General Sullivan Bridge 11238

Bridge No. 200/023 over Little Bay

Newington and Dover, New Hampshire

PREPARED FOR

NH Department of Transportation
7 Hazen Drive
PO Box 483
Concord, NH 03302-0483
603.271.3226

PREPARED BY

VHB
2 Bedford Farms Drive
Suite 200
Bedford, NH 03110
603.391.3900

March 2023

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Appendices

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: NH Department of Transportation **TOWN NAME:** Newington/Dover

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): Sparsely vegetated intertidal system, Subtidal system, Atlantic Sturgeon, and Shortnose Sturgeon ○ NHB Project ID #: NHB22-3557	☒ 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):	☐ Yes ☒ No

• A copy of the application was sent to the LAC on Month: Day: Year:	
For dredging projects, is the subject property contaminated? • If yes, list contaminant: N/A	☐ 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): 454 sq mi	

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.

New Hampshire Department of Transportation (NHDOT) proposes to impact 2,742 sq ft (314 lin ft) in the banks of Little Bay and 1,009 sq ft of a palustrine wetland to remove the General Sullivan Bridge and construct a new steel frame bridge for non-motorized use.

Temporary construction phase impacts include 23,813 sq ft (376 lin ft) within the bed to install two temporary stone causeways and temporary pile-supported trestle work platforms to provide construction access. Additionally, the project proposes to temporarily impact 44,219 sq ft within the developed tidal buffer zone (TBZ) and 165 sq ft within the bank to provide construction access and improve an existing multi-use path leading to the bridge.

Due to safety concerns stemming from corrosion and deterioration, the bridge was closed in September 2018. This closure eliminated permanent recreational use of the GSB and eliminated pedestrian access across Little Bay. The purpose of the project is to provide recreational access and connectivity between Newington and Dover, across Little Bay, for pedestrian and non-motorized use. The proposed project would replace the GSB superstructure with a steel girder superstructure utilizing a structural steel V-frame design that extends from the bottom of the girders to the top of the existing GSB piers. The existing GSB stone masonry piers would be reused without requiring substantial modification. The new structure would have an approximately 18.3-foot-wide deck (out to out), and a 16-foot-wide multiuse path, with railings matching dimensions of existing approach railings. The 16-foot-wide multiuse path would comply with the ADA for accessibility and would have a steel pedestrian rail along both sides of the new bridge deck.

Note that the temporary impacts associated with the causeway and trestle work platforms are provisional. NHDOT anticipates the need for the contractor to review and possibly modify the plan for the construction access prior to construction.

SECTION 3 - PROJECT LOCATION

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

ADDRESS: Spaulding Turnpike (NH Route 16) between Newington and Dover crossing Little Bay
TOWN/CITY: Newington and Dover
TAX MAP/BLOCK/LOT/UNIT: NHDOT Right-of-Way
US GEOLOGICAL SURVEY (USGS) TOPO MAP WATERBODY NAME: Little Bay ☐ N/A
(Optional) LATITUDE/LONGITUDE in decimal degrees (to five decimal places): 43.118929° North

		-70.827897° 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: New Hampshire Department of Transportation		
MAILING ADDRESS: 7 Hazen Drive, P.O. Box 483		
TOWN/CITY: Concord	STATE: NH	ZIP CODE: 03302
EMAIL ADDRESS: jennifer.e.reczek@dot.nh.gov		
FAX:	PHONE: 603-271-3401	
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.: Walker, Peter J.		
COMPANY NAME: VHB, Inc.		
MAILING ADDRESS: 2 Bedford Farms Drive, Suite 200		
TOWN/CITY: Bedford	STATE: NH	ZIP CODE: 03110
EMAIL ADDRESS: pwalker@vhb.com		
FAX:	PHONE: 603-391-3942	
ELECTRONIC COMMUNICATION: By initialing here PJW, 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:		
MAILING ADDRESS:		
TOWN/CITY:	STATE:	ZIP CODE:
EMAIL ADDRESS:		
FAX:	PHONE:	
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):

All jurisdictional areas within the proposed project area were delineated and classified in accordance with the requirements of Env-Wt 400. Wetland boundaries were originally delineated in 2003, with portions of this delineation being reviewed in 2009. All delineated areas were field verified again on January 20, 2020, and the Top of Bank (TOB) and Highest Observable Tide Line (HOTL) of the Piscataqua River were field verified in September 2022 by Kristopher Wilkes (NH CWS #288). Env-Wt 600 is applicable to the proposed project, as the proposed work will impact approximately 0.9 acres (mostly temporary) of the protected TBZ of Little Bay. As such, the corresponding permit application has been compiled in accordance with the Env-Wt 610.03 TBZ design standards and Env-Wt 610.04 application requirements. A Protected Tidal Zone Project-Specific Worksheet was utilized as part of the permit application. Refer to the Application Narrative for more detailed information regarding the project's compliance with these sections of the rules. Per Env-Wt 610.17, the proposed work is classified as a major impact project as construction activity will occur within 100 feet of the HOTL. Env-Wt 700 is not applicable to the proposed project, as there will be no impacts to prime wetlands as part of the proposed work. Env-Wt 900 is applicable to the proposed project as the repair of the GSB meets the definition of a Tier 4 stream crossing. Refer to the Supplemental Narrative which details the project's compliance with this chapter of the rules. Under Env-Wt 306.06(c)(3), abutter notifications are not required for public highway maintenance or repair projects.

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: 10 Day: 19 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	1,009		☐			☐
	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	2,742	314	☐	165	29	☐
	Bank / Shoreline - Lake / Pond			☐			☐
Tidal	Tidal Waters			☐	23,813	376	☐
	Tidal Marsh			☐			☐
	Sand Dune			☐			☐
	Undeveloped Tidal Buffer Zone (TBZ)			☐			☐
	Previously-developed TBZ			☐	44,219		☐
	Docking - Tidal Water			☐			☐
TOTAL		3,751	314		**68,197**	**405**	

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):	71,948 SF	× $0.40 =	$	28,779
Seasonal docking structure:	SF	× $2.00 =	$	
Permanent docking structure:	SF	× $4.00 =	$	
Projects proposing shoreline structures (including docks) add $400 =			$	
Total =			$	
The application fee for minor or major impact is the above calculated total or $400, whichever is greater =			$	28,779

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: JCR	To the best of the signer's knowledge and belief, all required notifications have been provided.
Initials: JCR	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: JCR	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: JCR	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): Jennifer E. Reczek	PRINT NAME LEGIBLY: Jennifer Reczek	DATE: 3/14/23
SIGNATURE (APPLICANT, IF DIFFERENT FROM OWNER):	PRINT NAME LEGIBLY:	DATE:
SIGNATURE (AGENT, IF APPLICABLE): Peter J. Walker	PRINT NAME LEGIBLY: Peter J. Walker	DATE: 3/14/23

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: N/A; NHDOT is exempt from this requirement per RSA 482-A:3(I)(a)(1).
TOWN/CITY:	DATE:

Figure 1: USGS Overview Map

General Sullivan Bridge Project | Newington and Dover, NH

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: **New Hampshire DOT** **TOWN NAME:** Newington and Dover

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.

The purpose of this project is to provide recreational access and connectivity between Newington and Dover, across Little Bay via the General Sullivan Bridge (GSB), for pedestrian and non-motorized use. Due to safety concerns stemming from corrosion and deterioration, the bridge was closed in September 2018. This closure eliminated permanent recreational use of the GSB and eliminated pedestrian access across Little Bay. Since the project objective is specific to this site, it is not possible to reduce jurisdictional impacts by adjusting the project location.

A Final Supplemental Environmental Impact Statement was completed for this project in 2022, which identified five reasonable alternatives. After consideration of primary areas of concern such as safety, estimated costs, transportation capacity, cultural resource impacts, and environmental impacts, the Superstructure Replacement – Girder Option was determined to be the preferred alternative. The proposed project would replace the GSB superstructure with a steel girder superstructure and existing stone masonry piers would be reused without substantial modification.

The project site is located within NHDOT-owned parcels. The existing GSB Dover abutment is located within Hilton Park. The NHDOT Right-of-Way in Newington is located adjacent to property owned by the Town of Newington adjacent to Shattuck Way. NHDOT is reusing the existing alignment, approaches, and piers of the bridge to minimize permanent impacts. Additionally, the impervious area of the bridge surface is being reduced, and temporary impacts to the TBZ and bed of Little Bay are minimized through the use of existing access to the bridge and temporary work structures within Little Bay.

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 section is not applicable to the proposed project as there are no tidal or non-tidal marshes directly impacted by the project.

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

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

The hydraulic connection between adjacent wetlands or stream systems will be maintained post-construction. The only wetland directly adjacent to the project, Wetland 1, will be permanently impacted by the project. However, this wetland is not currently hydrologically connected to Little Bay.

Hydraulic connections to Great Bay and the Piscataqua River will also be maintained post-construction as the proposed project will reuse the existing GSB piers in-kind with no permanent fill within the bed of Little Bay. Temporary fill associated with causeways and pilings to support work platforms will maintain connectivity between Great Bay, Little Bay, and the Piscataqua River for sediment transport, aquatic organism passage, and runoff.

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.

According to the NHDES Wetlands Permit Planning Tool (WPPT), Little Bay is a Priority Resource Area (PRA) as it meets the definition of a Floodplain Wetland Adjacent to a Tier 3 stream. The Tidal Buffer Zone within the project area is developed and does not meet the definition of a PRA.

The selected alternative minimizes impacts to wetland tidal habitats by reusing existing infrastructure while still achieving the project objective of providing recreational access and connectivity between Newington and Dover across Little Bay via the GSB for pedestrian and non-motorized use. Of the five Reasonable Alternatives presented in Section 2.3 of the 2022 FSEIS, the selected alternative (Alternative 9) had the least impacts to wetlands, surface waters, and floodplains.

Tidal and wetland impacts are necessary for the construction of two temporary causeways and pilings to support trestle work. Causeways will be constructed with rock fill and geotextile fabric installed below the fill in the intertidal areas of Little Bay. Pilings, fill, and geotextile fabric will be removed upon project completion and restored to pre-construction conditions to the extent practicable.

Refer to Sections 6.1 and 6.2 of the Supplemental Narrative for information related to protected species, avoidance, and minimization.

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.

The intent of this project is to address the structural deficiencies of the GSB that led to its closing in 2018. The proposed project will yield long-term benefits to public commerce and recreation for pedestrian and non-motorized users, allowing for safe and efficient connectivity between Newington and Dover across Little Bay.

A U.S. Coast Guard Bridge Permit application and Navigational Impact report are being compiled. The proposed project would neither benefit nor negatively impact the vertical navigational clearance of the 100-foot-wide navigational channel in Little Bay as the navigational restriction is due to the northbound Little Bay Bridge and will not be reduced as part of this project. Within the 200-foot-wide navigational channel, the proposed project will benefit marine traffic by increasing vertical navigational clearance by 9.6 feet, resulting in a new vertical clearance of 44.3 feet total.

The 100-foot-wide channel at the center of Little Bay between GSB Piers 4 and 5 (span 5) will remain open during much of the proposed construction period except two brief periods which will be necessary during the demolition and subsequent erection of span 5. Closure duration is expected to be 7 and 5 days, respectively. Closures will be coordinated with the USCG, NH Port Authority, and users of the waterway.

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.

Floodplain elevation data were examined for Dover and Newington within the project area. Floodplain boundaries were identified using the most recent Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM). The FIRMs show areas of potential risk from a 1-percent-annual-chance flood event, also referred to as Zone AE.

