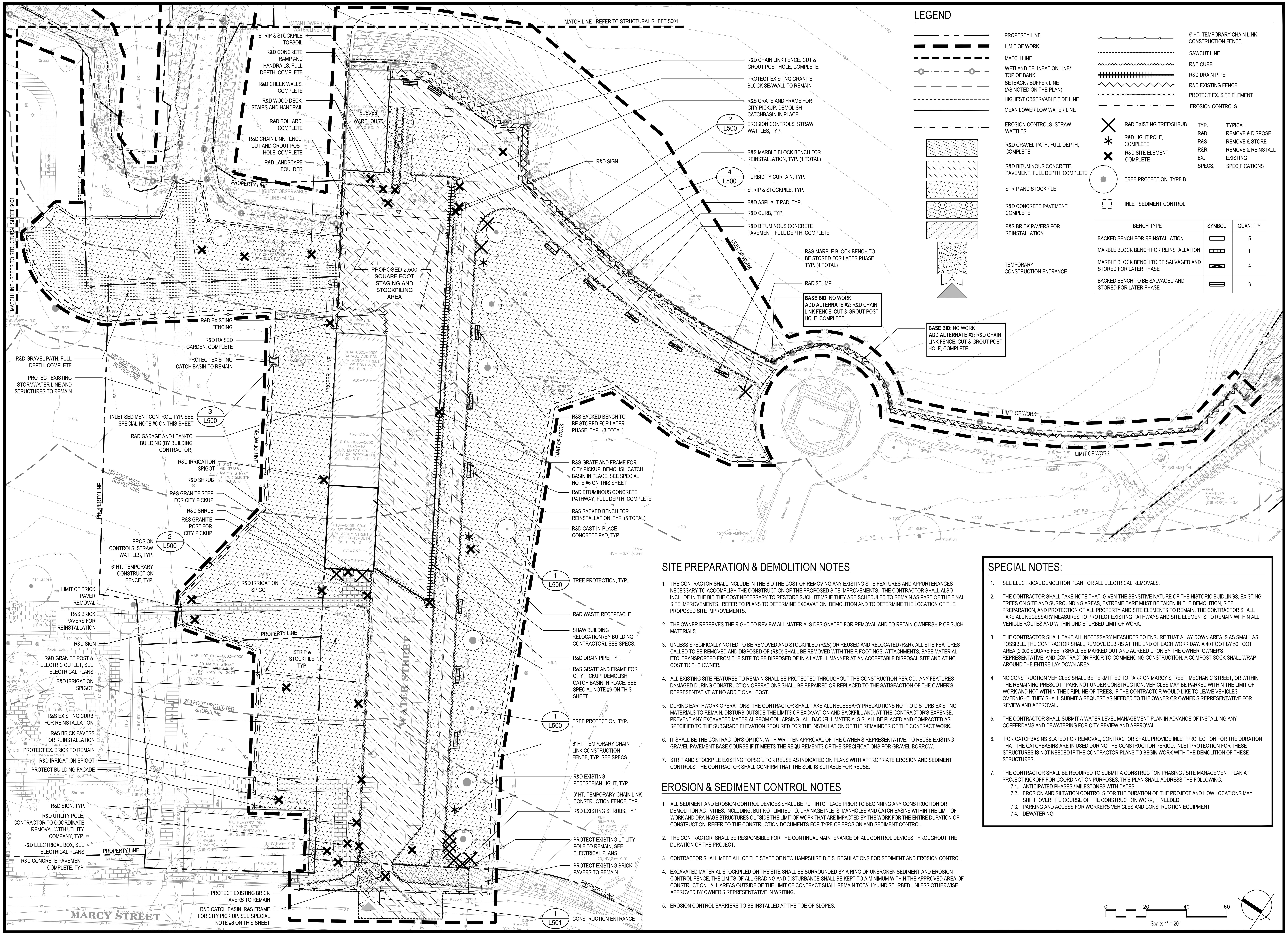
W&S Project No: ENG21-0591

Drawing Title:

EXISTING
CONDITIONS PLAN

Sheet Number:

L101



LEGEND

PROPERTY LINE
LIMIT OF WORK
MATCH LINE
WETLAND DELINEATION LINE/ TOP OF BANK
SETBACK / BUFFER LINE (AS NOTED ON THE PLAN)
HIGHEST OBSERVABLE TIDE LINE
MEAN LOWER LOW WATER LINE
EROSION CONTROLS- STRAW WATTLES
R&D GRAVEL PATH, FULL DEPTH, COMPLETE
R&D BITUMINOUS CONCRETE PAVEMENT, FULL DEPTH, COMPLETE
STRIP AND STOCKPILE
R&D CONCRETE PAVEMENT, COMPLETE
R&S BRICK PAVERS FOR REINSTALLATION
TEMPORARY CONSTRUCTION ENTRANCE
6' HT. TEMPORARY CHAIN LINK CONSTRUCTION FENCE
SAWCUT LINE
R&D CURB
R&D DRAIN PIPE
R&D EXISTING FENCE
PROTECT EX. SITE ELEMENT
EROSION CONTROLS
✕ R&D EXISTING TREE/SHRUB
* R&D LIGHT POLE, COMPLETE
✖ R&D SITE ELEMENT, COMPLETE
TREE PROTECTION, TYPE B
INLET SEDIMENT CONTROL

TYP.	TYPICAL
R&D	REMOVE & DISPOSE
R&S	REMOVE & STORE
R&R	REMOVE & REINSTALL
EX.	EXISTING
SPECS.	SPECIFICATIONS

BENCH TYPE	SYMBOL	QUANTITY
BACKED BENCH FOR REINSTALLATION	▭	5
MARBLE BLOCK BENCH FOR REINSTALLATION	▥	1
MARBLE BLOCK BENCH TO BE SALVAGED AND STORED FOR LATER PHASE	⊠	4
BACKED BENCH TO BE SALVAGED AND STORED FOR LATER PHASE	☰	3

SITE PREPARATION & DEMOLITION NOTES

1. THE CONTRACTOR SHALL INCLUDE IN THE BID THE COST OF REMOVING ANY EXISTING SITE FEATURES AND APPURTENANCES NECESSARY TO ACCOMPLISH THE CONSTRUCTION OF THE PROPOSED SITE IMPROVEMENTS. THE CONTRACTOR SHALL ALSO INCLUDE IN THE BID THE COST NECESSARY TO RESTORE SUCH ITEMS IF THEY ARE SCHEDULED TO REMAIN AS PART OF THE FINAL SITE IMPROVEMENTS. REFER TO PLANS TO DETERMINE EXCAVATION, DEMOLITION AND TO DETERMINE THE LOCATION OF THE PROPOSED SITE IMPROVEMENTS.
2. THE OWNER RESERVES THE RIGHT TO REVIEW ALL MATERIALS DESIGNATED FOR REMOVAL AND TO RETAIN OWNERSHIP OF SUCH MATERIALS.
3. UNLESS SPECIFICALLY NOTED TO BE REMOVED AND STOCKPILED (R&S) OR REUSED AND RELOCATED (R&R), ALL SITE FEATURES CALLED TO BE REMOVED AND DISPOSED OF (R&D) SHALL BE REMOVED WITH THEIR FOOTINGS, ATTACHMENTS, BASE MATERIAL, ETC, TRANSPORTED FROM THE SITE TO BE DISPOSED OF IN A LAWFUL MANNER AT AN ACCEPTABLE DISPOSAL SITE AND AT NO COST TO THE OWNER.
4. ALL EXISTING SITE FEATURES TO REMAIN SHALL BE PROTECTED THROUGHOUT THE CONSTRUCTION PERIOD. ANY FEATURES DAMAGED DURING CONSTRUCTION OPERATIONS SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE AT NO ADDITIONAL COST.
5. DURING EARTHWORK OPERATIONS, THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS NOT TO DISTURB EXISTING MATERIALS TO REMAIN, DISTURB OUTSIDE THE LIMITS OF EXCAVATION AND BACKFILL AND, AT THE CONTRACTOR'S EXPENSE, PREVENT ANY EXCAVATED MATERIAL FROM COLLAPSING. ALL BACKFILL MATERIALS SHALL BE PLACED AND COMPACTED AS SPECIFIED TO THE SUBGRADE ELEVATION REQUIRED FOR THE INSTALLATION OF THE REMAINDER OF THE CONTRACT WORK.
6. IT SHALL BE THE CONTRACTOR'S OPTION, WITH WRITTEN APPROVAL OF THE OWNER'S REPRESENTATIVE, TO REUSE EXISTING GRAVEL PAVEMENT BASE COURSE IF IT MEETS THE REQUIREMENTS OF THE SPECIFICATIONS FOR GRAVEL BORROW.
7. STRIP AND STOCKPILE EXISTING TOPSOIL FOR REUSE AS INDICATED ON PLANS WITH APPROPRIATE EROSION AND SEDIMENT CONTROLS. THE CONTRACTOR SHALL CONFIRM THAT THE SOIL IS SUITABLE FOR REUSE.

EROSION & SEDIMENT CONTROL NOTES

1. ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE PUT INTO PLACE PRIOR TO BEGINNING ANY CONSTRUCTION OR DEMOLITION ACTIVITIES. INCLUDING, BUT NOT LIMITED TO, DRAINAGE INLETS, MANHOLES AND CATCH BASINS WITHIN THE LIMIT OF WORK AND DRAINAGE STRUCTURES OUTSIDE THE LIMIT OF WORK THAT ARE IMPACTED BY THE WORK FOR THE ENTIRE DURATION OF CONSTRUCTION. REFER TO THE CONSTRUCTION DOCUMENTS FOR TYPE OF EROSION AND SEDIMENT CONTROL.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTINUAL MAINTENANCE OF ALL CONTROL DEVICES THROUGHOUT THE DURATION OF THE PROJECT.
3. CONTRACTOR SHALL MEET ALL OF THE STATE OF NEW HAMPSHIRE D.E.S. REGULATIONS FOR SEDIMENT AND EROSION CONTROL.
4. EXCAVATED MATERIAL STOCKPILED ON THE SITE SHALL BE SURROUNDED BY A RING OF UNBROKEN SEDIMENT AND EROSION CONTROL FENCE. THE LIMITS OF ALL GRADING AND DISTURBANCE SHALL BE KEPT TO A MINIMUM WITHIN THE APPROVED AREA OF CONSTRUCTION. ALL AREAS OUTSIDE OF THE LIMIT OF CONTRACT SHALL REMAIN TOTALLY UNDISTURBED UNLESS OTHERWISE APPROVED BY OWNER'S REPRESENTATIVE IN WRITING.
5. EROSION CONTROL BARRIERS TO BE INSTALLED AT THE TOE OF SLOPES.

SPECIAL NOTES:

1. SEE ELECTRICAL DEMOLITION PLAN FOR ALL ELECTRICAL REMOVALS.
2. THE CONTRACTOR SHALL TAKE NOTE THAT, GIVEN THE SENSITIVE NATURE OF THE HISTORIC BUIDLINGS, EXISTING TREES ON SITE AND SURROUNDING AREAS, EXTREME CARE MUST BE TAKEN IN THE DEMOLITION, SITE PREPARATION, AND PROTECTION OF ALL PROPERTY AND SITE ELEMENTS TO REMAIN. THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO PROTECT EXISTING PATHWAYS AND SITE ELEMENTS TO REMAIN WITHIN ALL VEHICLE ROUTES AND WITHIN UNDISTURBED LIMIT OF WORK.
3. THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO ENSURE THAT A LAY DOWN AREA IS AS SMALL AS POSSIBLE. THE CONTRACTOR SHALL REMOVE DEBRIS AT THE END OF EACH WORK DAY. A 40 FOOT BY 50 FOOT AREA (2.000 SQUARE FEET) SHALL BE MARKED OUT AND AGREED UPON BY THE OWNER, OWNER'S REPRESENTATIVE, AND CONTRACTOR PRIOR TO COMMENCING CONSTRUCTION. A COMPOST SOCK SHALL WRAP AROUND THE ENTIRE LAY DOWN AREA.
4. NO CONSTRUCTION VEHICLES SHALL BE PERMITTED TO PARK ON MARCY STREET, MECHANIC STREET, OR WITHIN THE REMAINING PRESCOTT PARK NOT UNDER CONSTRUCTION. VEHICLES MAY BE PARKED WITHIN THE LIMIT OF WORK AND NOT WITHIN THE DRIPLINE OF TREES. IF THE CONTRACTOR WOULD LIKE TO LEAVE VEHICLES OVERNIGHT, THEY SHALL SUBMIT A REQUEST AS NEEDED TO THE OWNER OR OWNER'S REPRESENTATIVE FOR REVIEW AND APPROVAL.
5. THE CONTRACTOR SHALL SUBMIT A WATER LEVEL MANAGEMENT PLAN IN ADVANCE OF INSTALLING ANY COFFERDAMS AND DEWATERING FOR CITY REVIEW AND APPROVAL.
6. FOR CATCHBASINS SLATED FOR REMOVAL, CONTRACTOR SHALL PROVIDE INLET PROTECTION FOR THE DURATION THAT THE CATCHBASINS ARE IN USED DURING THE CONSTRUCTION PERIOD. INLET PROTECTION FOR THESE STRUCTURES IS NOT NEEDED IF THE CONTRACTOR PLANS TO BEGIN WORK WITH THE DEMOLITION OF THESE STRUCTURES.
7. THE CONTRACTOR SHALL BE REQUIRED TO SUBMIT A CONSTRUCTION PHASING / SITE MANAGEMENT PLAN AT PROJECT KICKOFF FOR COORDINATION PURPOSES. THIS PLAN SHALL ADDRESS THE FOLLOWING:
    - 7.1. ANTICIPATED PHASES / MILESTONES WITH DATES
    - 7.2. EROSION AND SILTATION CONTROLS FOR THE DURATION OF THE PROJECT AND HOW LOCATIONS MAY SHIFT OVER THE COURSE OF THE CONSTRUCTION WORK, IF NEEDED.
    - 7.3. PARKING AND ACCESS FOR WORKER'S VEHICLES AND CONSTRUCTION EQUIPMENT
    - 7.4. DEWATERING

Project:

PORTSMOUTH,
NEW HAMPSHIRE

PRESCOTT PARK
PHASE 1A IMPROVEMENTS

105 MARCY STREET,
PORTSMOUTH, NH, 03801

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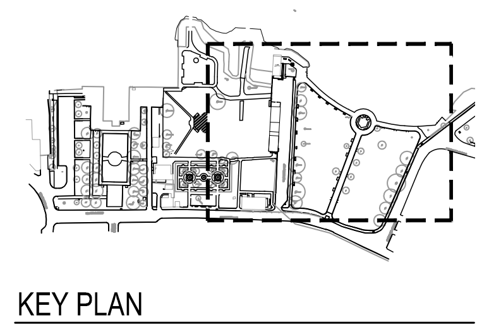

KEY PLAN
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W&S Project No: ENG21-0591

Drawing Title:

SITE PREPARATION AND DEMOLITION PLAN

Sheet Number:

L110

Project:

PORTSMOUTH,
NEW HAMPSHIRE

PRESCOTT PARK
PHASE 1A IMPROVEMENTS

105 MARCY STREET,
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KEY PLAN
SCALE: 1"=500'-0"

Revisions:

No.	Date	Description

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MASSACHUSETTS
CHERILYN F. RUANE
NO. 1220
REGISTERED LANDSCAPE ARCHITECT

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Drawing Title:

EXISTING FLOOD ZONE PLAN

Sheet Number:

L111

LEGEND

▬ ‑ ‑ ▬	PROPERTY LINE
▬ ▬ ▬	LIMIT OF WORK
‑ ‑ ‑ ‑	MATCH LINE
─o─ ‑ ‑ ─o─	WETLAND DELINEATION LINE/ TOP OF BANK
‑ ‑ ‑	SETBACK / BUFFER LINE (AS NOTED ON THE PLAN)
- - - -	HIGHEST OBSERVABLE TIDE LINE
───	MEAN LOWER LOW WATER LINE
▩	BELOW TOP OF BANK
▨	EL. +8 FLOOD ZONE
░	EL.+10 FLOOD ZONE

Project:

PORTSMOUTH,
NEW HAMPSHIRE

PRESCOTT PARK
PHASE 1A IMPROVEMENTS

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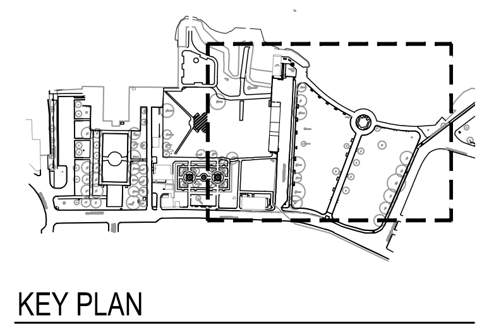

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Revisions:

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Seal:

CHERILYN F. RUANE
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Reviewed By: CB

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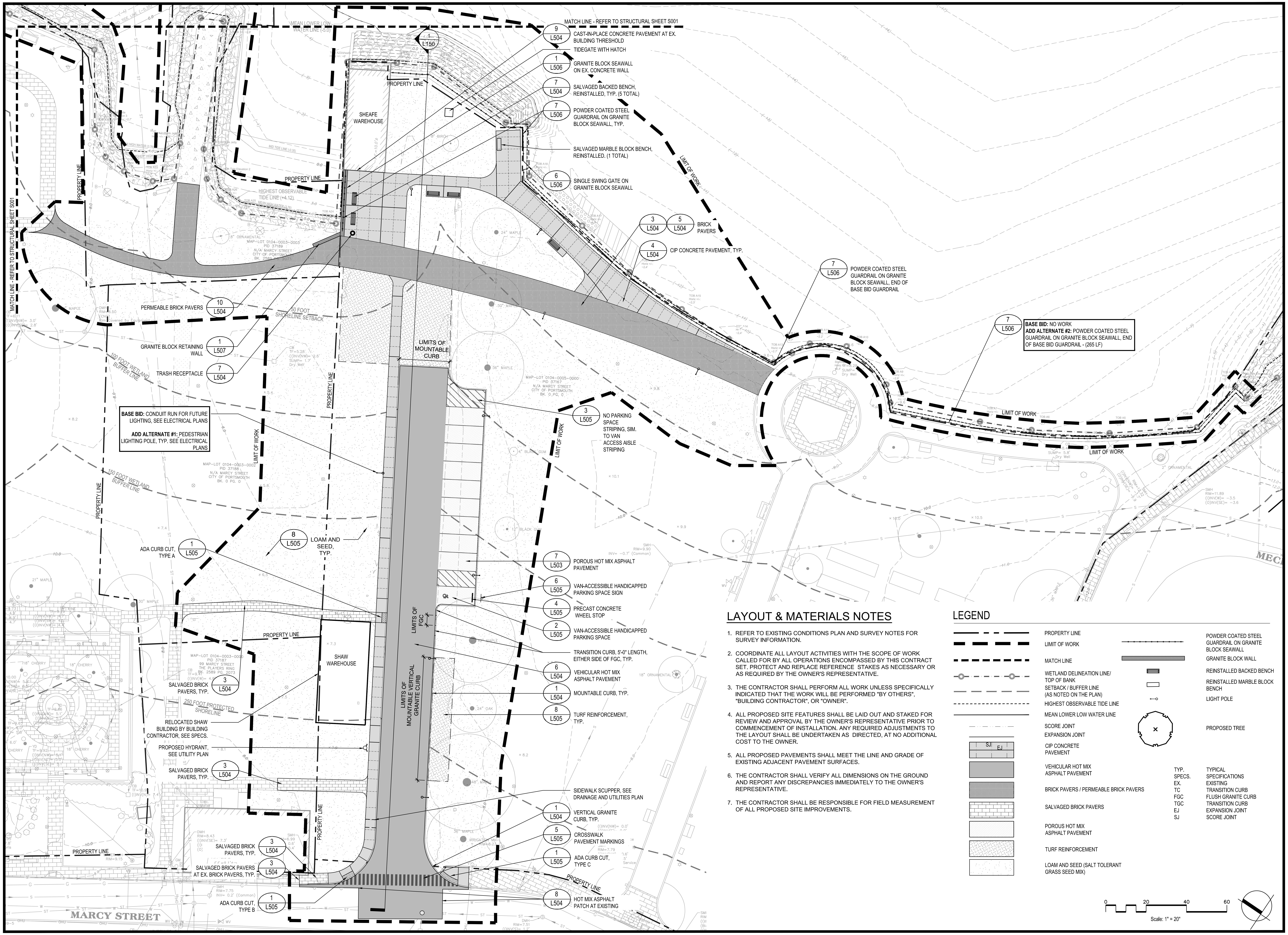
Drawing Title:

PROPOSED FLOOD
ZONE PLAN

Sheet Number:

L112



LAYOUT & MATERIALS NOTES

1. REFER TO EXISTING CONDITIONS PLAN AND SURVEY NOTES FOR SURVEY INFORMATION.
2. COORDINATE ALL LAYOUT ACTIVITIES WITH THE SCOPE OF WORK CALLED FOR BY ALL OPERATIONS ENCOMPASSED BY THIS CONTRACT SET. PROTECT AND REPLACE REFERENCE STAKES AS NECESSARY OR AS REQUIRED BY THE OWNER'S REPRESENTATIVE.
3. THE CONTRACTOR SHALL PERFORM ALL WORK UNLESS SPECIFICALLY INDICATED THAT THE WORK WILL BE PERFORMED "BY OTHERS", "BUILDING CONTRACTOR", OR "OWNER".
4. ALL PROPOSED SITE FEATURES SHALL BE LAID OUT AND STAKED FOR REVIEW AND APPROVAL BY THE OWNER'S REPRESENTATIVE PRIOR TO COMMENCEMENT OF INSTALLATION. ANY REQUIRED ADJUSTMENTS TO THE LAYOUT SHALL BE UNDERTAKEN AS DIRECTED, AT NO ADDITIONAL COST TO THE OWNER.
5. ALL PROPOSED PAVEMENTS SHALL MEET THE LINE AND GRADE OF EXISTING ADJACENT PAVEMENT SURFACES.
6. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS ON THE GROUND AND REPORT ANY DISCREPANCIES IMMEDIATELY TO THE OWNER'S REPRESENTATIVE.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD MEASUREMENT OF ALL PROPOSED SITE IMPROVEMENTS.

LEGEND

PROPERTY LINE
LIMIT OF WORK
MATCH LINE
WETLAND DELINEATION LINE/ TOP OF BANK
SETBACK / BUFFER LINE (AS NOTED ON THE PLAN)
HIGHEST OBSERVABLE TIDE LINE
MEAN LOWER LOW WATER LINE
SCORE JOINT
EXPANSION JOINT
CIP CONCRETE PAVEMENT
VEHICULAR HOT MIX ASPHALT PAVEMENT
BRICK PAVERS / PERMEABLE BRICK PAVERS
SALVAGED BRICK PAVERS
POROUS HOT MIX ASPHALT PAVEMENT
TURF REINFORCEMENT
LOAM AND SEED (SALT TOLERANT GRASS SEED MIX)
POWDER COATED STEEL GUARDRAIL ON GRANITE BLOCK SEAWALL
GRANITE BLOCK WALL
REINSTALLED BACKED BENCH
REINSTALLED MARBLE BLOCK BENCH
LIGHT POLE
PROPOSED TREE

TYP.	TYPICAL
SPECS.	SPECIFICATIONS
EX.	EXISTING
TC	TRANSITION CURB
FGC	FLUSH GRANITE CURB
TGC	TRANSITION CURB
EJ	EXPANSION JOINT
SJ	SCORE JOINT

0 20 40 60
Scale: 1" = 20"

Project:

PORTSMOUTH,
NEW HAMPSHIRE

PRESCOTT PARK
PHASE 1A IMPROVEMENTS

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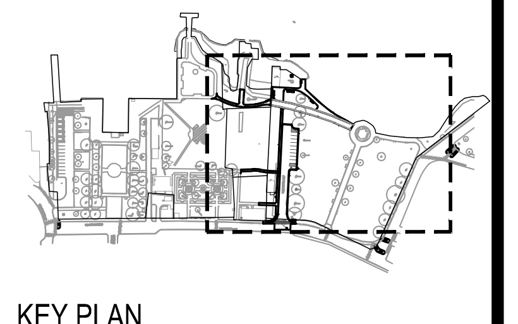

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Revisions:

No.	Date	Description

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MASSACHUSETTS
CHERILYN F. EVANS
NO. 1220
REGISTERED LANDSCAPE ARCHITECT

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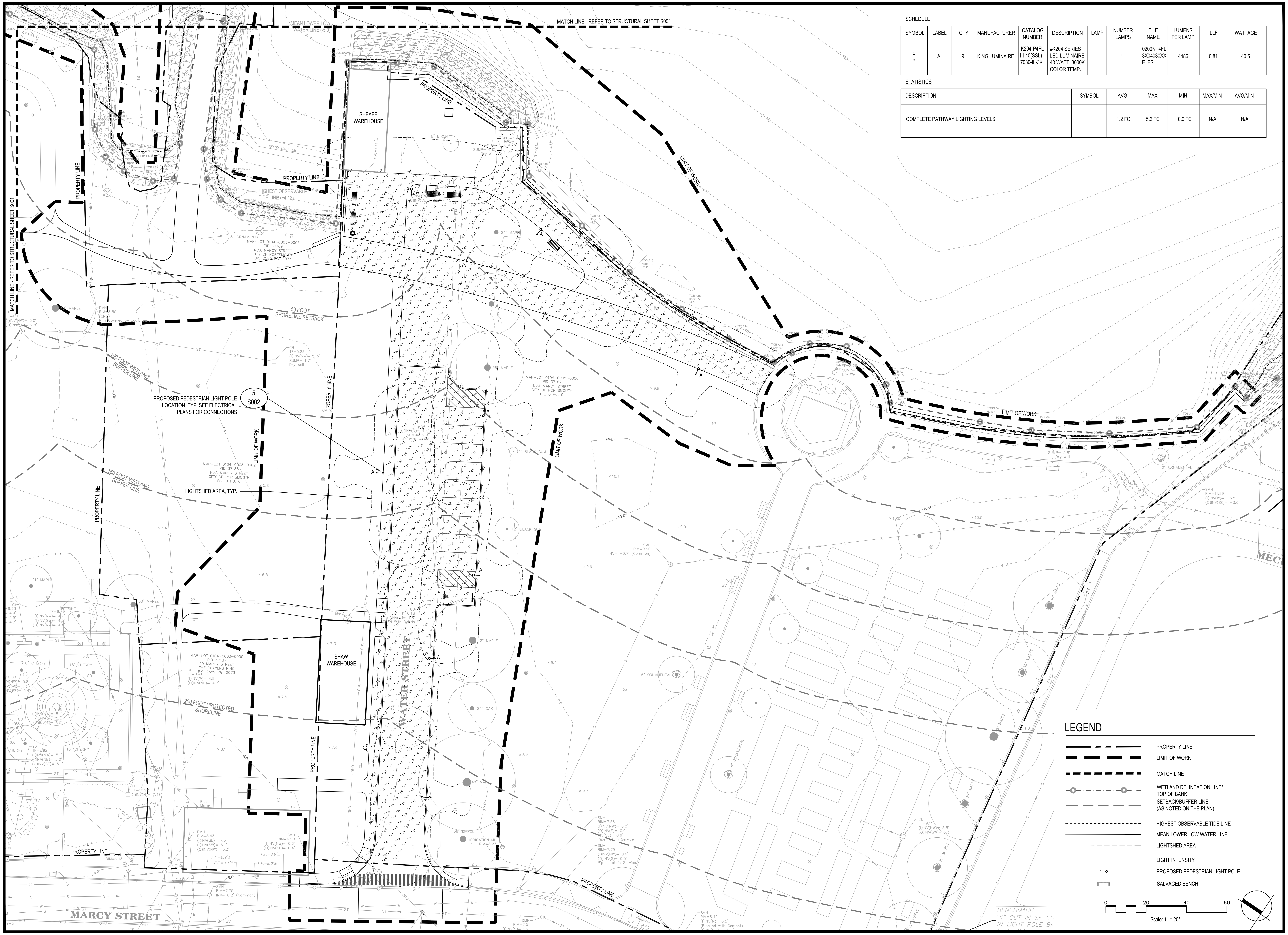
Drawing Title:

MATERIALS
AND PLANTING
PLAN

Sheet Number:

L120



SCHEDULE

SYMBOL	LABEL	QTY	MANUFACTURER	CATALOG NUMBER	DESCRIPTION	LAMP	NUMBER LAMPS	FILE NAME	LUMENS PER LAMP	LLF	WATTAGE
⚲	A	9	KING LUMINAIRE	K204-P4FL-III-40(SSL)-7030-III-3K	#K204 SERIES LED LUMINAIRE 40 WATT, 3000K COLOR TEMP.		1	0200NP4FL3X04030XXE.IES	4486	0.81	40.5

STATISTICS

DESCRIPTION	SYMBOL	AVG	MAX	MIN	MAX/MIN	AVG/MIN
COMPLETE PATHWAY LIGHTING LEVELS		1.2 FC	5.2 FC	0.0 FC	N/A	N/A

LEGEND

- PROPERTY LINE
- LIMIT OF WORK
- MATCH LINE
- WETLAND DELINEATION LINE/ TOP OF BANK
- SETBACK/BUFFER LINE (AS NOTED ON THE PLAN)
- HIGHEST OBSERVABLE TIDE LINE
- MEAN LOWER LOW WATER LINE
- LIGHTSHED AREA
- LIGHT INTENSITY
- PROPOSED PEDESTRIAN LIGHT POLE
- SALVAGED BENCH

Project:

PORTSMOUTH,
NEW HAMPSHIRE

PRESCOTT PARK
PHASE 1A IMPROVEMENTS

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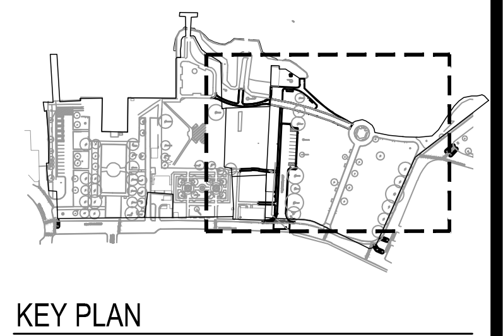

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W&S Project No: ENG21-0591

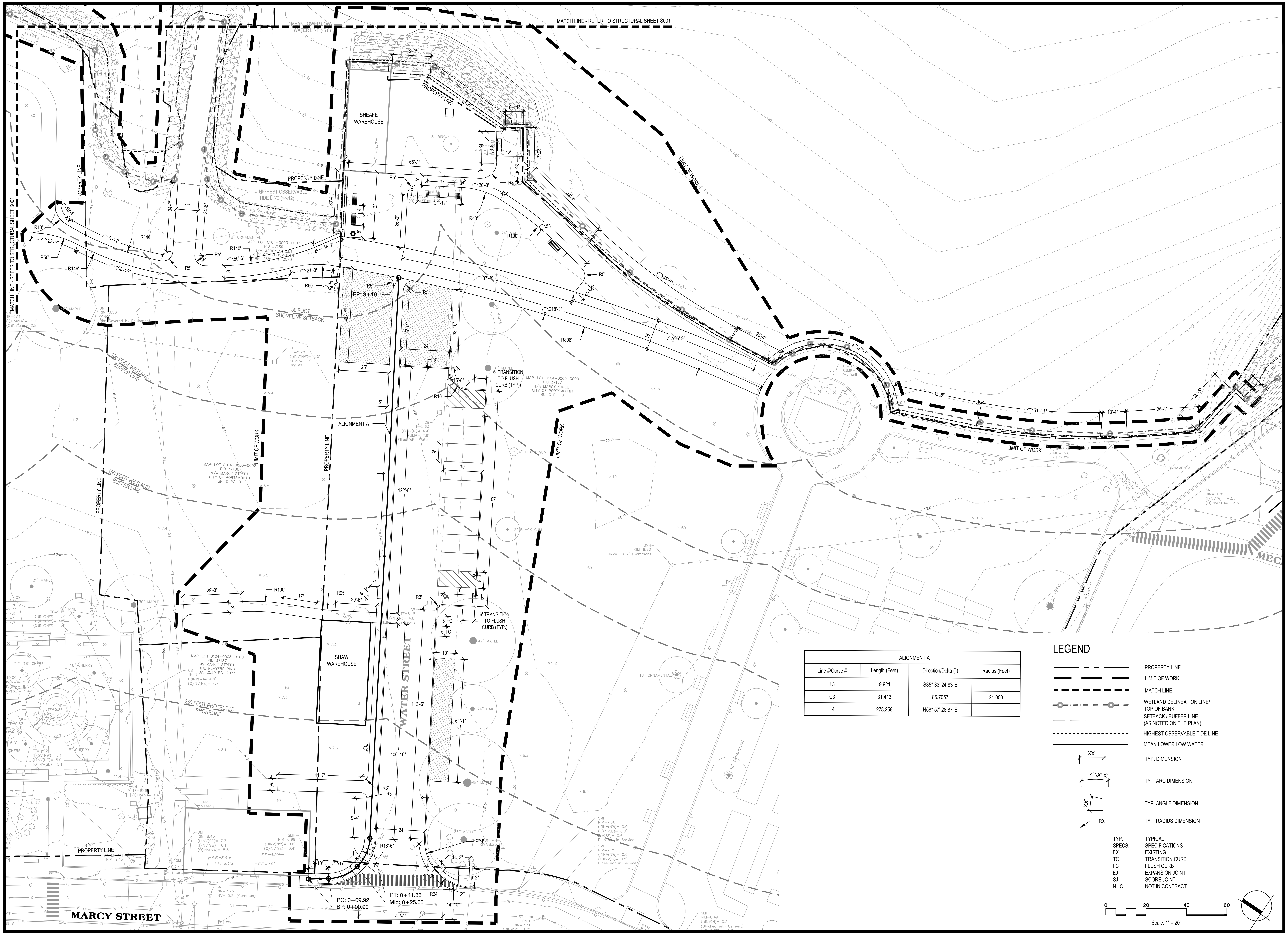
Drawing Title:

SITE LIGHTING
PLAN

ADD
ALTERNATE #1

Sheet Number:

L121



ALIGNMENT A			
Line #/Curve #	Length (Feet)	Direction/Delta (°)	Radius (Feet)
L3	9.921	S35° 33' 24.83"E	
C3	31.413	85.7057	21.000
L4	278.258	N58° 57' 28.87"E	

LEGEND

- PROPERTY LINE
- LIMIT OF WORK
- MATCH LINE
- WETLAND DELINEATION LINE/ TOP OF BANK
- SETBACK / BUFFER LINE (AS NOTED ON THE PLAN)
- HIGHEST OBSERVABLE TIDE LINE
- MEAN LOWER LOW WATER
- XX' TYP. DIMENSION
- ⌒X'-X' TYP. ARC DIMENSION
- XX° TYP. ANGLE DIMENSION
- RX' TYP. RADIUS DIMENSION

TYP.	TYPICAL
SPECS.	SPECIFICATIONS
EX.	EXISTING
TC	TRANSITION CURB
FC	FLUSH CURB
EJ	EXPANSION JOINT
SJ	SCORE JOINT
N.I.C.	NOT IN CONTRACT

Project:

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NEW HAMPSHIRE

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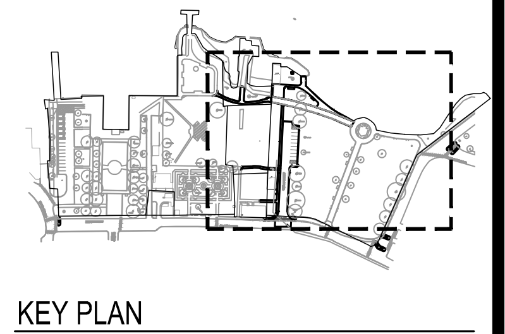

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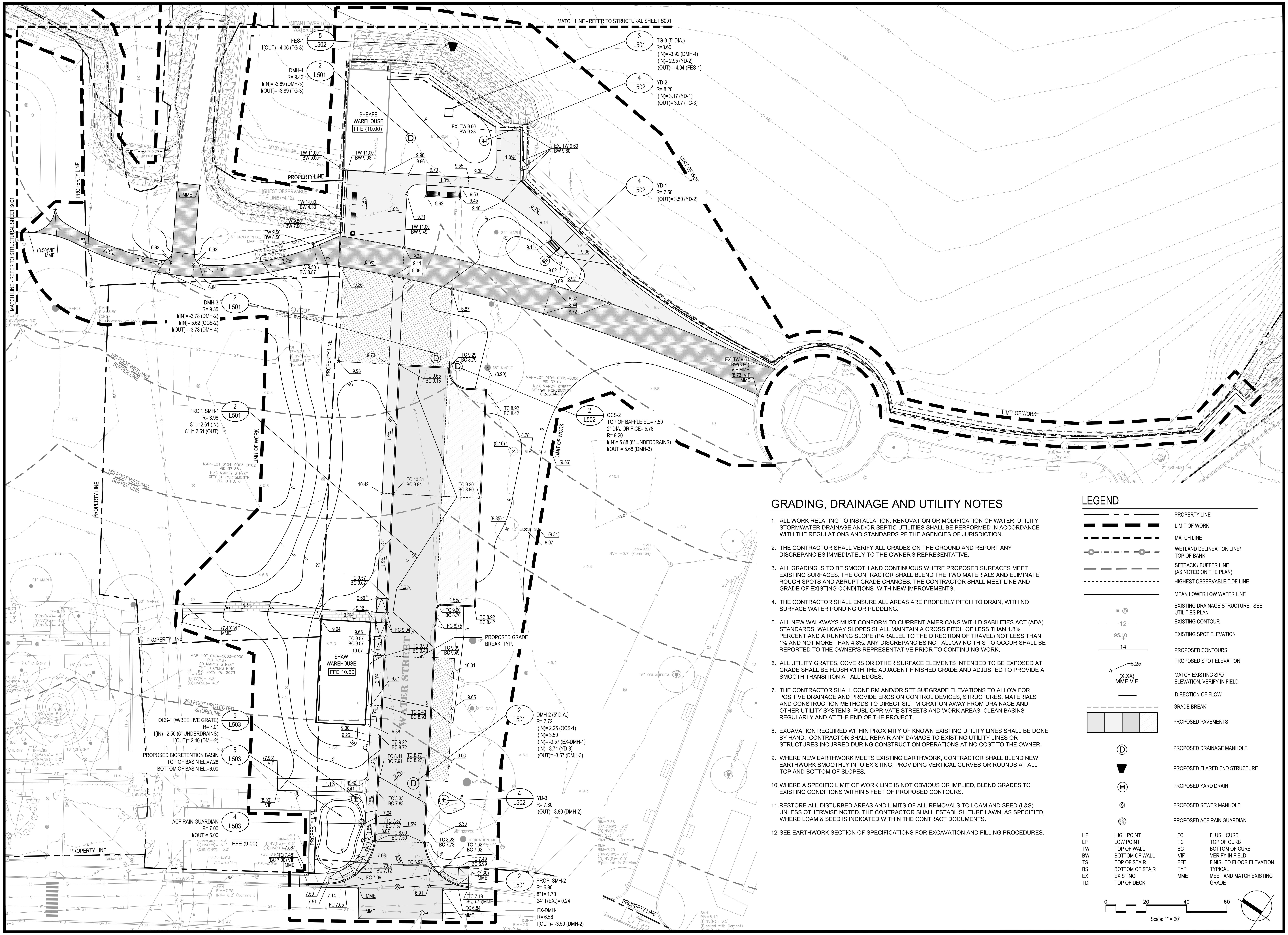
Drawing Title:

LAYOUT
PLAN

Sheet Number:

L130



GRADING, DRAINAGE AND UTILITY NOTES

1. ALL WORK RELATING TO INSTALLATION, RENOVATION OR MODIFICATION OF WATER, UTILITY STORMWATER DRAINAGE AND/OR SEPTIC UTILITIES SHALL BE PERFORMED IN ACCORDANCE WITH THE REGULATIONS AND STANDARDS PF THE AGENCIES OF JURISDICTION.
2. THE CONTRACTOR SHALL VERIFY ALL GRADES ON THE GROUND AND REPORT ANY DISCREPANCIES IMMEDIATELY TO THE OWNER'S REPRESENTATIVE.
3. ALL GRADING IS TO BE SMOOTH AND CONTINUOUS WHERE PROPOSED SURFACES MEET EXISTING SURFACES. THE CONTRACTOR SHALL BLEND THE TWO MATERIALS AND ELIMINATE ROUGH SPOTS AND ABRUPT GRADE CHANGES. THE CONTRACTOR SHALL MEET LINE AND GRADE OF EXISTING CONDITIONS WITH NEW IMPROVEMENTS.
4. THE CONTRACTOR SHALL ENSURE ALL AREAS ARE PROPERLY PITCH TO DRAIN, WITH NO SURFACE WATER PONDING OR PUDDLING.
5. ALL NEW WALKWAYS MUST CONFORM TO CURRENT AMERICANS WITH DISABILITIES ACT (ADA) STANDARDS. WALKWAY SLOPES SHALL MAINTAIN A CROSS PITCH OF LESS THAN 1.8% PERCENT AND A RUNNING SLOPE (PARALLEL TO THE DIRECTION OF TRAVEL) NOT LESS THAN 1% AND NOT MORE THAN 4.8%. ANY DISCREPANCIES NOT ALLOWING THIS TO OCCUR SHALL BE REPORTED TO THE OWNER'S REPRESENTATIVE PRIOR TO CONTINUING WORK.
6. ALL UTILITY GRATES, COVERS OR OTHER SURFACE ELEMENTS INTENDED TO BE EXPOSED AT GRADE SHALL BE FLUSH WITH THE ADJACENT FINISHED GRADE AND ADJUSTED TO PROVIDE A SMOOTH TRANSITION AT ALL EDGES.
7. THE CONTRACTOR SHALL CONFIRM AND/OR SET SUBGRADE ELEVATIONS TO ALLOW FOR POSITIVE DRAINAGE AND PROVIDE EROSION CONTROL DEVICES, STRUCTURES, MATERIALS AND CONSTRUCTION METHODS TO DIRECT SILT MIGRATION AWAY FROM DRAINAGE AND OTHER UTILITY SYSTEMS, PUBLIC/PRIVATE STREETS AND WORK AREAS. CLEAN BASINS REGULARLY AND AT THE END OF THE PROJECT.
8. EXCAVATION REQUIRED WITHIN PROXIMITY OF KNOWN EXISTING UTILITY LINES SHALL BE DONE BY HAND. CONTRACTOR SHALL REPAIR ANY DAMAGE TO EXISTING UTILITY LINES OR STRUCTURES INCURRED DURING CONSTRUCTION OPERATIONS AT NO COST TO THE OWNER.
9. WHERE NEW EARTHWORK MEETS EXISTING EARTHWORK, CONTRACTOR SHALL BLEND NEW EARTHWORK SMOOTHLY INTO EXISTING, PROVIDING VERTICAL CURVES OR ROUNDS AT ALL TOP AND BOTTOM OF SLOPES.
10. WHERE A SPECIFIC LIMIT OF WORK LINE IS NOT OBVIOUS OR IMPLIED, BLEND GRADES TO EXISTING CONDITIONS WITHIN 5 FEET OF PROPOSED CONTOURS.
11. RESTORE ALL DISTURBED AREAS AND LIMITS OF ALL REMOVALS TO LOAM AND SEED (L&S) UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL ESTABLISH TURF LAWN, AS SPECIFIED, WHERE LOAM & SEED IS INDICATED WITHIN THE CONTRACT DOCUMENTS.
12. SEE EARTHWORK SECTION OF SPECIFICATIONS FOR EXCAVATION AND FILLING PROCEDURES.

LEGEND

— — - - — —	PROPERTY LINE
▬ ▬ ▬ ▬	LIMIT OF WORK
■ ■ ■ ■ ■ ■	MATCH LINE
○ - · - · - ○	WETLAND DELINEATION LINE/ TOP OF BANK
— — — — —	SETBACK / BUFFER LINE (AS NOTED ON THE PLAN)
- - - - - - - -	HIGHEST OBSERVABLE TIDE LINE
———————	MEAN LOWER LOW WATER LINE
⊞ Ⓓ	EXISTING DRAINAGE STRUCTURE. SEE UTILITIES PLAN
— — 12 — —	EXISTING CONTOUR
95.10	EXISTING SPOT ELEVATION
14	PROPOSED CONTOURS
8.25	PROPOSED SPOT ELEVATION
(X,XX) MME VIF	MATCH EXISTING SPOT ELEVATION, VERIFY IN FIELD
←	DIRECTION OF FLOW
— — — — — —	GRADE BREAK
▨ ▨ ▨ ▨	PROPOSED PAVEMENTS
Ⓓ	PROPOSED DRAINAGE MANHOLE
▼	PROPOSED FLARED END STRUCTURE
⊞	PROPOSED YARD DRAIN
Ⓢ	PROPOSED SEWER MANHOLE
●	PROPOSED ACF RAIN GUARDIAN

HP	HIGH POINT	FC	FLUSH CURB
LP	LOW POINT	TC	TOP OF CURB
TW	TOP OF WALL	BC	BOTTOM OF CURB
BW	BOTTOM OF WALL	VIF	VERIFY IN FIELD
TS	TOP OF STAIR	FFE	FINISHED FLOOR ELEVATION
BS	BOTTOM OF STAIR	TYP	TYPICAL
EX	EXISTING	MME	MEET AND MATCH EXISTING GRADE
TD	TOP OF DECK		

Scale: 1" = 20"

Project:

PORTSMOUTH,
NEW HAMPSHIRE

PRESCOTT PARK
PHASE 1A IMPROVEMENTS

105 MARCY STREET,
PORTSMOUTH, NH, 03801

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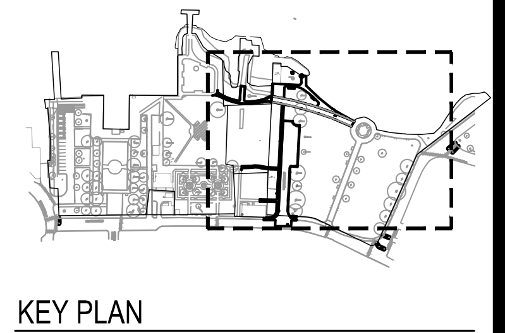

KEY PLAN
SCALE: 1"=500'-0"

Revisions:

No.	Date	Description

Seal:
MASSACHUSETTS
CHERILYN F. [illegible]
NO. 1220
REGISTERED LANDSCAPE ARCHITECT

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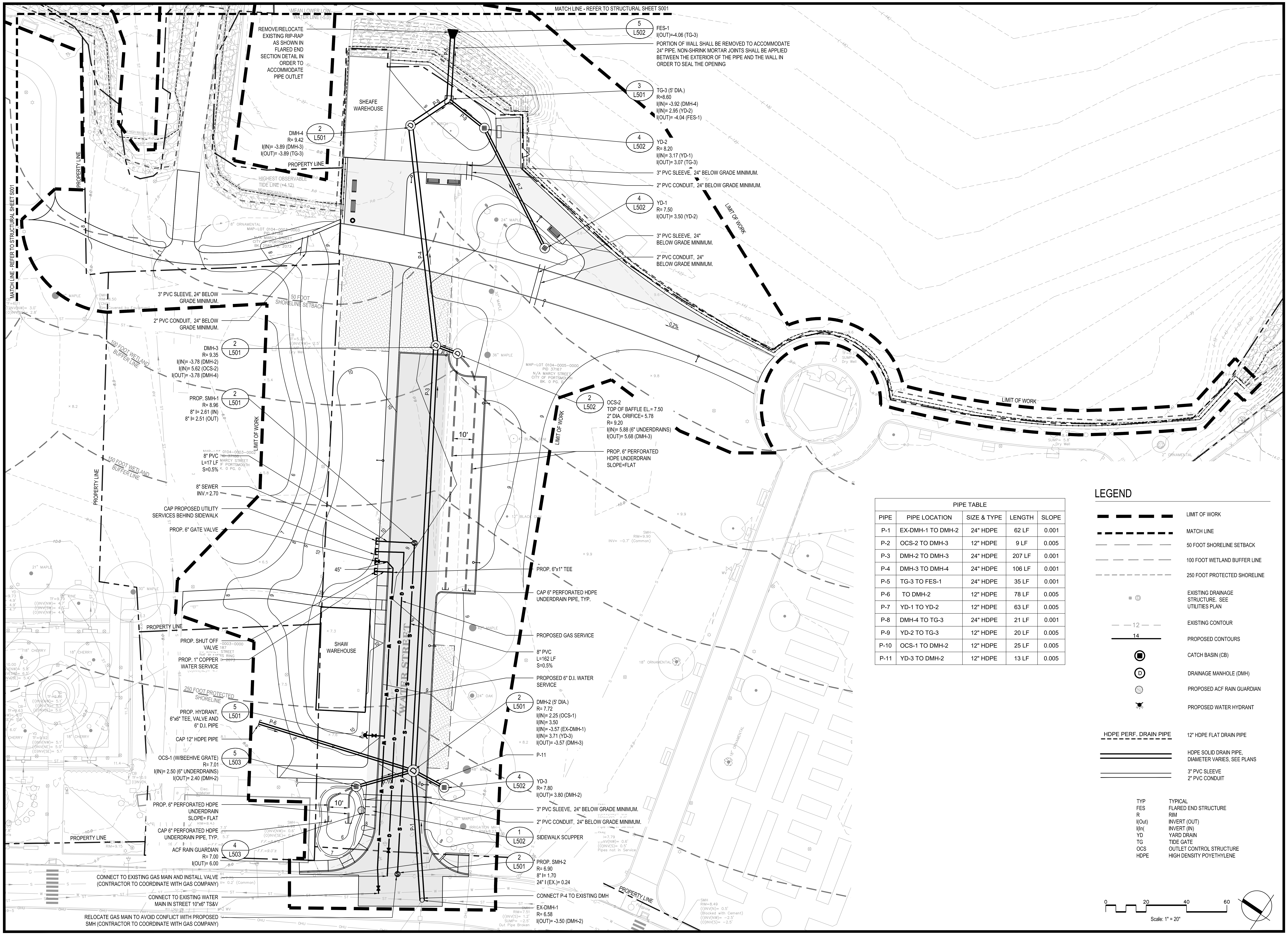
Date: OCTOBER 17, 2022
Drawn By: AG
Reviewed By: CB
Approved By: BK
W&S Project No: ENG21-0591

Drawing Title:

GRADING PLAN

Sheet Number:

L140



PIPE TABLE				
PIPE	PIPE LOCATION	SIZE & TYPE	LENGTH	SLOPE
P-1	EX-DMH-1 TO DMH-2	24" HDPE	62 LF	0.001
P-2	OCS-2 TO DMH-3	12" HDPE	9 LF	0.005
P-3	DMH-2 TO DMH-3	24" HDPE	207 LF	0.001
P-4	DMH-3 TO DMH-4	24" HDPE	106 LF	0.001
P-5	TG-3 TO FES-1	24" HDPE	35 LF	0.001
P-6	TO DMH-2	12" HDPE	78 LF	0.005
P-7	YD-1 TO YD-2	12" HDPE	63 LF	0.005
P-8	DMH-4 TO TG-3	24" HDPE	21 LF	0.001
P-9	YD-2 TO TG-3	12" HDPE	20 LF	0.005
P-10	OCS-1 TO DMH-2	12" HDPE	25 LF	0.005
P-11	YD-3 TO DMH-2	12" HDPE	13 LF	0.005

LEGEND

▬ ▬ ▬ ▬	LIMIT OF WORK
▬ ▬ ▬ ▬ ▬ ▬	MATCH LINE
— — — —	50 FOOT SHORELINE SETBACK
— — — — —	100 FOOT WETLAND BUFFER LINE
- - - - - - -	250 FOOT PROTECTED SHORELINE
⊞ Ⓓ	EXISTING DRAINAGE STRUCTURE. SEE UTILITIES PLAN
— —12— —	EXISTING CONTOUR
14	PROPOSED CONTOURS
▣	CATCH BASIN (CB)
Ⓓ	DRAINAGE MANHOLE (DMH)
◍	PROPOSED ACF RAIN GUARDIAN
HYD	PROPOSED WATER HYDRANT
HDPE PERF. DRAIN PIPE	12" HDPE FLAT DRAIN PIPE
═	HDPE SOLID DRAIN PIPE, DIAMETER VARIES, SEE PLANS
═	3" PVC SLEEVE 2" PVC CONDUIT

TYP	TYPICAL
FES	FLARED END STRUCTURE
R	RIM
I(Out)	INVERT (OUT)
I(In(	INVERT (IN)
YD	YARD DRAIN
TG	TIDE GATE
OCS	OUTLET CONTROL STRUCTURE
HDPE	HIGH DENSITY POYETHYLENE

Project:

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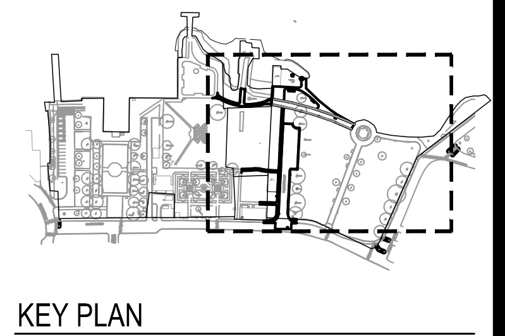

KEY PLAN
SCALE: 1"=500'-0"

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NO. 1220

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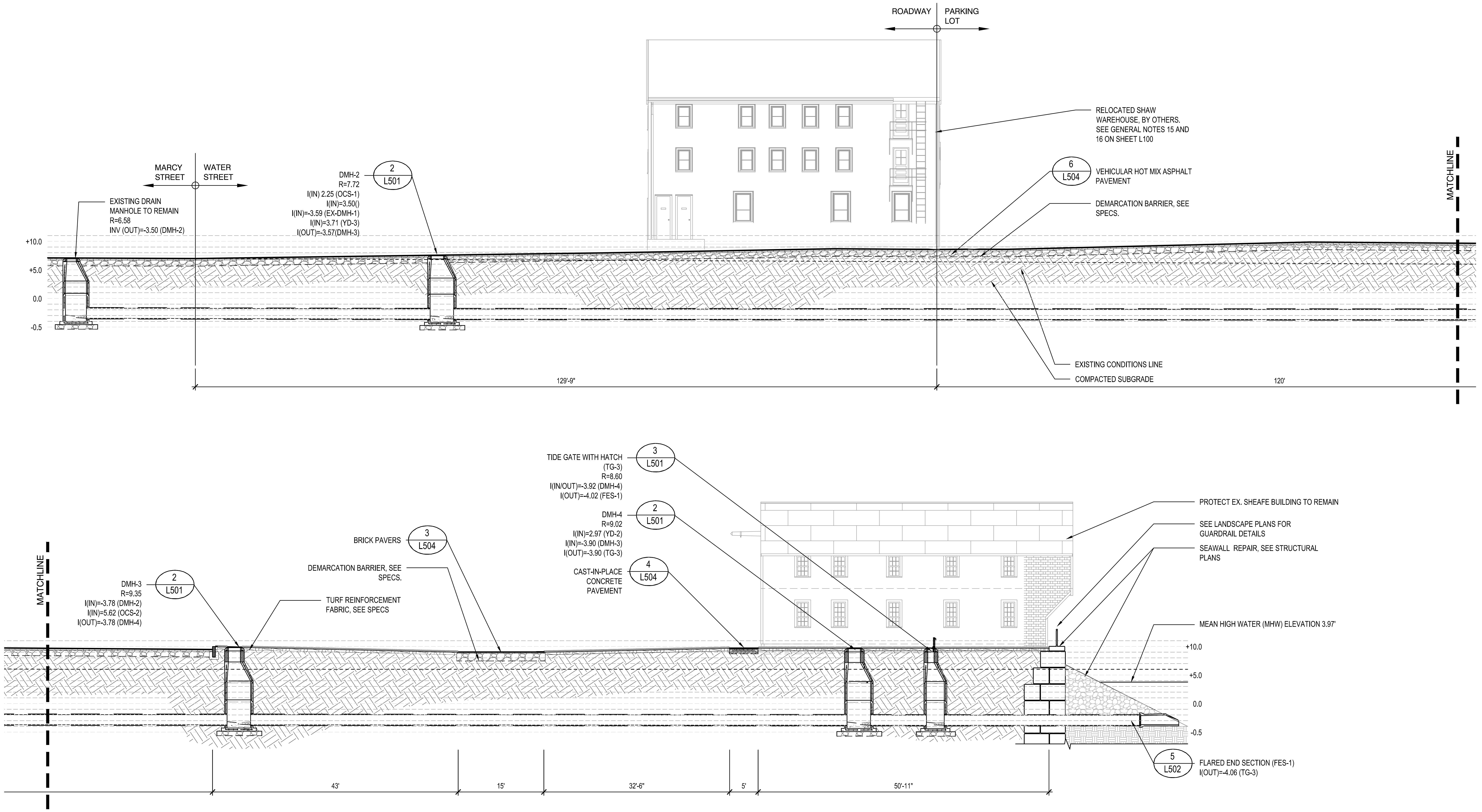
Drawing Title:

DRAINAGE AND UTILITIES PLAN

Sheet Number:

L141



EXISTING DRAIN MANHOLE TO REMAIN
R=6.58
INV (OUT)=-3.50 (DMH-2)

DMH-2
R=7.72
I(IN) 2.25 (OCS-1)
I(IN)=3.50()
I(IN)=-3.59 (EX-DMH-1)
I(IN)=3.71 (YD-3)
I(OUT)=-3.57(DMH-3)

RELOCATED SHAW WAREHOUSE, BY OTHERS. SEE GENERAL NOTES 15 AND 16 ON SHEET L100

VEHICULAR HOT MIX ASPHALT PAVEMENT

DEMARCATION BARRIER, SEE SPECS.

EXISTING CONDITIONS LINE

COMPACTED SUBGRADE

TIDE GATE WITH HATCH
(TG-3)
R=8.60
I(IN/OUT)=-3.92 (DMH-4)
I(OUT)=-4.02 (FES-1)

DMH-4
R=9.02
I(IN)=2.97 (YD-2)
I(IN)=-3.90 (DMH-3)
I(OUT)=-3.90 (TG-3)

CAST-IN-PLACE CONCRETE PAVEMENT

BRICK PAVERS

DEMARCATION BARRIER, SEE SPECS.

TURF REINFORCEMENT FABRIC, SEE SPECS

DMH-3
R=9.35
I(IN)=-3.78 (DMH-2)
I(IN)=5.62 (OCS-2)
I(OUT)=-3.78 (DMH-4)

PROTECT EX. SHEAFE BUILDING TO REMAIN

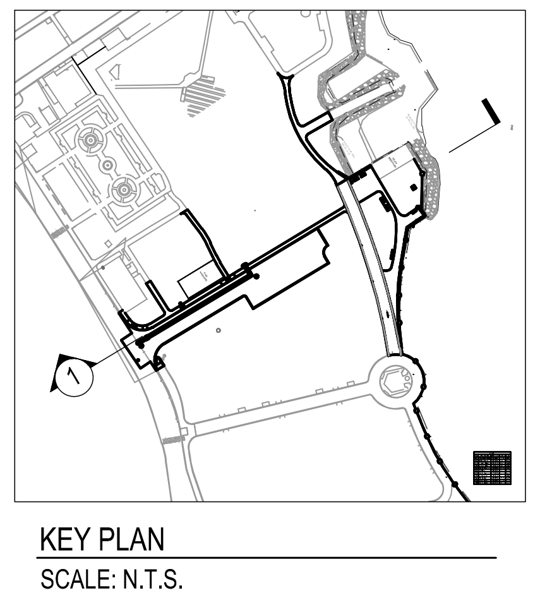
SEE LANDSCAPE PLANS FOR GUARDRAIL DETAILS

SEAWALL REPAIR, SEE STRUCTURAL PLANS

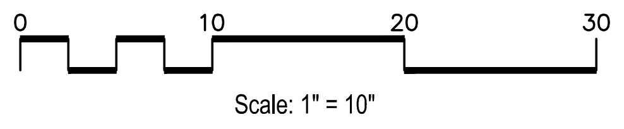
MEAN HIGH WATER (MHW) ELEVATION 3.97'

FLARED END SECTION (FES-1)
I(OUT)=-4.06 (TG-3)

1 SECTION CUT THROUGH WATER STREET, FROM MARCY STREET TO THE PISCATAQUA RIVER
SCALE: AS NOTED



KEY PLAN
SCALE: N.T.S.



Scale: 1" = 10'

Project:

PORTSMOUTH,
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Approved By: XXX

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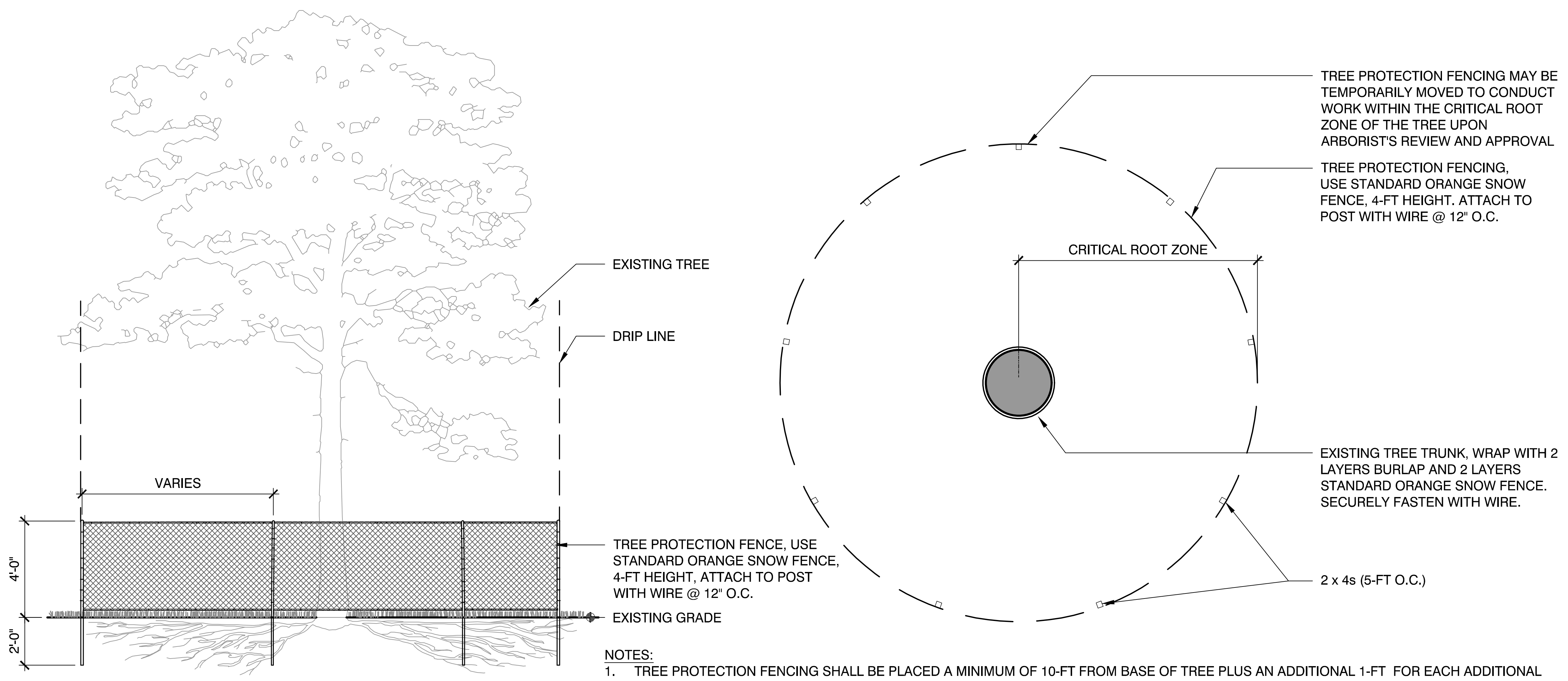
Drawing Title:

SITE
CONSTRUCTION
SECTIONS

Sheet Number:

L150



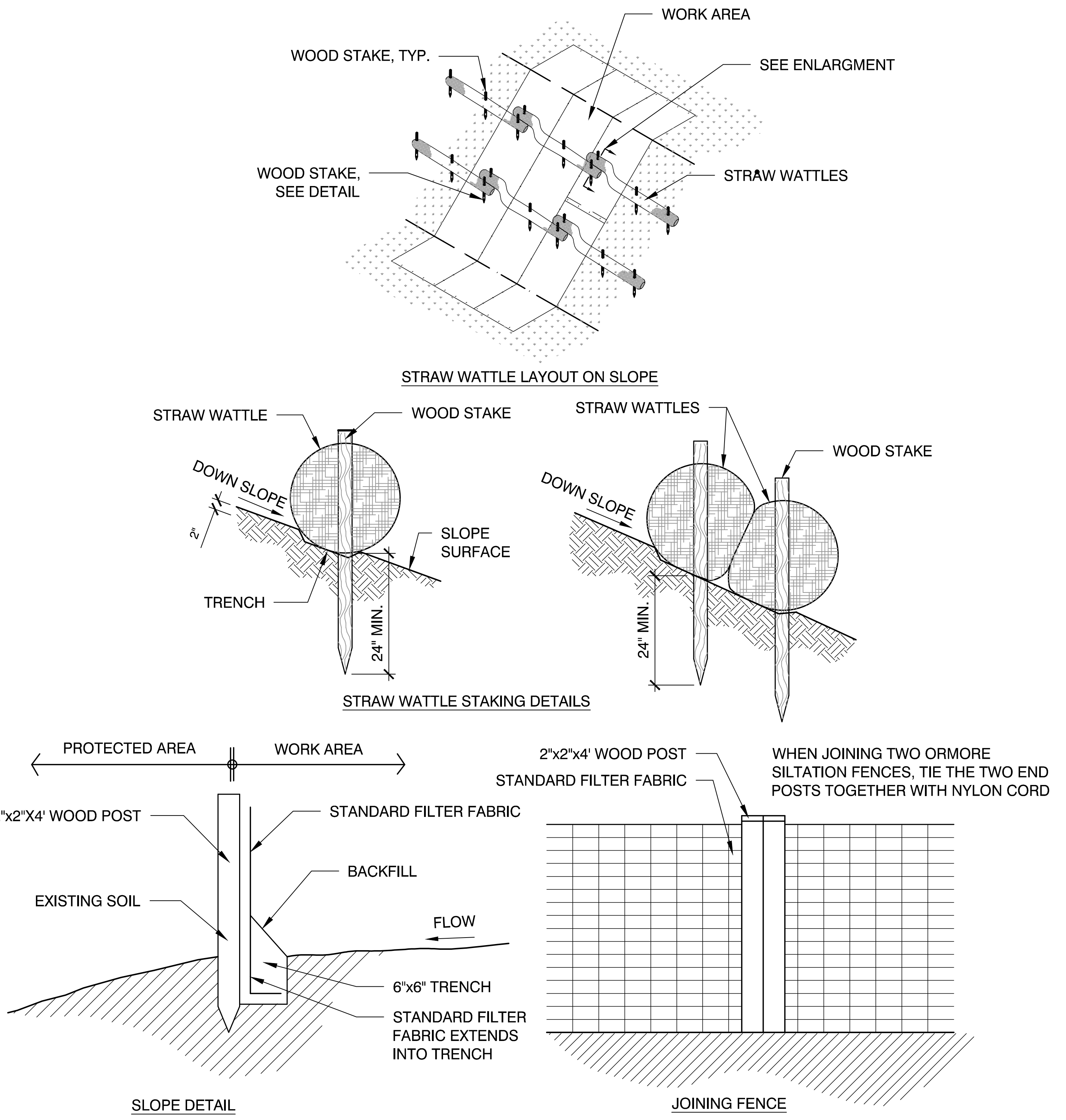
CRITICAL ROOT ZONE TO BE PROTECTED. ALL WORK NECESSARY WITHIN THE CRITICAL ROOT ZONE SHALL BE PERFORMED BY HAND AND LIGHT EQUIPMENT. TO BE APPROVED BY ARBORIST.

NOTES:

1. TREE PROTECTION FENCING SHALL BE PLACED A MINIMUM OF 10-FT FROM BASE OF TREE PLUS AN ADDITIONAL 1-FT FOR EACH ADDITIONAL DBH FOR TREES GREATER THAN 10" DBH (DIA. AT BREAST HT.)
2. ALL WORK PERFORMED WITHIN DRIP LINE / CRITICAL ROOT ZONE OF TREE INCLUDING EXCAVATIONS SHALL BE DONE BY HAND AND LIGHT EQUIPMENT (VACUUM AND AIRSPADE). ARBORIST TO APPROVE EQUIPMENT. NO EQUIPMENT OR MATERIALS SHALL BE STORED OR STOCKPILED WITHIN DRIPLINE.
3. ROOTS EXPOSED DURING EXCAVATION SHALL BE NEATLY CUT AND COVERED WITH SOIL IMMEDIATELY.
4. FOR TREES THAT OCCUR IN GROUPS PROVIDE TREE PROTECTION FENCING AROUND ENTIRE AREA. SEE PLAN FOR LOCATIONS.
5. MAINTAIN FENCE PROTECTION IN SOUND CONDITION FOR DURATION OF CONSTRUCTION.
6. A CERTIFIED ARBORIST SHALL DELINEATE LIMIT OF TREE PROTECTION FENCING AS THEY RELATE TO THE LIMITS OF THE CRITICAL ROOT ZONE.
7. THE CITY'S ARBORIST MUST BE ON SITE PRIOR TO COMMENCING ANY WORK TO REVIEW AND LOCATE TREE PROTECTION FENCING. ROOTS EXPOSED WITHIN THE CRITICAL ROOT ZONE MUST BE APPROVED BY THE ARBORIST PRIOR TO CUTTING.

1 TREE PROTECTION

SCALE: N.T.S.



STRAW WATTLE LAYOUT ON SLOPE

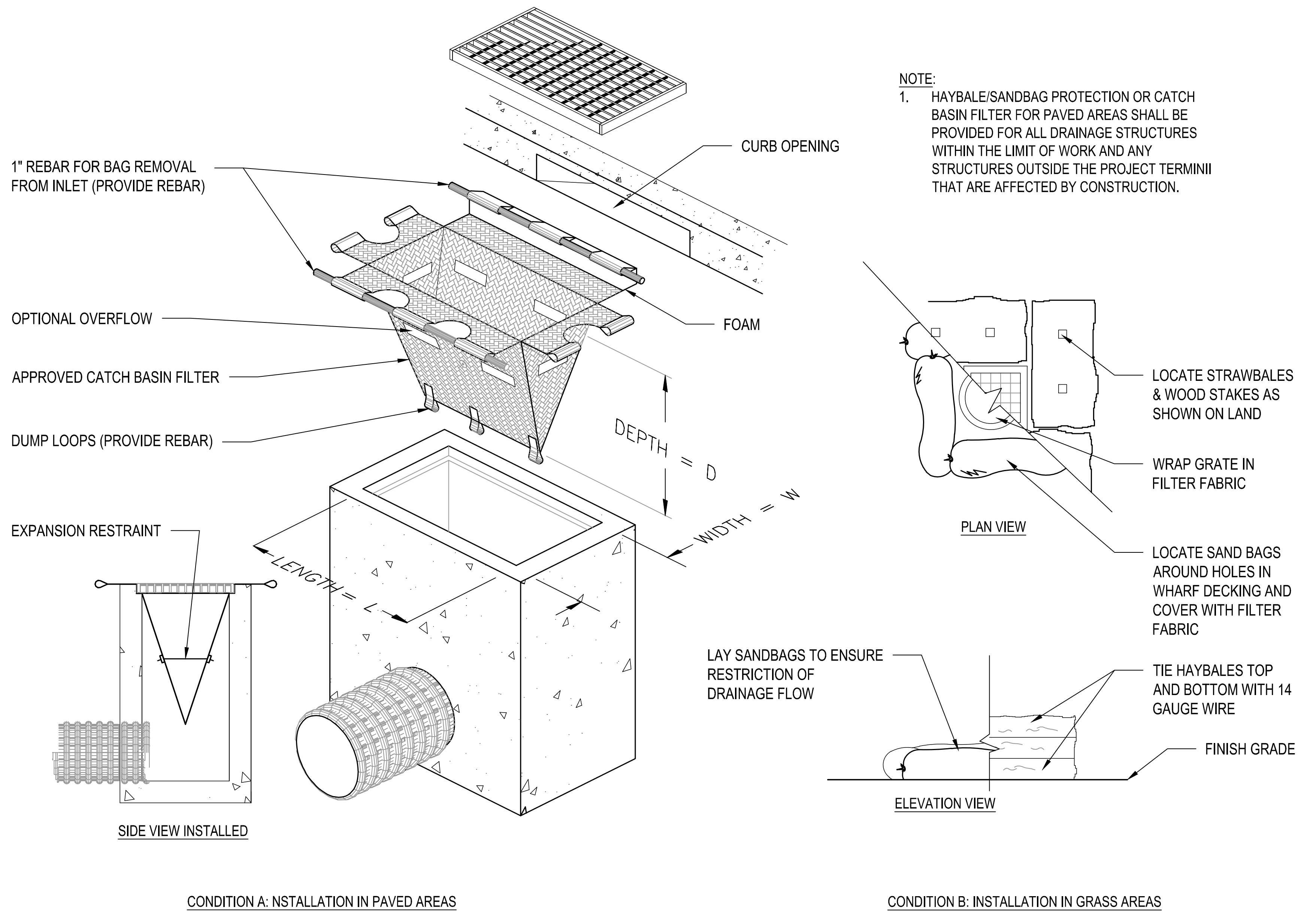
STRAW WATTLE STAKING DETAILS

SLOPE DETAIL

JOINING FENCE

2 EROSION CONTROLS - STRAW WATTLES

SCALE: N.T.S.



NOTE:

1. HAYBALE/SANDBAG PROTECTION OR CATCH BASIN FILTER FOR PAVED AREAS SHALL BE PROVIDED FOR ALL DRAINAGE STRUCTURES WITHIN THE LIMIT OF WORK AND ANY STRUCTURES OUTSIDE THE PROJECT TERMINII THAT ARE AFFECTED BY CONSTRUCTION.

SIDE VIEW INSTALLED

PLAN VIEW

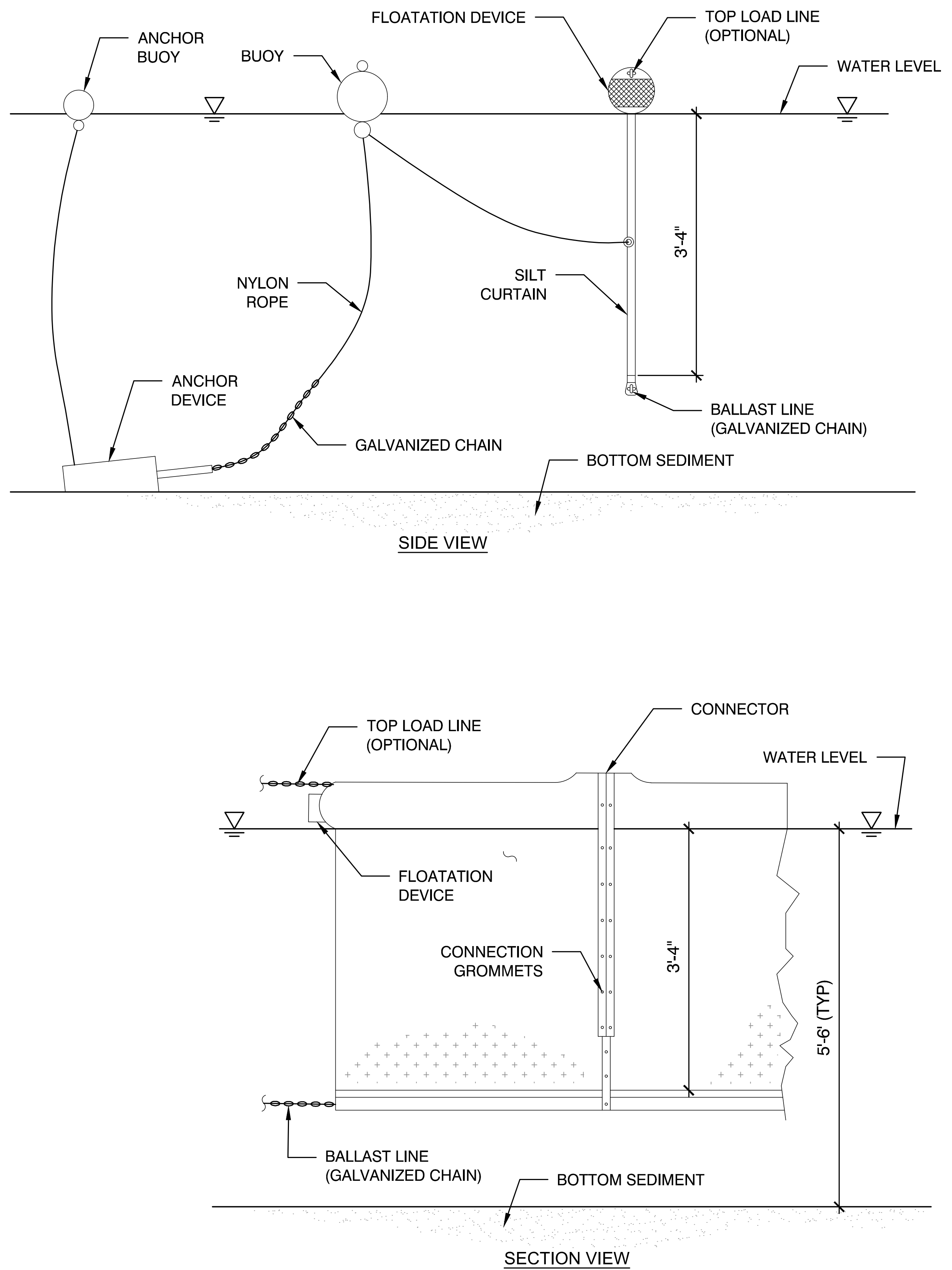
ELEVATION VIEW

CONDITION A: NSTALLATION IN PAVED AREAS

CONDITION B: INSTALLATION IN GRASS AREAS

3 INLET SEDIMENT CONTROL

SCALE: N.T.S.



SIDE VIEW

SECTION VIEW

4 TURBIDITY CURTAIN

SCALE: N.T.S.

Project:

PORTSMOUTH,
NEW HAMPSHIRE

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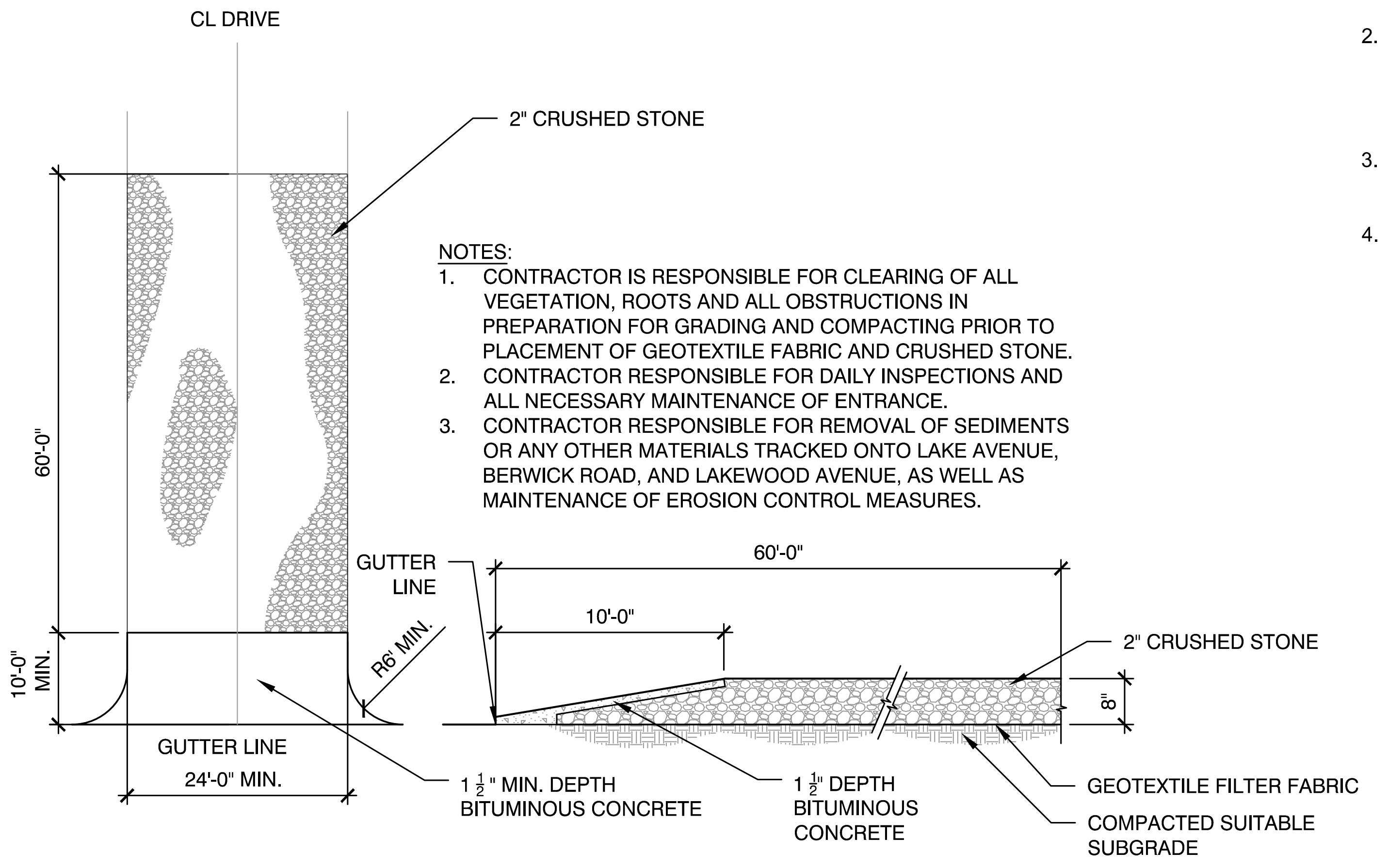
SITE
CONSTRUCTION
DETAILS

Sheet Number:

L500



NOTES:

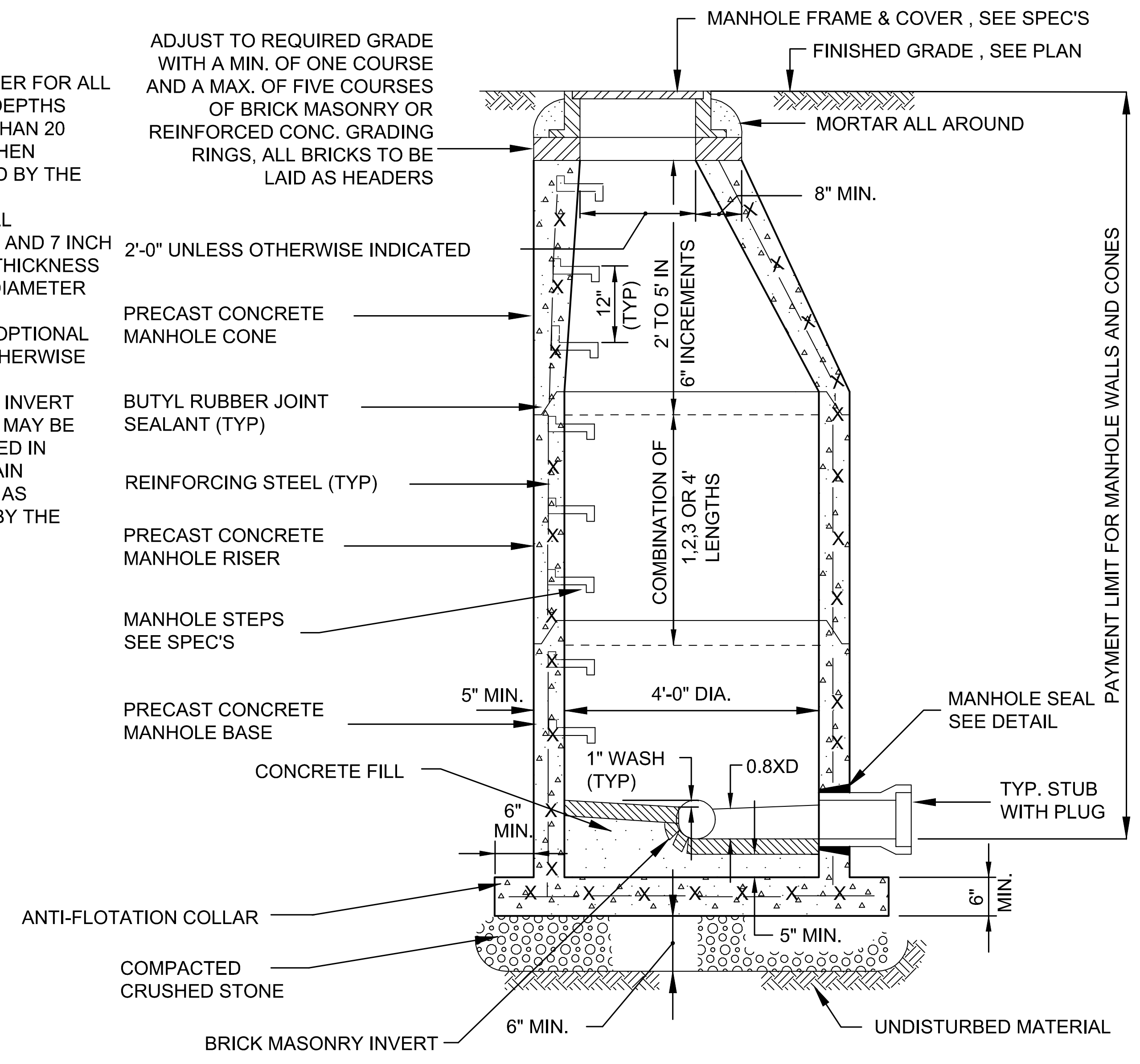
1. CONTRACTOR IS RESPONSIBLE FOR CLEARING OF ALL VEGETATION, ROOTS AND ALL OBSTRUCTIONS IN PREPARATION FOR GRADING AND COMPACTING PRIOR TO PLACEMENT OF GEOTEXTILE FABRIC AND CRUSHED STONE.
2. CONTRACTOR RESPONSIBLE FOR DAILY INSPECTIONS AND ALL NECESSARY MAINTENANCE OF ENTRANCE.
3. CONTRACTOR RESPONSIBLE FOR REMOVAL OF SEDIMENTS OR ANY OTHER MATERIALS TRACKED ONTO LAKE AVENUE, BERWICK ROAD, AND LAKEWOOD AVENUE, AS WELL AS MAINTENANCE OF EROSION CONTROL MEASURES.