Temporary impacts to floodplains and hydrodynamics during construction are expected to be minor relative to the extensive area of Little Bay and the associated Great Bay Estuary which has the capacity to effectively disperse the minor diplacement of water or waves in an expansive system of salt marsh, mud flat, and riverine habitat adjacent to the project area. In addition, relative projectected sea-level rise in the project area is 3.8 feet over the 75-year GSB lifespan, which is not expected to impact the infrastructure subject to this project.

Permanent impacts to floodplain wetlands within FEMA Zone AE are anticipated due to the fill of the 1,009 square foot palustrine scrub-shrub Wetland 1 (W-1) in Newington to provide construction access to Little Bay. Wetland W-1 is located above the top-of-bank (TOB) and is not hydraulically connected to Little Bay. Impacts to the floodplain are anticipated to be minor due to the size of wetland W-1 relative to the >6,000 acres of the Great Bay Estuary.

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.

Wetland 1 (W-1) is classified as a palustrine, scrub-shrub, broad-leaved deciduous, seasonally flooded wetland (PSS1C), however, it does not have high ecological integrity. W-1 is densely vegetated and overgrown with invasive plant species. This wetland is a narrow depressional area that receives minor overland sheet flow and conveys runoff downslope to Little Bay. Due to the small size and disturbed nature of W-1, the wetland provides minimal function and value in the context of the greater landscape surrounding it.

Refer to Section 4.2 of the Supplemental Narrative for additional information about this wetland.

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 impact drinking water supplies or groundwater aquifer levels. There are no drinking water wells within or adjacent to the project area, and the project will not alter groundwater aquifer levels nor will it introduce potential drinking water contaminants into groundwater. The project reduces the impervious area of the existing bridge by approximately 33%, reducing the stormwater volume being discharged from the site and minimizing alterations to existing stormwater drainage patterns. The project intends to maintain existing drainage patterns and connections to aquifers and Little Bay.

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.

This project proposes the replacement of the superstructure of the GSB which crosses Little Bay, a tidally influenced waterbody. There are no permanent impacts to Little Bay as the existing GSB piers will be reused in-kind with only minor repairs to repoint the existing granite face of the piers.

Temporary impacts to the bed and bank of Little Bay are associated only with construction access to allow for temporary causeways and pile-supported trestles adjacent to the GSB. Within Dover, the causeway will temporarily fill approximately 5,180 sq ft within the bed of Little Bay. Within Newington, the causeway will temporarily fill approximately 12,427 sq ft within the bed of Little Bay.

Approximately 1,020 sq ft of temporary piles will be placed in the bed of Little Bay to support trestle structures which will be utilized by heavy construction equipment necessary for the removal and replacement of the GSB superstructure.

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.

The proposed project has been designed to minimize construction surface area over surface waters by reusing the existing GSB stone and concrete piers. Temporary structures detailed below are necessary for heavy equipment and crane access to the GSB superstructure.

Construction surface areas of temporary impacts are estimated to be approximately 44,219 sq ft within the developed TBZ and 165 sq ft within the bank to allow for equipment staging and access to temporary causeways and trestle work platforms. Construction areas will also include approximately 2,742 sq ft of permanent impacts to the bank, and 23,813 sq ft of temporary impacts to the bed of Little Bay to support suspended cofferdams to repoint GSB piers, pilings to support trestle work platforms, and two stone causeways. These stone causeways are necessary as an approach to the trestle work platforms to support the size and weight of heavy equipment and to create a level construction staging surface leading to the work platforms. The Newington temporary causeway will extend approx. 170 feet into Little Bay from TOB, while the Dover temporary causeway will extend approx. 70 feet into Little Bay from TOB.

Two temporary pile-supported 45-foot-wide trestle work platforms will be erected parallel to the existing GSB deck, each extending from the temporary causeways in Newington and Dover. Each primary trestle is anticipated to have four 45-foot-wide secondary trestles extending perpendicular to the GSB deck to provide construction access to piers and the GSB superstructure. In Newington, the primary trestle is estimated to extend approx. 650 feet from the causeway into Little Bay. In Dover, the primary trestle is estimated to extend approx. 565 feet into Little Bay. Total trestle surface areas are estimated to be 37,000 sq ft and 34,000 sq ft in Newington and Dover, respectively. While these trestles will be elevated above the water's surface and are not considered direct wetland impacts, the trestles' surface areas are provided for informational purposes. The trestle work platforms will be supported by 24- and 30-inch diameter temporary pipe pilings placed in the subtidal substrate of Little Bay and removed upon project completion.
Note that the configuration of the trestle work platforms depicted in the wetland plans is provisional. NHDOT anticipates the need for the contractor to review and possibly modify the layout prior to construction.

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.

As described previously, impact minimization was considered during the design of the proposed GSB superstructure replacement. This resulted in minimizing the construction work area to the maximum extent practicable while still providing the necessary area and equipment access in order to safely and efficiently conduct the proposed work.

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 proposed GSB superstructure replacement is not anticipated to negatively impact the abutting properties as all work will be contained within the existing bridge right-of-way (ROW), as well as easements which will be in place prior to the start of construction. While access to a portion of Hilton Park in Dover will be temporarily closed to the public for the duration of construction, there will be no impacts to the ability of abutting owners to use and enjoy their properties as a result of this project.

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 proposed project would neither benefit nor negatively impact the vertical clearance of the 100-foot-wide navigational channel at the center of Little Bay between GSB piers 4 and 5 (span 5), as the existing and proposed vertical clearance is restricted by the northbound Little Bay Bridge. The 100-foot-wide channel will remain open to navigation throughout construction except for two brief closures described below.

Within the 200-foot-wide channel between GSB piers 4 and 5 the proposed project would benefit navigation and passage for commercial and recreation use as the vertical clearance will increase by 9.6 feet for a total vertical clearance of 44.3 feet at Mean High Water.

Impacts to public navigation and passage of Little Bay will be temporarily negatively impacted during two brief closures of the navigational channels necessary during the demolition and erection of span 5. Closure duration is expected to be 7 and 5 days, respectively. Closures will be coordinated with the USCG, NH Port Authority, and users of the waterway.

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.

The project does not propose any permanent shoreline impacts above TOB as the causeways and trestles extending from Newington and Dover into Little Bay will be temporary, and disturbed areas will be graded and revegetated to preexisting conditions to the extent practicable.

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.

The project does not propose any permanent shoreline impacts as the causeways and trestles extending from Newington and Dover into Little Bay will be temporary.

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: USACE Highway Methodology Workbook dated 1993, together with the USACE New England District Highway Method Workbook Supplement dated 1999.
NAME OF CERTIFIED WETLAND SCIENTIST (FOR NON-TIDAL PROJECTS) OR QUALIFIED COASTAL PROFESSIONAL (FOR TIDAL PROJECTS) WHO COMPLETED THE ASSESSMENT: KRISTOPHER WILKES (NH CWS #288)
DATE OF ASSESSMENT: NOVEMBER 28, 2022
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.

AVOIDANCE AND MINIMIZATION CHECKLIST

Water Division/Land Resources Management
Wetlands Bureau

Check the Status of your Application

RSA/Rule: RSA 482-A/ Env-Wt 311.07(c)

This checklist can be used in lieu of the written narrative required by Env-Wt 311.07(a) to demonstrate compliance with requirements for Avoidance and Minimization (A/M), pursuant to RSA 482-A:1 and Env-Wt 311.07(c).

For the construction or modification of non-tidal shoreline structures over areas of surface waters without wetland vegetation, complete only Sections 1, 2, and 4 (or the applicable sections in Attachment A: Minor and Major Projects (NHDES-W-06-013).

The following definitions and abbreviations apply to this worksheet:

- "A/M BMPs" stands for Wetlands Best Management Practice Techniques for Avoidance and Minimization dated 2019, published by the New England Interstate Water Pollution Control Commission (Env-Wt 102.18).
- "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).

SECTION 1 - CONTACT/LOCATION INFORMATION	
APPLICANT LAST NAME, FIRST NAME, M.I.: New Hampshire Department of Transportation	
PROJECT STREET ADDRESS: Spaulding Turnpike (NH Route 16)	PROJECT TOWN: Newington and Dover
TAX MAP/LOT NUMBER: NHDOT Right-of-Way	

SECTION 2 - PRIMARY PURPOSE OF THE PROJECT		
Env-Wt 311.07(b)(1)	Indicate whether the primary purpose of the project is to construct a water-access structure or requires access through wetlands to reach a buildable lot or the buildable portion thereof.	☐ Yes ☒ No

If you answered "no" to this question, describe the purpose of the "non-access" project type you have proposed:

The purpose of the project is to provide access and connectivity between Newington and Dover across Little Bay for pedestrian and non-motorized recreational use through the replacement of the General Sullivan Bridge (GSB) superstructure while the bridge piers will be reused in-kind. Due to safety concerns stemming from corrosion and deterioration, the GSB was closed to all public access in September 2018. This closure eliminated permanent recreational use of the GSB, as well as pedestrian access across Little Bay. Given the condition of the bridge, the project proposes to replace the existing GSB superstructure with a new steel girder superstructure utilizing a structural steel V-frame design that extends from the bottom of the girders to the top of the existing GSB piers. The existing GSB stone and concrete piers would be reused without requiring substantial modification.

SECTION 3 - A/M PROJECT DESIGN TECHNIQUES Check the appropriate boxes below in order to demonstrate that these items have been considered in the planning of the project. Use N/A (not applicable) for each technique that is not applicable to your project.		
Env-Wt 311.07(b)(2)	For any project that proposes new permanent impacts of more than one acre or that proposes new permanent impacts to a Priority Resource Area (PRA), or both, whether any other properties reasonably available to the applicant, whether already owned or controlled by the applicant or not, could be used to achieve the project's purpose without altering the functions and values of any jurisdictional area, in particular wetlands, streams, and PRAs.	☒ Check ☐ N/A
Env-Wt 311.07(b)(3)	Whether alternative designs or techniques, such as different layouts, construction sequencing, or alternative technologies could be used to avoid impacts to jurisdictional areas or their functions and values.	☒ Check ☐ N/A
Env-Wt 311.07(b)(4) Env-Wt 311.10(c)(1) Env-Wt 311.10(c)(2)	The results of the functional assessment required by Env-Wt 311.03(b)(10) were used to select the location and design for the proposed project that has the least impact to wetland functions.	☒ Check ☐ N/A
Env-Wt 311.07(b)(4) Env-Wt 311.10(c)(3)	Where impacts to wetland functions are unavoidable, the proposed impacts are limited to the wetlands with the least valuable functions on the site while avoiding and minimizing impacts to the wetlands with the highest and most valuable functions.	☒ Check ☐ N/A
Env-Wt 313.01(c)(1) Env-Wt 313.01(c)(2) Env-Wt 313.03(b)(1)	No practicable alternative would reduce adverse impact on the area and environments under the department's jurisdiction and the project will not cause random or unnecessary destruction of wetlands.	☒ Check ☐ N/A
Env-Wt 313.01(c)(3)	The project would not cause or contribute to the significant degradation of waters of the state or the loss of any PRAs.	☒ Check ☐ N/A
Env-Wt 313.03(b)(3) Env-Wt 904.07(c)(8)	The project maintains hydrologic connectivity between adjacent wetlands or stream systems.	☒ Check ☐ N/A
Env-Wt 311.10 A/M BMPs	Buildings and/or access are positioned away from high function wetlands or surface waters to avoid impact.	☐ Check ☒ N/A
Env-Wt 311.10 A/M BMPs	The project clusters structures to avoid wetland impacts.	☐ Check ☒ N/A
Env-Wt 311.10 A/M BMPs	The placement of roads and utility corridors avoids wetlands and their associated streams.	☐ Check ☒ N/A
A/M BMPs	The width of access roads or driveways is reduced to avoid and minimize impacts. Pullouts are incorporated in the design as needed.	☐ Check ☒ N/A
A/M BMPs	The project proposes bridges or spans instead of roads/driveways/trails with culverts.	☐ Check ☒ N/A