1 CONSTRUCTION ENTRANCE

SCALE: N.T.S.

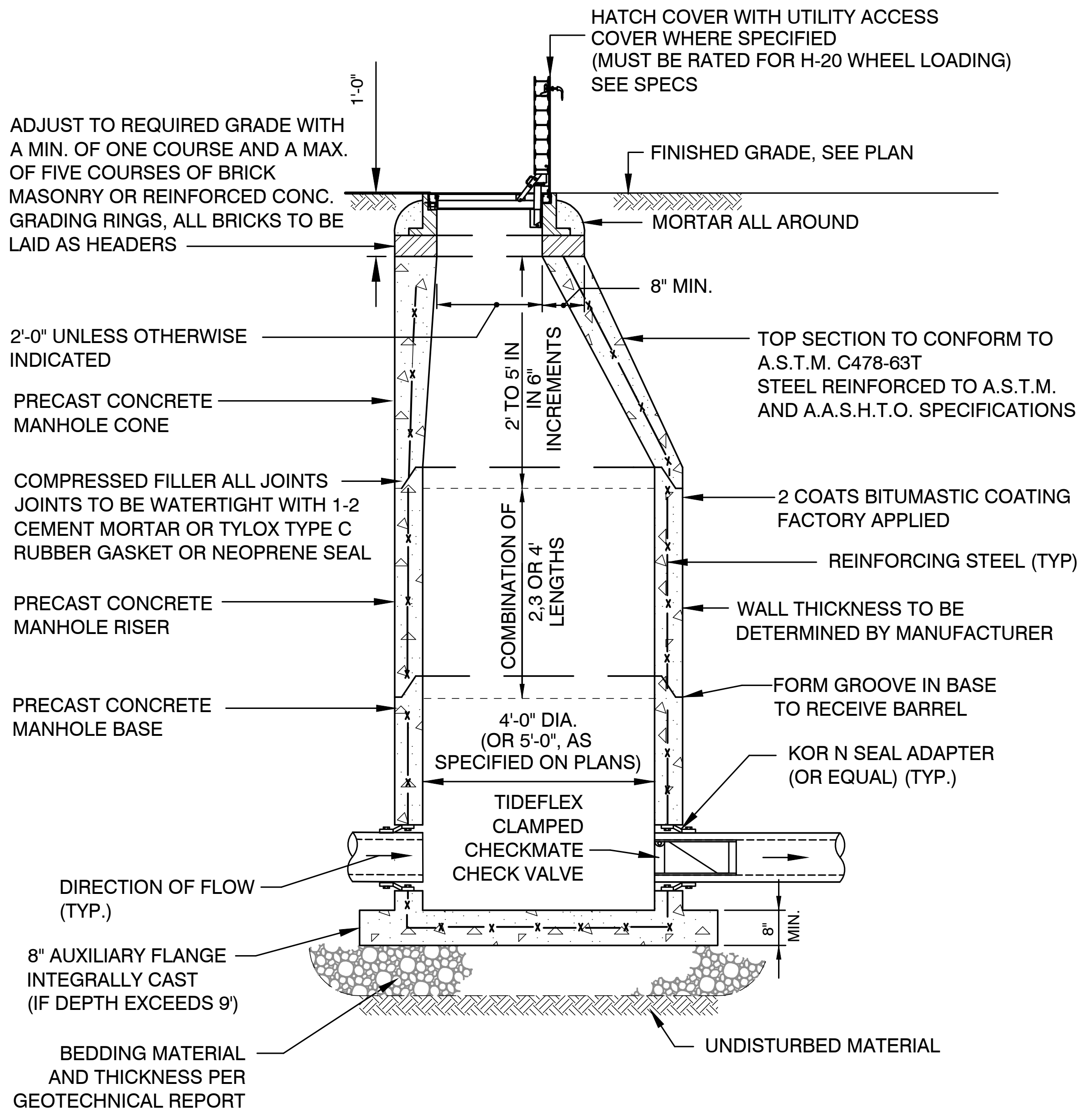
NOTES

1. 5'-0"DIAMETER FOR ALL MANHOLE DEPTHS GREATER THAN 20 FEET OR WHEN REQUESTED BY THE ENGINEER.
2. 6" MIN. WALL THICKNESS AND 7 INCH MIN. BASE THICKNESS WITH 5'-0" DIAMETER MANHOLES.
3. 6 INCH LIP OPTIONAL UNLESS OTHERWISE NOTED.
4. CONCRETE INVERT AND SHELF MAY BE SUBSTITUTED IN STORM DRAIN MANHOLES AS DIRECTED BY THE ENGINEER.



2 PRECAST CONCRETE MANHOLE

SCALE: N.T.S.

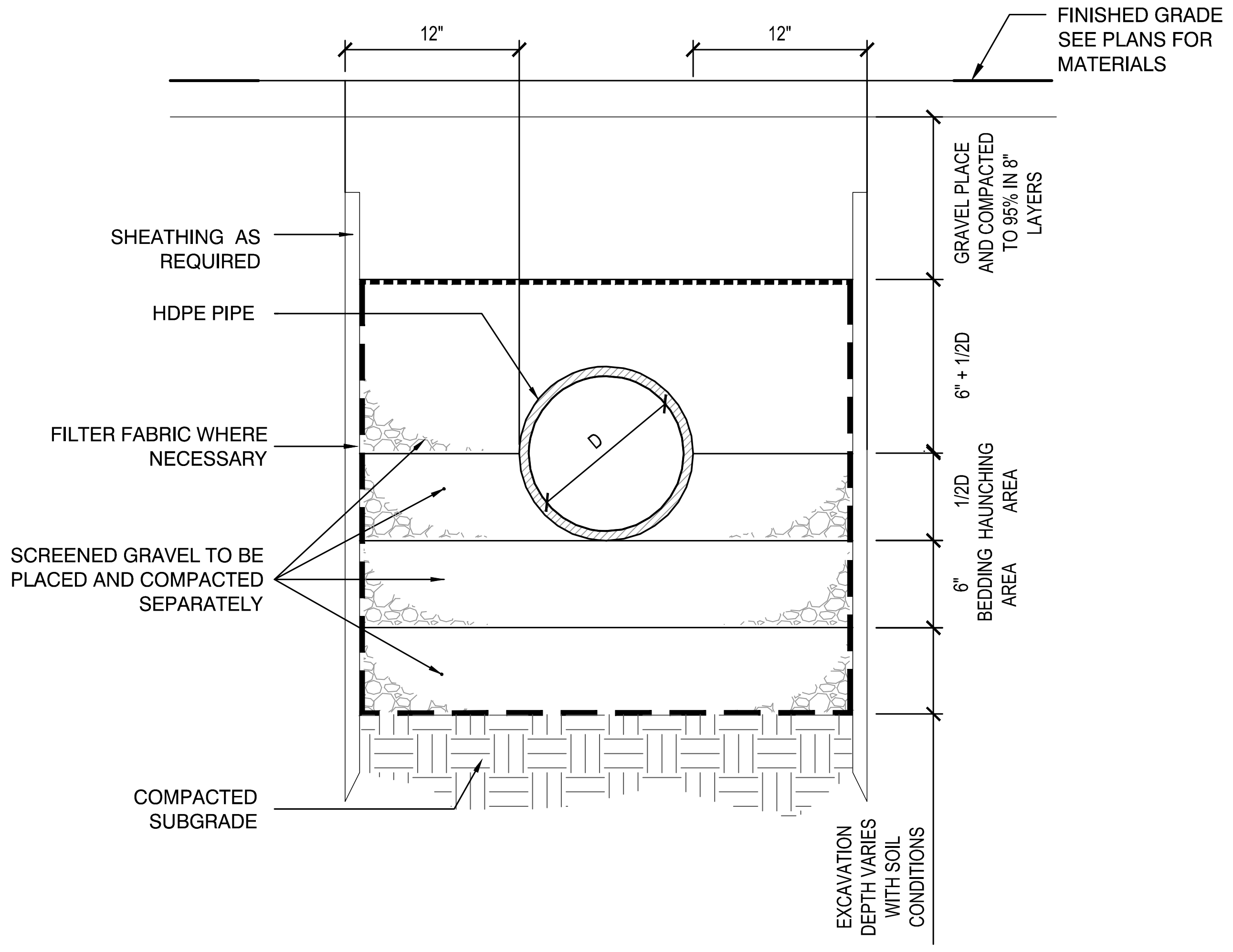


NOTE:

1. WHERE THE TIDE GATE SITS BELOW BRICK PAVERS, THE CONTRACTOR SHALL INSTALL THE BILCO HATCH JUST BELOW THE BRICK PAVERS. BRICK PAVERS SITTING ABOVE THE HATCH SHALL BE INSTALLED INSIDE A UTILITY ACCESS COVER. SEE SPECIFICATIONS.

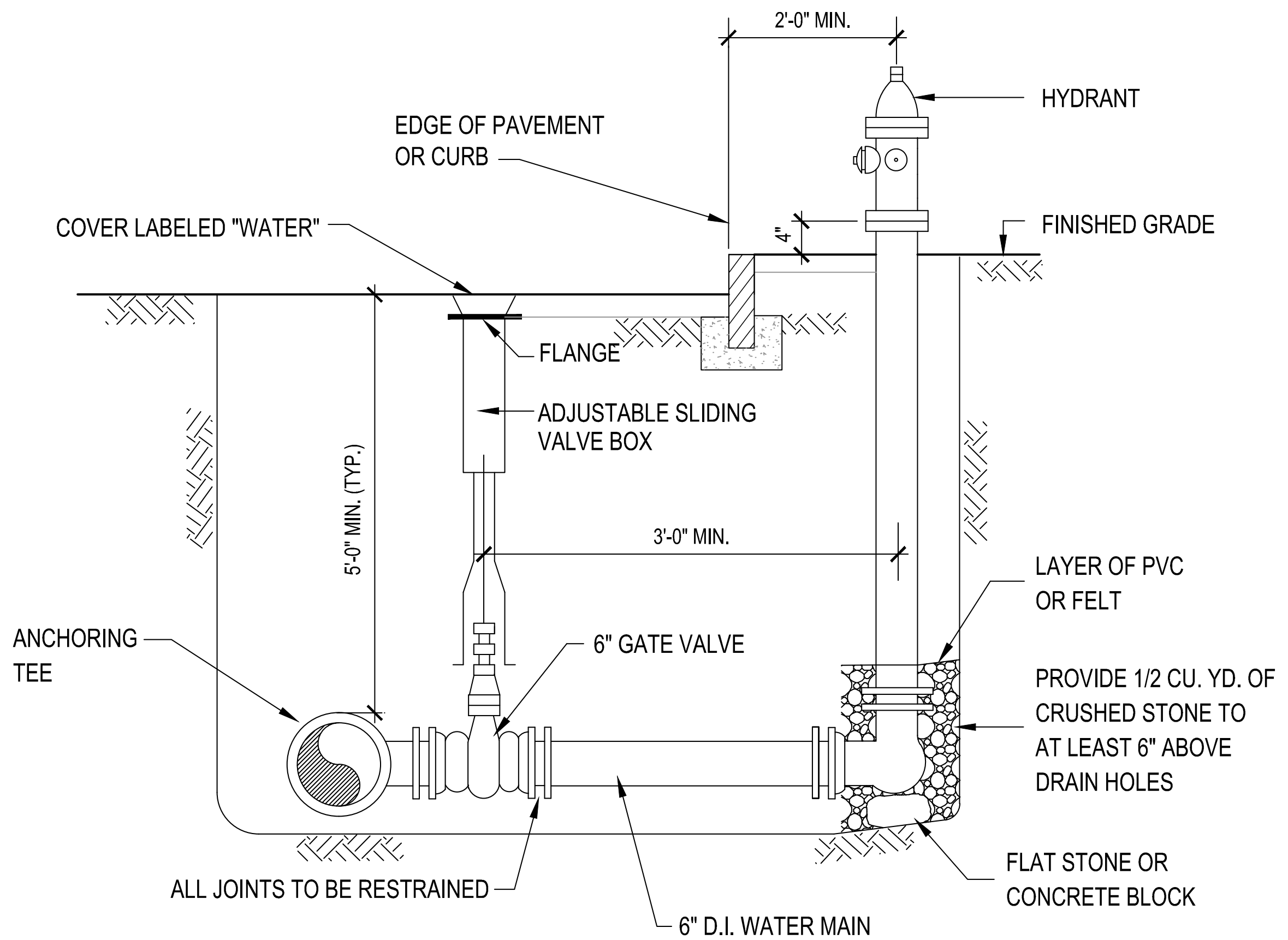
3 TIDEGATE WITH HATCH

SCALE: N.T.S.



4 DRAIN TRENCH DETAIL

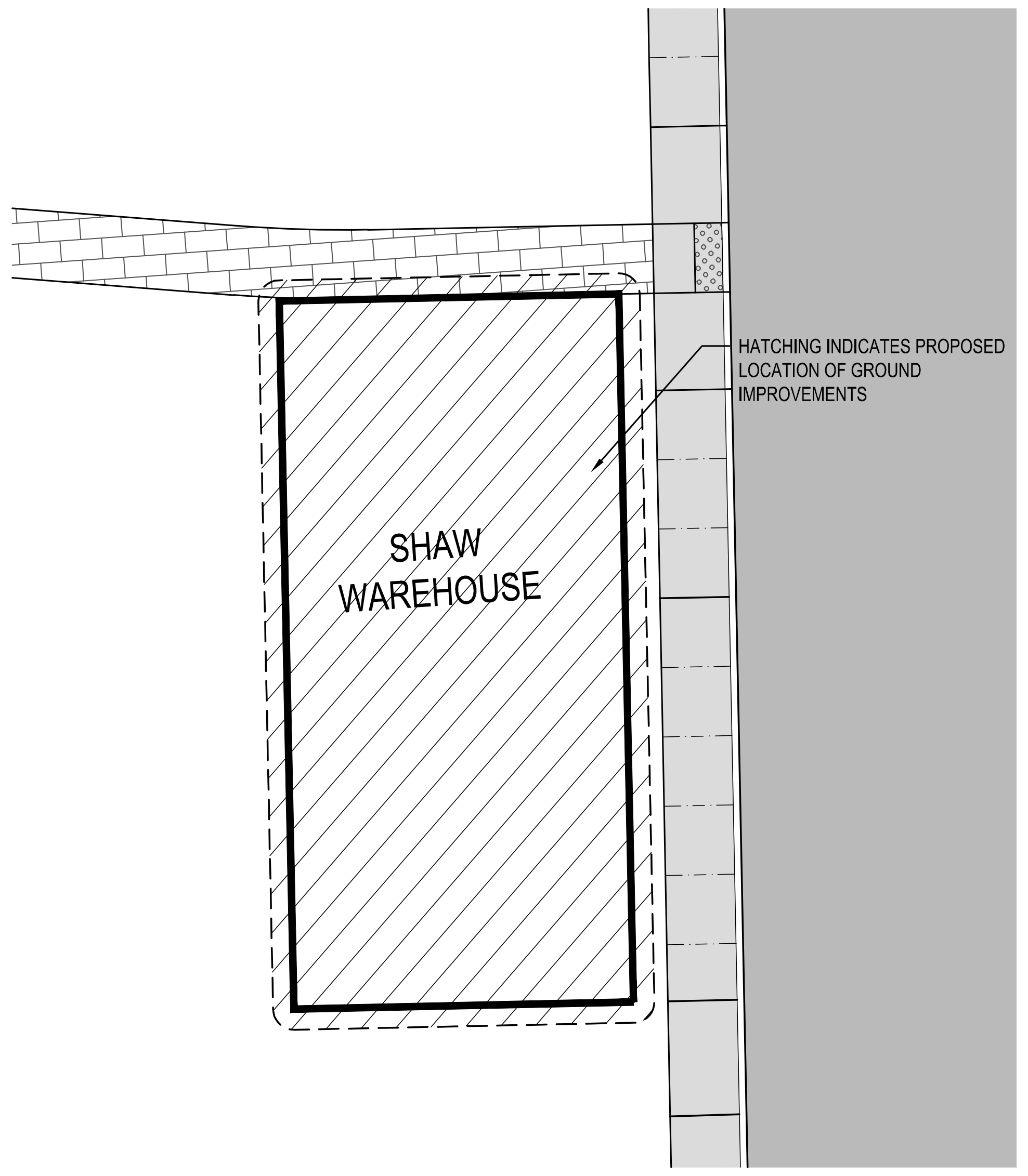
SCALE: N.T.S.



NOTE:
USE TWO 6" BENDS OR OFFSET
ON LATERAL TO ACHIEVE REQUIRED
HYDRANT ELEVATION IF NECESSARY

5 HYDRANT AND VALVE DETAIL

SCALE: N.T.S.



NOTES:

1. GROUND IMPROVEMENTS ARE DEPICTED IN PLAN AS SCHEMATIC ONLY. GROUND IMPROVEMENT DESIGNER IS RESPONSIBLE FOR LAYOUT, DIMENSIONS, AND TYPE (e.g. COMPACTED STONE COLUMNS (GROUTED OR NON-GROUTED), DRILLED DISPLACEMENTS COLUMNS (RIGID INCLUSIONS, CMCs) OF SOIL IMPROVEMENT. REFER TO SPECIFICATIONS.
2. GROUND IMPROVEMENT ELEMENTS SHALL BE DESIGNED SUCH THAT THERE IS NO ADDITIONAL LATERAL LOADS ON EXISTING STRUCTURES DUE TO SITE GRADE INCREASES AND OTHER IMPROVEMENTS.
3. GROUND IMPROVEMENT ELEMENTS SHALL BE DESIGNED SUCH THAT NO SETTLEMENT OF EXISTING STRUCTURES IS INDUCED DUE TO SITE GRADE INCREASES AND OTHER SITE IMPROVEMENTS.

6 GROUND IMPROVEMENTS

SCALE: N.T.S.

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SITE
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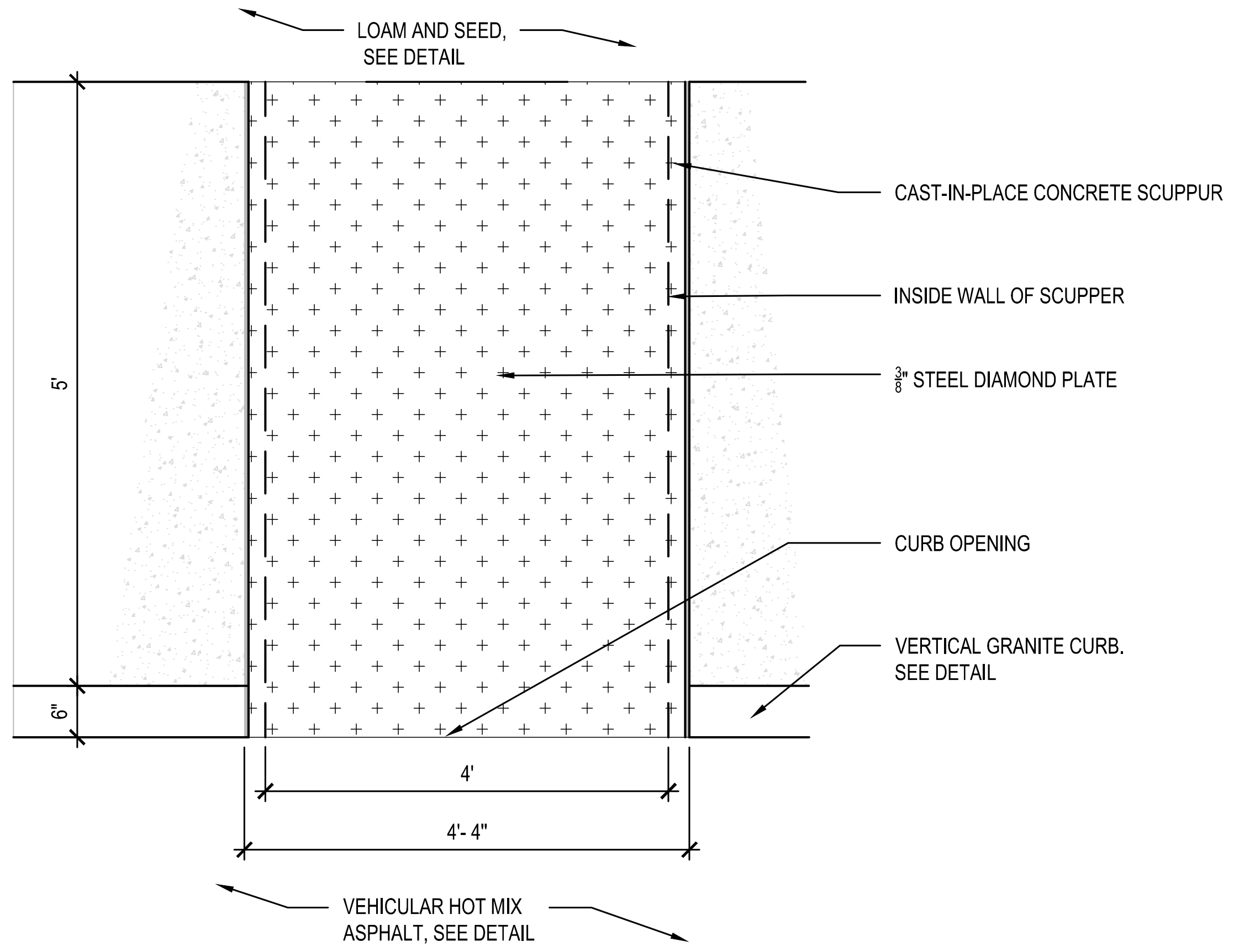
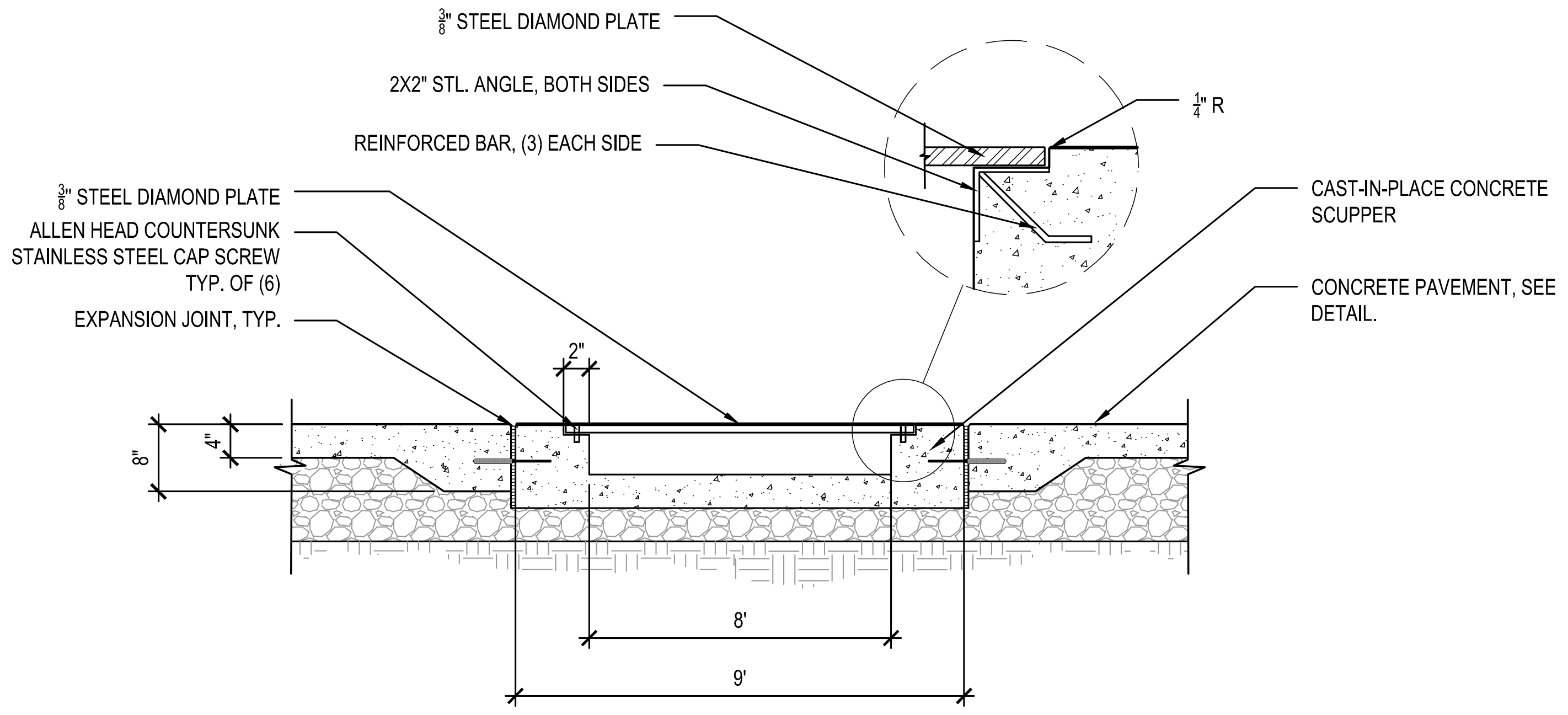
DETAILS

Sheet Number:

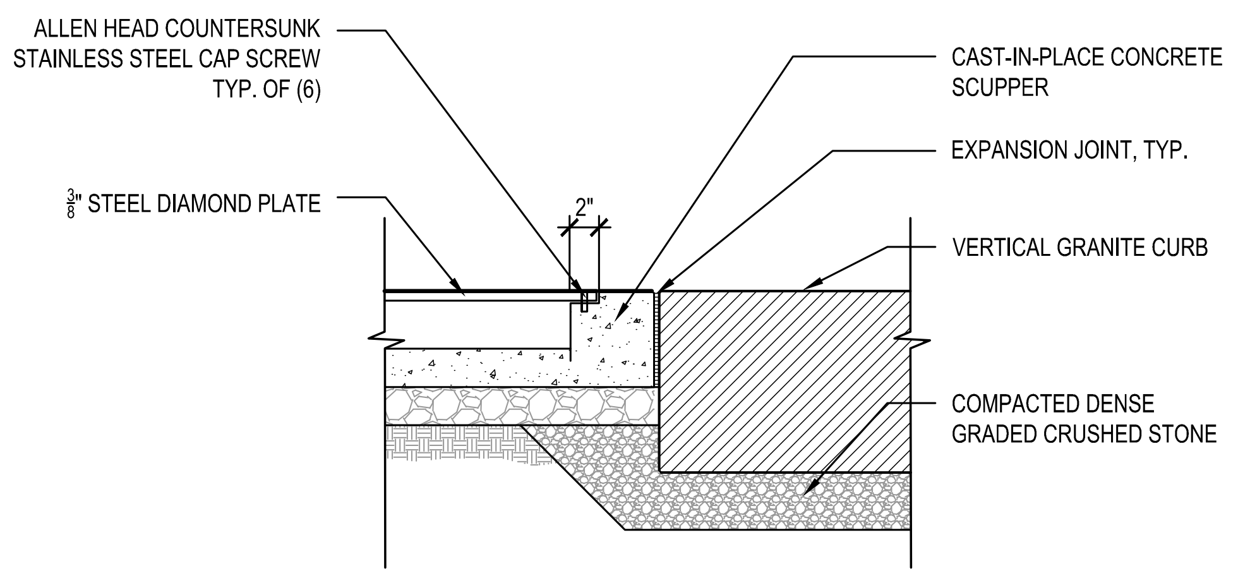
L501



PLAN VIEW



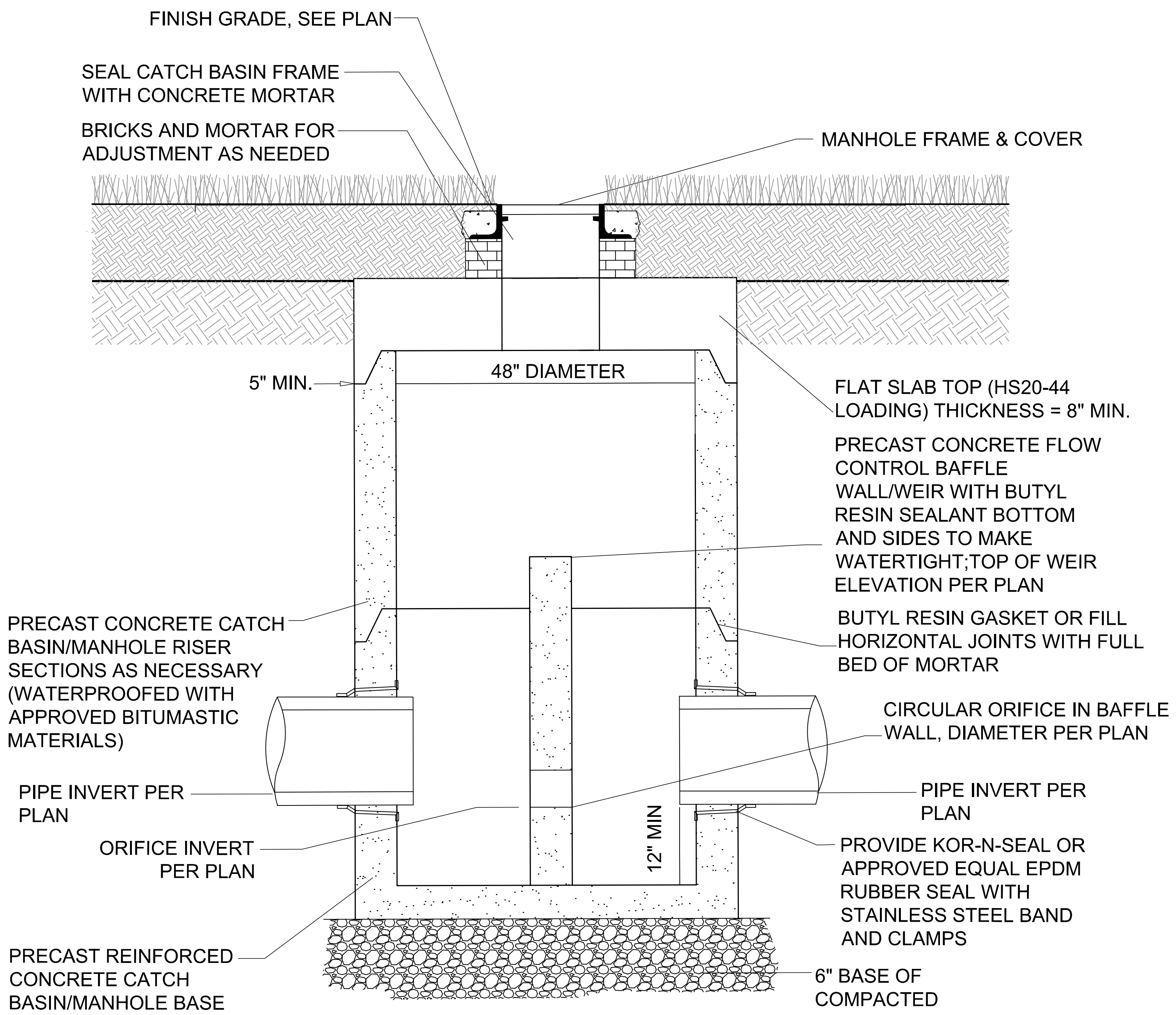
SECTION VIEW



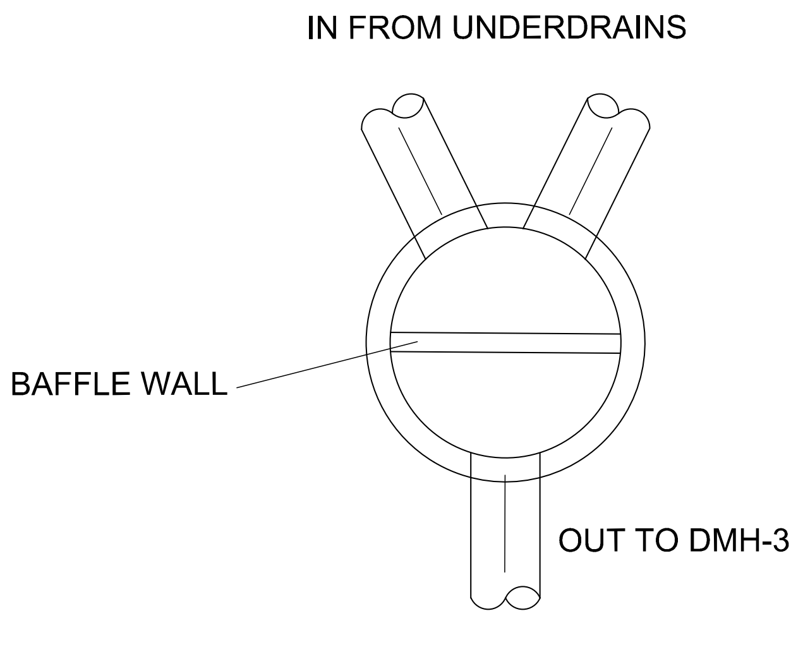
SIDEWALK SCUPPER AT VERTICAL GRANITE CURB

1 SIDEWALK SCUPPER

SCALE: N.T.S.



SECTION VIEW

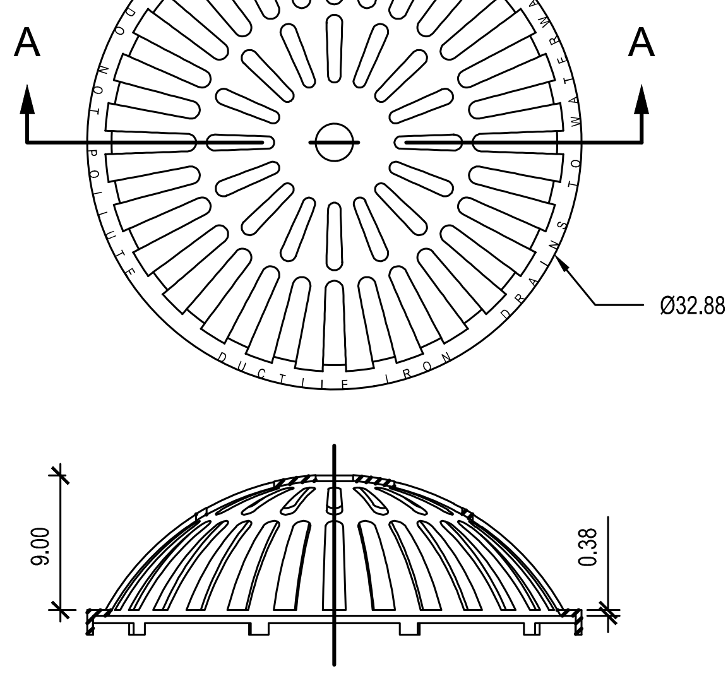


PLAN VIEW

NOTE:
SEE PLANS FOR BAFFLE, ORIFICE, INVERT AND RIM ELEVATIONS

2 OUTLET CONTROL STRUCTURE #2

SCALE: N.T.S.



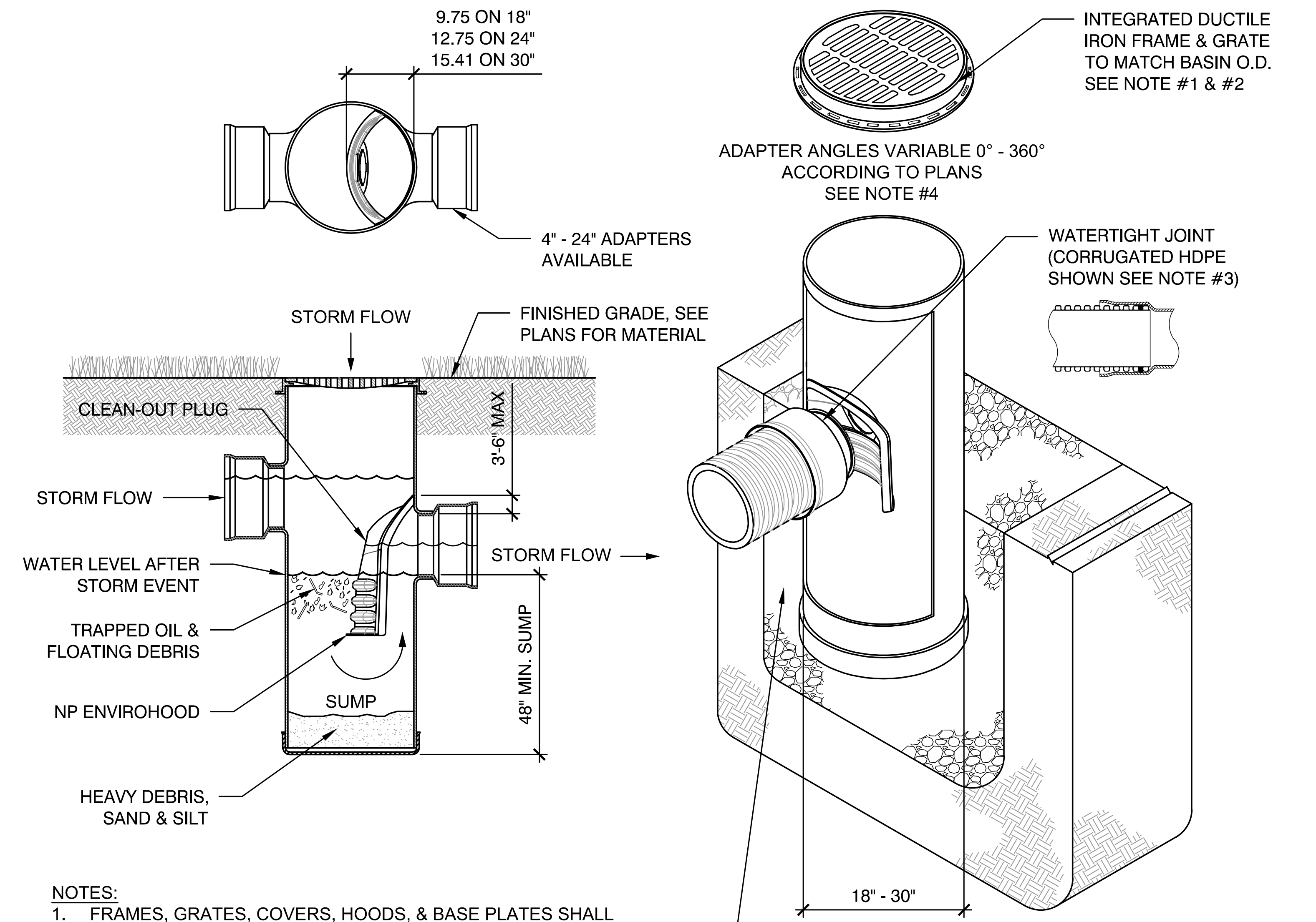
SECTION A-A

NOTE:

1. DIMENSIONS ARE FOR REFERENCE ONLY ACTUAL DIMENSIONS MAY VARY
2. DIMENSIONS ARE IN INCHES
3. QUALITY: MATERIALS SHALL CONFORM TO ASTM A536 GRADE 70-50-05
4. PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT
5. LOCKING DEVICE AVAILABLE UPON REQUEST
6. ALL AREA DRAINS TO HAVE BEEHIVE GRATE INLET
7. APPROX. DRAIN AREA = 409.94 SQ IN
8. APPROX. WEIGHT WITH FRAME = 93.00 LBS

3 BEEHIVE GRATE

SCALE: N.T.S.