A/M BMPs	The project is designed to minimize the number and size of crossings, and crossings cross wetlands and/or streams at the narrowest point.	☐ Check ☒ N/A
Env-Wt 500 Env-Wt 600 Env-Wt 900	Wetland and stream crossings include features that accommodate aquatic organism and wildlife passage.	☒ Check ☐ N/A
Env-Wt 900	Stream crossings are sized to address hydraulic capacity and geomorphic compatibility.	☒ Check ☐ N/A
A/M BMPs	Disturbed areas are used for crossings wherever practicable, including existing roadways, paths, or trails upgraded with new culverts or bridges.	☒ Check ☐ N/A
SECTION 4 - NON-TIDAL SHORELINE STRUCTURES		
Env-Wt 313.03(c)(1)	The non-tidal shoreline structure has been designed to use the minimum construction surface area over surfaces waters necessary to meet the stated purpose of the structure.	☐ Check ☒ N/A
Env-Wt 313.03(c)(2)	The type of construction proposed for the non-tidal shoreline structure is the least intrusive upon the public trust that will ensure safe navigation and docking on the frontage.	☐ Check ☒ N/A
Env-Wt 313.03(c)(3)	The non-tidal shoreline structure has been designed to avoid and minimize impacts on the ability of abutting owners to use and enjoy their properties.	☐ Check ☒ N/A
Env-Wt 313.03(c)(4)	The non-tidal shoreline structure has been designed to avoid and minimize impacts to the public's right to navigation, passage, and use of the resource for commerce and recreation.	☐ Check ☒ N/A
Env-Wt 313.03(c)(5)	The non-tidal shoreline structure has been designed, located, and configured to avoid impacts to water quality, aquatic vegetation, and wildlife and finfish habitat.	☐ Check ☒ N/A
Env-Wt 313.03(c)(6)	The non-tidal shoreline structure has 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.	☐ Check ☒ N/A

Supplemental Narrative

1

Introduction

The New Hampshire Department of Transportation (NHDOT) and the Federal Highway Administration (FHWA) propose to **remove and replace the General Sullivan Bridge (GSB) superstructure to create a new pedestrian and non-motorized access bridge over the mouth of Little Bay** in Newington, Rockingham County, and Dover, Strafford County, New Hampshire. NHDOT maintains a project webpage which may be accessed through http://newington-dover.com/.

This Wetlands Permit Application was prepared pursuant to the New Hampshire Revised Statutes (RSA) Chapter 482-A, Fill and Dredge in Wetlands, and Wetland Bureau Code of Administrative Rules, Chapters Env-Wt 100 through Env-Wt 900.

Project Purpose

- Provide permanent recreational access and connectivity between Newington and Dover across Little Bay.
- Replace existing GSB superstructure with a steel girder V-frame superstructure.[1]
- Reuse existing GSB concrete piers with minor maintenance of existing granite masonry.

Background and History

Originally constructed in 1934 to support two lanes of highway traffic over the mouth of Little Bay, the GSB was closed to vehicular traffic in 1984 when the original Little Bay Bridge (LBB) was completed to the east of the GSB. Since 1984, the GSB has been maintained only for pedestrian and non-vehicular recreational access between Newington and Dover.

Alternatives for the rehabilitation or replacement of the GSB were evaluated and described in the Final Environmental Impact Statement (FEIS) issued in December 2007 for Spaulding Turnpike Improvements pursuant to the National Environmental Protection Act (NEPA). Upon issuance of the NEPA Record of Decision (ROD) in October 2008 and construction of the Newington-Dover highway improvement project (NHDOT project #11238), NHDOT and

1 Superstructure refers to the structure of the bridge located above the foundation (piers), whereas substructure refers to the piers and their foundations.

FHWA intended to rehabilitate the GSB to maintain pedestrian and bicycle connectivity between Newington and Dover. Additional inspections and engineering studies were conducted from 2009 to 2017 to prepare for final design of the rehabilitation project. These additional inspections found that the GSB was more deteriorated than was known at the time of the 2007 FEIS, leading to the decision to replace, rather than rehabilitate, the GSB.

In 2015, chain link fencing was added along the entire length of the bridge as a safety measure to keep pedestrians away from the exterior portions of the deck which exhibited critical deterioration. Subsequent inspections found significant additional deterioration of a critical floor beam under the bridge deck. Due to its unsafe condition, the GSB was closed to all pedestrian and recreational use in September 2018.

As a result of continued inspections and engineering studies, it became clear that rehabilitation of the GSB as selected in the 2008 ROD may be more costly, carry higher risks, and have a more limited lifespan relative to other options. As a result, FHWA and NHDOT completed a Supplemental Environmental Impact Statement (SEIS) to re-evaluate the GSB rehabilitation along with other alternatives. A combined Final Supplemental Environmental Impact Statement (FSEIS) and a Supplemental Record of Decision (SROD) was issued in February 2022. The selected alternative proposes a complete replacement of the GSB superstructure with minor repairs to the substructure masonry. NHDOT is currently developing final designs plans and intends to advertise the project for construction in 2023.

2

Project Area Description and Existing Conditions

The General Sullivan Bridge spans a tidal estuary system known as Little Bay near its confluence with the Piscataqua River in southeast New Hampshire. The bridge connects the Town of Newington and the City of Dover. The Project Area includes an area approximately 800 feet north and south of the existing bridge abutments in Newington and Dover. NHDOT identifies the General Sullivan Bridge as state bridge number 200/023.

The existing General Sullivan Bridge is 1,528 feet long with a primary superstructure consisting of a combination deck truss and partial arch truss. The GSB is supported by two reinforced concrete abutments and eight concrete piers with granite block facing and caps. The main span traverses a navigable tidal channel and is 275 feet long. The existing GSB deck is approximately 32 feet wide and is oriented southeast to northwest. The Dover abutment is located in Hilton Park and includes a pedestrian bridge approach constructed in 2010. The south approach to the bridge in Newington is an on-grade multiuse path.

NHDES Wetlands Permit Planning Tool (WPPT) Review

- Priority Resource Areas (PRAs): According to the NHDES WPPT mapper, the Little Bay is a Floodplain Wetland Adjacent to a Tier 3 Stream. The nearest Prime Wetland is adjacent to Trickys Cove in Newington, outside of the Project Area. There are no other PRAs near the Project Area.
- Impairments: The GSB spans the NHDES Water Quality Assessment Unit (AU) named Lower Little Bay General Sullivan Bridge (AUID NHEST600030904-06-15). The NHDES combined 2020/2022 303(d) list indicates this AU does not meet the designated uses for:
  - Aquatic Life Integrity (Estuarine Bioassessments, Light Attenuation Coefficient),
  - Fish Consumption (Mercury, PCBs), and
  - Shellfish Consumption (Dioxin, Mercury, PCBs).
- Class A or Outstanding Resource Waters: Not applicable.

- Designated Rivers: There are no designated rivers within the vicinity of the Project Area, therefore, no coordination with a Local River Advisory Committee (LAC) is required.
- Fisheries:
  - The 2015 New Hampshire Fish and Game Department (NHF&G) Wildlife Action Plan (WAP) includes Little Bay as Highest Ranked Habitat in New Hampshire.
  - The Project Area includes Essential Fish Habitat (EFH) for two threatened and endangered species under the Endangered Species Act (ESA): Atlantic sturgeon (*Acipenser oxyrhynchus ocyrhynchus*) and Shortnose sturgeon (*Acipenser brevirostrum*). See Appendix G for further detail.
  - Little Bay is a part of the greater Great Bay estuarine system and includes habitat for numerous recreational and commercial fisheries.
  - Further discussion of EFH and ESA Section 7 consultation is included in Section 6 below.
- Conservation Lands: Two parcels located in Newington outside the Project Area are protected with conservation easements held by the Southeast Land Trust. The parcels are located along Shattuck Way approximately 0.10 mile south of the Project Area and will not be impacted by this project.
- Previous Permits with the Vicinity of the Project Area:
  - NHDES File No. 00PW-00870 Received Jan. 5, 1982: NHDOT Standard Dredge and Fill Application, purpose not recorded.
  - NHDES File No. 2006-02007 Received Aug. 11, 2006: NHDOT Standard Dredge and Fill Application to complete prior activities under NHDOT Project #11238 including the widening and construction of the northbound and southbound Little Bay Bridges adjacent to the GSB.
  - NHDES File No. 2011-02356 Received Sept. 16, 2011: University of New Hampshire Chase Ocean Engineering Laboratory Standard Dredge and Fill Application to impact 6 square feet of estuarine wetland to install pins at the bottom of the river to secure a tidal energy testing platform measuring 64 feet by 34 feet.

3

Proposed Project Description

NHDOT and FHWA propose to completely remove and replace the GSB superstructure and make minor repairs to the substructure. The project is intended to reestablish pedestrian and non-motorized recreational access between Dover and Newington.

NHDOT proposes to fill 3,751 sq ft (314 linear ft) in the banks of Little Bay and an adjacent wetland to remove the General Sullivan Bridge and construct a new steel frame bridge superstructure for non-motorized use.

Temporary construction phase impacts include approximately 23,813 sq ft (376 linear ft) within the bed, 165 sq ft (29 linear ft) within the bank, and approximately 44,219 sq ft within the developed tidal buffer zone (TBZ) of Little Bay to install two temporary stone causeways, ten temporary pile-supported trestle work platforms to provide construction access (two primary and eight secondary), and improve existing multiuse paths leading to the bridge.

Note that temporary impacts associated with the causeway and trestle work platforms are subject to revision based on contractor means and methods. NHDOT anticipates the need for contractor to review and possibly modify the plan for the construction access prior to construction. Construction activity will be staged from both the Newington and Dover approaches with temporary causeways and temporary piers extending into Little Bay during construction.

While the NHDOT intends to restore the temporary impacts associated with construction access, these temporary structures will be in place for more than one year.

Dover Approach

In Dover, construction access will be provided through Hilton Park, to the west of Dover Point Road and east of the Hilton Park driveway. A proposed fenced-off staging area will extend from the intersection of Dover Point Road and the Hilton Park driveway southerly to the bank of Little Bay, including an existing driveway turn-around area and an existing pavilion which will be replaced. It is anticipated that public access to the non-construction

area of Hilton Park will be retained through construction. Approximately 19,807 sq ft of uplands within the developed TBZ will be temporarily disturbed for construction access.

Approximately 1,200 square feet of vegetation will be cleared in Hilton Park to provide for construction access. Vegetation to be cleared include six trees, several shrubs to the west of Dover Point Road, and Type I invasive species. Unpaved staging areas will be protected with temporary geotextile fabric under crushed stone. Disturbed areas will be returned to preexisting conditions once construction is complete.

Dover Abutment (Abutment A)

The existing GSB bridge abutment in Dover (Abutment A) will be partially removed and reconstructed in place with *no substantial change in footprint*. A section of the top of Abutment A will be removed to below ground level and reconstructed in place on top of the existing abutment stem and footing.

Dover Temporary Causeway

A proposed approximately 10,700 sq ft stone-fill temporary causeway will extend from Hilton Park into the intertidal area of Little Bay to the west of the existing GSB. Approximately 756 sq ft of this causeway will be located between Top of Bank (TOB) and the Highest Observable Tide Line (HOTL), and 5,180 sq ft located below HOTL. The stone-fill base of the temporary causeway will be laid over geotextile fabric and is estimated to be approximately 93 feet wide and extend into Little Bay an estimated 70 feet from TOB. The top of the temporary causeway is estimated to be approximately 30 feet wide and will extend vertically 12 feet and 10 inches above Mean High Water (MHW). Adjacent to Pier 1 of the GSB, the temporary causeway will transition to a temporary trestle work platform. The causeway is necessary to allow construction equipment access to a temporary work platform. The temporary causeway will remain in place for the duration of construction and will be removed upon completion, and the impacted intertidal area of Little Bay will be restored.

Approximately 0.2 acre of a blue mussel shellfish bed is expected to be impacted by this temporary causeway and trestle piles extending from Hilton Park along the Dover shoreline. Field observations conducted by Mike Dionne of the New Hampshire Fish and Game Department (NHF&G) in October 2022 did not find mussels in this area during mid-tide. NHF&G estimates mussel density at the site to be low. Cumulative impacts are not expected as all work within the Little Bay is temporary. These temporary impacts are not expected to result in permanent or future impacts to blue mussel habitat or growth.

Dover Temporary Piles & Trestle Work Platform

Extending from the temporary causeway into the main channel of Little Bay will be a proposed 45-foot-wide, 34,000 square foot temporary trestle work platforms. The primary platform will be parallel to the existing GSB, while four smaller secondary platforms will extend perpendicular to the GSB. The work platforms will be supported by 24-inch and 30-inch diameter temporary pipe piles driven into the subtidal substrate of Little Bay. A 100-foot-wide navigational channel will remain open in the main channel of Little Bay except for temporary closures necessary during the demolition and erection of span 5. Closure duration

is expected to be 7 and 5 days, respectively, and will be coordinated with the USCG, New Hampshire Port Authority, and users of the waterway.

Newington Approach

In Newington, construction access will utilize the footprint of the existing pedestrian path extending north from Shattuck Way on the west side of the southbound Little Bay Bridge. An approximately 25-foot-wide temporary access road will follow the existing path to the southern GSB abutment (Abutment B). A proposed fenced-off construction staging area will restrict unauthorized access to the Project Area. An existing non-jurisdictional stormwater detention basin will remain without modification.

In addition, in collaboration with the cities of Portsmouth and Dover, conduit for a future potable water line will be installed within the limits of the planned TBZ impacts in Newington. This conduit installation will only occur within the limits of TBZ disturbance necessary for construction access under this GSB superstructure replacement project.

Approximately 7,850 square feet of vegetation will be cleared to provide for construction access in the area west of the existing pedestrian path. This area includes several mature trees, shrubs, and understory vegetation, as well as Type I invasive species. Unpaved staging areas will be protected with temporary geotextile fabric under crushed stone. Disturbed areas will be returned to preexisting conditions once construction is complete.

Newington Abutment (Abutment B)

The existing GSB abutment in Newington (Abutment B) and wingwalls will be mostly removed, with footings to remain. Abutment B and wingwalls will be relocated and constructed further upland beyond the Highest Observable Tide Line (HOTL) with *no substantial change in footprint* from the existing abutment.

Newington Temporary Causeway

A proposed approximately 25,900 square foot stone-fill temporary causeway will extend from the existing pedestrian pathway into the intertidal area of Little Bay beneath and immediately west of the existing GSB. Approximately 1,555 sq ft of this causeway will be located on the bank between TOB and HOTL, and 12,427 sq ft located below HOTL. The stone-fill base of the temporary causeway will be laid over temporary geotextile fabric and is estimated to be approximately 75 feet wide and extend laterally approximately 170 feet beyond TOB into the Little Bay at its furthest point. The top of the temporary causeway is estimated at approximately 30 feet wide and will extend 12 feet and 10 inches above Mean High Water (MHW). The causeway is necessary to allow construction equipment access to a temporary work platform. The temporary causeway will remain in place for the duration of construction and will be removed upon completion, and the impacted intertidal area of Little Bay will be restored.

Newington Temporary Piles & Trestle Work Platform

Extending from the temporary causeway into the main channel of Little Bay will be a proposed 45-foot-wide, 37,545 square foot temporary trestle work platforms. The primary platform will be parallel to the existing GSB, while four smaller secondary platforms will

extend perpendicular to the GSB. *The work platform is anticipated to be supported by 24-inch and 30-inch diameter temporary pipe piles driven into the subtidal substrate of Little Bay*. The work platform will extend approximately 65 feet beyond Pier 5 of the GSB. A 100-foot-wide navigational channel will remain open in the main channel of Little Bay.

Substructure Repair

Existing concrete piers will be reused in kind with no change in footprint. Existing concrete pier stems are clad and capped with granite masonry which will remain. Previous inspections have shown grout deterioration in the granite block joints, primarily localized to the tidal zone between Mean Low Water (elev. -3.2) and Mean High Water (elev. 3.2). Granite block joints are to be repointed with grout and/or mortar.

Repointing of granite blocks will require dewatering only in the tidal zone immediately adjacent to each pier and will not extend to the channel substrate. For dewatering, a temporary suspended steel cofferdam structure will be affixed to the outer face of each pier, extending horizontally from the pier approximately 5-feet and with vertical steel walls approximately 15-feet tall. Structures will be attached to piers using boats/barges and/or divers and will not require disturbance of the channel substrate.

Once attached, clean tidal water from the interior of the temporary suspended steel cofferdam structures will be dewatered to the adjacent tidal channel to provide a dry work surface for cleaning piers of debris and repointing. Piers will be pressure washed with clean water to remove organic debris from work surfaces. Once repointing is complete, the temporary suspended steel cofferdam structures will be completely removed from each pier.

Superstructure Removal

The existing GSB superstructure will be entirely removed with no permanent impacts. Removal will include existing truss bearings and pedestals to the bridge seat elevation at the top of each existing pier. New concrete pedestals will be cast-in-place and anchored to existing granite pier caps. Work to perform superstructure removal and reconstruction with a V-frame girder structure will be primarily completed from temporary trestle work platforms discussed previously.

4

Wetland Delineation & Coastal Functional Assessment

In accordance with Env-Wt 603.04, the following sections describe the wetland and tidal water resources immediately within and adjacent to the Project Area. The major affected water body is Little Bay, which is at the mouth of the Great Bay estuary and immediately west of the Piscataqua River. Whereas most of the adjacent water bodies and resource areas are tidally influenced, one small jurisdictional palustrine scrub-shrub wetland approximately 1,009 square feet in size exists in the Project Area. There are no freshwater streams or rivers within the immediate project area.

VHB Senior Environmental Scientist and qualified coastal professional (per Env-Wt 602.43) Kristopher Wilkes (NH CWS #288) conducted field surveys in September 2022 within the Project Area to the north and south of the GSB. The jurisdictional Top-of-Bank (TOB) and Highest Observable Tide Line (HOTL) were delineated along Little Bay.

- HOTL was delineated in accordance with NHDES Administrative Rule Env-Wt 602.23.
- TOB was delineated in accordance with NHDES Administrative Rule Env-Wt 102.15.
- A single jurisdictional wetland located to the south of the GSB was previously delineated by VHB in 2019 and boundaries were reviewed and confirmed by VHB in September 2022.
- The Tidal Buffer Zone (TBZ) was developed by offsetting the HOTL by 100 feet on the upland edge.
- A single Non-Jurisdictional Drainage Area exists in Hilton Park in Dover.
- A Non-Jurisdictional Drainage Area stormwater detention basin exists to the south of the southbound Little Bay Bridge in Newington.
- Invasive plant species (Type I & II) were mapped by VHB in September 2022.

Wetland delineation was performed in accordance with the procedures and standards outlined in the *Corps of Engineers Wetland Delineation Manual* and the *Regional Supplement*

to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region, Version 2.0 (January 2012). Wetland delineation also relied upon the *Field Indicators for Identifying Hydric Soils in the United States, Version 8.2*, published by the Natural Resource Conservation Service and the *Field Indicators for Identifying Hydric Soils in New England, Version 4.0*, published by the New England Interstate Water Pollution Control Commission. Dominant wetland vegetation was assessed using the *2018 National Wetland Plant List* published by the U.S. Army Corps of Engineers. Lastly, wetlands were classified using the USFWS methodology *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al. 1979, revised 1985). Additionally, an assessment for potential vernal pool habitat was conducted in the Project Area in accordance with *Identifying and Documenting Vernal Pools in New Hampshire – Third Edition, 2016*, published by the New Hampshire Fish and Game Department, Nongame and Endangered Wildlife Program. No potential vernal pools were identified.

4.1 Tidal Waters

No permanent direct impacts to tidal waters (the bed of Little Bay) are anticipated with the proposed project.

The Little Bay is the mouth of the Great Bay estuary, a large tidal embayment that covers over 17 square miles and contains 144 miles of shoreline. The Piscataqua River is a major tidally influenced river which forms the border between Maine and New Hampshire and drains approximately 1,400 square miles of watershed area. The Piscataqua River is formed by the confluence of the Cocheco and Salmon Falls Rivers, approximately 12 miles north of the Project Area. Near the Project Area, the Piscataqua River is typically 2,000 to 3,500 feet wide, is approximately 20 to 45 feet deep within the main channel and has a substrate composition of sand and mud. The Little Bay is the narrow section of the estuary between Newington and Dover where the larger Great Bay estuary to the west meets the Piscataqua River to the east.

Little Bay

Little Bay experiences unusually strong tidal currents due to its narrow width and large drainage area. In the area of the GSB, this span of Little Bay may be described as a tidal rapid which has a significant impact on the ecology of the area as well as the bridge design. **Due to the strong currents, the substrate of Little Bay in the vicinity of the GSB is extensively scoured and characterized by bedrock and boulders.** Distributions of wildlife and vegetation in this area are likely most impacted by tidal current influences, water depth, and channel substrate.

Immediately to the west, the Little Bay receives flow from NHDES Assessment Units Lower Little Bay Marina SZ and Lower Little Bay. The Lower Little Bay is the convergence of the Bellamy River to the north, the Oyster River to the west, the Great Bay to the south, and the Lower Piscataqua River to the east. The direct watershed of the Little Bay is approximately 112 square miles.

The Great Bay estuary continues to be the subject of extensive research and is designated under the U.S. EPA National Estuary Program as the Piscataqua Region Estuaries Partnership. Additionally, the Great Bay National Estuarine Research Reserve conducts research related to the estuary in close partnerships with the National Oceanic and Atmospheric Administration (NOAA), the New Hampshire Fish and Game Department, and the University of New Hampshire (UNH).

Little research has focused specifically on the area immediately surrounding the GSB and Little Bay Bridges (LBB). Earliest known studies around the bridge area were conducted in the 1970s by UNH phycologist and senior scientist at the Jackson Estuarine Laboratory (JEL) Arthur Mathieson and colleagues. Published research by Mathieson et al. (1983) provided documentation of invertebrate and aquatic plant taxa.

The 1983 Mathieson work was expanded upon in 2003 by Raymond E. Grizzle and Melissa Brodeur of the UNH JEL in a Spaulding Turnpike Environmental Impact Study. The following summarizes data presented in an October 2003 Technical Report Assessment of Existing Conditions in Little Bay.[2]

Intertidal Habitats

Intertidal habitats in the vicinity of the GSB and the LBB were grouped into six major types: salt marsh, mudflat, rockweed, rock/algal/abundant mussel, rock/algal/sparse mussel, and rock/algal/soft sediment. Intertidal salt marsh and mudflats were relatively narrow. Salt marsh was limited to a narrow fringe, while mudflats were limited to narrow areas on the east side of Dover Point, east of the LBB. Interspersed with only a few patches of soft sediments, the remaining intertidal habitats in the area were all on rocky bottoms with varying presence of rockweed and mussels.