THE BACKFILL MATERIAL SHALL BE DENSE GRADED CRUSHED STONE OR OTHER GRANULAR MATERIAL MEETING THE REQUIREMENTS OF CLASS I OR II MATERIAL AS DEFINED IN ASTM D2321. BEDDING & BACKFILL FOR SURFACE DRAINAGE INLETS SHALL BE PLACED & COMPACTED UNIFORMLY IN ACCORDANCE WITH ASTM D2321.

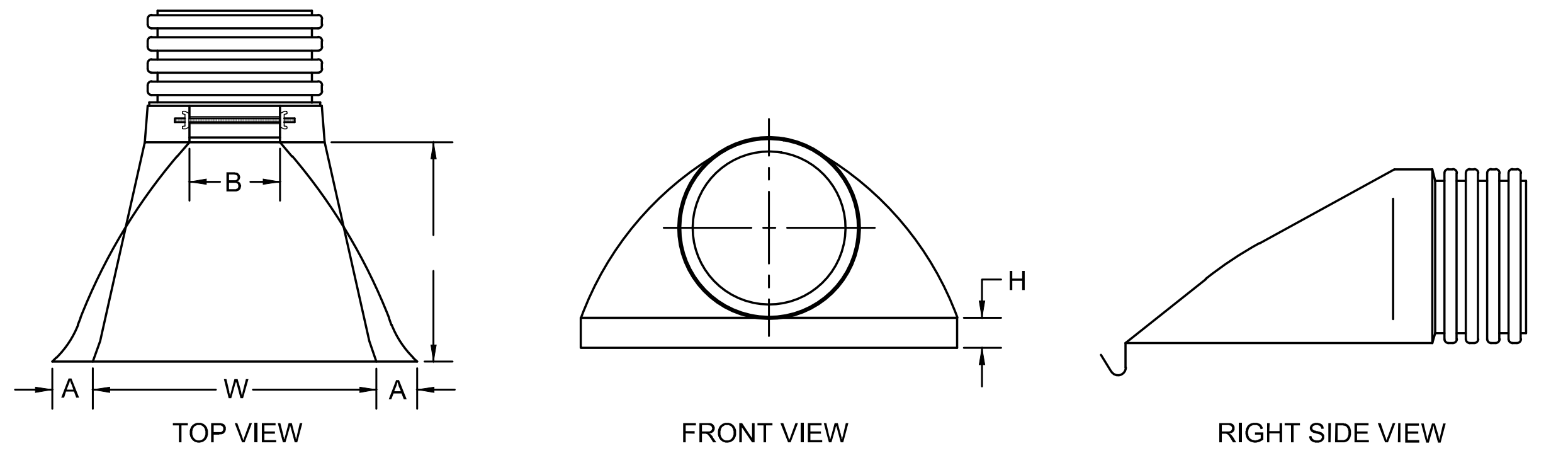
NOTES:

1. FRAMES, GRATES, COVERS, HOODS, & BASE PLATES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
2. DRAIN BASINS TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS MAY BE NEEDED FOR BASINS OVER 84". REFER TO MANUFACTURER'S SPECIFICATIONS.
3. DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP, & PVC SEWER (4" - 18").
4. ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS, REFER TO MANUFACTURER'S SPECIFICATIONS.
5. BEEHIVE GRATES TO BE USED FOR YARD DRAINS IN LAWN AREAS

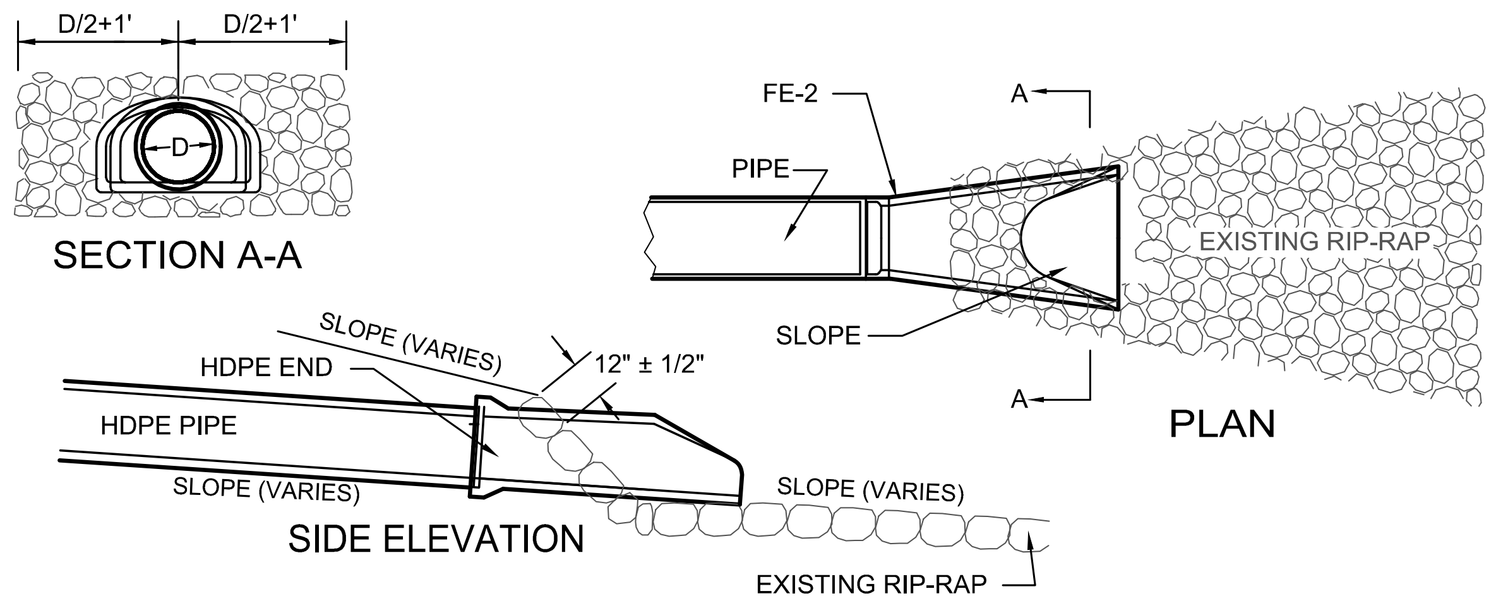
4 YARD DRAIN

SCALE: N.T.S.

PIPE DIAMETER, IN (MM)						
DIAMETER IN (MM)	12 (300)	15 (375)	18 (450)	24 (600)	30 (750)	36 (900)
A IN (MM)	6.5 (165)	6.5 (165)	7.5 (191)	7.5 (191)	7.5 (191)	7.5 (191)
B (MAX) IN (MM)	10.0 (254)	10.0 (254)	15.0 (381)	18.0 (475)	22.0 (559)	25.0 (635)
H IN (MM)	6.5 (165)	6.5 (165)	6.5 (165)	6.5 (165)	8.6 (218)	8.6 (218)
L IN (MM)	25.0 (635)	25.O (635)	32.0 (813)	36.0 (914)	58.0 (1473)	58.0 (1473)
W IN (MM)	29.0 (737)	29.0 (737)	35.0 (889)	45.0 (1143)	63.0 (1600)	63.0 (1600)



TOP VIEW FRONT VIEW RIGHT SIDE VIEW



SECTION A-A

5 FLARED END SECTION

SCALE: N.T.S.

Project:

PORTSMOUTH,
NEW HAMPSHIRE

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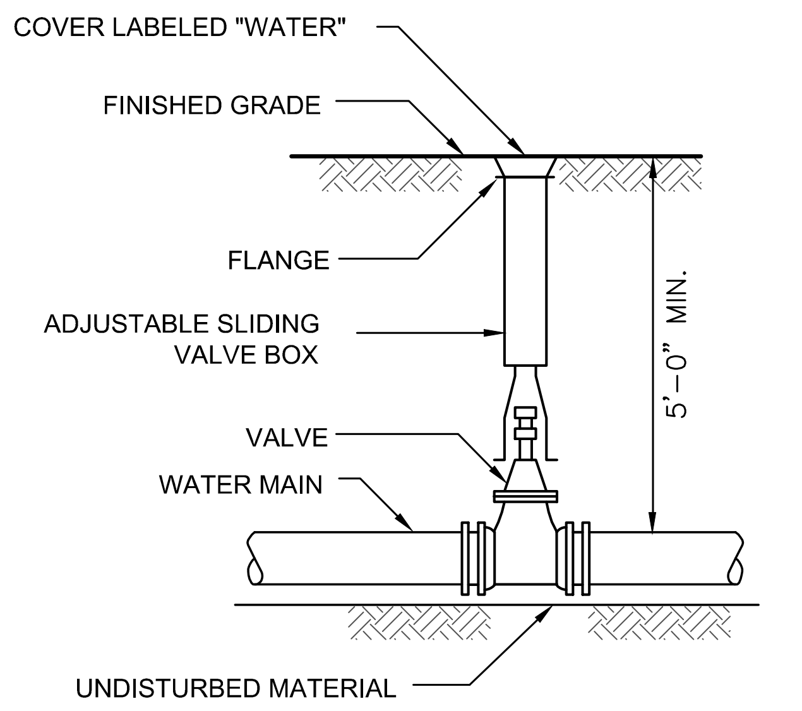
SITE CONSTRUCTION DETAILS

Sheet Number:

L502

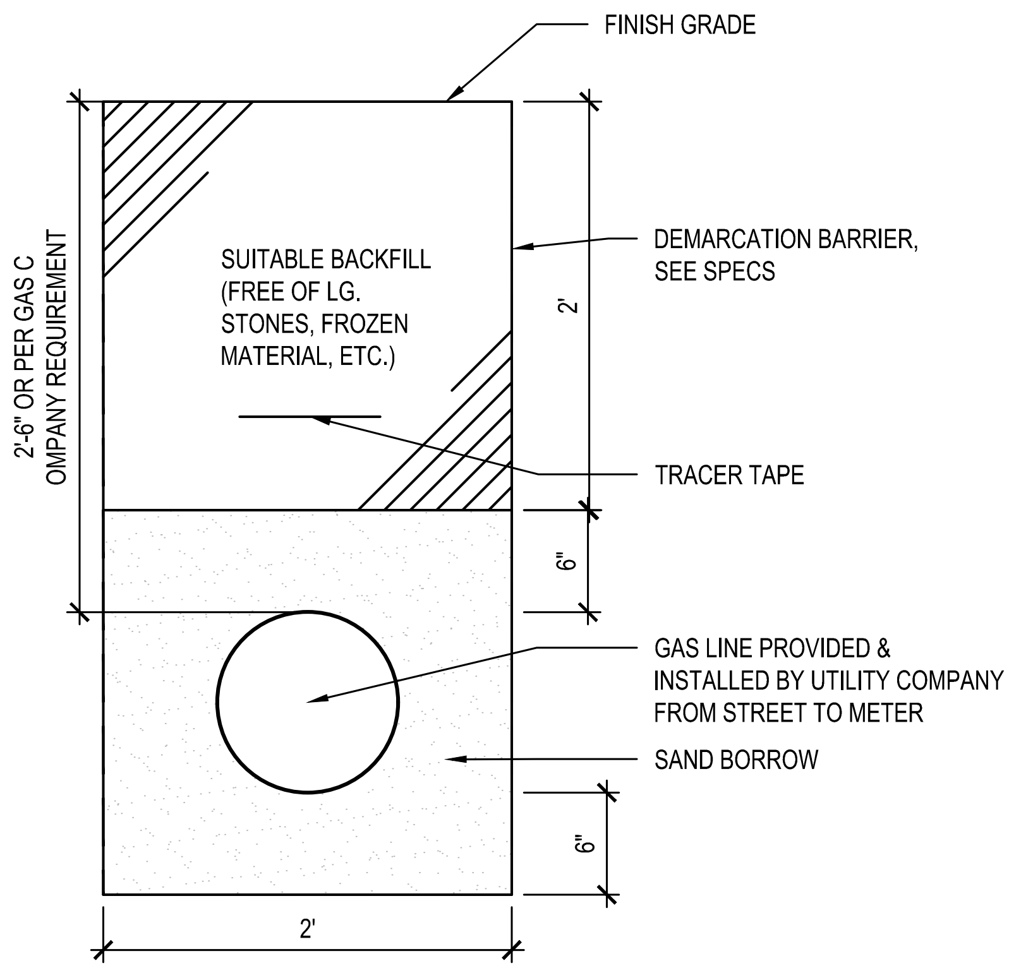
NOTES:

1. GATE VALVE TO BE LOCATED WITHIN ROADWAY PAVEMENT WHERE POSSIBLE
2. PROPER SIZE VALVE BOX SHALL BE INSTALLED WHERE GATE VALVES ARE SHOWN ON PLANS



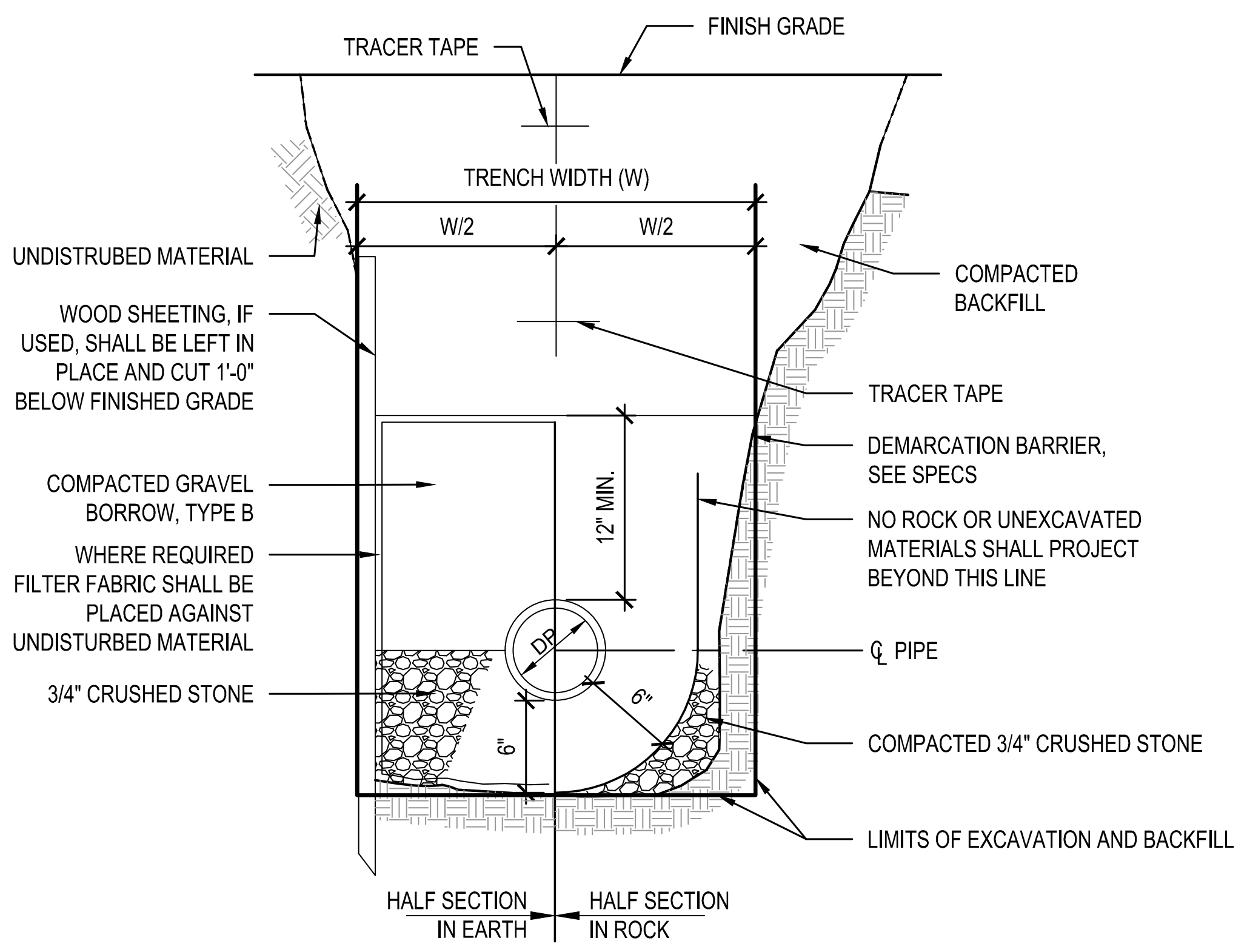
1 VALVE AND BOX DETAIL

SCALE: N.T.S.



2 GAS TRENCH

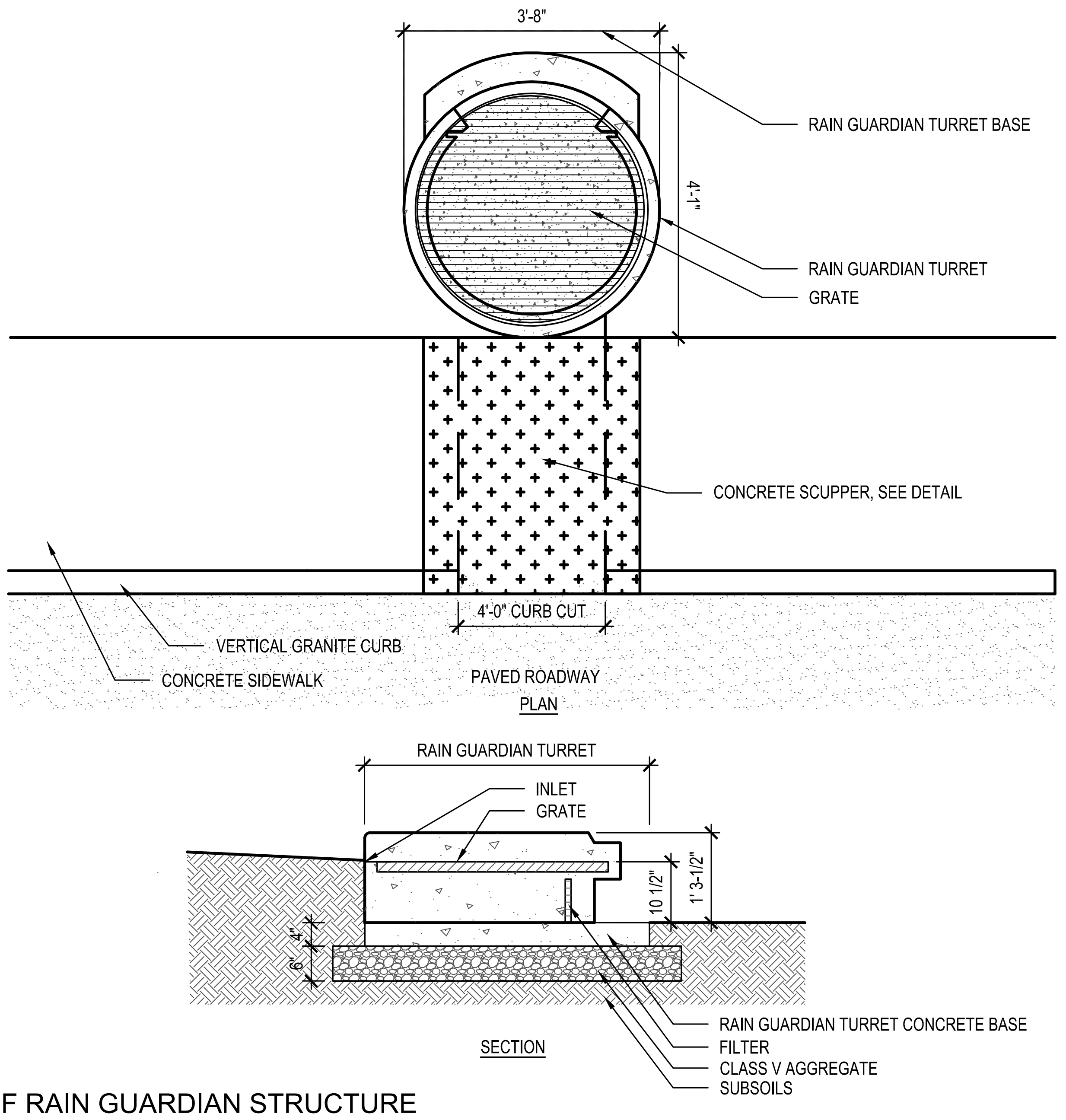
SCALE: N.T.S.



DEPTH TO INVERT	DIAMETER OF PIPE (DP)	MAX. TRENCH WIDTH BELOW LINE OF NARROW TRENCH LIMIT (SHEETED OR UNSHEETED) (W)
0-12'	SEE PLAN	5'-0"

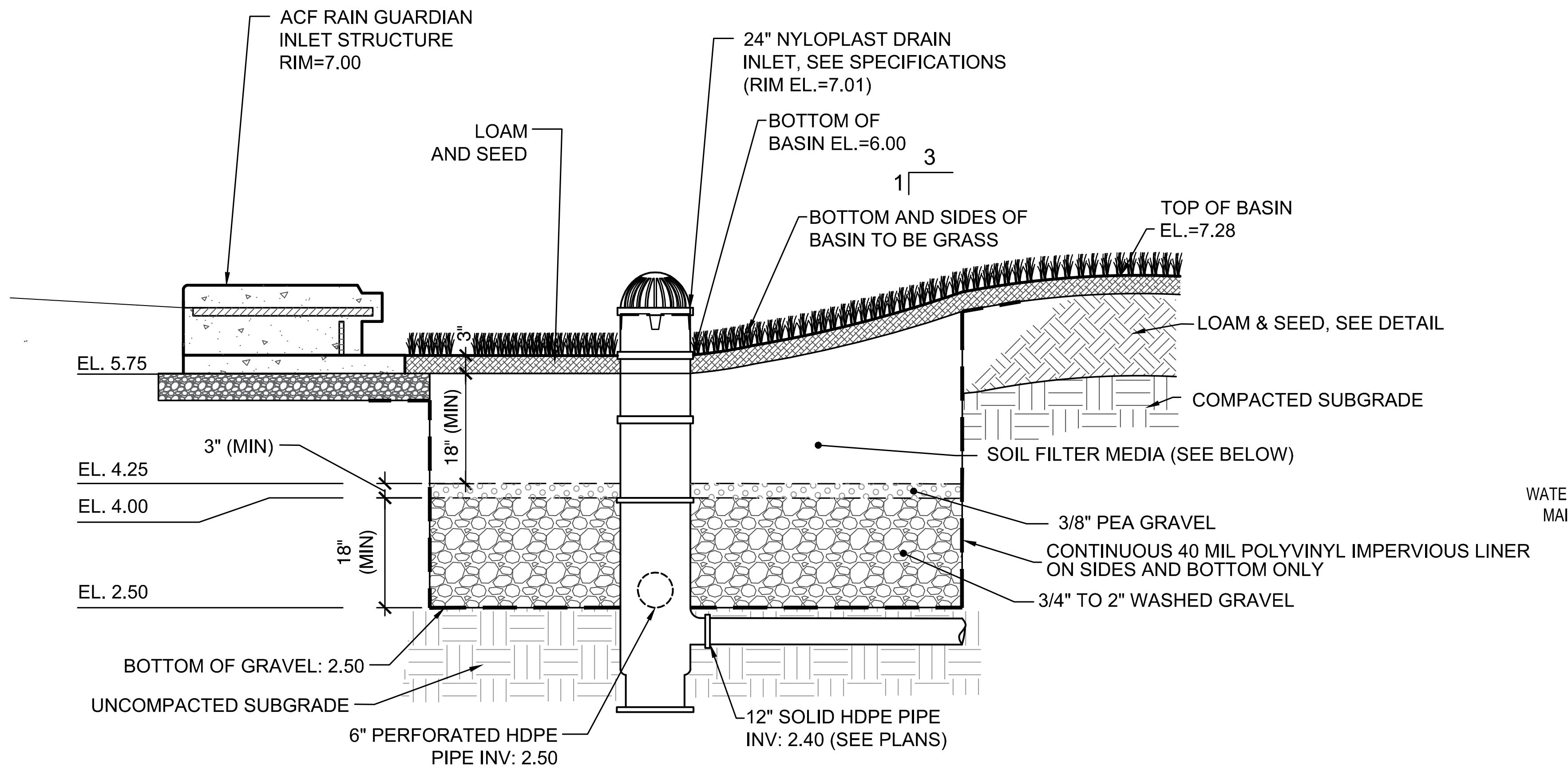
3 SEWER TRENCH

SCALE: N.T.S.



4 ACF RAIN GUARDIAN STRUCTURE

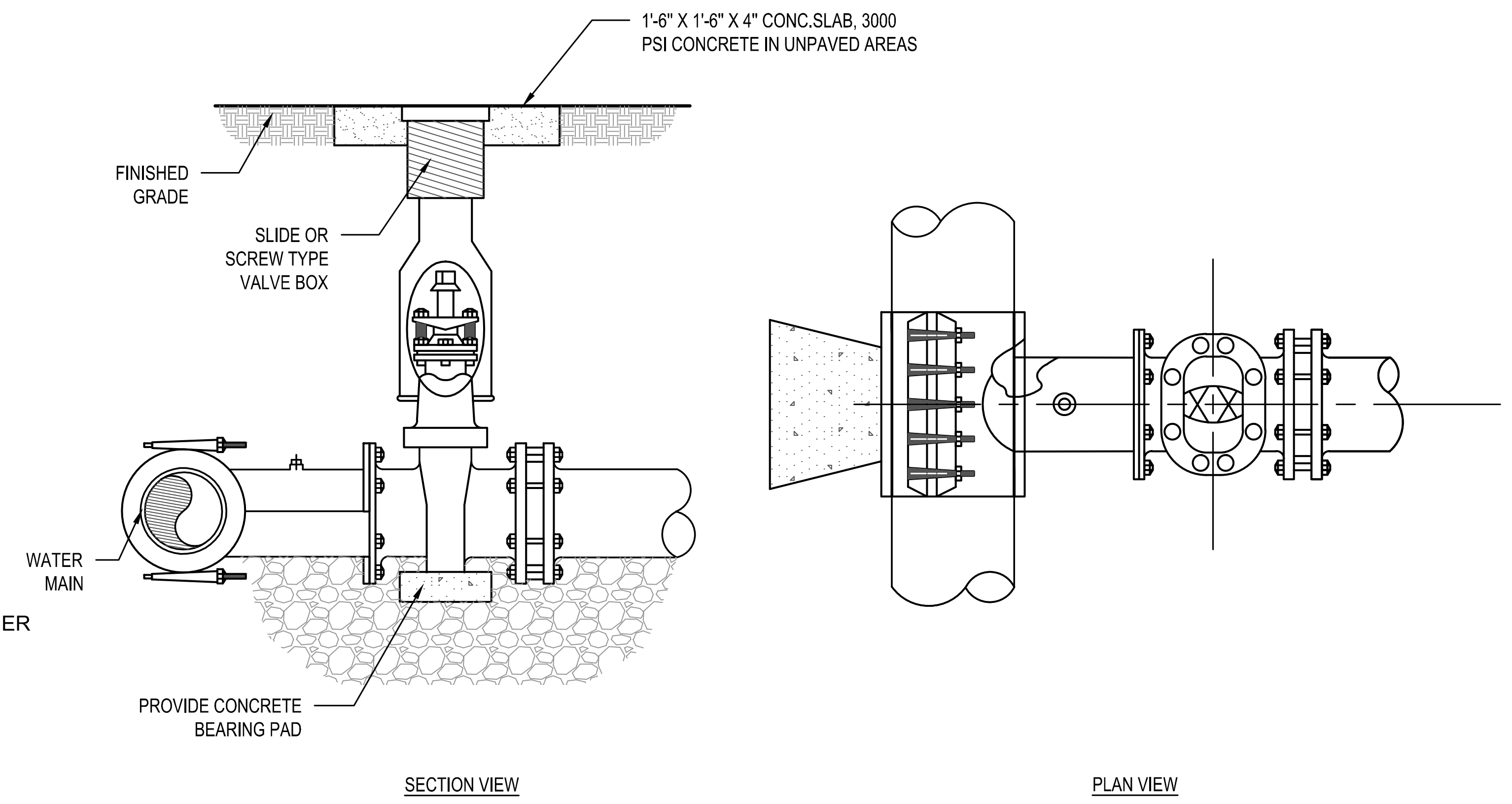
SCALE: N.T.S.



SOIL FILTER MEDIA
50% TO 55% BY VOLUME SAND THAT IS CERTIFIED BY ITS PRODUCER AS MEETING THE REQUIREMENTS FOR ASTM C-33 CONCRETE SAND, 20% TO 30% BY VOLUME OF LOAMY SAND TOPSOIL WITH 15% TO 25% FINES PASSING THE NUMBER 200 SIEVE, AND 20% TO 30% BY VOLUME MODERATELY FINE SHREDDED BARK OR WOOD FIBER MULCH WITH LESS THAN 5% PASSING THE NUMBER 200 SIEVE

5 BIORETENTION BASIN #1

SCALE: N.T.S.

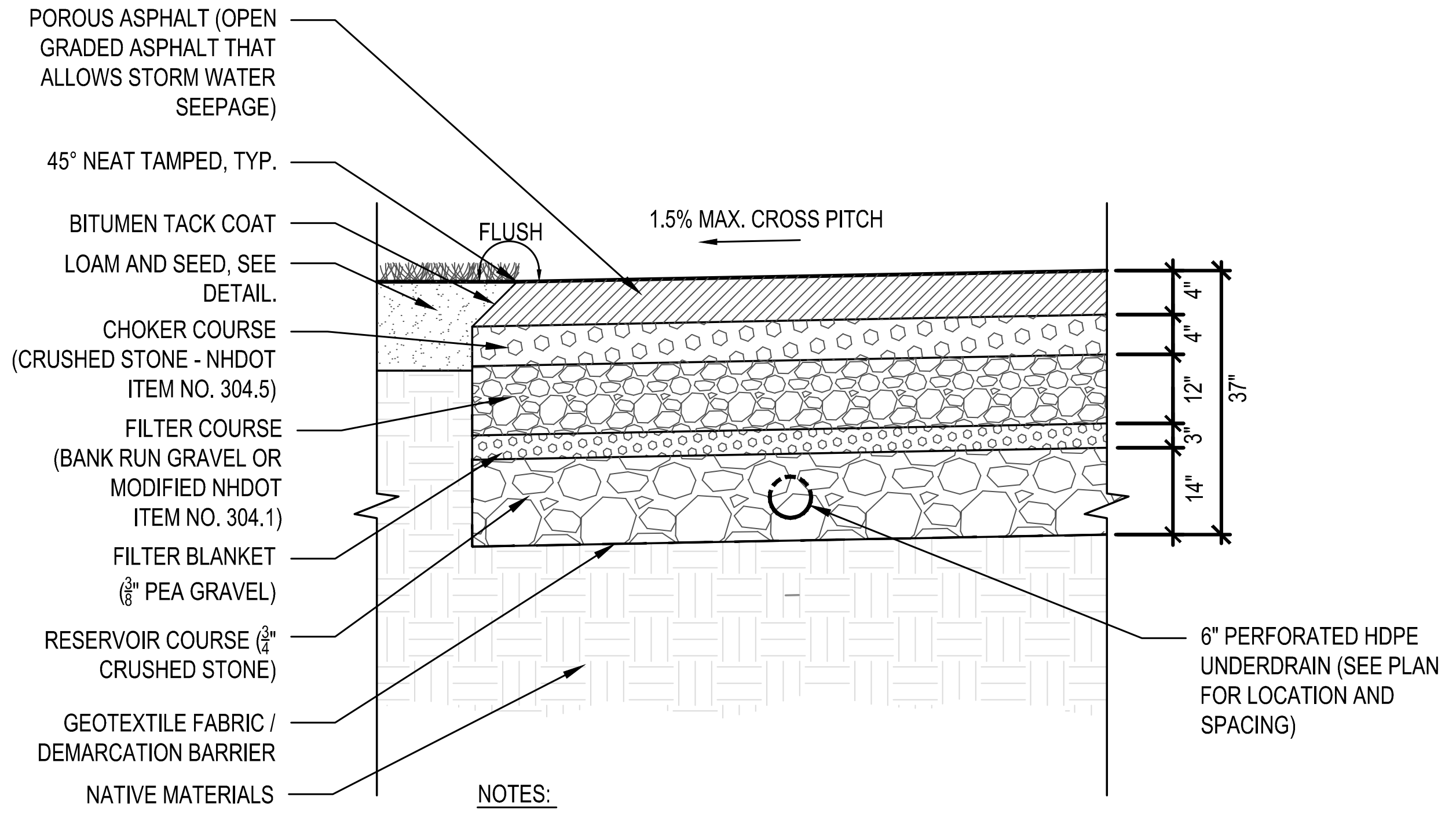


NOTE:

1. PLACE TAPPING VALVE ON 4" CONCRETE BLOCK. PLACE BLOCK ON 6" COMPACTED #57 STONE. BACKFILL AROUND SLEEVE AND VALVE WITH STONE TO TOP OF PIPE.

6 TAPPING SLEEVE AND GATE VALVE DETAIL

SCALE: N.T.S.

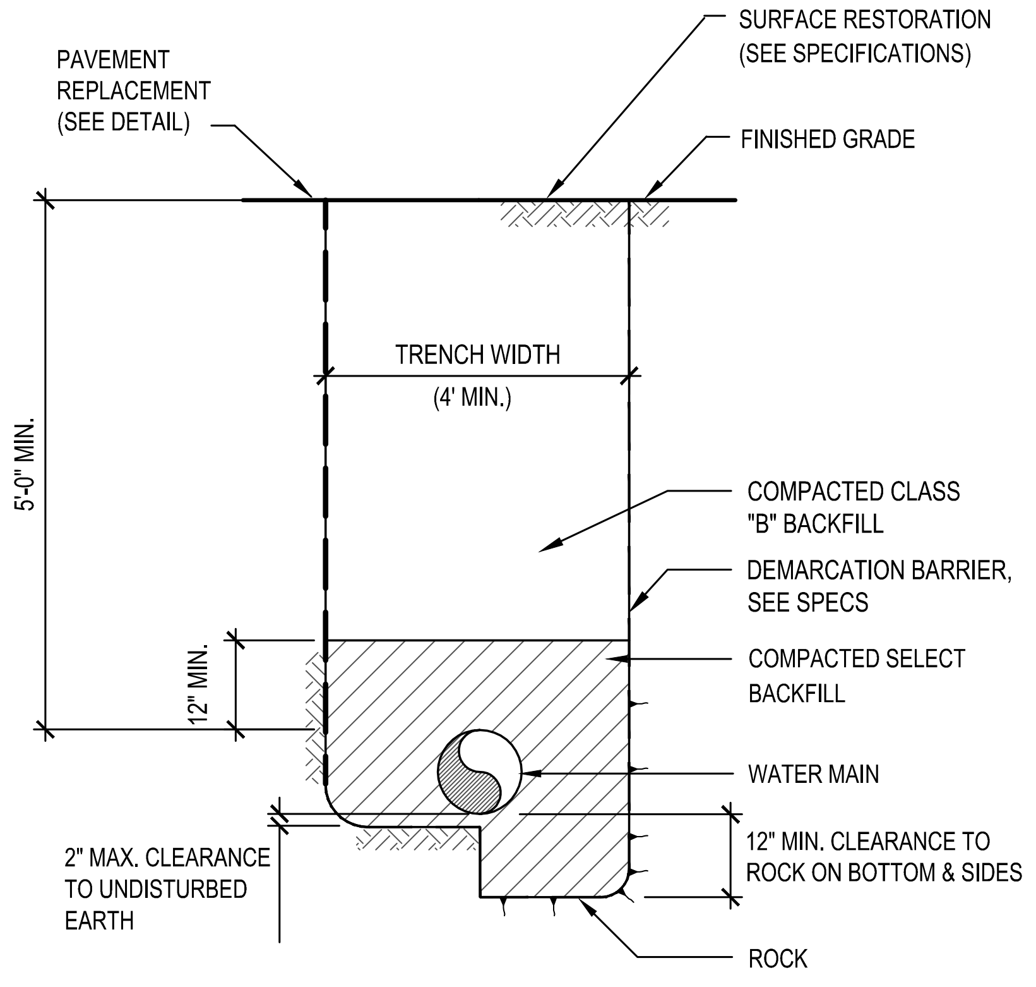


NOTES:

1. ALL AGGREGATE MATERIAL SHALL BE FREE OF FINES.
2. SURFACE SLOPE SHALL BE A MINIMUM OF 1% AND A MAXIMUM OF 5% (EXCEPT FOR IN ADA PARKING AREA, WHERE SLOPES SHALL NOT EXCEED 2% IN ANY DIRECTION).
3. THE MINIMUM AGGREGATE THICKNESS ARE AFTER COMPACTION. SEE SPECIFICATIONS FOR RECOMMENDED COMPACTION.
4. WHERE POROUS PAVEMENT IS LOCATED IN AREAS WHERE GRANITE BOULDER EXISTS, THE CONTRACTOR SHALL SAWCUT AND REMOVE GRANITE BOULDER A MINIMUM OF 18" DEEP TO RECEIVE THE FULL PROFILE OF THE POROUS PAVEMENT.

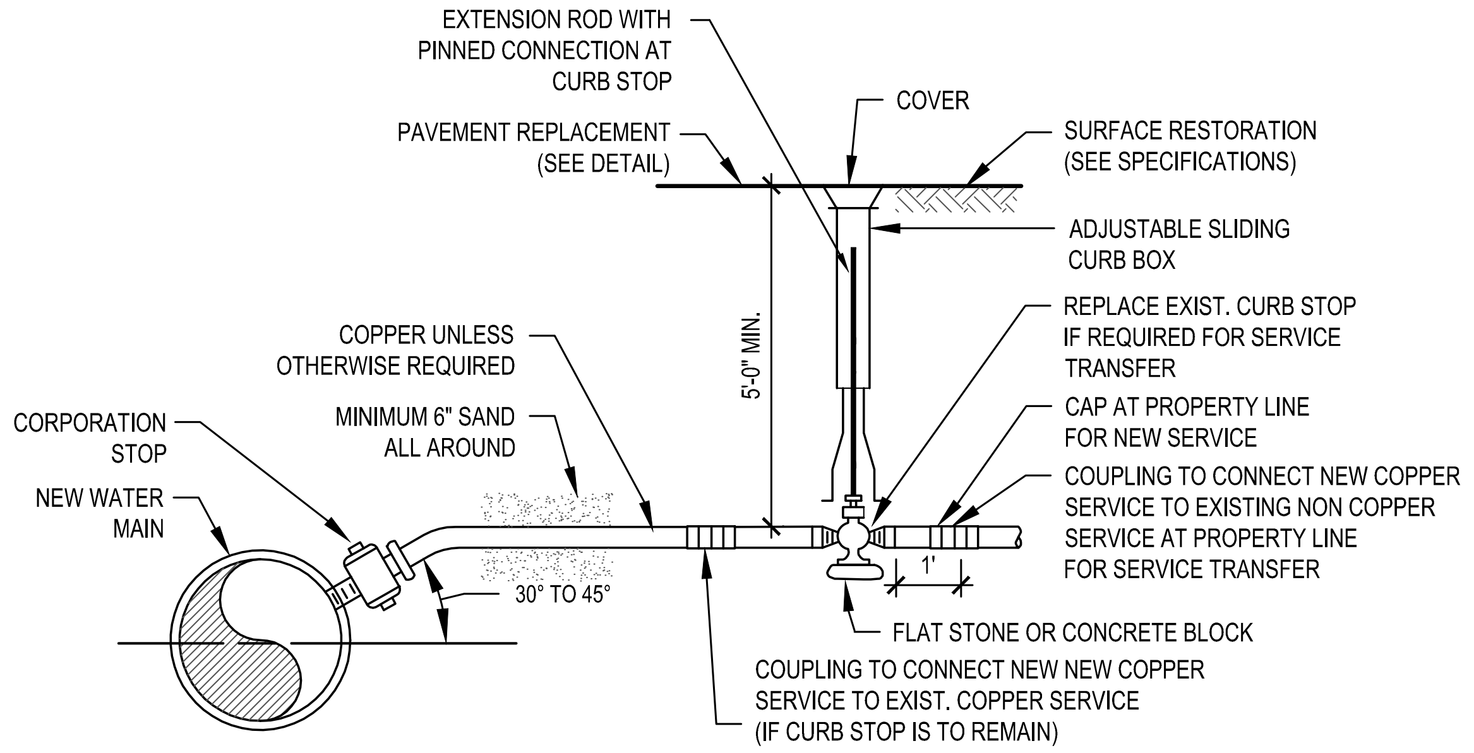
7 POROUS PAVEMENT DETAIL

SCALE: N.T.S.



8 WATER TRENCH DETAIL

SCALE: N.T.S.



NOTES:

1. PROVIDE SADDLE FOR ALL AC AND PVC MAINS AND ALL 2" OR LARGER STOPS.
2. TRACER WIRE SHALL BE #12 AWG SOLID COPPER WITH 30 MIL BLUE HDPE INSULATION.
3. IF CURB IS IN LAWN AREA, EXTEND TRACER WIRE UP THE OUTSIDE OF BOX, WRAP END THREE TIMES AROUND BOX AND LEAVE APPROXIMATELY ONE INCH BELOW THE OUTSIDE TOP OF BOX. IF CURB BOX IS IN PAVEMENT AREA, EXTEND TRACER WIRE UP THE INSIDE OF BOX LEAVING THREE FEET COILED UP INSIDE TOP OF BOX.
4. TRACER WIRE SHALL BE CONNECTED TO CORPORATION STOP WITH BRASS THAW WIRE NUT COMPRESSION ASSEMBLY WITH SET SCREW.

9 WATER SERVICE DETAIL

SCALE: N.T.S.

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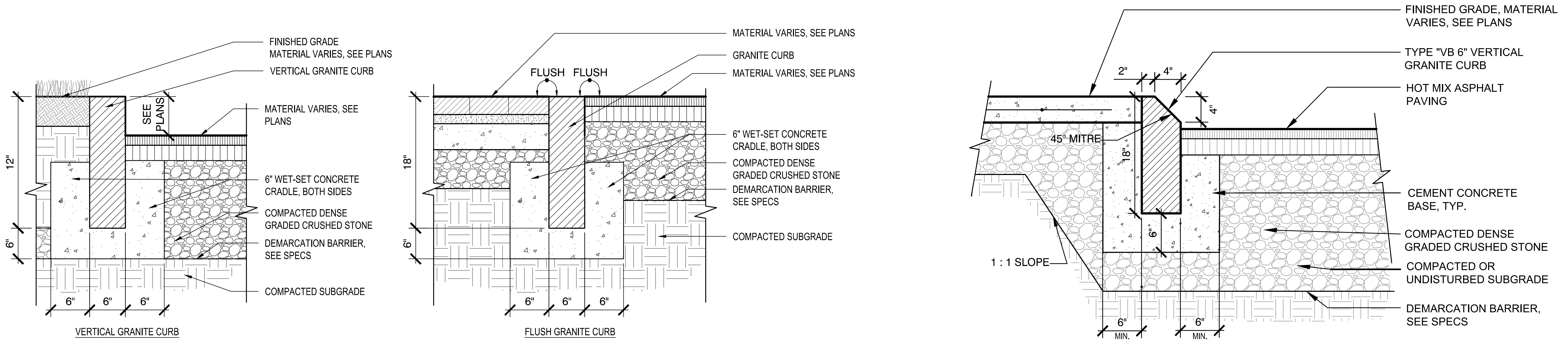
NOTES:
1. CEMENT CONCRETE SHALL EXTEND TO THE BOTTOM OF THE BITUMINOUS CONCRETE TOP COURSE.
2. ANY CLASS OF CEMENT CONCRETE ACCEPTABLE UNDER SECTION M4 OF THE MASS. "SSHB" MAY BE USED.



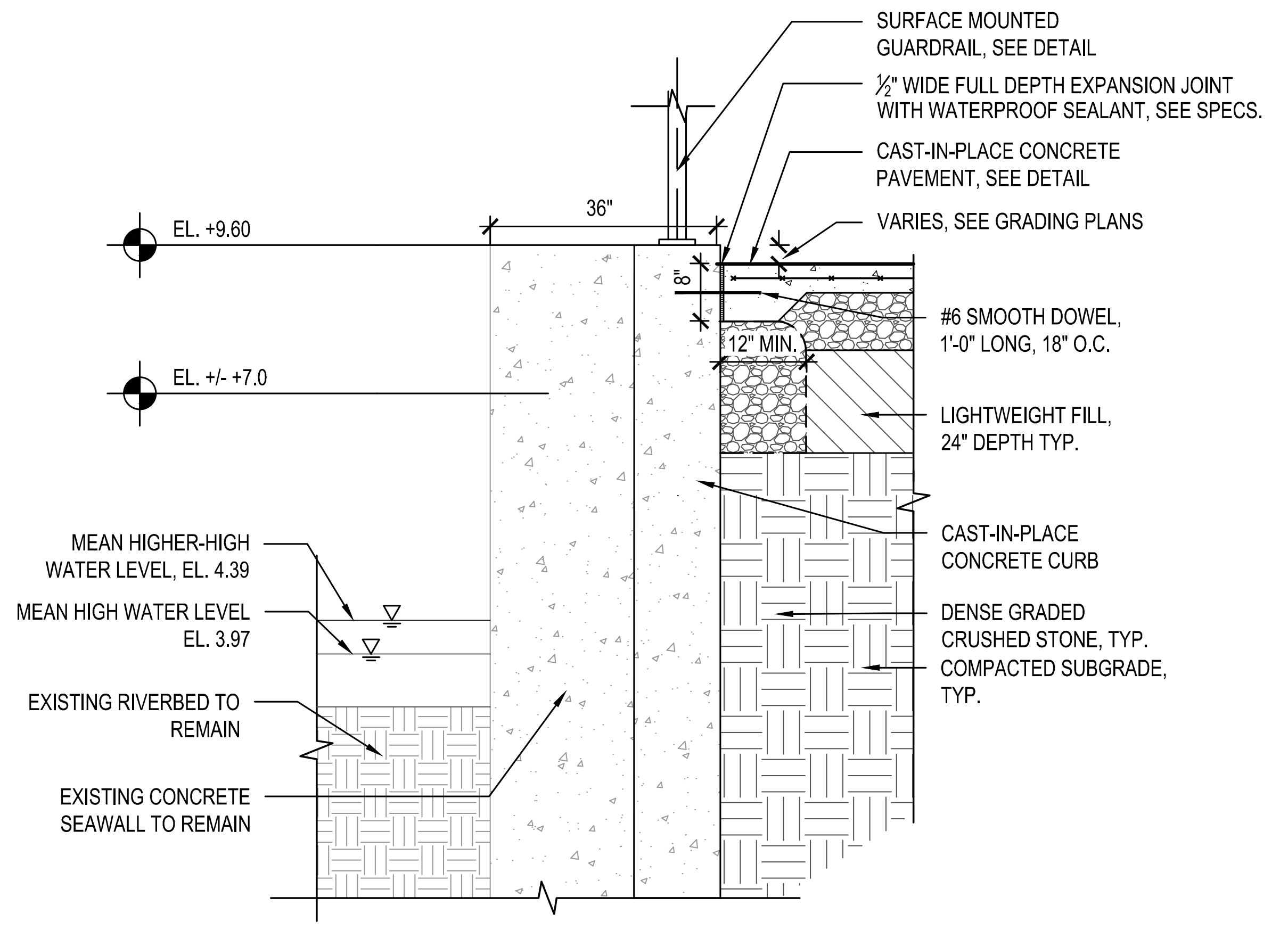
VERTICAL GRANITE CURB

FLUSH GRANITE CURB

MOUNTABLE GRANITE CURB

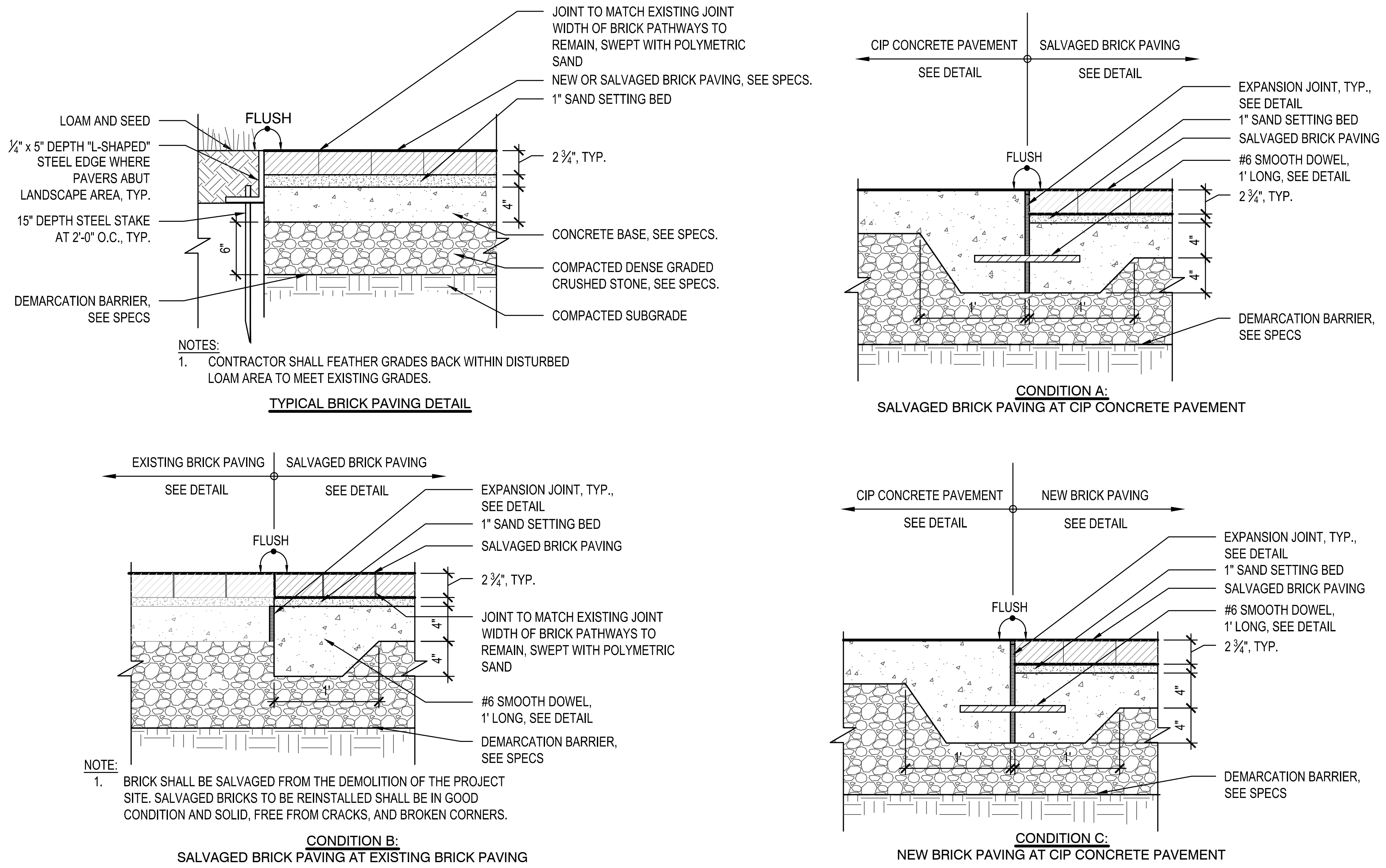
1 GRANITE CURB - MULTIPLE CONDITIONS

SCALE: N.T.S.



2 PAVEMENT AT EXISTING SEAWALL

SCALE: N.T.S.



NOTES:
1. CONTRACTOR SHALL FEATHER GRADES BACK WITHIN DISTURBED LOAM AREA TO MEET EXISTING GRADES.

TYPICAL BRICK PAVING DETAIL

CONDITION A:
SALVAGED BRICK PAVING AT CIP CONCRETE PAVEMENT

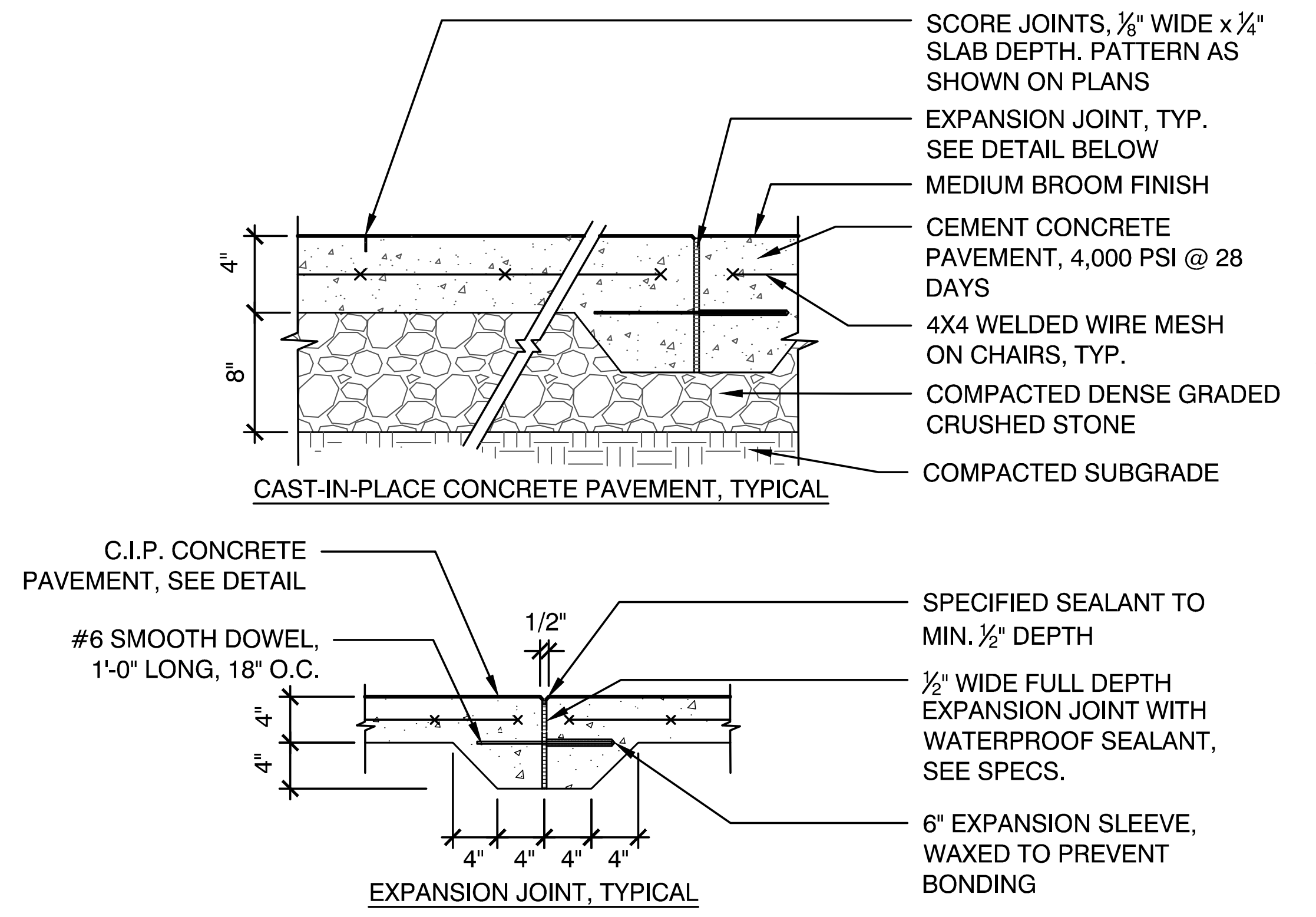
NOTE:
1. BRICK SHALL BE SALVAGED FROM THE DEMOLITION OF THE PROJECT SITE. SALVAGED BRICKS TO BE REINSTALLED SHALL BE IN GOOD CONDITION AND SOLID, FREE FROM CRACKS, AND BROKEN CORNERS.

CONDITION B:
SALVAGED BRICK PAVING AT EXISTING BRICK PAVING

CONDITION C:
NEW BRICK PAVING AT CIP CONCRETE PAVEMENT

3 BRICK PAVING- MULTIPLE CONDITIONS

SCALE: NTS



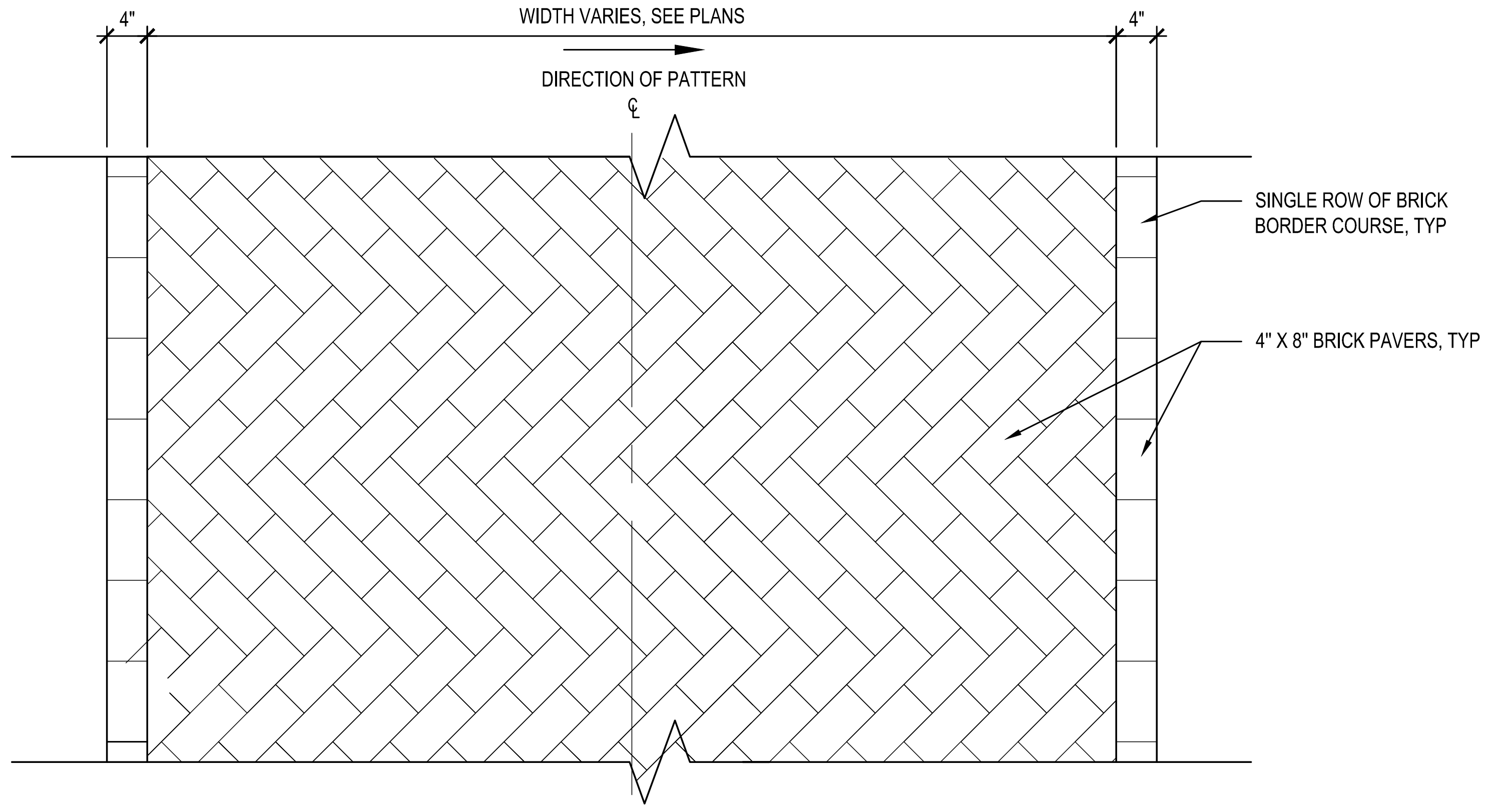
CAST-IN-PLACE CONCRETE PAVEMENT, TYPICAL

EXPANSION JOINT, TYPICAL

EXPANSION JOINT INSTALLATION NOTES:
1. DOWEL IS TYPICAL AT ALL EXPANSION JOINTS (18" O.C.) WITHIN CONCRETE PAVING AND BETWEEN NEW CONCRETE PAVING AND EXISTING CONCRETE PAVING TO REMAIN.
2. DELETE EXPANSION SLEEVE AND DOWEL WHERE JOINT ABUTS WALL, CURBS, OR OTHER VERTICAL SURFACES, UNLESS OTHERWISE NOTED.
3. EXPANSION JOINTS MAX. 25'-0" O.C. UNLESS SHOWN OTHERWISE.
4. EXPANSIONS JOINTS SHALL BE PLACED WHERE NEW CEMENT CONCRETE PAVEMENT MEETS EXISTING PAVEMENT OR WALLS TO REMAIN.
5. ALL SCORE JOINTS SHALL BE SAW CUT.

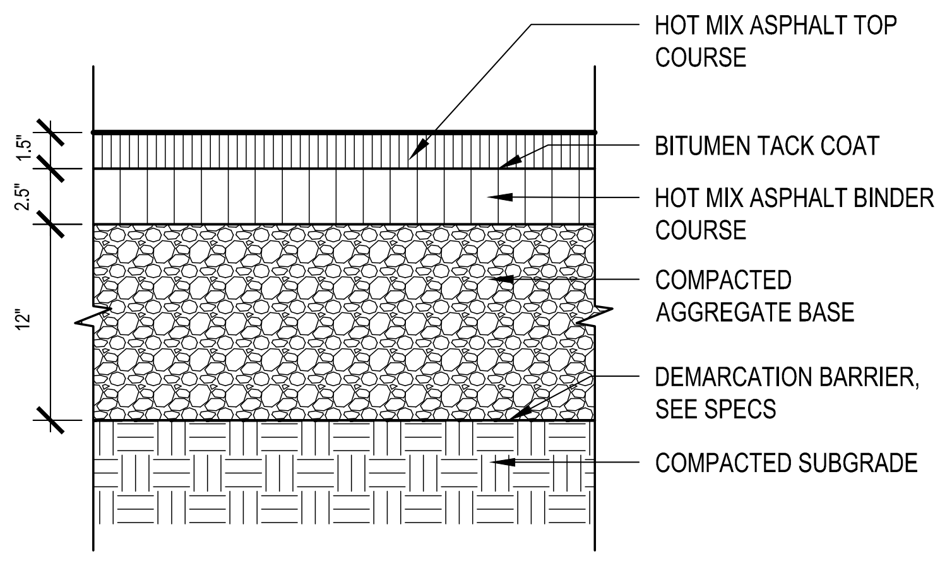
4 CAST-IN-PLACE CONCRETE PAVEMENT

SCALE: N.T.S.



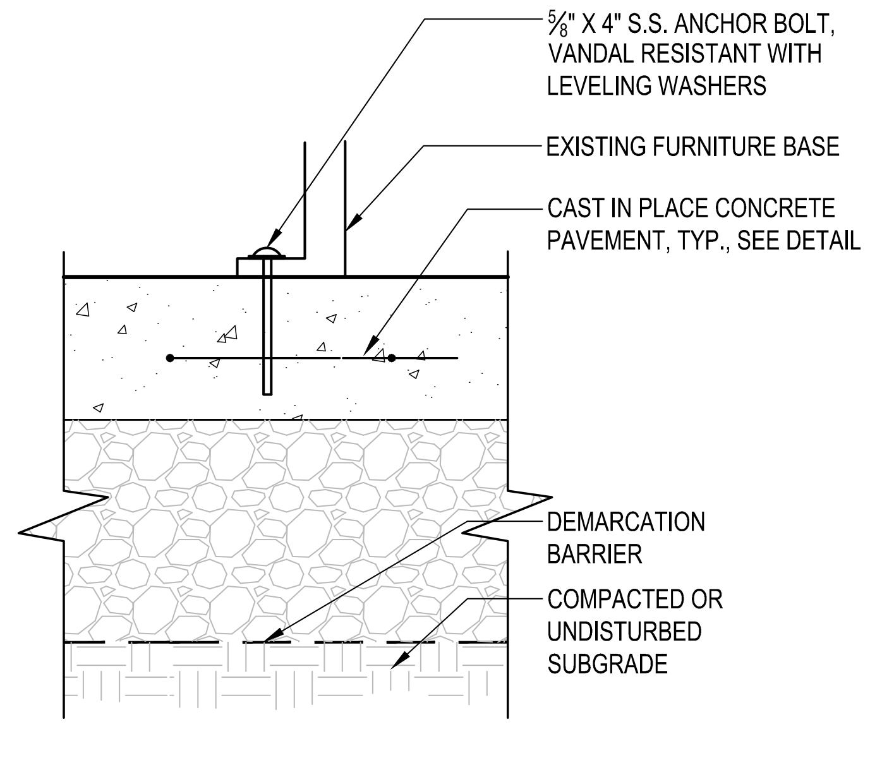
5 BRICK PAVING PATTERN

SCALE: N.T.S.



6 VEHICULAR HOT MIX ASPHALT PAVEMENT

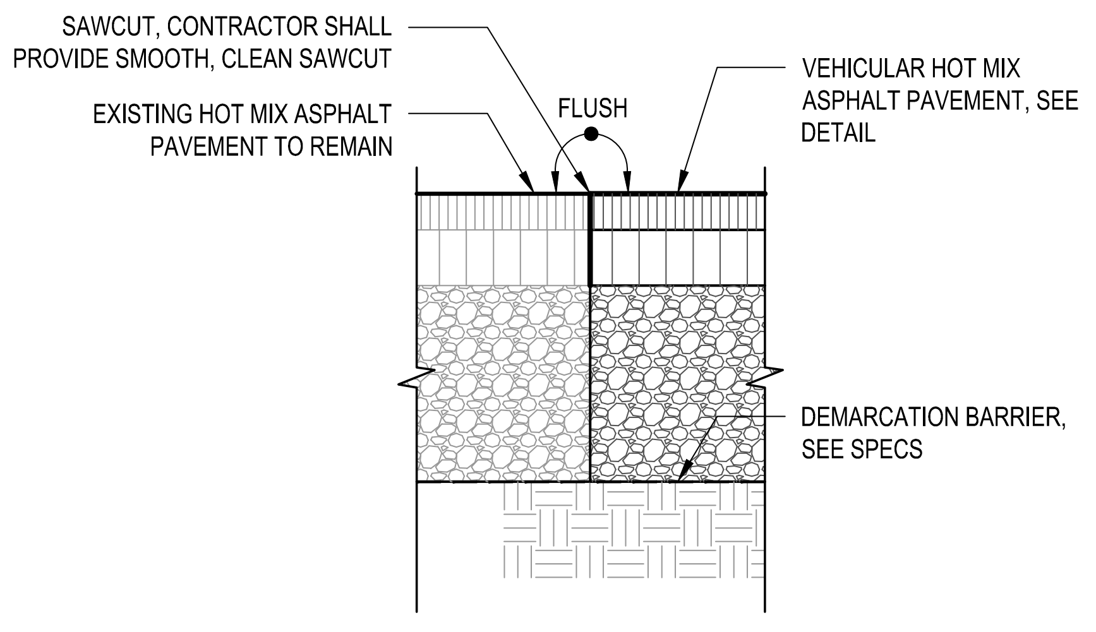
SCALE: N.T.S.



NOTE:
1. ALL SITE FURNISHINGS SHALL BE SURFACE MOUNTED
2. **ALL BENCHES ARE SALVAGED**

7 FURNITURE SURFACE MOUNT

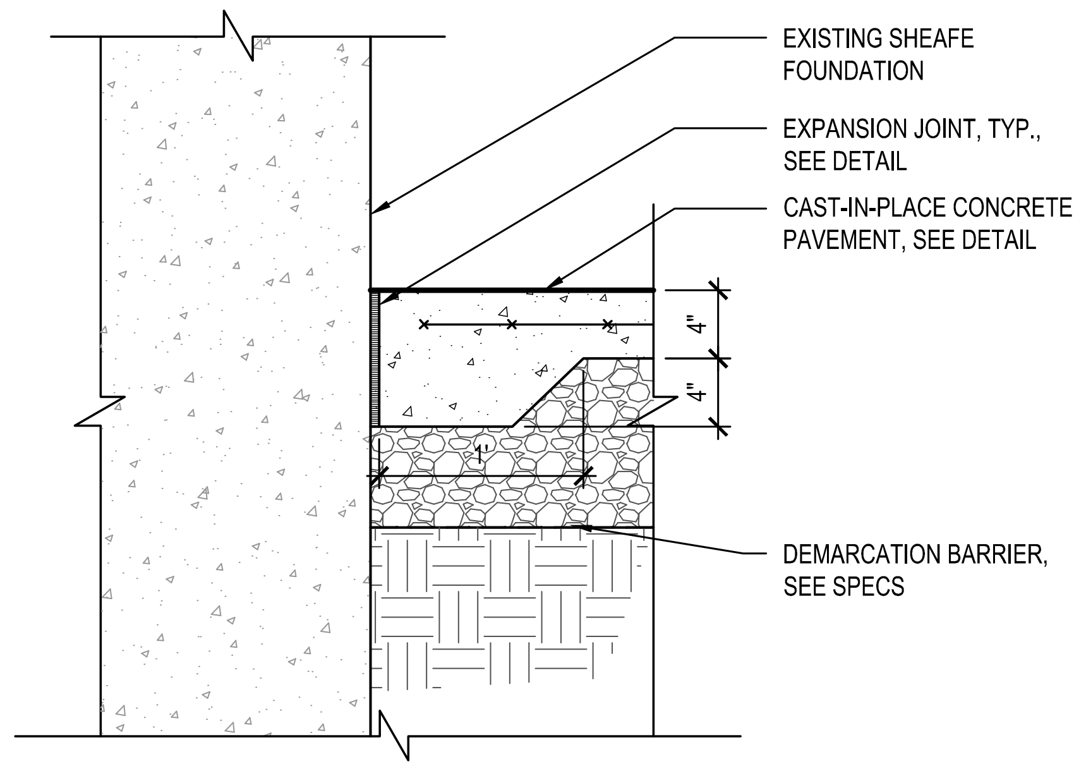
SCALE: N.T.S.



NOTES:
1. CONTRACTOR TO PROVIDE SMOOTH TRANSITION WHERE NEW PAVEMENT ABUTS EXISTING PAVEMENT, TYP.
2. DENSE GRADED CRUSHED STONE TO COMPRISE OF 12" MINIMUM DEPTH.

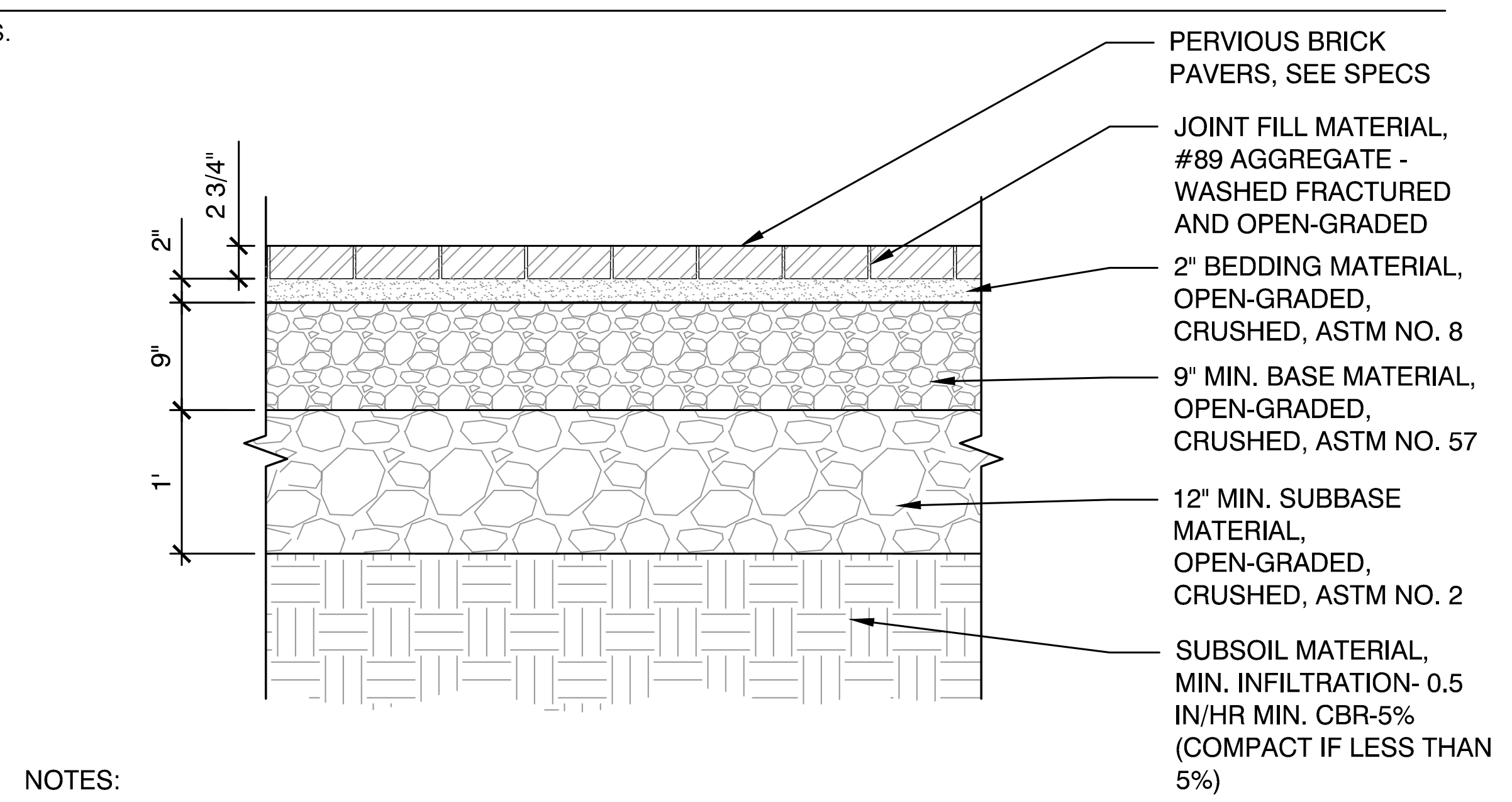
8 HOT MIX ASPHALT PATCH AT EXISTING

SCALE: N.T.S.



9 CIP CONCRETE PAVEMENT AT EX. BUILDING THRESHOLD

SCALE: N.T.S.



NOTES:
1. ALL AGGREGATE MATERIAL SHALL BE CRUSHED, ANGULAR STONE AND FREE OF FINES.
2. SURFACE SLOPE SHALL BE A MINIMUM OF 1% AND MAXIMUM OF 5%.
3. INSTALL PVC UNDERDRAIN PIPE WHERE INFILTRATION RATE OF SUBSOIL IS LESS THAN 0.5 IN./HR.
4. MAINTAIN A MINIMUM DISTANCE OF 2' BETWEEN BOTTOM OF PERMEABLE BASE AND WATER TABLE.
5. THE MINIMUM AGGREGATE THICKNESS IS THE THICKNESS AFTER COMPACTION.

10 PERMEABLE BRICK PAVERS

SCALE: N.T.S.

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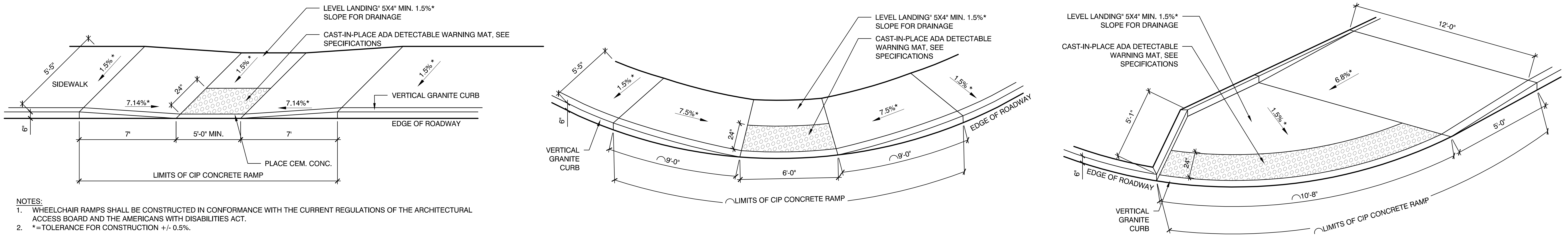


NOTES:
1. WHEELCHAIR RAMPS SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE CURRENT REGULATIONS OF THE ARCHITECTURAL ACCESS BOARD AND THE AMERICANS WITH DISABILITIES ACT.
2. *=TOLERANCE FOR CONSTRUCTION +/- 0.5%.

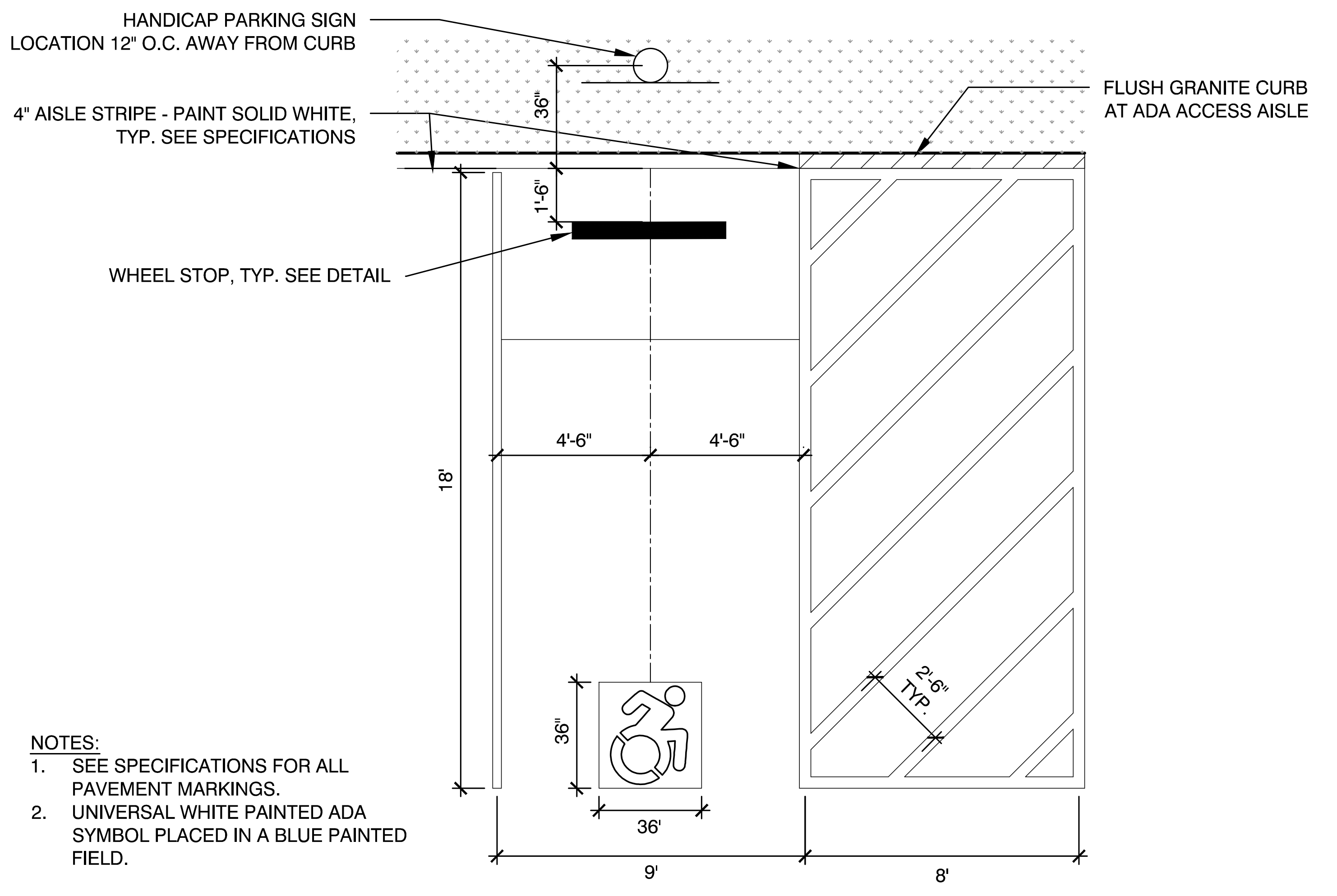
TYPE A

TYPE B

TYPE C

1 ADA CURB CUT - 3 TYPES

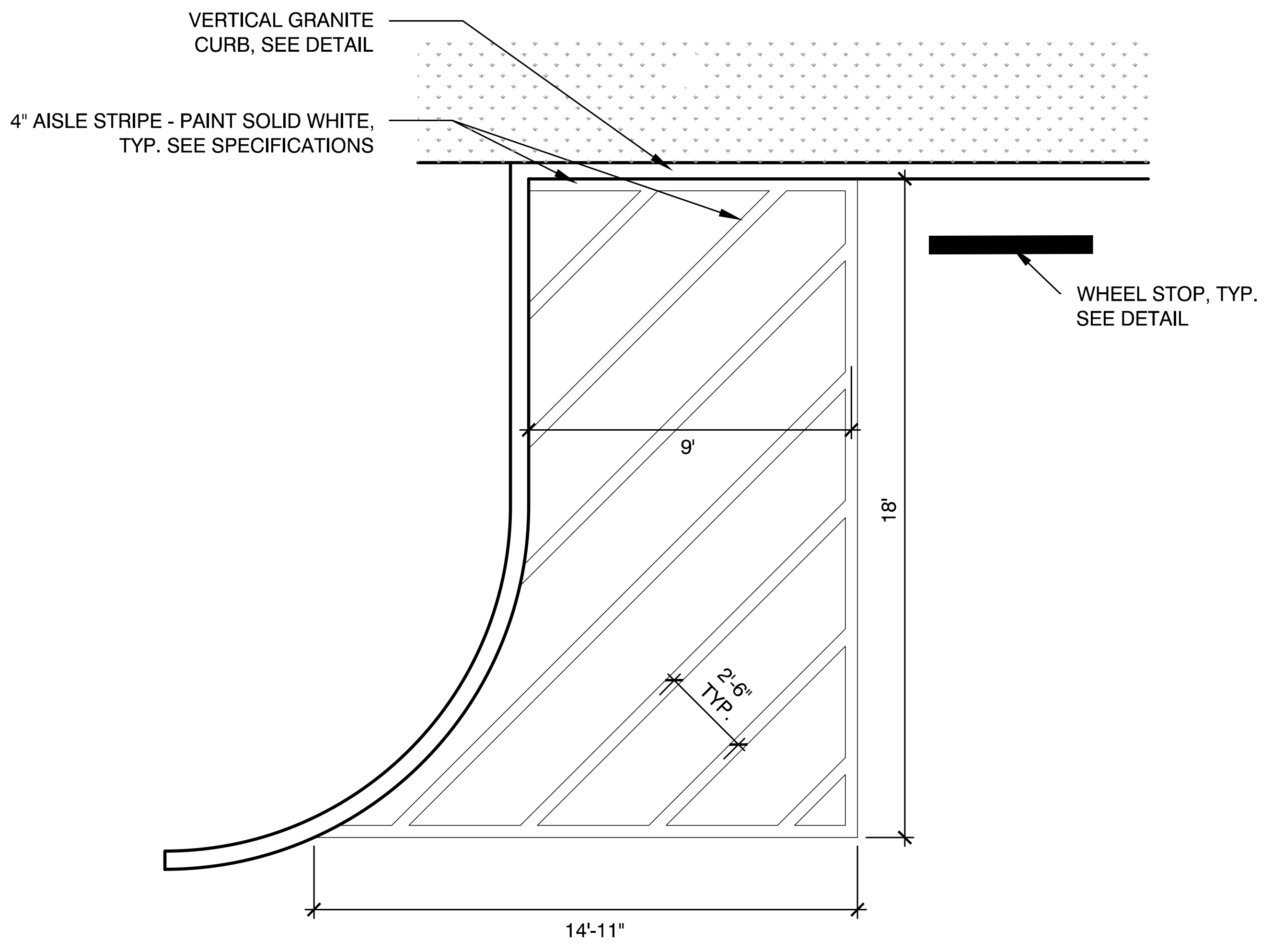
SCALE: N.T.S.