Intertidal wildlife reported by Mathieson (1983) included northern acorn barnacle (*Semibalanus balanoides*), blue mussel (*Mytilus edulis*), sea laver (*Porphyra umbilicus*), a green alga (*Blidingia minima*), and rockweeds (*Fucus vesiculus* and *Ascophyllum nodosum*). Observations by NHF&G in October 2022 suggest blue mussel density in this area is low as no mussels were observed at mid-tide, although a complete mussel survey was not conducted at that time.

Subtidal Habitats

As discussed previously, the tidal rapids area in the Little Bay in the vicinity of the GSB are predominantly hard bottom, ranging from sand and gravel to boulders. Tidal flows in this area were measured at approximately 6 knots (~10 feet per second) during spring tides. As observed in 2003, subtidal habitats in this area included mussel beds, kelp (*Laminaria digitata*) beds, and macroalgal non-kelp beds.

2 Grizzle, R. and M. Brodeur. 2003. Spaulding Turnpike Environmental Impact Study: Technical Report for Phase 1 – Data Collection and Coordination (Assessment of Existing Conditions in Little Bay). Progress Report on Jackson Estuarine Laboratory Work Tasks 1-4. Jackson Estuarine Laboratory, University of New Hampshire, Durham, NH.

Functions and Values

As a bay within the largest coastal estuary in New Hampshire, the Little Bay provides many critical functions and values within the Great Bay estuary. Functions and values were assessed based on guidance provided in the US Army Corps of Engineers (USACE) Highway Methodology Workbook, dated 1993, together with the USACE New England District Highway Method Workbook Supplement, dated 1999. Principle functions and values of the Little Bay include:

- Flood and Erosion Protection: The Little Bay and the larger Great Bay estuary provide considerable flood and erosion protection by receiving precipitation, surface water, groundwater, and other stormwater runoff and discharge associated with surrounding land uses. The estuary's storage ability plays a critical role in flood prevention for many communities in southeastern New Hampshire. Additionally, periphery wetlands along Little and Great Bay act as a buffer/barrier against waves and storm surge.
- Groundwater Recharge: Many of the upper tributary areas of Little Bay and the Great Bay estuary provide groundwater recharge throughout the wetland estuarine system. According to the NHDES WPPT, peripheral landward areas immediately adjacent to the Little Bay in Newington and Dover are mapped with aquifer transmissivity ranging from less than 2,000 square feet per day to over 4,000 square feet per day.
- Sediment & Toxicant Retention, Nutrient Removal: As is consistent with other major estuarine systems, the Little Bay and the Great Bay estuary provide sediment, toxicant, and nutrient removal, primarily via sedimentation and uptake by flora and fauna.
- Production Export: The estuarine system provides numerous sources of food for wildlife and humans and flushes large amounts of matter with the daily tides.
- Wildlife & Fish/Shellfish Habitat: The Little Bay and Great Bay estuary provide considerable and critical habitat for a wide assemblage of plant, fish, shellfish, amphibian, bird, and mammal species. The upper areas of the Great Bay Estuary provide important rearing habitat for many fish species and the Little Bay is the sole connection for migratory species between the Great Bay Estuary and the greater Piscataqua River and Gulf of Maine near-shore and pelagic habitats. The Great Bay National Wildlife Refuge is located upstream of the Little Bay in Newington along Great Bay.
- Recreation: The Little Bay, Great Bay estuary, and Piscataqua River are widely used for recreation in coastal New Hampshire which includes boating, paddling, fishing, shellfish harvesting, and sight-seeing.
- Educational/Scientific Value & Uniqueness/Heritage: The Great Bay National Estuarine Research Reserve provides numerous opportunities to promote science, data, and outdoor education, as well as acting as a central hub for research that explores this NH estuary and its watershed.
- Visual Quality/Aesthetics: Little Bay and Great Bay provide a unique and scenic landscape to explore from both land and water.

4.2 Wetlands

The project proposes permanent impacts to 1,009 square feet of jurisdictional palustrine wetland in Newington (Wetland 1).

Wetland 1 (W-1)

Wetland 1 is classified as PSS1C; a palustrine, scrub-shrub, broad-leaved deciduous, seasonally flooded wetland along the bank of the Little Bay in Newington. The wetland makes up a narrow depressional area that receives minor overland sheet flow from the immediate upland area between the LBB and the Little Bay, approximately 160 horizontal feet, and conveys run-off downslope to Little Bay. The wetland is situated above the Top-of-Bank (TOB) and therefore does not receive tidal influence from the Little Bay. Wetland 1 is densely vegetated and overgrown with invasive plant species.

Functions and Values

Due to the small size and disturbed nature of Wetland 1, the wetland provides minimal function and value in the context of the greater landscape surrounding it. Wetland 1 primarily acts to capture sheet flow from the surrounding area and conveys it directly to Little Bay. As a conveyance feature, it may aid in floodflow protection within the immediate area, however its capacity to perform this function is limited due to its size. Wetland 1's dense vegetation may also help to filter runoff, however due to the sloped nature of the area, long duration water retention time is not present. Finally, due to the position of the wetland, it appears to be contributing to ongoing erosion along the bank of Little Bay at this location.

5

Floodplains and Coastal Vulnerability Assessment

5.1 Floodplains

The project proposes permanent impacts to 1,009 square feet of jurisdictional palustrine wetland in Newington (Wetland 1), which is within the FEMA-mapped 100-year floodplain. Additionally, the project proposes 2,742 sq ft of permanent bank impacts within the FEMA 100-year floodplain.

Floodplain elevation data was examined for Dover and Newington, the two municipalities within the Project Area. Floodplain boundaries were determined using the most recent Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs). These FIRMs show areas of potential risk from a 1-percent-annual-chance flood event, also referred to as Special Flood Hazard Area Zone AE. Refer to the FEMA Floodplain Map in Appendix L.

While the project proposes permanent floodplain impacts of approximately 3,751 sq ft, impacts to the hydraulic capacity and flooding of surrounding structures or habitats is expected to be negligible, due to the large size of Little Bay and the greater Great Bay Estuary. These permanent area impacts equate to less than 0.08% of the total Great Bay Estuary.

Dover, Strafford County

Based on the FEMA FIRM Map No. 33017C0405E dated September 30, 2015, there are two AE flood zones within the Project Area in Dover. The two zones in Dover include the area running south along the Piscataqua River and the shoreline along the Little Bay. The flood zone along the Piscataqua River begins at the southern portion of Pomeroy Cove and runs around Hilton Park ending east of the LBB, this zone has an elevation of 8 feet (NAVD88). The other flood zone in Dover begins just east of the LBB and extends west along the Dover coastline eventually turning north and ending on the opposite shoreline to Pomeroy Cove, this area has an elevation of 6 feet (NAVD88).

Newington, Rockingham County

Based on the FEMA FIRM Map No. 33015C0255F dated January 29, 2021, there are two AE flood zones within the Project Area in Newington. The Piscataqua River 100-year flood zone along the entire Newington shoreline has an elevation of 8 feet (NAVD88). This flood zone extends from the City of Portsmouth boundary north around Bloody Point and ending just east of the northbound LBB. The remaining portion of the flood zone along Newington's shoreline extends west from the northbound LBB to Trickys Cove and eventually into Great Bay; this area has a 100-year flood elevation of 7 feet (NAVD88).

5.2 Coastal Vulnerability Assessment

The relative projected sea-level rise is estimated to be 3.8 feet over the GSB lifespan, which is not expected to substantially impact the bridge infrastructure to be constructed.

The entire GSB, including the replacement superstructure and repaired substructure piers, is anticipated to have a 75-year lifespan and a medium tolerance for flood risk. Under these assumptions, relative sea-level rise in the year 2100 is expected to be 3.8 feet above sea level from the year 2000.

The GSB Piers 7 and 8 have a top elevation of 9.2 feet above NAVD88, while Piers 1 through 6 have a top elevation of 16.2 feet. Mean High Water is 3.2 feet in the vicinity of the GSB, therefore, Mean High Water including 3.8 feet of projected sea level rise in 2100 would be 7.0 feet, 2.2 feet below the top of the lowest piers (7-8) and 9.2 feet below the highest piers (1-6). Field observations appear to support these data as high water marks on the GSB Pier 8 are at approximately 3.7 feet. Accounting for 3.8 feet of sea level rise (7.5 feet) results in sea levels approximately 1.7 feet below the top of Pier 8, in general agreement with the figures above.

This Vulnerability Assessment was conducted using standards established by the *2020 New Hampshire Coastal Flood Risk Summary, Part II: Guidance for Using Scientific Projections*. Determining flood risk tolerance is a subjective exercise corresponding with the Flood Design Class framework (Classes 1 – 4) in the American Society of Civil Engineers *Flood Resistant Design and Construction* standard ASCE 24-14, which is included in the State of New Hampshire Building Code effect September 15, 2019.

In determining the proposed project's tolerance for flood risk, NHDOT considered the project's estimated costs, adaptation potential, public safety, and inundation potential. While this project has a relatively high estimated cost, as a pedestrian and non-vehicular structure NHDOT assumed this project has moderate potential for adaptation, moderate implications to public safety, and is moderately sensitive to inundation, leading NHDOT to determine a moderate tolerance to flood risk.

This determination is appropriate as project examples included in this guidance for low tolerance for flood risk (schools, wastewater treatment facilities) and very low tolerance for flood risk (hospitals, fire stations) are not applicable. Additionally, this predicted sea-level rise assumes a stabilized global greenhouse gas concentration (RCP 4.5). Under a more extreme greenhouse gas scenario (RCP 8.5) and assuming a high tolerance for flood risk, the

predicted sea-level rise in 2100 is also 3.8 feet above sea-level from the year 2000. Accordingly, even under more extreme greenhouse gas emission scenarios and an elevated tolerance for flood risk, the GSB piers are expected to remain 3.0 to 10.0 feet above Mean High Water in 2100.

6

Rare, Threatened, and Endangered Species

The following is a discussion of rare, threatened, and endangered species identified within the vicinity of the GSB by the New Hampshire Department of Natural and Cultural Resources Natural Heritage Bureau (NHB) DataCheck tool and the US Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) system.

6.1 Natural Heritage Bureau

The proposed project conforms to the programmatic FHWA-Greater Atlantic Region Fisheries Office (GARFO) 2018 Not Likely to Adversely Affect (NLAA) Program relative to Atlantic and Shortnose sturgeon critical habitat. No other NHB species are expected to be affected by the project.

A search for the occurrence of rare plant, animal, or natural communities within the vicinity of the Project Area was completed using the NHB online DataCheck tool. In a report provided by NHB dated November 15, 2022, natural communities in the vicinity of the Project Area include eelgrass beds, sparsely vegetated intertidal system, and subtidal system.

Standard wildlife best management practices (BMPs) will be implemented throughout construction to protect sensitive species, as detailed in Section 7.3 of this Application Narrative below. For further detail, refer to the NHB DataCheck Report provided in Appendix F.

Atlantic & Shortnose Sturgeon

Atlantic sturgeon and Shortnose sturgeon were identified within the vicinity of the Project Area, which is consistent with the mapping of designated critical habitat for these species according to the ESA Section 7 Mapper (Appendix L).

Based on the proposed work, the National Oceanic and Atmospheric Administration (NOAA) concurred that the project conforms to the FHWA-GARFO 2018 NLAA Program relative to

Atlantic and Shortnose sturgeon critical habitat per correspondence with William Barnhill, NOAA, June 18, 2019, provided in Appendix H.

Eelgrass & Aquatic Vegetation

The NHB report identified three locations where eelgrass beds have been documented in the general vicinity of the GSB. The eelgrass beds are located downstream (easterly) in the Piscataqua River and upstream (westerly) in Little Bay.

- The nearest westerly population is approximately 2,800 feet away from the GSB.
- The nearest easterly population is approximately 1,700 feet away from the GSB.
- The Project Area also spans a sparsely vegetated intertidal system and subtidal system within Little Bay.

While the proposed project would temporarily impact both tidal systems, the habitats are anticipated to recover upon removal of the temporary causeways and piers once construction is complete.

Cliff Swallow

The NHB report indicated the presence of cliff swallow near the Project Area. Previous consultation with Pamela Hunt at NH Audubon and Carol Henderson and Mike Dionne at the NH Fish and Game Department (NHF&G) concluded that cliff swallows are not currently known to be nesting on the GSB, having abandoned the area around 2012 or 2013 (refer to Appendix F). Therefore, no impacts to this species are expected to result from the proposed project.

The potential for incorporation of clay "starter nests" on the bridge was discussed to provide a place for these birds if they were to return to their former colony site. However, this was determined to not be practical due to concerns regarding the accumulation of guano and bridge maintenance.

6.2 US Fish and Wildlife Service

The proposed project "may affect and is likely to adversely affect" Northern Long-Eared Bat.

The proposed project has "no effect" on Roseate Tern.

The Project Area was reviewed for the presence of Federally listed or proposed, threatened, or endangered species, designated critical habitat, or other natural resources concerning the USFWS IPaC System. Results dated February 15, 2023, indicate the potential presence of the federally threatened northern long-eared bat (*Myotis septentrionalis*) and the federal endangered roseate tern (*Sterna dougallii dougalli*). No critical habitats were identified. Refer to the USFWS IPaC Report provided in Appendix G.

Northern Long-Eared Bat (NLEB)

The Project Area is located within the federally protected range of the NLEB, which is a federally threatened species. The Project Area is not within ½ mile of known hibernaculum or

¼ mile of known roost trees. One roost location is present in Newington, however, this roost Project Area is greater than 0.25 miles from the Project Area.

Based on current project plans:

- Approximately 9,050 square feet of tree and brush clearing is proposed, including:
  - 1,200 square feet in Dover, and
  - 7,850 square feet in Newington.

In Newington, a portion of the clearing limits consists of soft primary successional vegetation and invasive plant species. Native vegetation will be replanted in this area upon completion of work. All tree clearing would occur within 300 feet of existing roadways.

Since there is the potential for NLEB species to be present within the vicinity of the Project and the Project would impact the bridge structure and trees in the Project's limit of disturbance, coordination with the USFWS was required to assess potential impacts to the NLEB.

Based on this information, a determination key was completed for the Project through the USFWS IPaC system. In response to the determination key, a consistency letter was generated through IPaC stating that the Project adheres to the criteria of the *Programmatic Biological Opinion for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat* (revised February 5, 2018), and therefore satisfies the requirements under Section 7(a)(2) of the ESA of 1973.

The official effect determination of "*may affect - likely to adversely affect*" is valid as long as applicable Avoidance and Minimization Measures (AMMs) are adopted into the final plans and are implemented during construction. Additionally, a survey for the presence of NLEB on the GSB structure was done in accordance with the Programmatic Biological Opinion.

Roseate Tern

Through the use of the USFWS IPaC search tool, the Roseate Tern, a federally endangered migratory bird, was also identified as being potentially present within the vicinity of the Project Area. Additionally, a USFWS Species Determination Table was completed to determine if suitable habitat was present within the Project Area. It was determined that no suitable habitat for this species occurs within the Project Area, and as such a "no effect" determination was concluded within the Endangered Species consistency letter. Refer to Consistency Letter provided in Appendix F.

6.3 Wildlife

The NHF&G Wildlife Action Plan (WAP) identifies various ranked tiers of habitat to recognize the highest quality habitats in the state. Habitat tiers were created by the NHF&G using biological data, landscape data, and human influence information. Habitat tiers are separated into three rankings: 1) Highest Ranked Habitat in the State, 2) Highest Ranked Habitat in Biological Region, and 3) Supporting Landscape.

The Great Bay, including Little Bay, is identified as a Tier 1, Top Ranked Habitat starting at the General Sullivan Bridge (GSB) and extending west. This Tier 1 habitat includes a small portion of shoreline along Little Bay in the Project Area. There are additional select areas of Tier 1 habitat along the shoreline of the Piscataqua River in the southeast corner of the project area. No Tier 2 or Tier 3 habitat rankings are located in the project area. Refer to the Ranked Habitat Tiers Map provided in Appendix L.

The Project Area is located primarily within an open water habitat (Little Bay), with one small area of salt marsh identified to the south of the Newington abutment. Additionally, a small area of hemlock-hardwood-pine habitat located along Bloody Point intersects the outskirt of the Project Area. Refer to the Habitat Type Map provided in Appendix L. While the proposed activities will temporarily impact the open water habitat, impacts will be contained within the project footprint and the surrounding habitats will not be adversely affected.

7

Impact Analysis

7.1 Proposed Impacts

The project proposes a total of approximately 68,197 square feet (sq ft) of temporary impact and approximately 3,751 sq ft of permanent impact within the banks and bed of Little Bay, the associated Tidal Buffer Zone, and an adjacent palustrine wetland. These impacts are depicted and quantified by resource on the Wetland Impact Plans provided in Appendix M.

This project proposes the complete removal and replacement of the General Sullivan Bridge spanning the Little Bay in Dover and Newington. As described in Section 3 above, the project proposes to reuse the existing GSB piers in kind, reconstruct the bridge abutments and approach and install temporary causeways and work decks extending from each shore parallel to the existing GSB.

Tidal Waters: The proposed project will temporarily impact approximately 23,813 sq ft within the bed, 165 sq ft within the bank, and permanently impact 2,742 sq ft within the bank of Little Bay. Impacts include the construction of two temporary causeways and pilings to support trestle work structures. Temporary causeways will be constructed with clean rock fill separated from native inter- and subtidal substrates with geotextile fabric. Temporary pilings supporting work platforms will be removed upon project completion.

Approximately 0.2 acre of a blue mussel shellfish bed is expected to be temporarily impacted by this temporary causeway and trestle piles extending from Hilton Park along the Dover shoreline. This blue mussel bed was identified by the NHDES Shellfish Program in 2013. Recent field observations in October 2022 conducted by Mike Dionne, Environmental Review Coordinator with the NHF&G did not find mussels in this area during mid-tide. NHF&G estimates mussel density at the site to be low. Cumulative impacts are not expected as all work within the Little Bay is temporary. These temporary impacts are not expected to result in permanent or future impacts to blue mussel habitat or growth.

Wetlands: The proposed project will permanently impact 1,009 square feet of a small palustrine scrub-shrub wetland in Newington. This impact is necessary to allow construction

access to the temporary causeway and work platform. Upon removal of this temporary causeway, the surface and bank will be graded and stabilized with vegetation or with similar means.

Tidal Buffer Zone (TBZ): The proposed project will temporarily impact approximately 44,219 square feet within the developed TBZ of Little Bay to accomplish the above-mentioned work.

7.2 Avoidance and Minimization

The primary purpose of the proposed project is to provide recreational pedestrian and non-vehicular access across the Little Bay. *The nature of the project necessarily requires access through jurisdictional wetlands, to which impacts have been substantially avoided through the reuse of existing GSB piers.*

The 2022 FSEIS documents eight preliminary alternatives which were considered during the project development process. Further alternatives were developed in 2018 after consultation with the public and FHWA. A screening process narrowed down the preliminary alternatives from eight to five; the five preliminary alternatives that passed screening are referred to as reasonable alternatives, in addition to a No-Action alternative. The five reasonable alternatives were:

- Alternative 1: Rehabilitation of the General Sullivan Bridge
- Alternative 3: Partial Replacement of the General Sullivan Bridge
- Alternative 6: Southbound Little Bay Bridge – Widened Deck on Pier Extension
- Alternative 7: Southbound Little Bay Bridge – Independent Deck on Pier Extension
- Alternative 9: Superstructure Replacement – Girder Option

The No-Action alternative did not meet the stated Purpose and Need of the Project. Normal maintenance, monitoring, or inspections that would occur under the No-Action alternative would not be adequate to correct the existing state of significant deterioration of the GSB. The No-Action alternative would not correct the situation that causes the GSB to be considered structurally deficient and deteriorated. Over time, the structural deterioration would lead to serious and unacceptable safety hazards including hazards to navigation. Additionally, under the terms of the existing permit for the GSB and expanded LBB issued by the US Coast Guard, the GSB would eventually need to be removed.

Of all five Reasonable Alternatives, estimates presented in the 2022 FSEIS suggested Alternatives 1, 3, and 9 each had the least impacts to wetlands, surface waters, water quality, pollutant loading, and floodplains. These estimated impacts included:

- Wetlands & Surface Waters
  - 0.1 acre temporary wetland impact
  - 0.8 acre temporary bed and bank impact
  - 0.9 acre temporary TBZ impact
- Water Quality & Pollutant Loading
  - Approximately 33% reduction in impervious area associated with the bridge deck

› Floodplains & Hydrodynamics
  - Minor temporary floodplain and hydrodynamic changes from temporary causeways and trestles

Relative to the selected Alternative 9, there is no other practicable alternative that would have a less adverse impact on the affected jurisdictional areas. Alternatives 6 and 7 would each have carried additional, permanent impacts to wetlands, surface waters, and water quality as these options included the removal and replacement of at least one existing GSB Pier and greater impervious areas than the selected Alternative 9.

7.3 Best Management Practices

Stormwater

The proposed GSB replacement is not anticipated to generate more stormwater runoff or new discharges relative to existing conditions, as the proposed bridge deck will be approximately 33% narrower than the current bridge deck and of similar length. The combination of a smaller bridge deck area and planned stormwater treatment for approximately 25% of the bridge deck area represents a net improvement over existing conditions that will likely result in a reduction in pollutant loading to the Little Bay. The reduction in impervious area provides less surface for atmospheric deposition of nitrogen, thereby reducing the anticipated pollutant loading to Little Bay as a result of the bridge.

In Dover, approximately 800 feet of the bridge deck will be directed to bridge scuppers and two downspouts that will be directed away from the water surface of Little Bay and outlet to the stone rip-rap material surrounding the abutment.

In Newington, stormwater from approximately 800 feet of bridge deck along the east gutter line, representing approximately ¼ of the total bridge deck area, will be directed to a stone-lined swale that will outlet to an existing stormwater Best Management Practice (BMP). Stormwater from the westerly gutter line will be directed to a separate stone-lined swale that will dissipate runoff as overland sheet flow.

Additionally, as described in Section 3.2 of the 2022 FSEIS, the net effect of the extensive previously completed stormwater treatment BMPs included in the Spaulding Turnpike Improvement Project that treats stormwater from highway paved areas was determined to be equivalent to removing 2 acres of impervious area that previously drained to the Little Bay prior to the improvements to NH Route 16/Spaulding Turnpike.