NOTES:
1. SEE SPECIFICATIONS FOR ALL PAVEMENT MARKINGS.
2. UNIVERSAL WHITE PAINTED ADA SYMBOL PLACED IN A BLUE PAINTED FIELD.

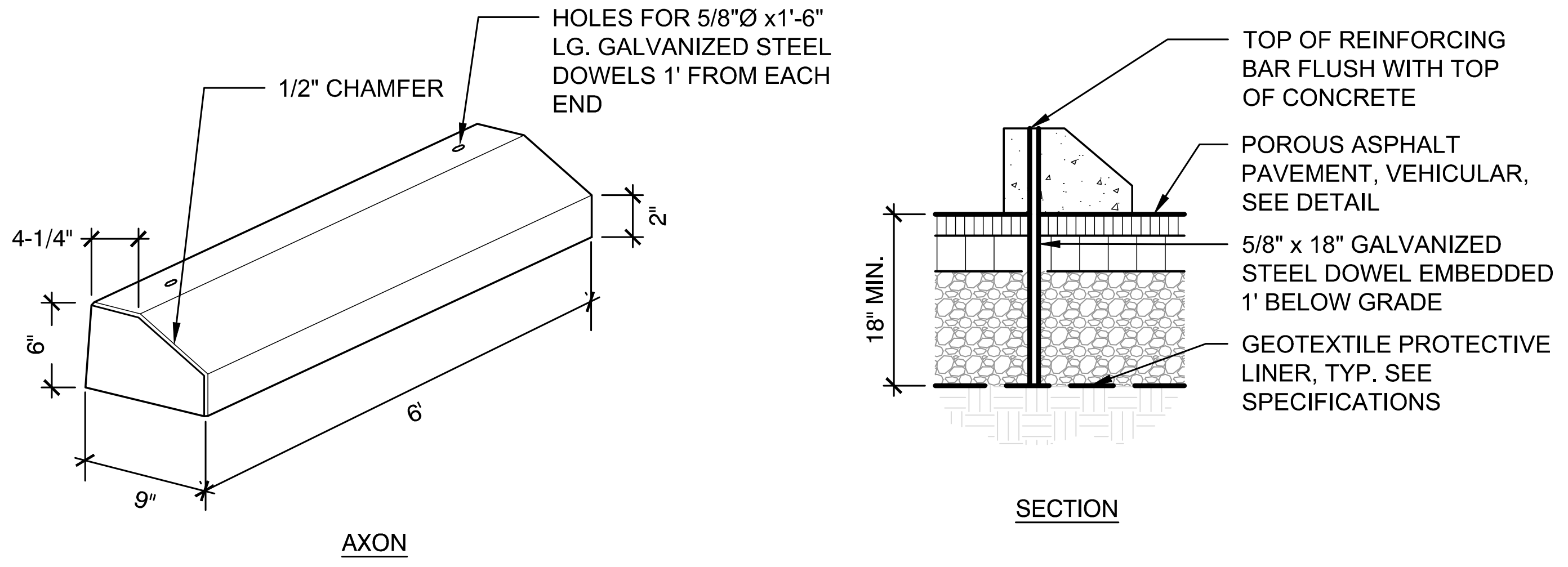
2 HANDICAPPED PARKING SPACE MARKING

SCALE: N.T.S.



3 NO PARKING SPACE STRIPING

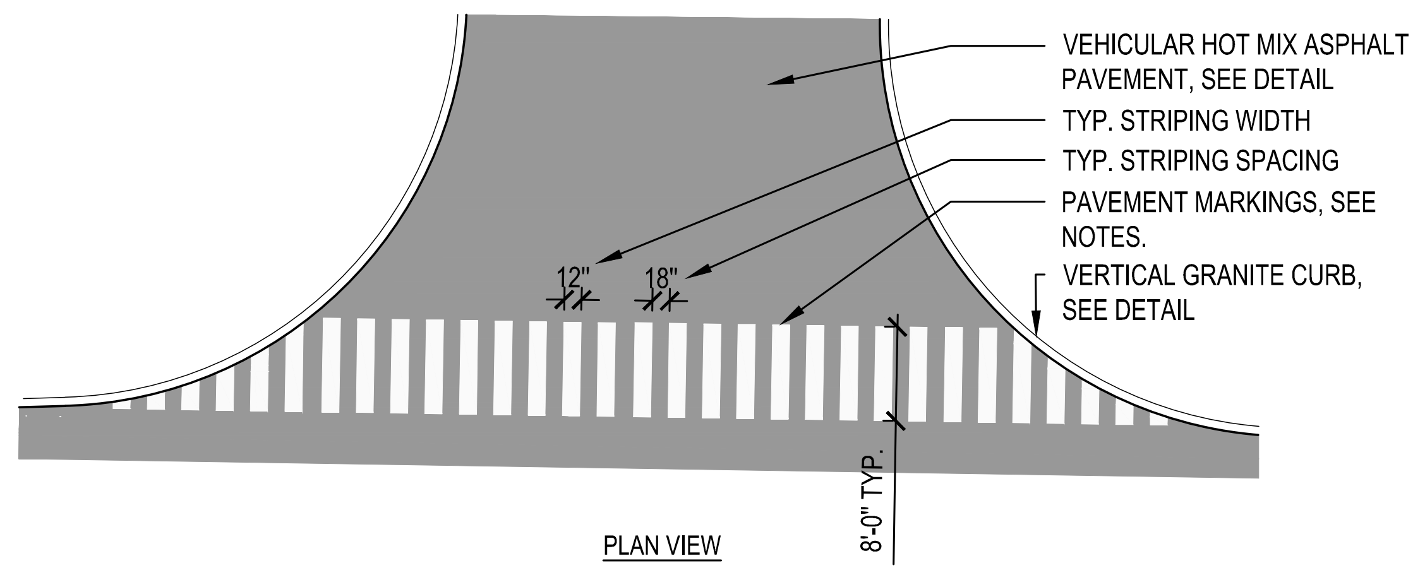
SCALE: N.T.S.



NOTES:
1. MINIMUM REINFORCING 4 - #3 BARS, FULL LENGTH
2. MINIMUM WEIGHT PER FOOT - 44 LBS.
3. CURBING TO BE DOWELLED TO ASPHALT PAVING.
4. DOWELS TO BE RECESSED 1" AND GROUTED

4 PRECAST CONCRETE WHEEL STOP

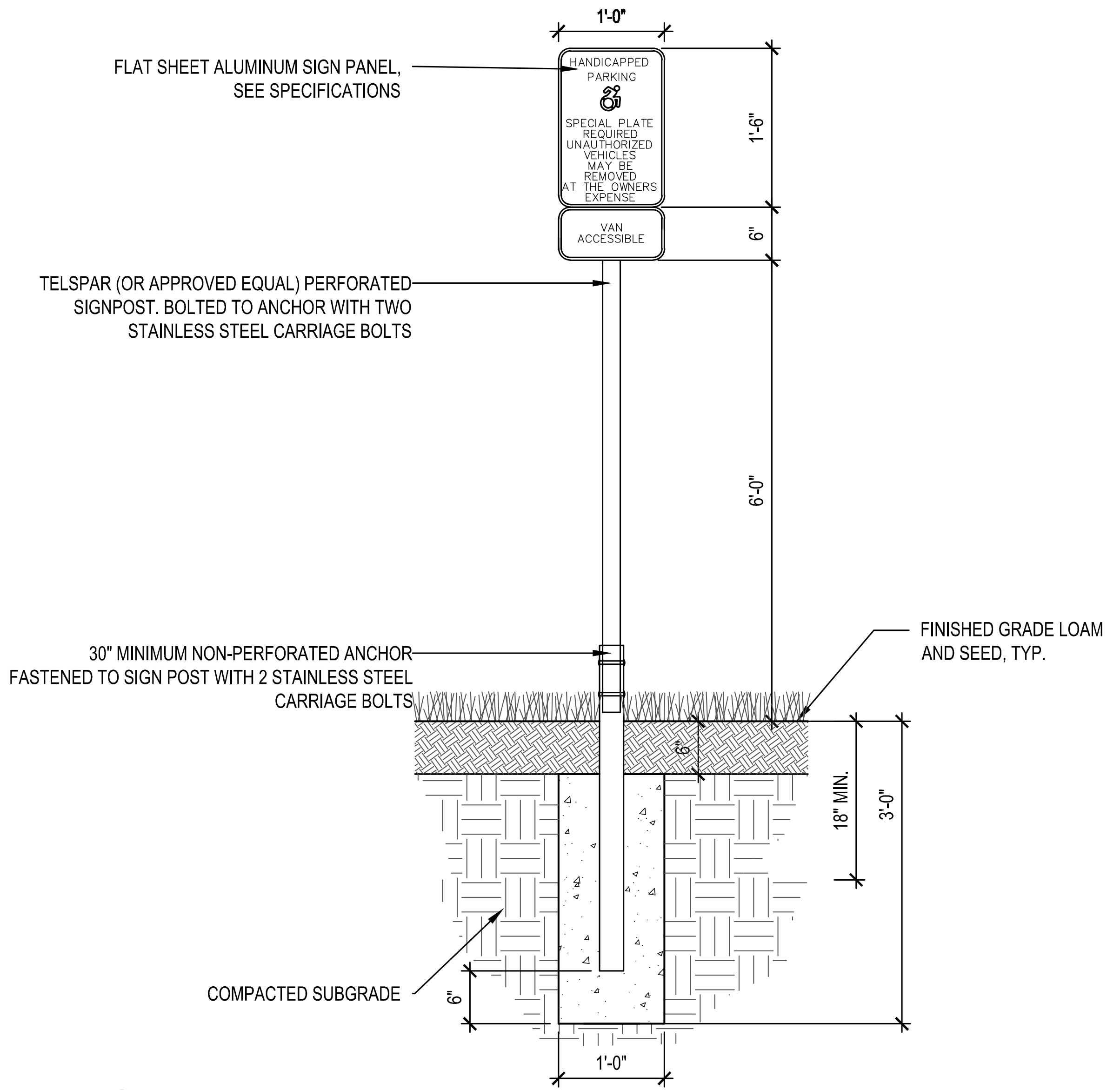
SCALE: N.T.S.



NOTES:
1. PROVIDE PAVEMENT MARKINGS WHERE SHOWN ON PLANS IN ACCORDANCE WITH THIS DETAIL.
2. PAVEMENT MARKINGS SHALL BE WHITE, REFLECTORIZED TRAFFIC PAINT CONFORMING TO FEDERAL SPECIFICATION TTP-1952B TRAFFIC PAINT, TYPE I OR II.

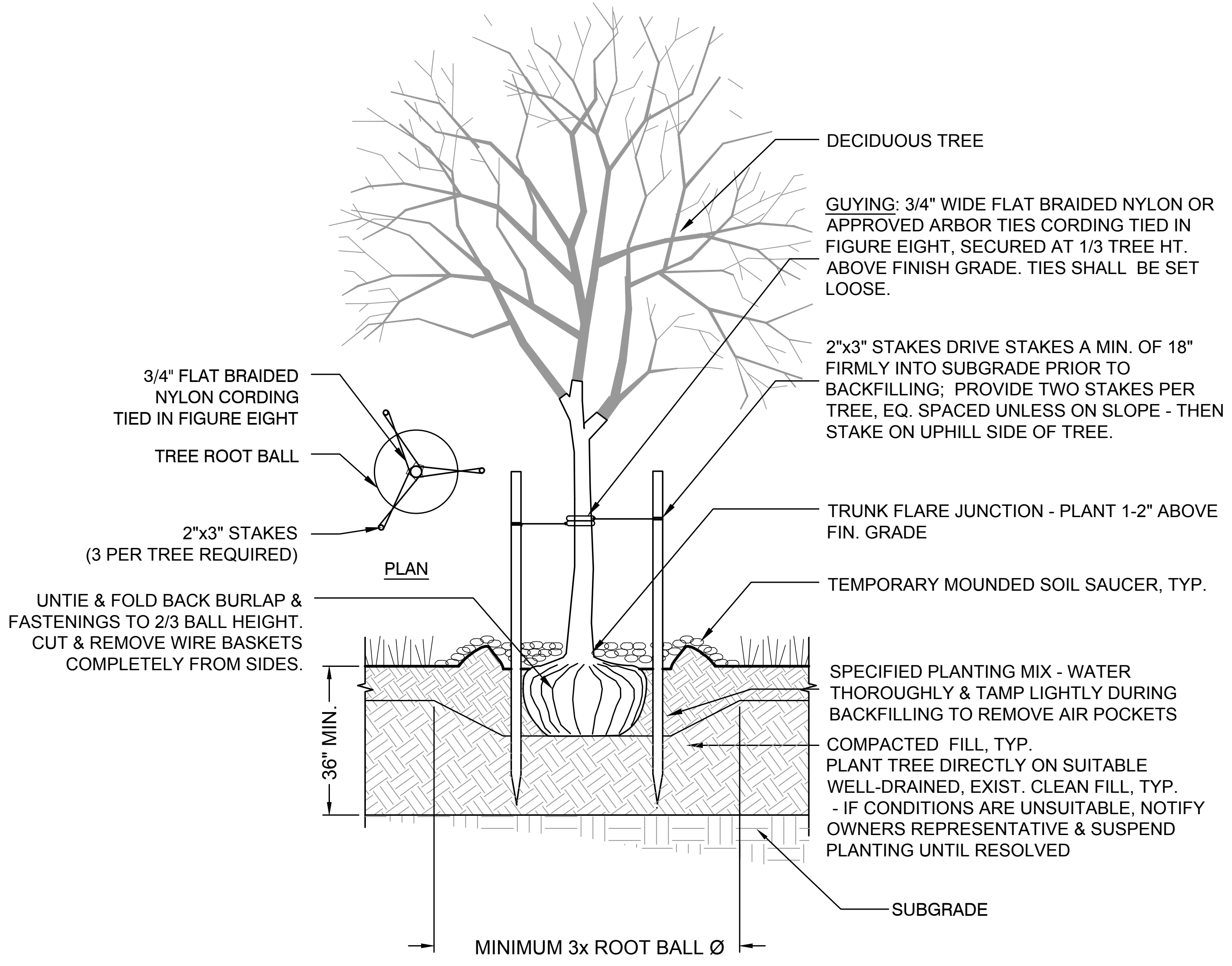
5 CROSSWALK PAVEMENT MARKINGS

SCALE: N.T.S.



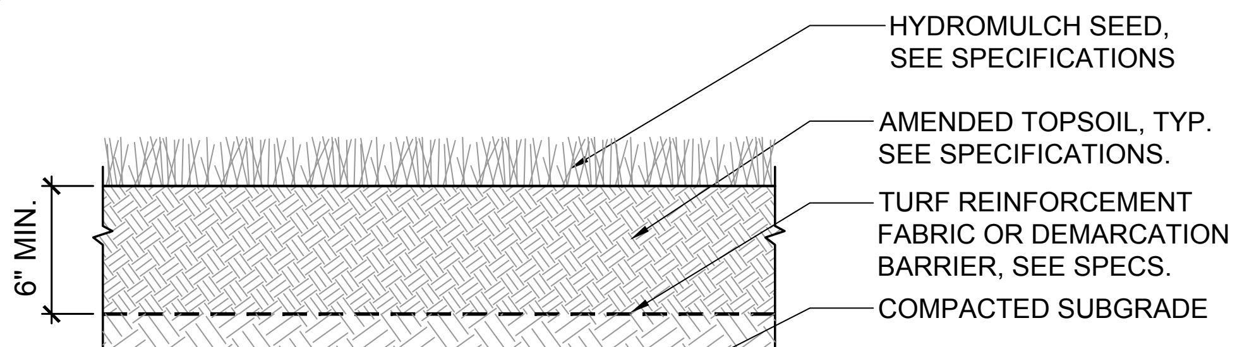
6 HANDICAPPED PARKING SPACE SIGN

SCALE: N.T.S.



7 DECIDUOUS TREE PLANTING

SCALE: N.T.S.



NOTE:
1. TURF REINFORCEMENT MATERIAL SHALL ONLY BE LOCATED IN THE AREAS INDICATED ON THE MATERIALS PLAN.

8 LOAM AND SEED

SCALE: N.T.S.

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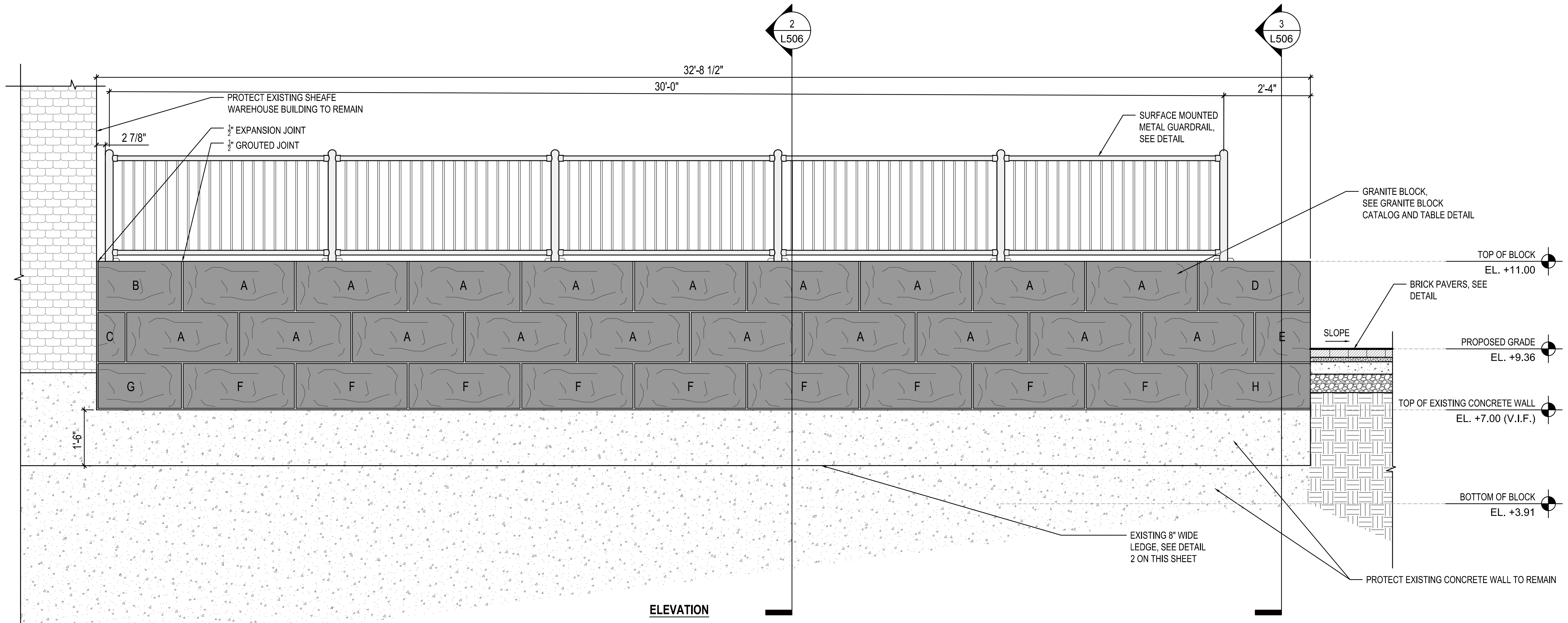
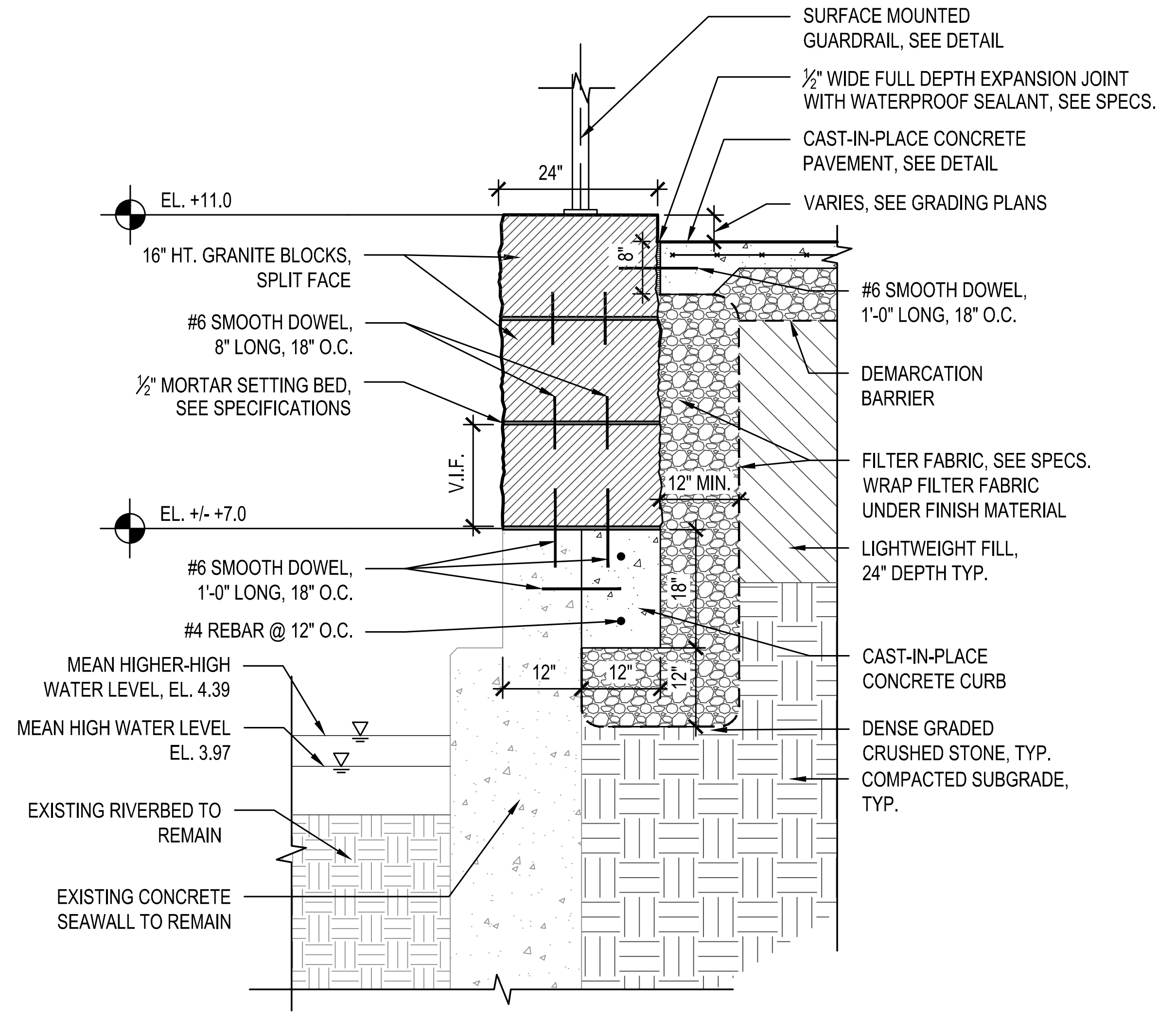


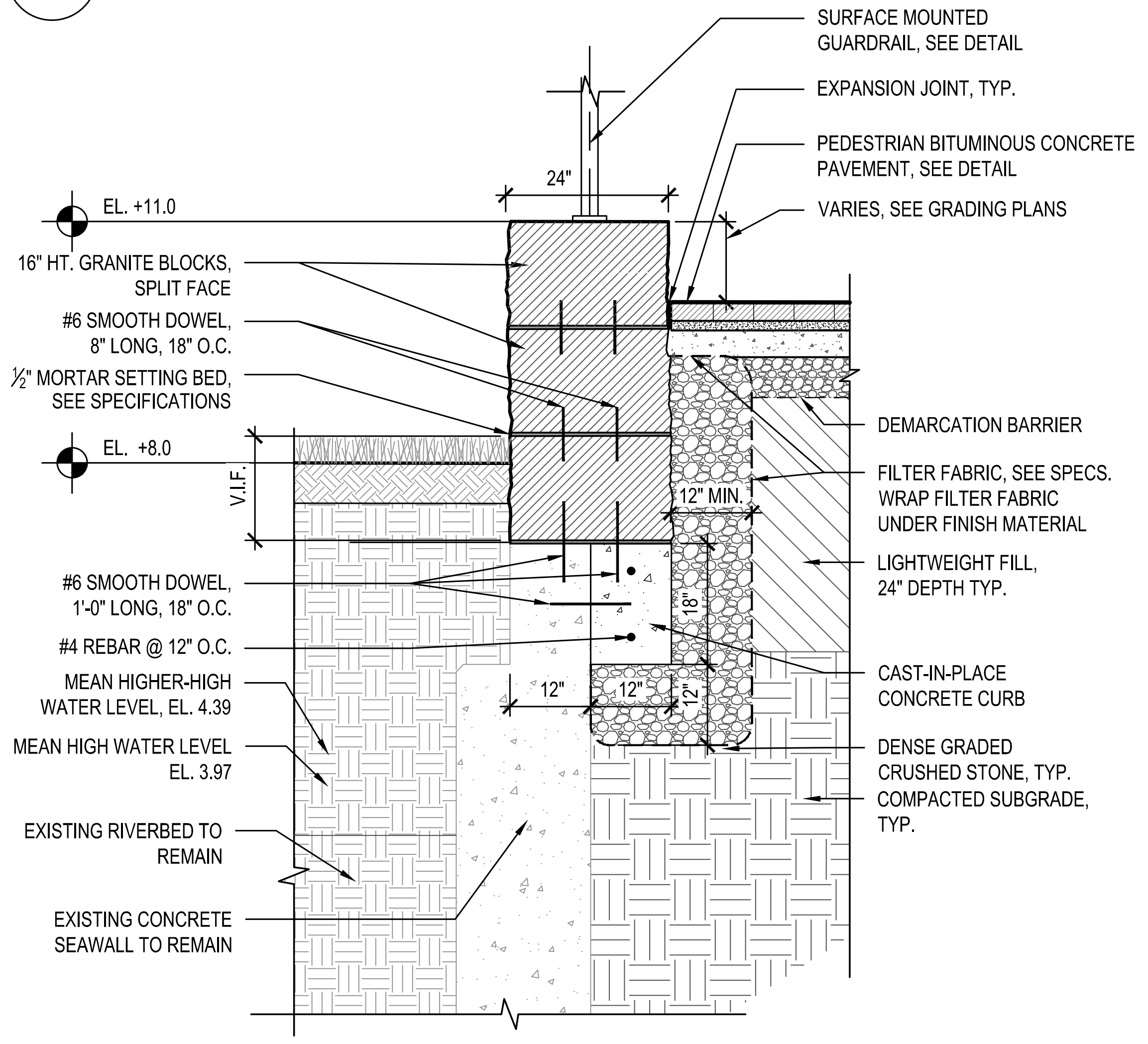
1 GRANITE BLOCK SEAWALL ON EXISTING CONCRETE WALL - ELEVATION

SCALE: N.T.S.



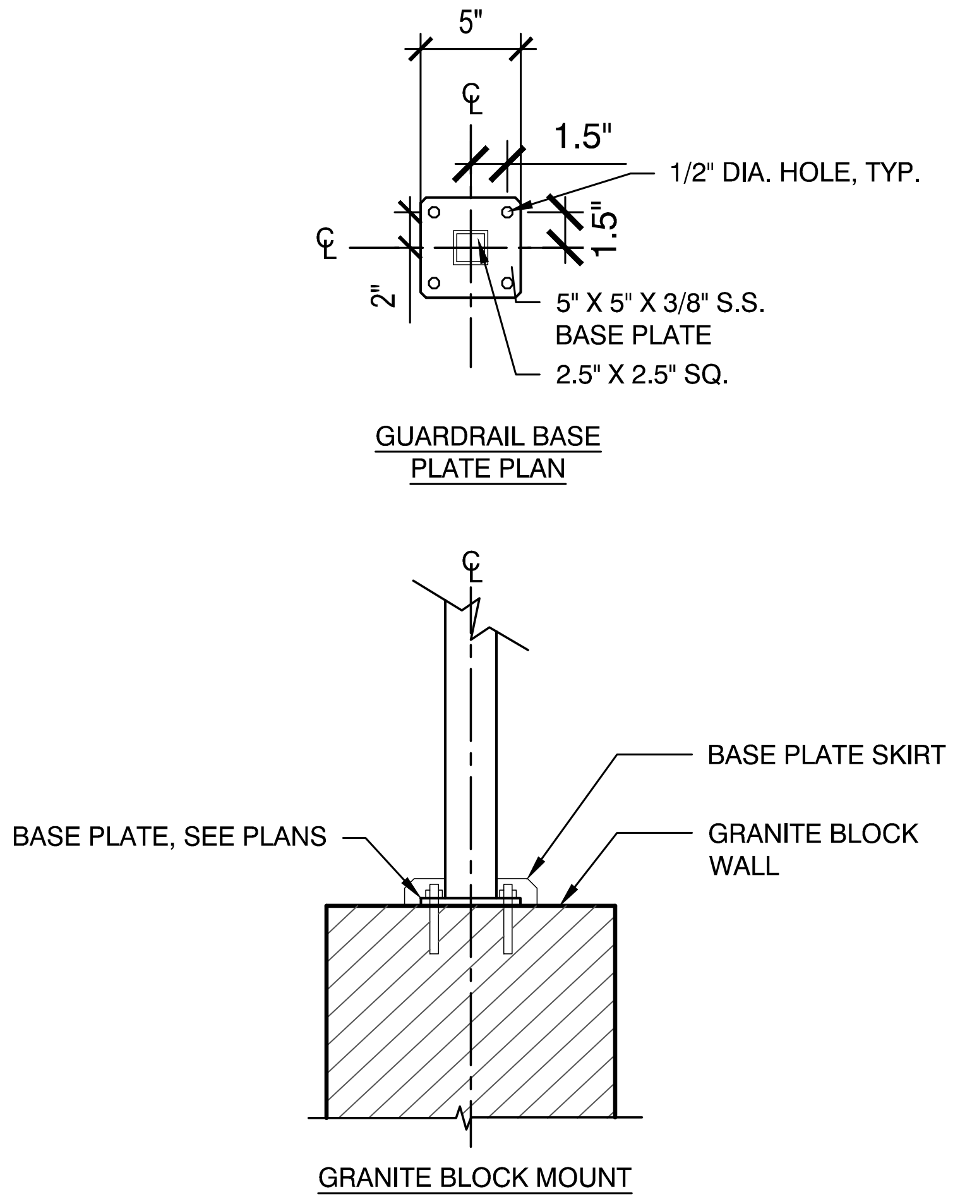
2 GRANITE BLOCK SEAWALL ON EXISTING CONCRETE WALL - SECTION 1

SCALE: N.T.S.



3 GRANITE BLOCK SEAWALL ON EXISTING CONCRETE WALL - SECTION 3

SCALE: N.T.S.



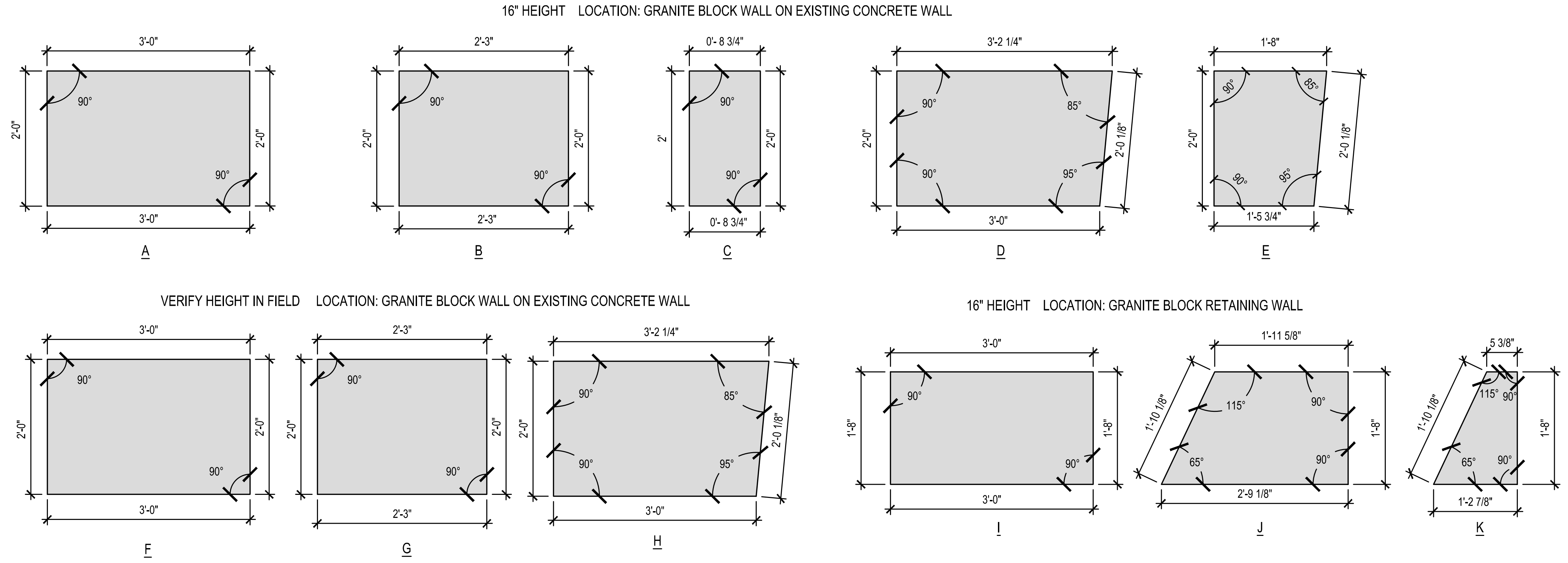
4 GUARDRAIL SURFACE MOUNT

SCALE: N.T.S.

BLOCK LABEL	HEIGHT	QTY.
A	16"	19
B	16"	1
C	16"	1
D	16"	1
E	16"	1
F	VERIFY IN FIELD	9
G	VERIFY IN FIELD	1
H	VERIFY IN FIELD	1
I	16"	7
J	16"	1
K	16"	1

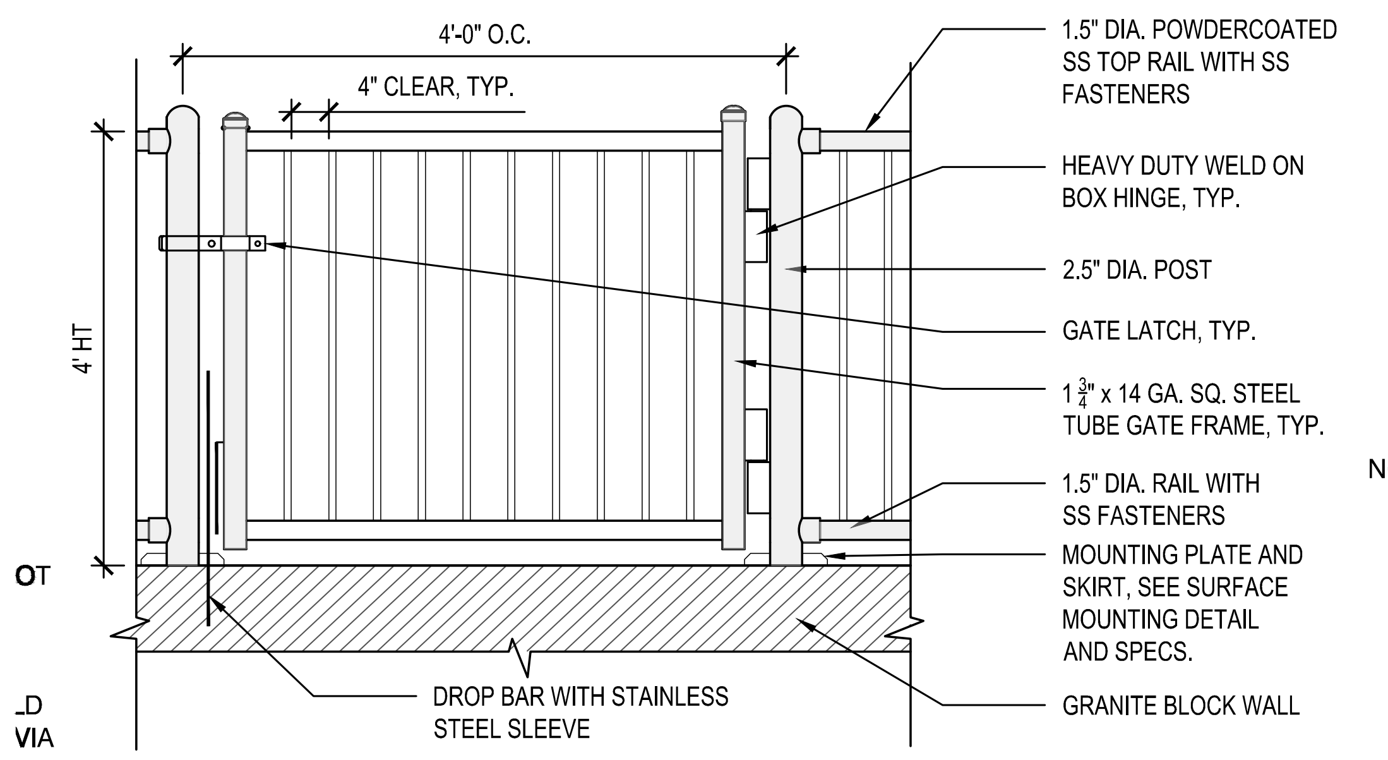
NOTE:

1. ALL BLOCKS LABELED AS "I" SHALL BE REUSED DURING THE CONSTRUCTION OF THE FUTURE TERRACED GRANITE BLOCK SEAWALL.



5 GRANITE BLOCK CATALOG AND TABLE

SCALE: N.T.S.