During construction, consistent with the 2022 SROD Environmental Commitments, EPA's Construction General Permit, and applicable NHDES Alteration of Terrain (AoT) regulations (Env-Wq 1500), appropriate erosion and sediment control measures will be installed, inspected, and maintained throughout project construction period. The selection, design, and installation of these BMPs will be done in accordance with the applicable NHDES Stormwater Manuals to reduce the risk of erosion and sediment-laden run-off from entering the Little Bay and adjacent wetlands. This will include the use of perimeter controls such as silt fence and/or silt sock installed upslope of the HOTL to minimize the conveyance of sediment and other debris outside of the limits of work.

Consistent with the SROD Environmental Commitments, NHDOT will require the selected construction contractor to develop a Stormwater Pollution Prevention Plan (SWPPP) for NHDOT review and approval prior to construction commencement and to retain a qualified Environmental Monitor onsite to inspect all installed temporary erosion control measures on a daily basis and to repair and/or replace measures as necessary. Only wildlife-friendly erosion controls composed of natural materials shall be used. No photo-biodegradable plastic netting will be used. Additional BMP details can be found in the Construction Sequence in Appendix N.

Upon the completion of the proposed work, all disturbed and graded areas located upslope of the erosion control measures will be seeded and mulched as needed. Disturbed areas that have been seeded and mulched will be considered stable once 75-percent vegetative growth has been achieved after two growing seasons in accordance with Env-Wt 307.12(f). Refer to the Erosion Control Plans in Appendix Q for more detail.

Invasive Species

Since invasive plants are known to occur along the Newington portion of the Project Area, all work, including daily removal of plant material from construction equipment, shall be conducted in accordance with NHDOT's *Best Management Practices for the Control of Invasive and Noxious Plant Species (2018)*. Only clean equipment that is free of plant material and debris shall be delivered to the Project Area and utilized during construction. All machinery entering and leaving any area containing invasive plants will be inspected for foreign plant matter (i.e., stems, flowers, and roots) and soil embedded in the tracks or wheels. If foreign plant matter or soil is present, the operator shall remove the plant material and soil from the machine using hand tools.

7.4 Mitigation

NHDOT proposes in-lieu fee mitigation for permanent and temporary impacts to wetlands as part of this project, consistent with the mitigation standards contained in NHDES Administrative Rule Env-Wt 800. Initial calculations of the in-lieu fee to the aquatic resource mitigation (ARM) fund, results in a total payment of approximately $243,106.44. Impacts from each applicable project element are summarized in Table 1 below.

Most of the proposed impacts for the replacement of the GSB superstructure are temporary in nature, with limited permanent impacts associated with improvement to the existing multiuse path. The reconstruction of Abutment B in Newington will permanently impact limited areas of the bank and TBZ. Additional construction access infrastructure is temporary in nature yet will be in place longer than one year. Pursuant to Env-Wt 307.11(h)(1), such fills are not considered temporary by NHDES and are not excluded from mitigation requirements.

Based on site constraints, NHDOT has determined that on-site mitigation is not practicable. Coordination with Dover and Newington Conservation Commissions has not identified any appropriate local mitigation project. NHDOT therefore proposes to mitigate for these impacts by payment of an in-lieu fee to the NHDES Aquatic Resource Mitigation fund.

Table 1 In-Lieu Fee Mitigation Summary

Municipality	Project Element	Impact Description (Wetland Impact Plans)	Impact Area (Sq Ft)	ARM Fund Payment
Dover	Causeway	Perm. Bank (B)	756	
		Temp. Bed (C)	5,180	
		Dover Subtotal	*5,936*	*$76,393.59*
Newington	Causeway	Temp. Bed (M)	12,427	
		Perm. Bank (N)	1,555	
	Wetland 1	Perm. Wetland (O)	1,009	
	Abutment B Reconstruction	Perm. Bank (Q)	431	
		Newington Subtotal	*15,422*	*$166,712.85*
Total			**21,358**	**$243,106.44**

8

Federal Agency and Local Coordination

US Army Corps of Engineers (USACE)

The project proposes approximately 23,813 square feet of temporary impacts to the bed of Little Bay (below HOTL) within USACE jurisdiction to construct temporary causeways and trestle work platforms (excluding piles). Additionally, approximately 1,009 square feet of permanent impacts are proposed for a small palustrine scrub-shrub wetland located along the Newington portion of the Project Area that borders the existing bridge abutment. These activities require authorization under a USACE State Programmatic General Permit. As such, Appendix B – Corps Secondary Impacts Checklist has been completed. Refer to the USACE Appendix B Checklist provided in Appendix I.

A Coast Guard Bridge Permit application and Navigational Impact report are in the process of being compiled. The proposed project will not alter the vertical navigational clearance of the 100-foot navigation channel in Little Bay as this clearance is dictated by the height of the northbound LBB. Additionally, within the 200-foot navigational channel, the proposed project will increase the vertical navigational clearance by 9.6 feet for a new total clearance of 44.3 feet at Mean High Water.

In accordance with Env-Wt 311.06(j), this project was presented at a NHDOT Natural Resource Agency Coordination Meeting held on October 19, 2022. During this meeting, the attending USACE representative had no specific comments or questions. Refer to the meeting minutes provided in Appendix A.

United States Environmental Protection Agency (USEPA)

In accordance with Env-Wt 311.06(j), this project was presented at a NHDOT Natural Resource Agency Coordination Meeting held on October 19, 2022, during which the attending USEPA representative had no specific comments or questions. Refer to the meeting minutes provided in Appendix A.

Newington Conservation Commission

In accordance with Env-Wt 311.06(h) and NH RSA 482-A:3(I)(a)(1), a complete copy of this application will be shared with the Newington Conservation Commission for their review concurrently with the NHDES review.

Coordination with the Conservation Commission regarding this project has been conducted during the local mitigation project inquiry.

Dover Conservation Commission

In accordance with Env-Wt 311.06(h) and NH RSA 482-A:3(I)(a)(1), a complete copy of this application will be shared with the Dover Conservation Commission for their review concurrently with the NHDES review.

Coordination with the Conservation Commission regarding this project has been conducted during the local mitigation project inquiry.

9

Coastal Lands and Tidal Waters/Wetlands (Env-Wt 600)

As the proposed project includes jurisdictional wetlands in coastal areas, the standards outlined in NHDES Administrative Rule Env-Wt 600 must be addressed.

9.1 Env-Wt 603: Additional Application Information for Projects in Coastal Areas

Env-Wt 603.02: Required Information

Required information may be found in Sections 1 through 8 of this project narrative.

Env-Wt 603.03: Data Screening

Refer to Sections 2, 4, and 6.

Env-Wt 603.04: Coastal Functional Assessment

Refer to Section 4.

Env-Wt 603.05: Vulnerability Assessment

Refer to Section 5.

Env-Wt 603.06: Project Design Narrative Required

This document constitutes the Project Design Narrative per Env-Wt 603.06.

Env-Wt 603.07: Design Plans

Refer to Appendix P.

Env-Wt 603.08: Water Depth Supporting Information Required

Water depth supporting information is presented below. Data were published December 6, 2021 by the NOAA Center for Operational Oceanographic Products and Services.

Data are reported from the Tidal Bench Marks at Station ID 8419870, Seavey Island, Portsmouth Harbor, based on the time period July 2020 to June 2021 as referred to Mean Lower Low Water. While these data are representative of the nearest NOAA Tidal Bench Mark to the Project Area, tidal elevations and conditions of the Little Bay at the mouth of Great Bay vary considerably from bench mark elevations below. Observed conditions of high water marks on the piers of the GSB suggest Mean High Water is approximately 4.5 feet.

Table 2 Elevations of Tidal Datums at Seavey Island

Abbr.	Unit	Meters (NAVD88)	Feet (NAVD88)
	Highest Observed Water Level (1978)	3.841	12.602
MHHW	Mean Higher High Water	2.712	8.898
MHW	Mean High Water	2.583	8.474
NAVD88	North American Vertical Datum	1.436	4.711
MSL	Mean Sea Level	1.359	4.460
MTL	Mean Tide Level	1.340	4.400
MLW	Mean Low Water	0.097	0.320
MLLW	Mean Lower Low Water	0.000	0.000
	Predicted Seal-Level Rise (2100)*	1.160	3.800

* See Section 5.2

Source: https://tidesandcurrents.noaa.gov/benchmarks.html?id=8419870

Data were converted from meters to feet by NHDOT. The determination of predicted sea-level rise is discussed in Section 5.2.

Env-Wt 603.09: Statement Regarding Impact on Navigation and Passage

Vertical clearance below the replacement GSB superstructure will be improved within the 200-foot-wide navigational channel by approximately 9.6 feet for a total clearance of 44.3 feet at Mean High Water, improving navigation and passage. Vertical clearance within the 100-foot wide navigational channel will not change as clearance is dictated by the northbound LBB. The US Coast Guard (USCG) participated in the NEPA phase of this project as a Cooperating Agency, and NHDOT is currently working with the USCG to pursue an application for an amended bridge permit pursuant to 33 USC §401; 491-508; 511-535(i).

9.2 Env-Wt 604: General Criteria for Project Impacts in Coastal Areas

Env-Wt 604.01: General Criteria for Tidal Beaches, Tidal Shorelines, and Sand Dunes

Refer to Sections 2, 3, 4, 5, and 7.

Env-Wt 604.02: General Criteria for Tidal Buffer Zones

Refer to Sections 2, 3, 4, 5, and 7.

Env-Wt: 604.03: General Criteria for Tidal Waters/Wetlands

Refer to Sections 2, 3, 4, 5, and 7.

9.3 Env-Wt 605: Avoidance and Minimization; Compensatory Mitigation

Env-Wt: 605.01: Avoidance and Minimization Requirements in Coastal Areas

In addition to the avoidance and minimization requirements in Env-Wt 307, Env-Wt 311.07, Env-Wt 313, and Env-Wt 603.04, projects in coastal areas shall:

(a) Use results of the CFA required by Env-Wt 603.04 to:

(1) Minimize adverse impacts to finfish, shellfish, crustacea, and wildlife;

A low density blue mussel bed is located in the vicinity of the Dover temporary causeway. Impacts to the mussels are expected to be temporary and blue mussels expected to repopulate the area once temporary fill is removed and the area restored. Refer to Section 7.1 for further detail.

(2) Minimize disturbances to groundwater and surface water flow;

Impacts to groundwater and surface water flow will be minimized through the use of temporary rock fill and temporary piles within the Little Bay, as well as stormwater BMPs discussed in Section 7.3.

(3) Avoid impacts that could adversely affect fish habitat, wildlife habitat, or both; and

Impacts to fish and wildlife habitat are discussed in Section 6 and will be minimized with temporary rock fill and temporary piles within the Little Bay.

(4) Avoid impacts that might cause erosion to shoreline properties.

Erosion to shoreline properties will be minimized through stormwater BMPs discussed in Section 7.3.

(b) Not impair the navigation, recreation, or commerce of the general public; and

A 100-foot-wide navigational channel in the Little Bay will be maintained throughout the project. Recreational access to the western portion of Hilton Park in Dover will be maintained to the extent practicable during construction.

(c) Minimize alterations in prevailing currents.

Alterations to prevailing currents will be minimized through limited near-shore addition of temporary rock fill and temporary piles to support the work surface.

Env-Wt 605.02: Additional Requirements for Projects in or Adjacent to Tidal Waters/Wetlands and Tidal Buffer Zones

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

(a) Adverse impacts to beach or tidal flat sediment replenishment;

No beaches or tidal flats are located within the Project Area.

(b) Adverse impacts to the movement of sediments along a shore;

The predominant substrate in this section of the Little Bay is unconsolidated rock and bedrock. No permanent impacts to sediment movements are anticipated.