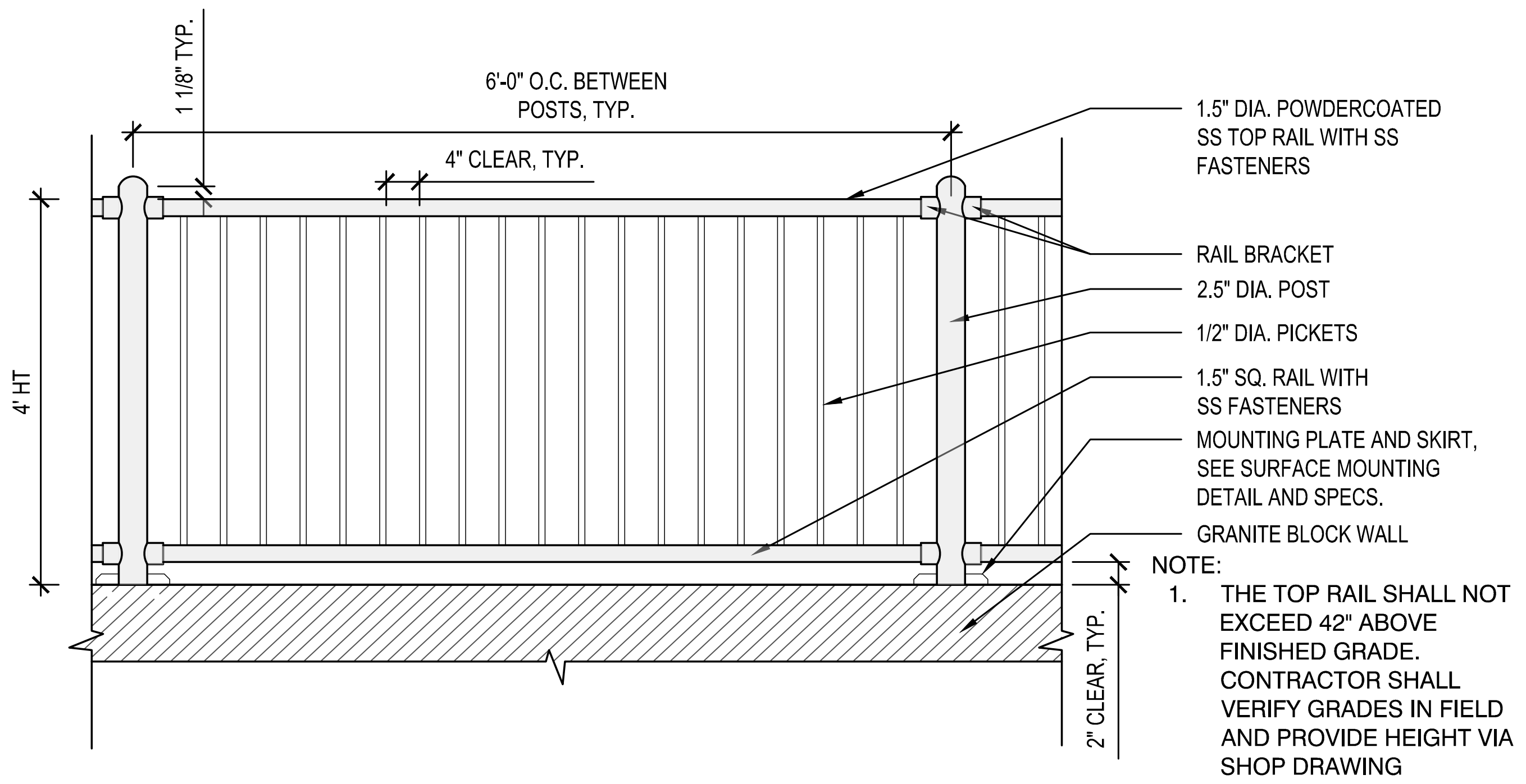


NOTE:

1. THE TOP RAIL SHALL NOT EXCEED 42" ABOVE FINISHED GRADE. CONTRACTOR SHALL VERIFY GRADES IN FIELD AND PROVIDE HEIGHT VIA SHOP DRAWING SUBMITTAL

6 SINGLE SWING GATE ON GRANITE BLOCK SEAWALL

SCALE: N.T.S.



NOTE:

1. THE TOP RAIL SHALL NOT EXCEED 42" ABOVE FINISHED GRADE. CONTRACTOR SHALL VERIFY GRADES IN FIELD AND PROVIDE HEIGHT VIA SHOP DRAWING SUBMITTAL

7 POWDER COATED STEEL GUARDRAIL ON GRANITE BLOCK SEAWALL

SCALE: N.T.S.

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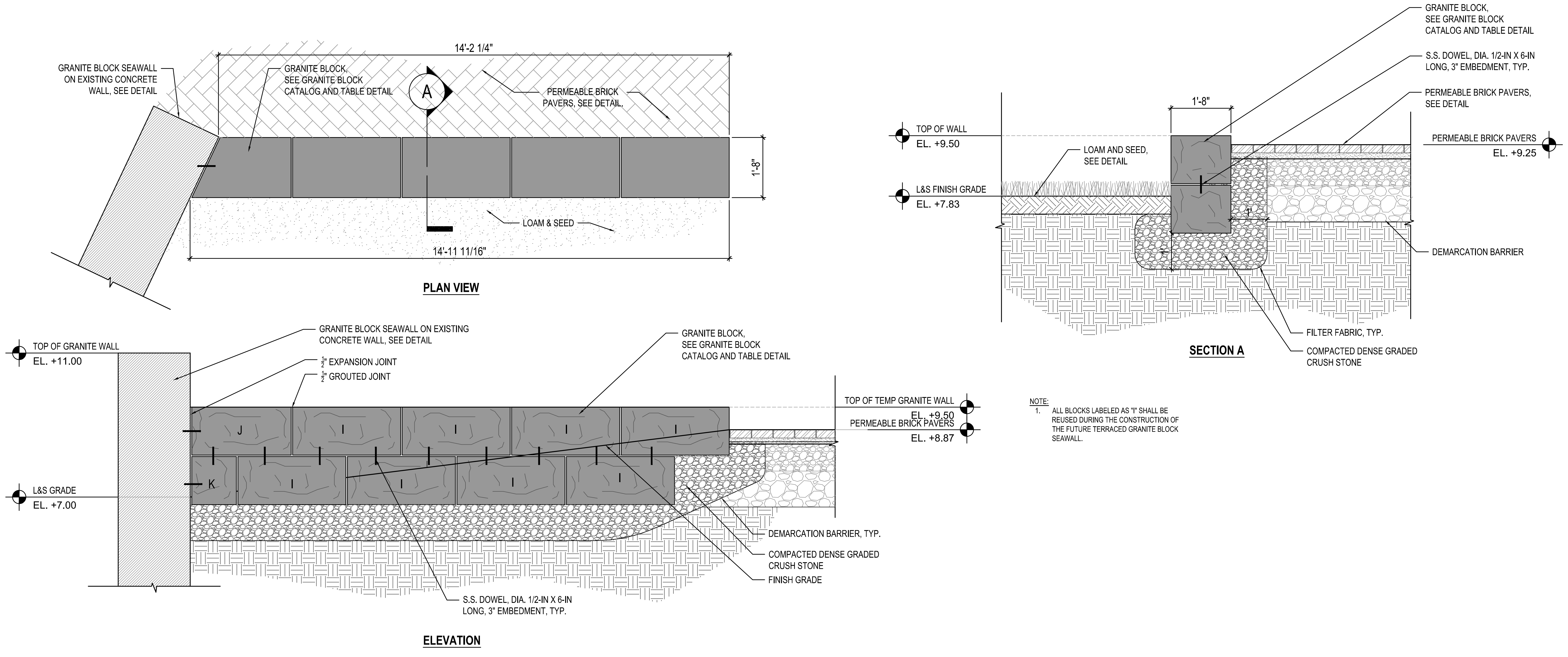

NOTE:
1. ALL BLOCKS LABELED AS "I" SHALL BE REUSED DURING THE CONSTRUCTION OF THE FUTURE TERRACED GRANITE BLOCK SEAWALL.

1 GRANITE BLOCK RETAINING WALL

SCALE: N.T.S.

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ELECTRICAL ABBREVIATIONS LIST

1P	1 POLE (2P, 3P, 4P, ETC.)
A	AMPERE
AC	ABOVE COUNTER OR AIR CONDITIONER
ACLG	ABOVE CEILING
ADO	AUTOMATIC DOOR OPENER
AF	AMP FRAME
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AFI	ARC FAULT CIRCUIT INTERRUPTER
AHU	AIR HANDLING UNIT
AL	ALUMINUM
ALT	ALTERNATE
AMP	AMPERE
AMPL	AMPLIFIER
ANNUN	ANNUNCIATOR
APPROX	APPROXIMATELY
AQ-STAT	AQUASTAT
ARCH	ARCHITECT, ARCHITECTURAL
AS	AMP SWITCH
AT	AMP TRIP
ATS	AUTOMATIC TRANSFER SWITCH
AUTO	AUTOMATIC
AUX	AUXILIARY
AV	AUDIO VISUAL
AWG	AMERICAN WIRE GAUGE
BATT	BATTERY
BD	BOARD
BLDG	BUILDING
BMS	BUILDING MANAGEMENT SYSTEM
C	CONDUIT
CAB	CABINET
CAT	CATALOG
CATV	CABLE TELEVISION
CB	CIRCUIT BREAKER
CCTV	CLOSED CIRCUIT TELEVISION
CKT	CIRCUIT
CLG	CEILING
COMB	COMBINATION
CMPR	COMPRESSOR
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUATION OR CONTINUOUS
CONTR	CONTRACTOR
CONV	CONVECTOR
CP	CIRCULATING PUMP
CRT	CATHODE-RAY TUBE
CT	CURRENT TRANSFORMER
CTR	CENTER
CU	COPPER
DCP PUMP	DOMESTIC WATER CIRCULATING
DEPT	DEPARTMENT
DET	DETAIL
DIA	DIAMETER
DISC	DISCONNECT
DIST	DISTRIBUTION
DN	DOWN
DPR	DAMPER
DS	SAFETY DISCONNECT SWITCH
DT	DOUBLE THROW
DWG	DRAWING
EC	ELECTRICAL CONTRACTOR
ELEC	ELECTRIC, ELECTRICAL
ELEV	ELEVATOR
EM	EMERGENCY
EMS	ENERGY MANAGEMENT SYSTEM
EMT	ELECTRICAL METALLIC TUBING
EP	ELECTRIC PNEUMATIC
EQUIP	EQUIPMENT
EWC	ELECTRIC WATER COOLER
EXIST	EXISTING
EXH	EXHAUST
EXP	EXPLOSION PROOF
FA	FIRE ALARM
FABP	FIRE ALARM BOOSTER POWER SUPPLY PANEL
FACP	FIRE ALARM CONTROL PANEL
FCU	FAN COIL UNIT
FIXT	FIXTURE
FLR	FLOOR
FLUOR	FLUORESCENT
FU	FUSE
FUDS	FUSED SAFETY DISCONNECT SWITCH
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GEN	GENERATOR
GFI	GROUND FAULT CIRCUIT INTERRUPTER
GFP	GROUND FAULT PROTECTOR
GND	GROUND
GRS	GALVANIZED RIGID STEEL (CONDUIT)
GYP BD	GYPSUM BOARD
HOA	HANDS-OFF-AUTOMATIC SWITCH
HORIZ	HORIZONTAL
HP	HORSEPOWER
HPF	HIGH POWER FACTOR
HT	HEIGHT
HTG	HEATING
HTR	HEATER
HV	HIGH VOLTAGE
HVAC	HEATING, VENTILATING AND AIR CONDITIONING
HWP	HYDRONIC WATER PUMP
IC	INTERRUPTING CAPACITY
IG	ISOLATED GROUND
IMC	INTERMEDIATE METAL CONDUIT
INCAND	INCANDESCENT
IR	INFRARED
I/W	INTERLOCK WITH
J-BOX	JUNCTION BOX
KV	KILOVOLT
KVA	KILOVOLT-AMPERE
KVAR	KILOVOLT-AMPERE REACTIVE
KW	KILOWATT
KWH	KILOWATT HOUR
LOC	LOCATE OR LOCATION
LT	LIGHT
LTG	LIGHTING
LTNG	LIGHTNING
LV	LOW VOLTAGE
MAX	MAXIMUM
MAG.S	MAGNETIC STARTER
M/C	MOMENTARY CONTACT
MC	MECHANICAL CONTRACTOR
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MDC	MAIN DISTRIBUTION CENTER
MDP	MAIN DISTRIBUTION PANEL
MFR	MANUFACTURER
MFS	MAIN FUSED DISCONNECT SWITCH
MH	MANHOLE
MIC	MICROPHONE
MIN	MINIMUM
MISC	MISCELLANEOUS
MLO	MAIN LUGS ONLY
MMS	MANUAL MOTOR STARTER
MOA	MULTIOUTLET ASSEMBLY
MSP	MOTOR STARTER PANELBOARD
MSBD	MAIN SWITCHBOARD
MT	MOUNT
MT.C	EMPTY CONDUIT
MTS	MANUAL TRANSFER SWITCH
MTR	MOTOR, MOTORIZED
N.C.	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION
NFDS	NON-FUSED SAFETY DISCONNECT SWITCH
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
N.O.	NORMALLY OPEN
NPF	NORMAL POWER FACTOR
NTS	NOT TO SCALE
OH	OVERHEAD
OHD	OVERHEAD DOOR
OL	OVERLOADS
PA	PUBLIC ADDRESS
PB	PULL BOX OR PUSHBUTTON
PE	PNEUMATIC ELECTRIC
PED	PEDESTAL
PF	POWER FACTOR
PH	PHASE
PIV	POST INDICATING VALVE
PNL	PANEL
PP	POWER POLE
PR	PAIR
PRI	PRIMARY
PROJ	PROJECTION
PRV	POWER ROOF VENTILATOR
PT	POTENTIAL TRANSFORMER
PVC	POLYVINYL CHLORIDE (CONDUIT)
PWR	POWER
QUAN	QUANTITY
RCPT	RECEPTACLE
REQD	REQUIRED
RM	ROOM
RM	ROOM
RSC	RIGID STEEL CONDUIT
RTU	ROOF TOP UNIT
SC	SURFACE CONDUIT
SEC	SECONDARY
SHT	SHEET
SIM	SIMILAR
S/N	SOLID NEUTRAL
SPEC	SPECIFICATION
SPKR	SPEAKER
SP	SPARE
SR	SURFACE RACEWAY
SS	STAINLESS STEEL
SSW	SELECTOR SWITCH
S/S	STOP/START PUSHBUTTONS
STA	STATION
STD	STANDARD
SURF	SURFACE MOUNTED
SW	SWITCH
SWBD	SWITCHBOARD
SYM	SYMMETRICAL
SYS	SYSTEM
TEL	TELEPHONE
TEL/DATA	TELEPHONE/DATA
TERM	TERMINAL
TL	TWIST LOCK
TR	TAMPER RESISTANT
T-STAT	THERMOSTAT
TTC	TELEPHONE TERMINAL CABINET
TV	TELEVISION
TVTC	TELEVISION TERMINAL CABINET
TYP	TYPICAL
UC	UNDER COUNTER
UE	UNDERGROUND ELECTRICAL
UG	UNDERGROUND
UH	UNIT HEATER
UT	UNDERGROUND TELEPHONE
UTIL	UTILITY
UV	UNIT VENTILATOR OR ULTRAVIOLET
V	VOLT
VA	VOLT-AMPERES
VDT	VIDEO DISPLAY TERMINAL
VERT	VERTICAL
VFD	VARIABLE FREQUENCY DRIVE
VOL	VOLUME
W	WATT
W/	WITH
WG	WIRE GUARD
WH	WATER HEATER
W/O	WITHOUT
WP	WEATHERPROOF
XFMR	TRANSFORMER
XFR	TRANSFER
∠	ANGLE
@	AT
Δ	DELTA
'	FEET
"	INCHES
#	NUMBER
Ø	PHASE
C	CENTER LINE
P	PLATE

LEGEND

← 1,3 LP1B	HOMERUN TO PANELBOARD WITH 3/4"C., 2 #12 & 1#12GND UNLESS NOTED OTHERWISE, NUMERALS 1 AND 3 INDICATE CIRCUITS IN PANELBOARD. RACEWAYS LARGER THAN 3/4" AND CONDUCTORS LARGER THAN #12 AWG SHALL BE INDICATED ON THE DRAWINGS. PROVIDE AN INSULATED GREEN GROUND WIRE IN ALL RACEWAYS MINIMUM SIZE TO BE #12AWG.
--------	RACEWAY RUN UNDERGROUND
———	RACEWAY RUN EXPOSED
P ⊙ 1,b	PEDESTRIAN LIGHT
HH	HANDHOLE
	DENOTES EXISTING EQUIPMENT TO BE DISCONNECTED AND REMOVED ALL EXISTING CONDUIT AND WIRE SHALL BE REMOVED BACK TO ITS SOURCE AND ALL DEVICES ASSOCIATED WITH THE EQUIPMNET SHALL BE REMOVED.
○—▫	PARKING LOT POLE MOUNTED LIGHT

GENERAL DEMOLITION NOTES

1. SYSTEMS WHICH PASS THROUGH THE AREA BEING DEMOLISHED BUT CONTINUE TO AREAS NOT WITHIN THE DEMOLITION SCOPE ARE TO REMAIN. THE ELECTRICAL CONTRACTOR IS TO IDENTIFY (SPRAY PAINT OR EQUIVALENT) AND PROTECT THOSE SYSTEMS WHICH ARE ACTIVE AND ARE TO REMAIN.

2. ALL CONDUIT AND WIRE WHICH IS NO LONGER IN USE IS TO BE REMOVED. CONDUIT AND WIRE IS TO BE REMOVED BACK TO ITS SOURCE OR NEAREST DEVICE WHICH IS SCHEDULED TO REMAIN. COORDINATE THE REMOVAL OF ALL COMMUNICATIONS CONDUIT AND WIRE WITH THE COMMUNICATIONS CONTRACTOR. FIRE ALARM CABLING IS TO BE RETURNED TO THE NEAREST DEVICE SCHEDULED TO REMAIN, CONTROL PANEL, TERMINAL CABINET, ETC. UNDER NO CIRCUMSTANCES ARE ABANDONED CONDUIT AND WIRE OR SYSTEM COMPONENTS TO REMAIN.

3. MAKE ANY NECESSARY RE-CIRCUITING, EXTENSIONS OF EXISTING CIRCUITS AND RELOCATIONS REQUIRED TO PROPERLY RE-ENERGIZE REMAINING EXISTING SERVICES OR EQUIPMENT THAT MAY BE INTERFERED WITH BY NEW CONSTRUCTION, REMOVALS OR RELOCATIONS. ALL SHUTDOWNS TO RELOCATE ACTIVE FEEDERS OR BRANCH CIRCUITS WILL BE PERFORMED ON OFF HOURS AS MUTUALLY AGREED TO WITH THE OWNER.

4. PRIOR TO REMOVAL OF EQUIPMENT, CONFIRM THAT FEEDER AND BRANCH CIRCUITS ARE NO LONGER ACTIVE. SHOULD IT BE DISCOVERED THE FEEDER OR BRANCH CIRCUITS ARE ACTIVE, NOTIFY THE ARCHITECT IMMEDIATELY FOR DIRECTION.

5. ELECTRICAL CONTRACTOR IS TO REMOVE ALL LAMPS, BALLASTS AND OTHER ELECTRICAL COMPONENTS CLASSIFIED AS HAZARDOUS MATERIALS. ELECTRICAL CONTRACTOR IS TO OBTAIN THE SERVICES OF A LICENSED HAZARDOUS MATERIALS CONTRACTOR TO DISPOSE OF THE MATERIALS. PROVIDE WRITTEN DOCUMENTATION TO THE OWNER'S REPRESENTATIVE FROM THE HAZARDOUS MATERIALS CONTRACTOR.

6. ELECTRICAL DEMOLITION ABBREVIATIONS:

   "EX" DENOTES EXISTING EQUIPMENT TO REMAIN

   "RL" DENOTES EXISTING EQUIPMENT TO BE DISCONNECTED AND RELOCATED. ALL EXISTING CONDUIT AND WIRE SHALL BE REMOVED BACK TO ITS SOURCE AND ALL DEVICES ASSOCIATED WITH THE EQUIPMENT SHALL BE REMOVED OR ALL CONDUIT AND WIRE SHALL BE INTERCEPTED AND EXTENDED AS REQUIRED. ALL NEW CONDUIT AND WIRE SHALL MATCH EXISTING IN STYLE AND SIZE. ALL EXISTIN ELECTRICAL DEVICES ASSOCIATED WITH THE EXISTIGN EQUIPMENT SHALL BE REMOVED AND NEW DEVICES AS SHOWN SHALL BE PROVIDED.

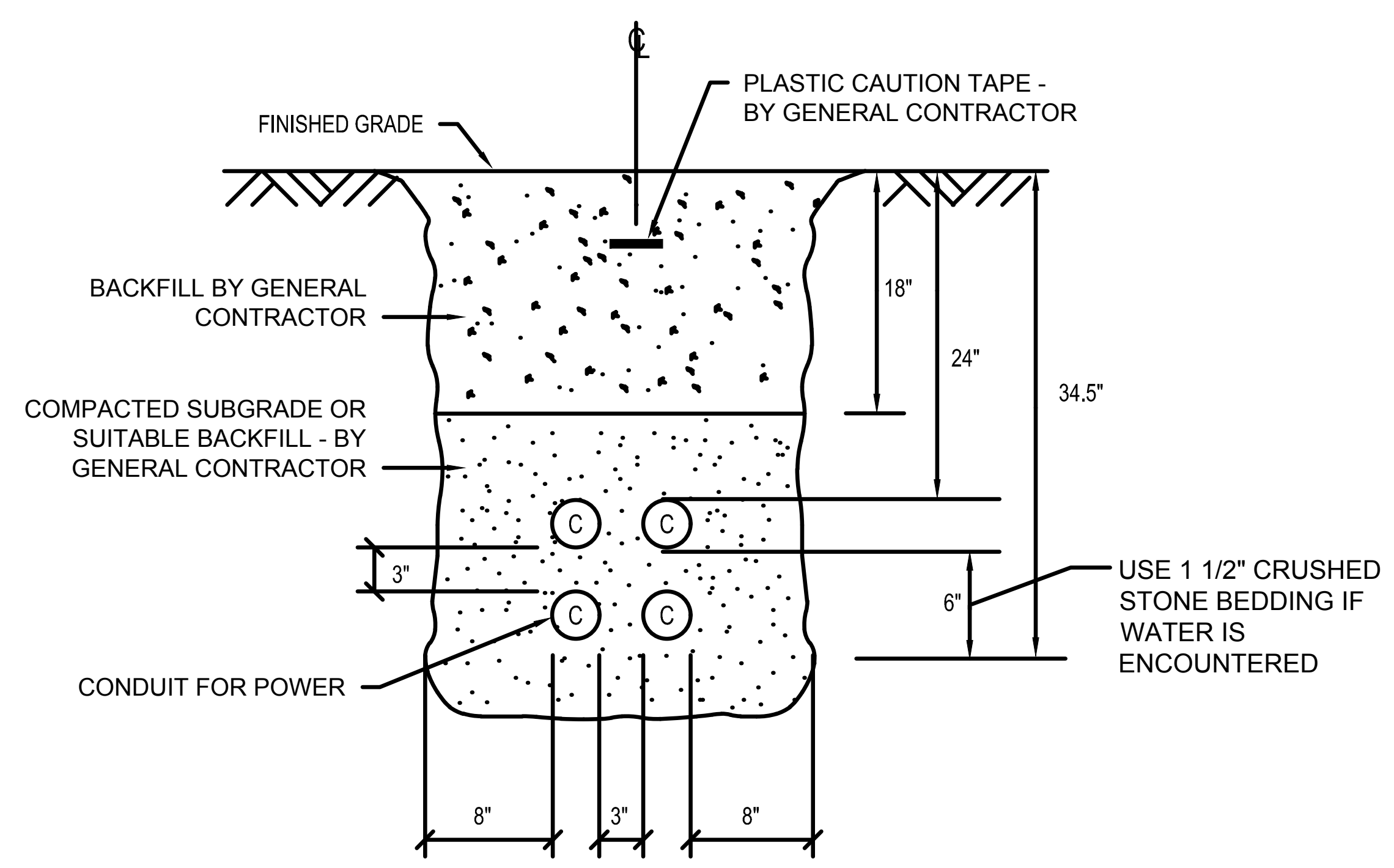
   "NL" DENOTES NEW LOCATION OF RELOCATED EXISTING EQUIPMENT.

   "RE" DENOTES EXISTING EQUIPMENT TO BE DISCONNECTED AND REMOVED ALL EXISTING CONDUIT AND WIRE SHALL BE REMOVED BACK TO ITS SOURCE AND ALL DEVICES ASSOCIATED WITH THE EQUIPMENT SHALL BE REMOVED.

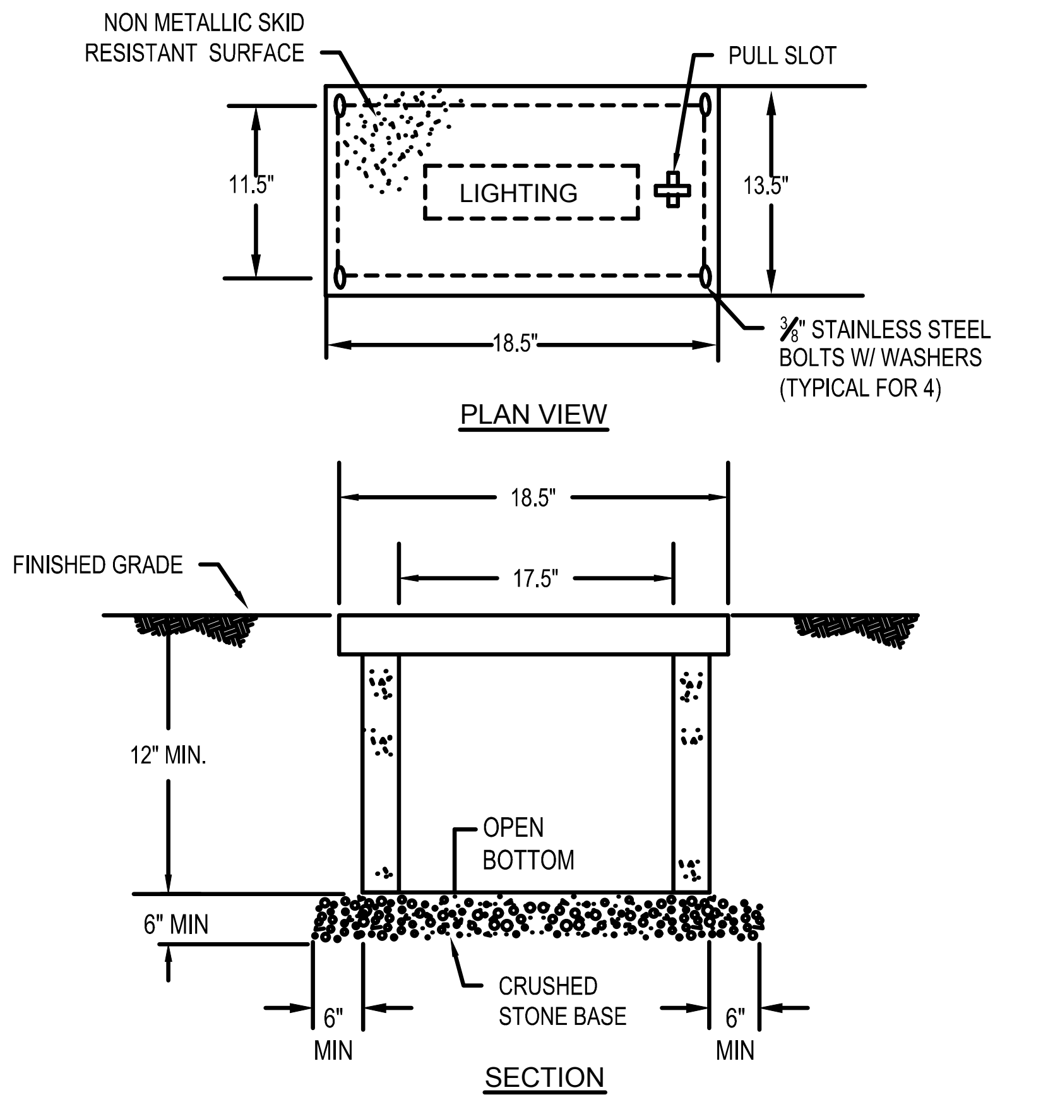
GENERAL ELECTRICAL NOTES

1. DRAWINGS ARE DIAGRAMMATIC ONLY. THE EXACT LOCATION, MOUNTING HEIGHTS, SIZE OF EQUIPMENT AND ROUTING OF RACEWAYS SHALL BE COORDINATED AND DETERMINED IN THE FIELD.
2. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE GENERAL/SITE CONTRACTOR AS APPLICABLE AS TO THE EXACT LOCATION OF THEIR RESPECTIVE EQUIPMENT; THE POWER WIRING, CONTROL WIRING AND ALL ELECTRICAL CONNECTIONS AND CONDUIT TURN-UPS SHALL BE COORDINATED WITH THE RESPECTIVE CONTRACTORS BEFORE THE START OF CONSTRUCTION IN THE FIELD.
3. WORK SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE, NEW HAMPSHIRE BUILDING CODE, NFPA AND REQUIREMENTS OF LOCAL AUTHORITIES HAVING JURISDICTION.
4. THE WORD "CONTRACTOR" AS USED IN THE "ELECTRICAL WORK" SHALL MEAN THE ELECTRICAL SUBCONTRACTOR.
5. CONTRACTOR SHALL PAY FOR ALL PERMITS, INSURANCE AND TESTS, AND SHALL PROVIDE LABOR AND MATERIAL TO COMPLETE THE ELECTRICAL WORK SHOWN.
6. CONTRACTOR PAY ELECTRIC UTILITY COMPANY BACKCHARGES
7. CONTRACTOR SHALL PROVIDE ALL REQUIRED COORDINATION WITH ELECTRIC.
8. ELECTRIC UTILITY FOR THIS PROJECT IS EVERSOURCE. EVERSOURCE WORK ORDER NUMBER FOR THIS PROJECT IS #XXXXXXXXXX.
9. EXCEPT AS OTHERWISE NOTED, THE ELECTRICAL WORK SHALL INCLUDE DEMOLITION, CIRCUIT BREAKERS, FEEDERS, WIRING, RACEWAYS, LIGHTING FIXTURES AND TRANSFORMERS.
10. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY LIGHTING AND POWER AND THE GENERAL CONTRACTOR SHALL PAY ALL ENERGY CHARGES FOR TEMPORARY POWER AND LIGHTING.
11. DURING CONSTRUCTION, THE ELECTRICAL CONTRACTOR SHALL KEEP HIS PORTION OF THE WORK NEAT, CLEAN AND ORDERLY.
12. ALL SYSTEMS SHALL BE TESTED FOR SHORT CIRCUIT AND GROUNDS PRIOR TO ENERGIZING AND ANY DEFECTS SHALL BE CORRECTED.
13. ALL CUTTING AND PATCHING REQUIRED FOR ELECTRICAL WORK SHALL BE INCLUDED AS PART OF THIS SECTION.
14. COMPLETE SHOP DRAWINGS SHALL BE SUBMITTED FOR ELECTRICAL EQUIPMENT. WHERE SPECIFIED ELECTRICAL EQUIPMENT IS SUBSTITUTED, THE ELECTRICAL CONTRACTOR SHALL SUBMIT COMPLETE SPECIFICATIONS ON THE SUBSTITUTE AS WELL AS THE ITEM ORIGINALLY SPECIFIED.
15. MATERIALS SHALL BE SPECIFICATION GRADE AND UL LISTED.
16. WHERE MATERIAL IS CALLED OUT IN THE LEGEND BY MANUFACTURER, TYPE OR CATALOG NUMBER, SUCH DESIGNATIONS ARE TO ESTABLISH STANDARDS OR DESIRED QUALITY. ACCEPTANCE OR REJECTIONS OF PROPOSED SUBSTITUTIONS SHALL BE SUBJECT TO THE APPROVAL OF THE OWNER.
17. WORK SHALL BE COORDINATED WITH THAT OF OTHER TRADES TO ELIMINATE INTERFERENCES.
18. ELECTRICAL WORK SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL C0MPLETION.
19. WORK SHALL BE GROUNDED IN ACCORDANCE WITH CODE REQUIREMENTS. COMPLETE EQUIPMENT (INSULATED GREEN WIRE) GROUNDING SYSTEM SHALL BE INSTALLED.
20. WIRING METHODS:
    A. EXTERIOR UNDERGROUND FEEDERS SHALL BE PVC SCHEDULE 80 FOR DIRECT BURIED AND PVC SCHEDULE 40 FOR CONCRETE ENCASED.
    B. EXTERIOR ABOVE GRADE FEEDERS SHALL BE RGS CONDUIT.

31. CONDUIT PASSING THROUGH FIRE RATED WALLS AND FLOORS SHALL BE PROVIDED WITH ALL NECESSARY MATERIALS TO ENSURE THAT THE FIRE RATED INTEGRITY IS MAINTAINED.
32. CONTRACTOR SHALL CHECK EXISTING CONDITIONS TO DETERMINE EXACT EXTENT OF WORK TO BE PERFORMED PRIOR TO BIDDING. DIMENSIONS RELEVANT TO EXISTING WORK SHALL BE VERIFIED IN THE FIELD.
33. IN AREAS NOT AFFECTED BY THIS RENOVATION, THIS SUBCONTRACTOR SHALL MAINTAIN CONTINUITY OF ELECTRIC SERVICE.
34. WHERE CONNECTIONS ARE MADE IN EXISTING PANELS, THE PANEL INDEX SHALL BE REVISED TO INDICATE THE NEW LOADS SERVED. NEW CIRCUIT BREAKERS ADDED TO EXISTING PANELS SHALL BE THE SAME FRAME SIZE, VOLTAGE RATING AND INTERRUPTING CAPACITY AS EXISTING PANEL AND CIRCUIT BREAKERS.
35. ELECTRICAL SHUTDOWN SHALL BE AT A TIME AND DATE APPROVED BY THE OWNER.
36. PROVIDE AS-BUILT "CADD" DRAWINGS AT THE COMPLETION OF THE PROJECT.
37. ADDRESS QUESTIONS TO THE ENGINEER IN WRITING BEFORE AWARD OF CONTRACT, OTHERWISE ENGINEER INTERPERTATION OF MEANING AND INTENT OF DRAWINGS SHALL BE FINAL.



3 | TYPICAL DIRECT BURIED MULTIPLE CONDUIT DETAIL | NO SCALE



NOTES:

1. THIS HANDHOLE IS INTENDED FOR NON-DELIBERATE VEHICULAR TRAFFIC ONLY.
2. HANDHOLE SHALL BE PREFABRICATED POLYMER CONCRETE AGGREGATE EQUAL TO QUAZITE OR EQUAL PRE CAST CONCRETE CONSTRUCTION.
3. SIZE SHOWN IN DETAIL IS MINIMUM SIZE. CONTRACTOR TO PROVIDE FINAL SIZE OF HANDHOLES.

4 | PREFABRICATED HANDHOLE DETAIL | NO SCALE

Project:

PORTSMOUTH,
NEW HAMPSHIRE

PRESCOTT PARK
PHASE 1A IMPROVEMENTS

105 MARCY STREET,
PORTSMOUTH, NH, 03801

Weston & Sampson

85 Devonshire Street,
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Consultants:

Revisions:

No.	Date	Description

Seal:

MASSACHUSETTS REGISTERED LANDSCAPE ARCHITECT
NO. 1220

Issued For:

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Scale: NO SCALE

Date: OCTOBER 17, 2022
Drawn By: DNM
Reviewed By: RFM
Approved By: RFM

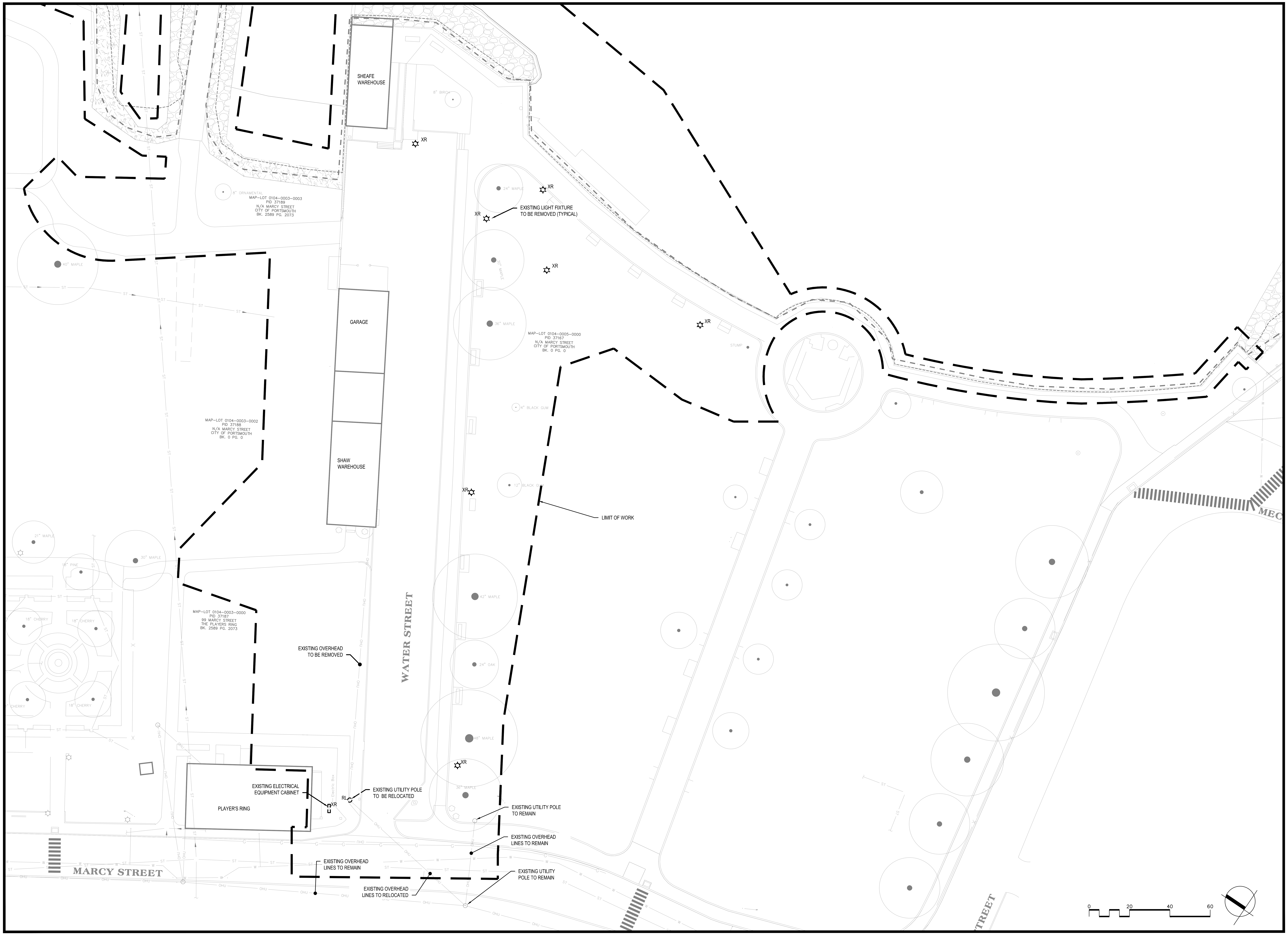
W&S Project No: ENG21-0591

Drawing Title:

ELECTRICAL
LEGEND,
ABBREVIATIONS,
AND GENERAL
NOTES

Sheet Number:

E001



Project:

PORTSMOUTH,
NEW HAMPSHIRE

PRESCOTT PARK
PHASE 1A IMPROVEMENTS

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Seal:

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Drawn By: DNM

Reviewed By: RFM

Approved By: RFM

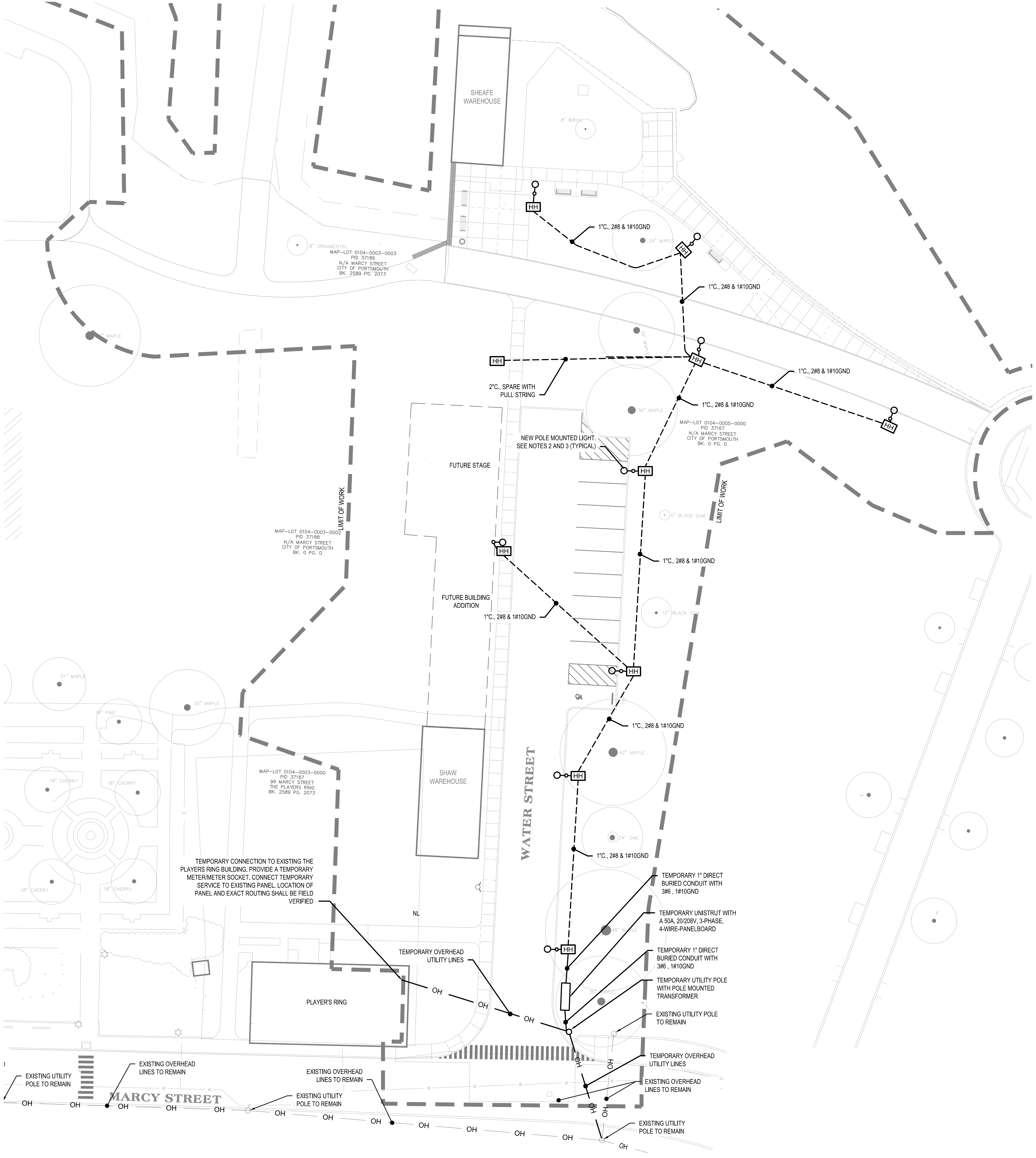
W&S Project No: ENG21-0591

Drawing Title:

ELECTRICAL
DEMOLITION PLAN

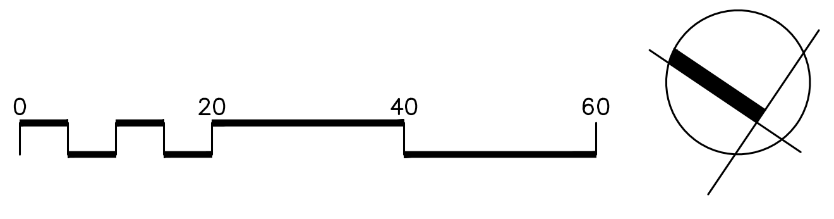
Sheet Number:

ED001



DRAWING NOTES:

1. REFER TO DRAWING E001 FOR LEGEND, ABBREVIATIONS, GENERAL NOTES AND DETAILS.
2. LIGHTING SHALL BE FED WITH #10 WIRE FROM HANDHOLE TO FIXTURE. CONTRACTOR SHALL SPLICE WIRING WITHIN HANDHOLE
3. ALL LIGHTING AND WIRING IS AN ADD ALTERNATE. ALL CONDUIT IS BASE BID..



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Drawn By: DNM

Reviewed By: RFM

Approved By: RFM

W&S Project No: ENG21-0591

Drawing Title:

ELECTRICAL SITE
PLAN

Sheet Number:

E002

1.0 - GENERAL

1.01 THE STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH ALL OTHER CONTRACT DRAWINGS AND SPECIFICATIONS. REFER TO LANDSCAPE ARCHITECTURE AND ELECTRICAL DRAWINGS FOR LOCATION, DIMENSIONS, AND DETAILS OF OPENINGS, SLEEVES, EMBEDMENTS, INSERTS, PADS, CURBS, DEPRESSIONS, ANCHOR BOLTS, AND OTHER PROJECT REQUIREMENTS NOT SHOWN ON STRUCTURAL DRAWINGS.

1.02 THE CONTRACTOR IS RESPONSIBLE FOR CHECKING, COORDINATING AND VERIFYING ALL DIMENSIONS IN THE FIELD PRIOR TO COMMENCING WORK. THE CONTRACTOR SHALL IMMEDIATELY REPORT ANY DISCREPANCY TO THE ARCHITECT AND ENGINEER AS A REQUEST FOR INFORMATION (RFI) BEFORE PROCEEDING WITH WORK.

1.03 THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING IN THE FIELD THE EXISTENCE AND LOCATION OF OVERHEAD, BURIED AND/OR EMBEDDED UTILITIES, AND DETERMINING LOCATIONS OF ALL EMBEDDED MECHANICAL, ELECTRICAL AND PLUMBING SYSTEMS AFFECTED BY THE WORK OF THIS CONTRACT.

1.04 ALL WORK IS TO CONFORM WITH THE FOLLOWING CODES AND STANDARDS:

- (A) "NH STATE BUILDING CODE LOCAL AMENDMENTS/ MUNICIPAL ORDINANCES" - RSA 155-A.V.
- (B) INTERNATIONAL BUILDING CODE, (IBC 2015)
- (C) "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" - AMERICAN CONCRETE INSTITUTE (ACI 318)
- (D) "MANUAL OF STEEL CONSTRUCTION" - AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC 360)
- (E) "STRUCTURAL WELDING CODE - STEEL" - AMERICAN WELDING SOCIETY (AWS D1.1-92)
- (F) "MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES" - AMERICAN SOCIETY OF CIVIL ENGINEERS, (ASCE 7)

FOR ADDITIONAL CODES AND STANDARDS REFER TO SPECIFICATIONS.

1.05 THE CONTRACTOR SHALL NOTIFY THE ARCHITECT AND ENGINEER OF UNFORESEEN CONDITIONS THAT MAY BE UNCOVERED DURING CONSTRUCTION AS A REQUEST FOR INFORMATION (RFI) BEFORE PROCEEDING WITH WORK.

1.06 DETAILS AND NOTES SHOWN ON STRUCTURAL DRAWINGS SHALL BE APPLICABLE TO ALL PARTS OF THE STRUCTURAL WORK EXCEPT WHERE SPECIFICALLY REQUIRED OTHERWISE BY CONTRACT DOCUMENTS. CONDITIONS NOT SPECIFICALLY SHOWN SHALL BE SIMILAR TO THOSE SHOWN FOR LIKE CONDITIONS AS DETERMINED BY THE ENGINEER.

1.07 TESTING AND INSPECTION OF STRUCTURAL WORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE COSTS FOR TESTING AND INSPECTION WILL BE PAID BY THE CONTRACTOR. FOR ADDITIONAL INFORMATION CONCERNING TESTING AND INSPECTION, REFER TO SECTION 01 45 23 OF THE TECHNICAL SPECIFICATIONS.

1.08 THE CONTRACTOR SHALL DESIGN AND PROVIDE ALL REQUIRED SHORING AND TEMPORARY BRACING TO RESIST FORCES ON THE STRUCTURE THROUGHOUT THE CONSTRUCTION PERIOD.

1.09 SUBMIT SHOP DRAWINGS, WITH AMPLE TIME FOR ENGINEER'S REVIEW AND APPROVAL, FOR STRUCTURAL ELEMENTS.

2.0 - CAST IN PLACE CONCRETE

2.01 CONCRETE WORK SHALL CONFORM TO "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318).

2.02 CONCRETE SHALL BE CONTROLLED CONCRETE, PROPORTIONED, MIXED AND PLACED IN THE PRESENCE OF A REPRESENTATIVE OF AN APPROVED TESTING AGENCY.

2.03 UNLESS NOTED OTHERWISE, CONCRETE SHALL BE NORMAL WEIGHT AND HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH AS FOLLOWS:

- (A) SEAWALLS, TIDE GATE STRUCTURES: 4000 PSI
- (B) WALLS & FOOTINGS: 4000 PSI

2.04 ALL PERMANENTLY EXPOSED VERTICAL AND HORIZONTAL CONCRETE SURFACES SHALL BE TREATED OR SEALED IN ACCORDANCE WITH PROJECT SPECIFICATIONS.

2.05 CONCRETE EXPOSED TO WEATHER IN THE FINISHED PROJECT SHALL BE AIR ENTRAINED PER SPECIFICATIONS REQUIREMENTS. INTERIOR SLABS ON GRADE SHALL NOT USE AIR ENTRAINING ADMIXTURES.

2.06 PROVIDE A ¾" CHAMFER ON ALL VERTICAL AND HORIZONTAL CORNERS EXPOSED TO VIEW UNLESS NOTED OTHERWISE.

2.07 ALL CONCRETE SHALL BE WATER CURED UNLESS OTHERWISE AUTHORIZED BY THE ENGINEER.

3.0 - CAST IN PLACE CONCRETE REINFORCEMENT

3.01 REINFORCEMENT DETAILING, FABRICATION, AND ERECTION SHALL CONFORM TO "ACI DETAILING MANUAL" - SP-66, "CRSI MANUAL OF STANDARD PRACTICE".

3.02 STEEL REINFORCEMENT, UNLESS NOTED OTHERWISE, SHALL CONFORM TO THE FOLLOWING:

- (A) BARS, TIES, AND STIRRUPS________________ASTM A615 GRADE 60
- (B) WELDED WIRE FABRIC________________ASTM A185, FLAT SHEETS

3.03 REINFORCING STEEL SHALL BE UNCOATED AND DEFORMED.

3.04 MINIMUM CONCRETE PROTECTIVE COVERING FOR REINFORCEMENT, UNLESS REQUIRED FOR FIRE PROTECTION OR NOTED OTHERWISE, SHALL BE AS FOLLOWS:

- (A) CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH:___3"
- (B) CONCRETE EXPOSED TO EARTH OR WEATHER:
  - (1) NO. 6 THRU NO. 18 BARS________________2"
  - (2) NO. 5 BAR, W31 OR D31 WIRE AND SMALLER________1½"
- (C) SURFACES NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:
  - (1) SLABS, WALLS, JOISTS:
    - (a) NO. 14 AND NO 18 BARS________________1½"
    - (b) NO. 11 BARS AND SMALLER________________¾"
  - (2) BEAMS, COLUMNS:
    - (a) PRIMARY REINFORCEMENT, TIES, STIRRUPS, SPIRALS________1½"
  - (3) SHELLS, FOLDED PLATE MEMBERS:
    - (a) NO. 6 BARS AND LARGER________________¾"
    - (b) NO 5 BAR, W31 OR D31 WIRE AND SMALLER________½"

3.05 REINFORCING STEEL SHALL BE CONTINUOUS THROUGH ALL CONSTRUCTION JOINTS, CORNERS, AND INTERSECTIONS UNLESS OTHERWISE NOTED. REINFORCING SHALL BE LAPPED AT NECESSARY SPLICES OR HOOKED AT DISCONTINUOUS ENDS, UNLESS OTHERWISE NOTED.

3.06 FOR REINFORCING STEEL SPLICE LAP LENGTHS REFER TO THE TABLE PROVIDED UNLESS OTHERWISE INDICATED.

3.07 MECHANICAL SPLICES SHALL BE PERMITTED SUBJECT TO APPROVAL BY THE ENGINEER. MECHANICAL SPLICES SHALL DEVELOP AT LEAST 125 PERCENT OF THE SPECIFIED YIELD STRENGTH OF THE BAR. NO WELDED CONNECTIONS ARE PERMITTED.

3.09 REINFORCEMENT SHALL NOT BE TACK WELDED.

3.10 NOTIFY THE TESTING LAB AND ENGINEER A MINIMUM OF 48 HOURS PRIOR TO SCHEDULED CONCRETE PLACEMENT IN ORDER TO ACCOMMODATE INSPECTION OF REINFORCEMENT AND CONCRETE TESTING. NO CONCRETE SHALL BE PLACED WITHIN 48 HOURS OF SUCH NOTIFICATION.

4.0 - CONCRETE REPAIR NOTES:

4.01 FOR THE PURPOSE OF THIS PROJECT, A DEEP PATCH REPAIR IS DEFINED AS A REPAIR THAT SHALL BE USED WHEN THE DEPTH OF SOUND CONCRETE IS REACHED MORE THAN 2" FROM THE FACE OF CONCRETE OR REINFORCING STEEL IS ENCOUNTERED. DETERIORATED CONCRETE SHALL BE REMOVED TO A MINIMUM DEPTH OF 1" BEYOND THE LAYER OF REINFORCING OR TO SOUND CONCRETE BUT SHALL NOT EXCEED 6" DEEP.

4.02 FOR THE PURPOSE OF THIS PROJECT, A SHALLOW DEPTH REPAIR IS DEFINED AS A REPAIR THAT SHALL BE USED WHEN THE DEPTH OF SOUND CONCRETE IS REACHED LESS THAN 2" FROM THE FACE OF CONCRETE AND REINFORCING STEEL IS NOT ENCOUNTERED. IF LIMITS OF DETERIORATED CONCRETE EXTEND INTO REINFORCEMENT, PROCEED WITH DEEP PATCH REPAIR.

4.03 EXTENT, LOCATION, AND REPAIR TYPE OF ALL CONCRETE REPAIRS TO BE FIELD VERIFIED AND APPROVED BY THE ENGINEER AFTER CONTRACTOR HAS SOUNDED AND MARKED OUT ALL REPAIR AREAS. REPAIR CONFIGURATIONS SHOULD BE KEPT AS SIMPLE AS POSSIBLE, PREFERABLY WITH SQUARE CORNERS.

4.04 SAW CUT ALONG NEAT LINES AROUND REPAIR AREA PRIOR TO CONCRETE EXCAVATION. USE SAW CUT DEPTH OF 3/4".

4.05 REMOVE DETERIORATED AND DELAMINATED CONCRETE, UNDERCUT EXPOSED REINFORCING STEEL TO PROVIDE MINIMUM CLEARANCE AROUND BARS, REMOVE ADDITIONAL CONCRETE AS REQUIRED TO PROVIDE MINIMUM REQUIRED THICKNESS OF REPAIR MATERIAL.

4.06 IF REINFORCING STEEL IS EXPOSED, CLEAN BY MECHANICAL CLEANING AND HIGH PRESSURE WASHING WITH WATER THAT CONTAINS NO DETERGENTS OR BONDING INHIBITING CHEMICALS. WHERE ACTIVE CORROSION HAS OCCURRED THAT WOULD INHIBIT BONDING, SANDBLAST STEEL TO WHITE METAL FINISH.

4.07 AFTER EDGE PREPARATIONS AND EXCAVATION IS COMPLETE, REMOVE BOND INHIBITING MATERIALS (DIRT, GREASE, LOOSELY BONDED AGGREGATE, ETC.) BY ABRASION BLASTING OR HIGH PRESSURE WATER BLASTING WITH WATER THAT CONTAINS NO DETERGENTS OR BOND INHIBITING CHEMICALS. CHECK THE CONCRETE SURFACES AFTER CLEANING TO ENSURE THAT SURFACE IS FREE FROM ADDITIONAL LOOSE AGGREGATE OR THAT ADDITIONAL DELAMINATING CONCRETE ARE NOT PRESENT.

4.08 THOROUGHLY PRE-WET CONCRETE REPAIR AREA FOR 24 HOURS PRIOR TO REPAIR CONCRETE PLACEMENT. SUBSTRATE SHALL BE SATURATED SURFACE DRY (SSD) WITH NO STANDING WATER AT TIME OF REPAIR CONCRETE PLACEMENT.

4.09 PLACEMENT AND SUBSEQUENT CURING OF REPAIR MATERIAL SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND THE SPECIAL PROVISIONS.

5.0 - DESIGN LOADS

GENERAL DESIGN REQUIREMENTS.. (IBC 2015)
RISK CATEGORY.. II

DEAD LOADS...WEIGHT OF MATERIALS

LIVE LOADS

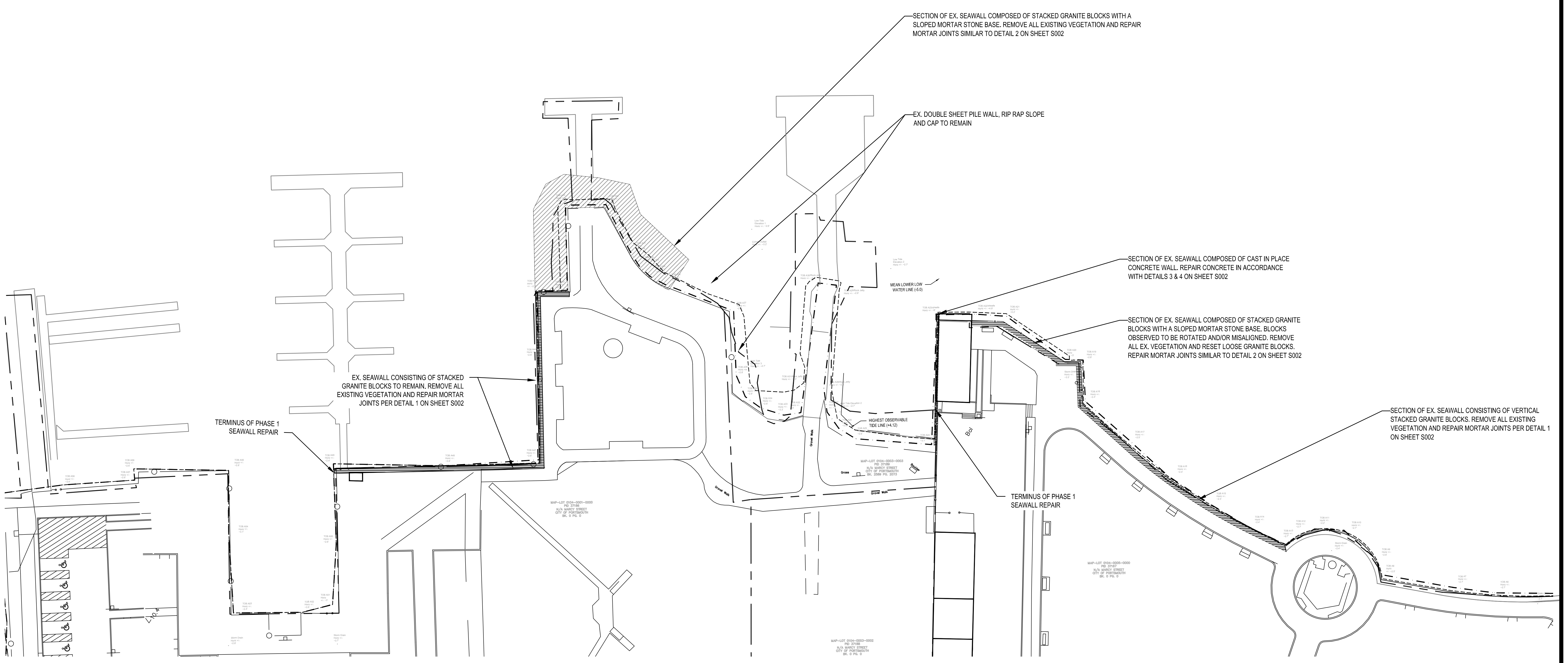
PEDESTRIAN LL (PIER)...90 PSF

SNOW LOADS

GROUND SNOW LOAD, Pg...50 PSF
FLAT ROOF SNOW LOAD, Pf .... 33.6 PSF
SNOW EXPOSURE FACTOR, Ce....................................... 0.8
THERMAL FACTOR, Ct 1.2
SNOW LOAD IMPORTANCE FACTOR, Is 1.0

WIND LOADS
BASIC WIND SPEED, V (3-SECOND GUST WIND SPEED) ......120 MPH
WIND EXPOSURE CATEGORY..D
WIND DIRECTIONALITY FACTOR, Kd 0.85
TOPOGRAPHIC FACTOR, Kzt 1.0
VELOCITY PRESSURE COEFFICIENT, Kz 1.03

SEISMIC LOADS
SITE CLASS... D
SPECTRAL RESPONSE ACCELERATIONS
(1) Ss.. 0.269
(2) S1.. 0.080
SPECTRAL RESPONSE COEFFICIENTS
(1) Sds 0.284
(2) Sd1 .... 0.128
SEISMIC DESIGN CATEGORY .... B
SEISMIC IMPORTANCE FACTOR, Ie 1.0
ANALYSIS PROCEDURE .... EQUIVALENT LATERAL FORCE ANALYSIS



SECTION OF EX. SEAWALL COMPOSED OF STACKED GRANITE BLOCKS WITH A SLOPED MORTAR STONE BASE. REMOVE ALL EXISTING VEGETATION AND REPAIR MORTAR JOINTS SIMILAR TO DETAIL 2 ON SHEET S002

EX. DOUBLE SHEET PILE WALL, RIP RAP SLOPE AND CAP TO REMAIN

SECTION OF EX. SEAWALL COMPOSED OF CAST IN PLACE CONCRETE WALL. REPAIR CONCRETE IN ACCORDANCE WITH DETAILS 3 & 4 ON SHEET S002

SECTION OF EX. SEAWALL COMPOSED OF STACKED GRANITE BLOCKS WITH A SLOPED MORTAR STONE BASE. BLOCKS OBSERVED TO BE ROTATED AND/OR MISALIGNED. REMOVE ALL EX. VEGETATION AND RESET LOOSE GRANITE BLOCKS. REPAIR MORTAR JOINTS SIMILAR TO DETAIL 2 ON SHEET S002

EX. SEAWALL CONSISTING OF STACKED GRANITE BLOCKS TO REMAIN. REMOVE ALL EXISTING VEGETATION AND REPAIR MORTAR JOINTS PER DETAIL 1 ON SHEET S002

TERMINUS OF PHASE 1 SEAWALL REPAIR

TERMINUS OF PHASE 1 SEAWALL REPAIR

SECTION OF EX. SEAWALL CONSISTING OF VERTICAL STACKED GRANITE BLOCKS. REMOVE ALL EXISTING VEGETATION AND REPAIR MORTAR JOINTS PER DETAIL 1 ON SHEET S002

2 SEAWALL REPAIR ENLARGEMENT PLAN

SCALE: 1:40

NOTE(S):
1. REFER TO LANDSCAPE ARCHITECTURE DRAWINGS FOR WETLAND DELINEATION INFORMATION.

Project:

PORTSMOUTH,
NEW HAMPSHIRE

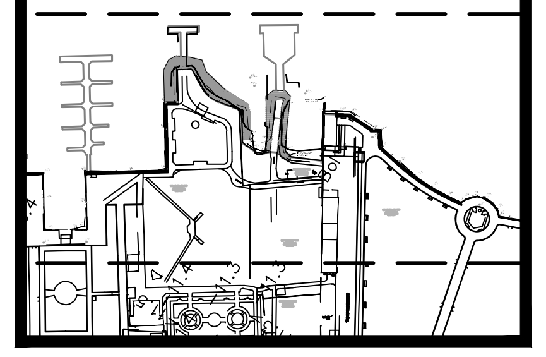
PRESCOTT PARK
PHASE 1A IMPROVEMENTS

105 MARCY STREET,
PORTSMOUTH, NH, 03801

Weston & Sampson

85 Devonshire Street,
3rd Floor, Boston, MA 02109
617.412.4480 800.SAMPSON
www.westonandsampson.com

Consultants:



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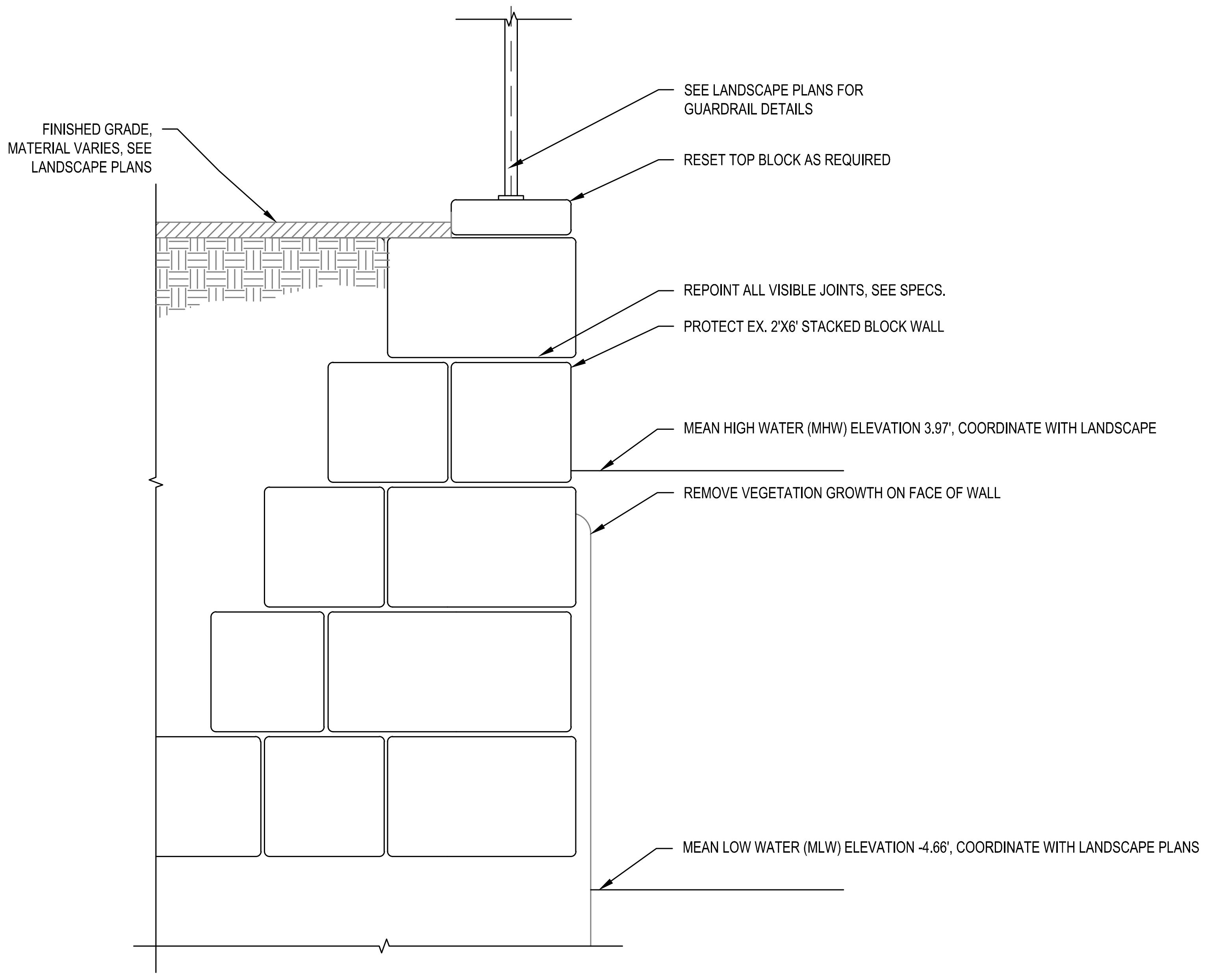
Drawing Title:

SEAWALL REPAIR PLAN &
GENERAL NOTES

ADD ALTERNATE #3

Sheet Number:

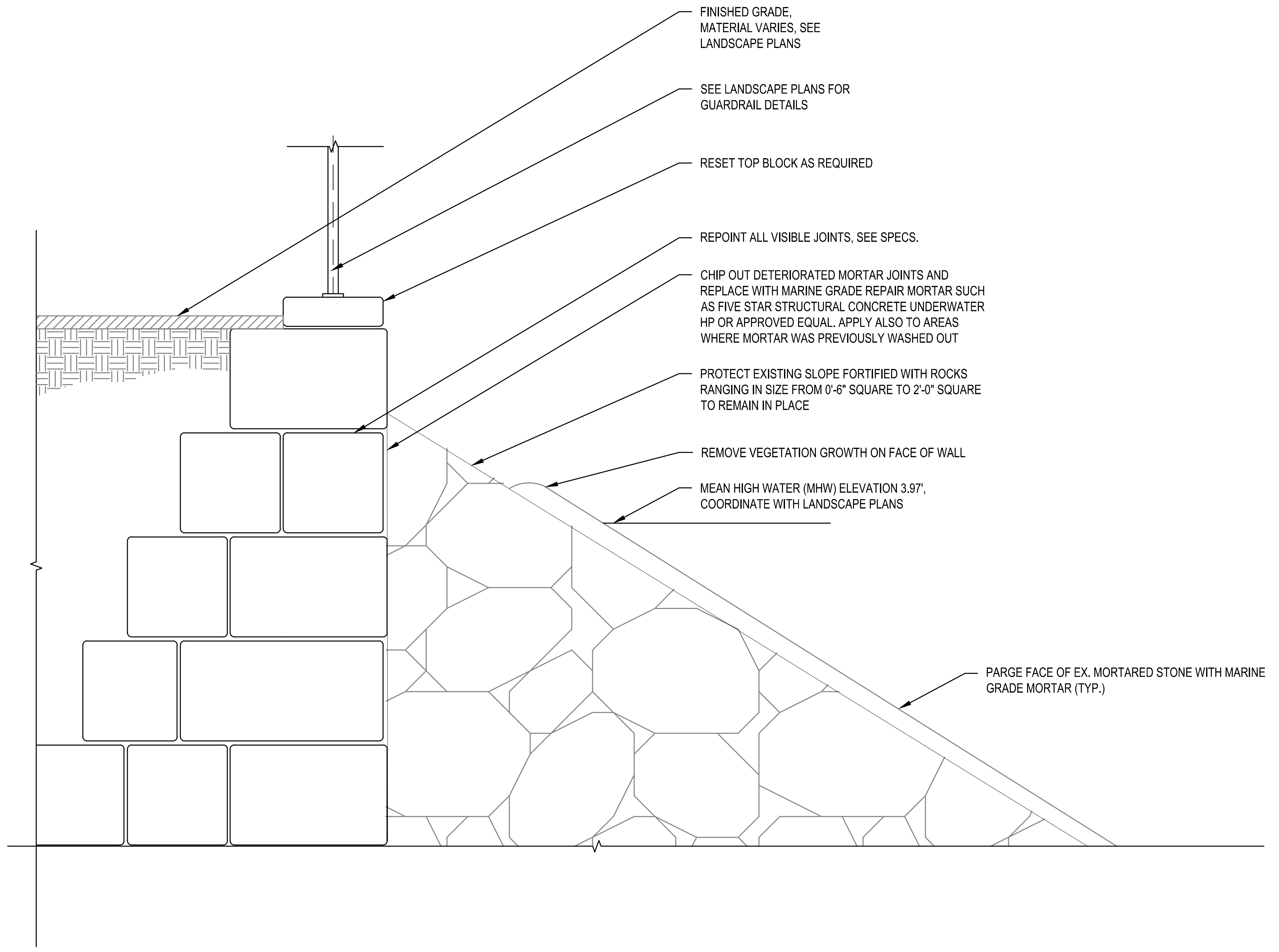
S001



1 TYPICAL GRANITE SEAWALL REPAIR DETAIL I

SCALE: 1/2"=1'-0"

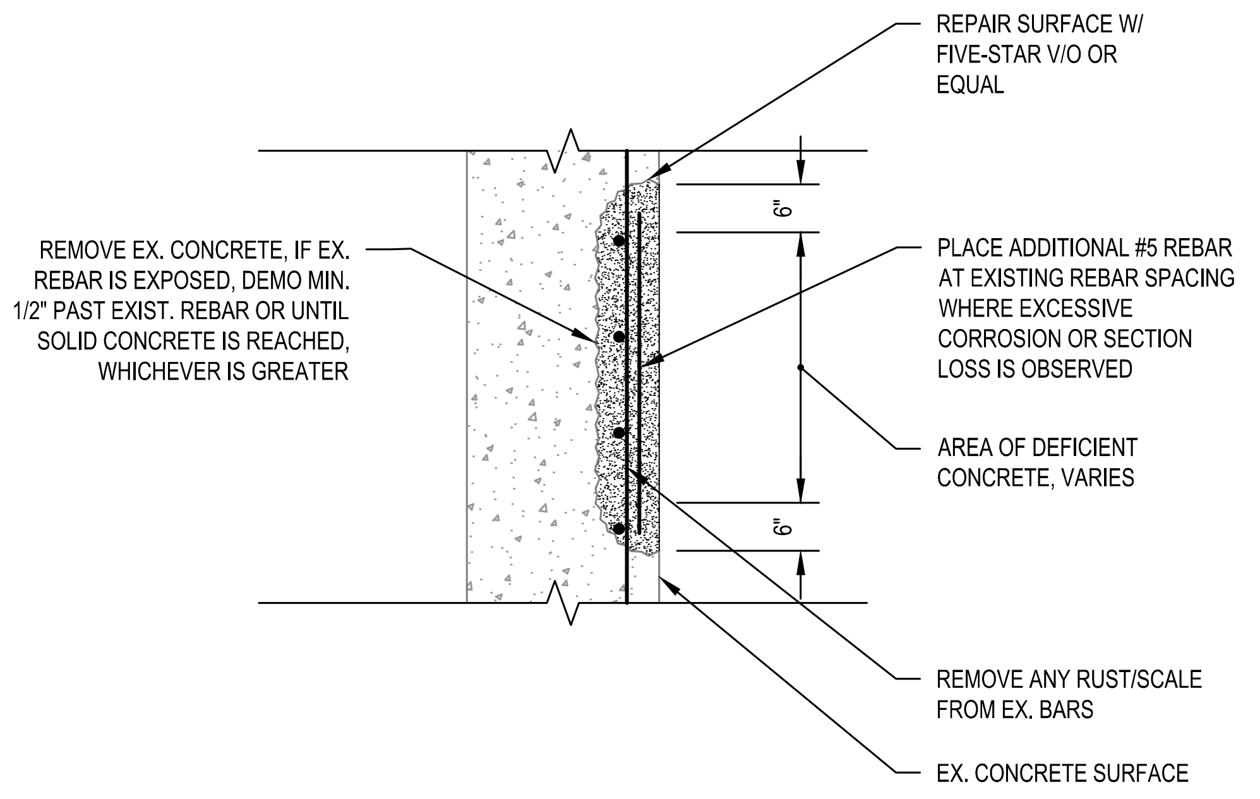
NOTE(S):
1. APPROXIMATELY 200 LF OF WALL IN SCOPE. GC SHALL ASSUME ALL VERTICAL & HORIZONTAL JOINTS VISIBLE TO VIEW SHALL BE REPOINTED.
2. ASSUME 4 HORIZ. JOINTS ALONG EXTERIOR FACE OF WALL SHALL BE REPOINTED. VERTICAL JOINTS ARE ASSUMED TO BE APPROX. 40" EACH. BLOCKS ARE APPROX. 10' IN LENGTH. TOTAL LENGTH TO BE REPAIRED = 1200 LF.



2 TYPICAL GRANITE SEAWALL REPAIR DETAIL II

SCALE: 1/2"=1'-0"

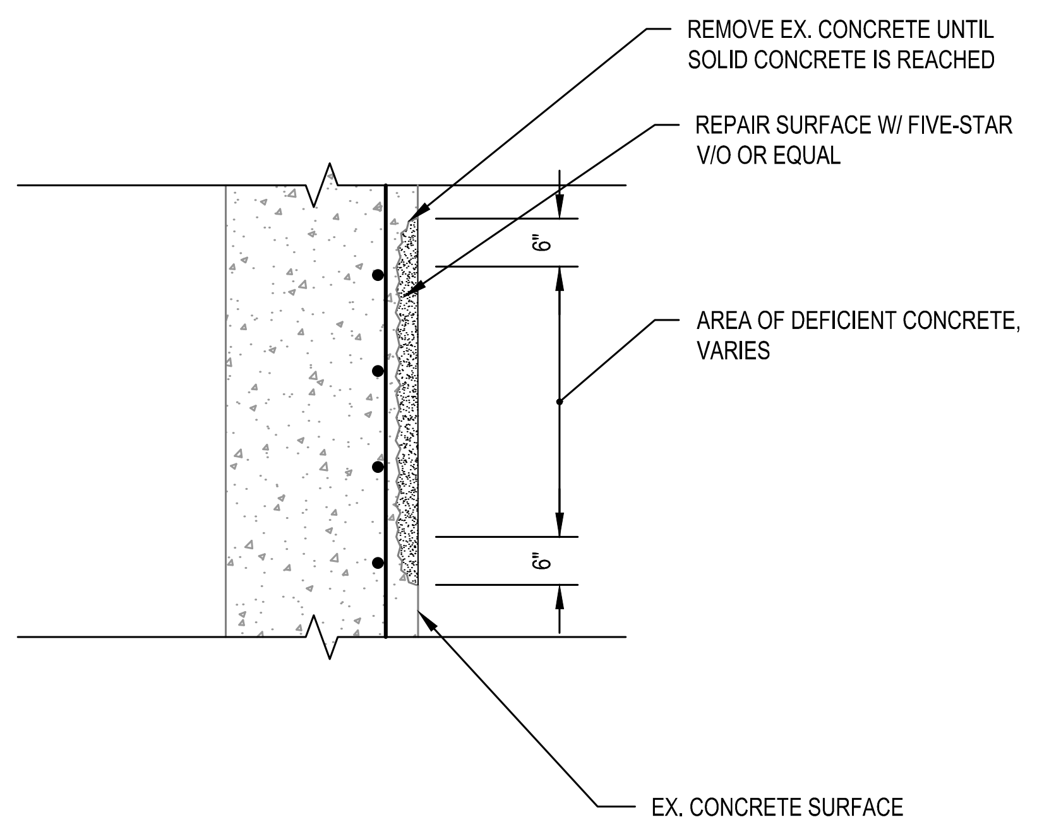
NOTE(S):
1. APPROXIMATELY 80 LF OF WALL IN SCOPE.
2. ASSUME 2 HORIZ. JOINTS AND ALL VERTICAL JOINTS TO BE REPAIRED. TOTAL LENGTH = 200 LF



3 TYPE I REPAIR SECTION

SCALE: 3/4"=1'-0"

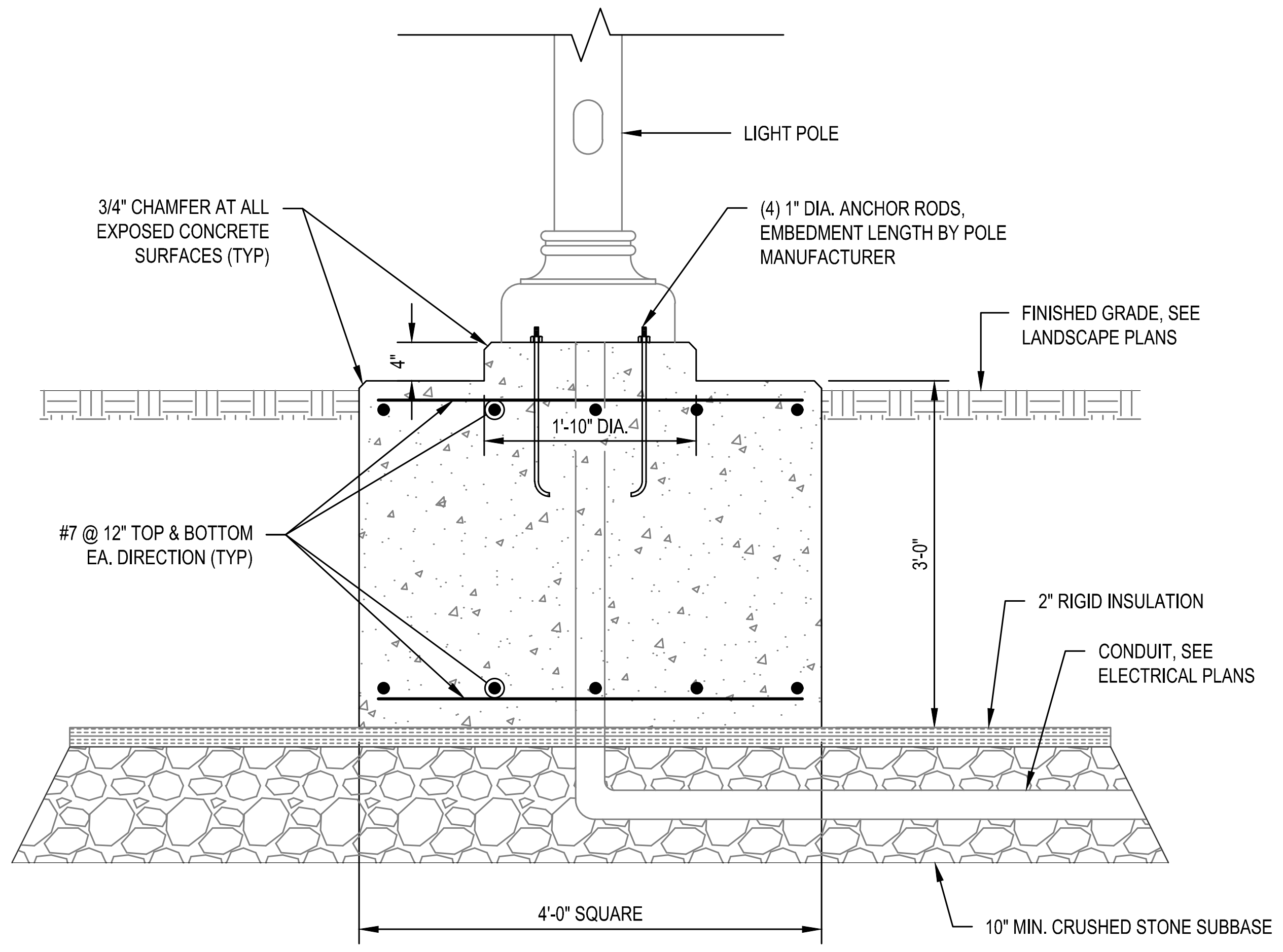
NOTE(S):
1. GC TO ASSUME 30 SF OF REPAIR FOR BIDDING PURPOSES.



4 TYPE II REPAIR SECTION

SCALE: 3/4"=1'-0"

NOTE(S):
1. GC TO ASSUME 50 SF OF REPAIR FOR BIDDING PURPOSES.



5 LIGHTPOLE FOUNDATION SECTION (ADD ALTERNATE #1)

SCALE: 3/4"=1'-0"

NOTE(S):
1. REFER TO SITE DRAWINGS FOR LIGHTPOLE LOCATIONS.
2. REFER TO ELECTRICAL DRAWINGS FOR LIGHTPOLE SPECIFICATIONS.

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Weston & Sampson
85 Devonshire Street,
3rd Floor, Boston, MA 02109
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SEAWALL REPAIR
SECTIONS & DETAILS

ADD ALTERNATE #3

Sheet Number:

S002