(c) Adverse impacts on a tidal wetland's ability to dissipate wave energy and storm surge; and

Since the project proposes no permanent changes below HOTL, no permanent impacts would result.

(d) Adverse impacts of project runoff on salinity levels in tidal environments.

The GSB has not been maintained with winter road salts since being closed to vehicular traffic in 1984. The GSB will continue to be maintained solely for pedestrian and non-vehicular use and no road salts will be applied. Therefore, no permanent adverse impacts to tidal salinity are anticipated.

Env-Wt 605.04: Requirements for Compensatory Mitigation for Projects in Coastal Areas

(a) If compensatory mitigation is required, the type of compensatory mitigation shall be determined in accordance with Env-Wt 801.03(a) or (b), as applicable.

In November 2022, letters were sent to the City of Dover and Town of Newington Conservation Commissions to request a list of local compensatory mitigation projects per

Env-Wt 801.03(a). Neither municipality responded to the request and NHDOT considers this coordination to be complete.

(b) On-site mitigation shall be performed whenever practicable.

(c) If on-site mitigation is not practicable and the municipality does not have a list of local mitigation projects, or if none of the projects are appropriate mitigation for the applicant's proposed project, the applicant shall provide an explanation and documentation relative to:

(1) Why restoration of a disturbed upland tidal buffer zone is not practicable;

Disturbance of upland tidal buffer zones are limited to vegetation clearing strictly necessary for construction access and will be restored to pre-construction conditions to the extent practicable.

(2) Why restoration, enhancement, or creation of wetlands, tidal waters, sand dunes, or tidal flats is not practicable;

Temporary disturbances in tidal waters will be restored to pre-construction conditions to the extent practicable upon construction completion. Upland areas in Dover in the Project Area are within Hilton Park and not conducive to wetland restoration, enhancement, or creation. In Newington, the available upland area is limited due to existing stormwater BMPs, pedestrian approaches to GSB, and existing upland vegetation to remain.

(3) Why a local stream crossing project cannot be upgraded to increase hydraulic capacity, aquatic organism passage, or increase geomorphic capacity;

The City of Dover and the Town of Newington did not provide local stream crossing projects.

(4) Why a local project cannot open tidal restriction to create new pathways for tidal marsh migration when associated with a land preservation project; or

The City of Dover and the Town of Newington did not provide local tidal marsh migration projects.

(5) Why a project does not meet a state or federal coastal assessment priority, or a recognized conservation priority project.

No state or federal coastal assessments were identified in the Project Area.

10

Stream Crossings (Env-Wt 900)

As the proposed project includes the repair of an existing crossing of a Tier 4 tidal watercourse, applicable sections of NHDES Administrative Rules Env-Wt 900 are addressed below.

10.1 Env-Wt 903: Stream Crossings: Classifications And Applications

Env-Wt 903.04: Information Required for All Stream Crossing Standard Permit Applications

(a) On the USGS map or updated data based on LiDAR required by Env-Wt 311.06, the following:

(1) The approximate boundaries of the contributing watershed;

(2) The size of the contributing watershed;

(3) Identification of the stream tier based on watershed size;

Refer to the USGS map included in Appendix D. The watershed of Little Bay at the project site is approximately 454 sq mi. The crossing meets the definitions of a Tier 4 crossing.

(b) Plans showing the following:

(1) The scale, a north arrow, and at least 3 cross-sections outside of the construction disturbance area that are representative of the stream system away from the area of direct influence by the crossing;

(2) Clearing limits showing all proposed work areas;

(3) For both the existing structure, if any, and the proposed structure, the following…

(4) The extent of channel excavation and filling;

(5) Road locations, including road edges, centerline, and boundaries of the right-of-way;

(6) Proposed channel work including bank erosion control features, grade control, and channel linings; and

(7) For the proposed structure, cross-sections showing the water surface elevation resulting from the applicable design storm, with bed material and backfill zones;

Additional project plans are included in Appendix O.

(c) Existing crossing metrices, including;

(1) Existing riparian zone, including the extent and type of existing vegetation surrounding or in the stream bank; and

(2) Existing tailwater control, including its location and materials, and pool configuration;

Additional project plans are included in Appendix O.

(d) The dewatering system, as follows…

Not applicable, as no dewatering is required.

(e) Erosion and pollution control, as follows:

(1) Any additional methods of controlling erosion;

(2) A soil stabilization plan, including but not limited to where to cover stockpiles and place straw bales; and

(3) Pollution control methods for pumps, fuel stations, and equipment storage;

Refer to Erosion and Sedimentation Control plans in Appendix N.

(f) The number and location of footings, if any, and the following for each…

Not applicable, as the existing footings of GSB piers will be reused in-kind.

(g) A narrative explaining why the cross-sections identified pursuant to (b)(7), above, are representative;

Not applicable, as all impacts below HOTL will be temporary and any changes to the hydraulic capacity of Little Bay will be negligible relative to the storage volume of Little Bay, Great Bay, and the Piscataqua River.

(h) The design features used to improve aquatic organism passage and the expected distance, in linear feet, of downstream and upstream improvement for aquatic organism passage;

Not applicable, as aquatic organism passage will not be affected by the proposed project.

(i) The hydraulic capacity of the proposed crossing, in terms of flood frequency event, and of the existing crossing, if any; and

Refer to Section 4.10.2 of the 2007 FEIS for discussion of hydraulic modeling of existing conditions at the time surrounding the project site. Post-construction changes to hydraulic capacity will be negligible.

(j) The following channel information at the crossing and for the reference reach…

Not applicable.

Env-Wt 903.05: Information Required for Certain Stream Crossing Standard Permit Applications

In addition to the information required by Env-Wt 311 and Env-Wt 903.04, for new and replacement stream crossing projects that require a standard permit the applicant shall submit the following as applicable:

(a) For tier 2 and tier 3 crossings, the following additional channel information at the crossing and for the design reference reach…

Not applicable as the subject project is a tier 4 crossing of a tidal watercourse.

(b) For tier 2, tier 3, and tier 4 crossings, streambed details, with figures, that show the following:

(1) The distance from the top of right bank to the top of left bank;

The distance between right and left TOB is approximately 1,500 feet as shown on Additional Plan Sheets in Appendix O.

(2) The streambed simulation materials and the extent depth, and length of streambed within the proposed crossing;

There will be no permanent fill to the bed of Little Bay as the project will reuse existing GSB piers.

(3) Approximate elevations, spacing, diameters, and locations of structures for steps, bank stabilization, and other channel rocks for roughness; and

There will be no permanent fill below Top-of-Bank of Little Bay.

(4) Details for sediment retention structures, if any, within embedded structures;

There are no sediment retention structures as existing GSB piers will be reused.

(c) For tier 2, tier 3, and tier 4 crossings, the following information on the proposed crossing:

(1) The openness ratio, namely the ratio of the area of a cross-section of an individual cell or barrel of a crossing structure, excluding any embedded area, to the length of the structure along the channel;

The openness ratio is approximately 68:1. (1,500 feet wide / 22 feet long along the channel)

(2) A narrative assessment of the streambed details provided pursuant to (b), above, channel information of existing crossing metrices relative to the proposed structure, as discussed in the NH stream crossing guidelines, available as noted in Appendix B;

(3) A narrative assessment of the long-term erosion and stability consequences of constructing the proposed stream crossing, and methods and structures to be implemented to minimize any consequences identified;

(4) A narrative assessment of the bed forms and streambed characteristics necessary to cause water depths and velocities within the crossing structure at a variety of flows to be comparable to those found in the natural channel upstream and downstream reaches;

(5) The percent of increase in hydraulic capacity of the stream crossing; and

(6) A narrative analysis of how connectivity considerations were addressed focusing on stream reach, stream type, stream stability, and existing and potential for erosion in siting and modifying or replacing an existing stream crossing;

(7) A narrative explanation of the detrimental geomorphic consequences that have occurred as a result of the existing stream crossing, if any; and

(8) A narrative explanation of the crossing's contribution to flooding that damages the crossing or other human infrastructure;

In response to Env-Wt 903.05(c)(2) – (8) above, the project proposes the repair of the GSB superstructure utilizing the existing GSB piers and proposes no permanent impact to the bed of Little Bay.

Therefore, impacts to streambed and channel material (2), erosion and stability (3), water depths and velocities (4), hydraulic capacity (5), stream connectivity (6), geomorphic consequences (7), and contributions to flooding (8) are all negligible as the proposed crossing does not permanently impact the bed of Little Bay.

(d) For tier 3 crossings, structural details of the crossing, including the following…

Not applicable as the subject project is a tier 4 crossing of a tidal watercourse.

(e) For tier 2 and tier 3 crossings, a demonstration that all design and construction considerations outlined in the NH stream crossing guidelines, available as noted in Appendix B, have been addressed; and

Not applicable as the subject project is a tier 4 crossing of a tidal watercourse.

(f) For tier 4 crossings, the a [sic] *narrative explanation of the effect of the crossing on the tidal hydrograph, and the corresponding effect on the upstream and downstream tidal resource.*

The proposed project will have no permanent impact on the tidal hydrograph, nor upstream or downstream tidal resources as there will be no permanent impacts to the bed of Little Bay below HOTL.

10.2 Env-Wt 904: Design and Construction of Stream Crossings

Env-Wt 904.01: General Design Considerations

(a) All stream crossings, whether over tidal or non-tidal waters, shall be designed and constructed so as to:

(1) Not be a barrier to sediment transport;

The proposed project will not be a barrier to sediment transport as there will be no permanent impacts to the bed of Little Bay, no reshaping of the channel, and no impact to the ordinary high water volume.

(2) Not restrict high flows and maintain existing low flows;

The proposed project will not restrict high flows and will maintain existing low flows as the project will reuse existing GSB piers in-kind with no permanent fill below HOTL.

(3) Not obstruct or otherwise substantially disrupt the movement of aquatic organisms indigenous to the waterbody beyond the actual duration of construction;

The proposed project will not impact movement of aquatic organisms as the main channel of Little Bay will remain accessible for passage.

(4) Not cause an increase in the frequency of flooding or overtopping of banks;

The proposed project will not change the hydraulic capacity of Little Bay nor increase flooding frequency.

(5) Maintain or enhance geomorphic compatibility by:

a. Minimizing the potential for inlet obstruction by sediment, wood, or debris; and

b. Preserving the natural alignment of the stream channel;

The proposed project will maintain geomorphic compatibility as no channel modification is proposed and there will be no permanent fill within the bed of Little Bay.

(6) Preserve watercourse connectivity where it currently exists;

Watercourse connectivity will be maintained as there will be no permanent fill within the bed of Little Bay.

(7) Restore watercourse connectivity where:

a. Connectivity previously was disrupted as a result of human activity(ies); and

b. Restoration of connectivity will benefit aquatic organisms upstream or downstream of the crossing, or both;

Not applicable as watercourse connectivity is currently maintained and no alterations are proposed.

(8) Not cause erosion, aggradation, or scouring upstream or downstream of the crossing; and

The proposed project will not cause erosion, aggradation, or scouring upstream or downstream of the crossing as it will maintain the existing span of the channel of Little Bay.

(9) Not cause water quality degradation.

The proposed project will not cause water quality degradation as the impervious area of the GSB will be reduced as part of the project, and erosion control measures will be implemented throughout the duration of construction to preserve water quality.

(b) For stream crossings over tidal waters, the stream crossing shall be designed to:

(1) Match the velocity, depth, cross-sectional area, and substrate of the natural stream; and

(2) Be of sufficient size to not restrict bi-directional tidal flow over the natural tide range above, below, and through the crossing.

The proposed GSB superstructure repair project will maintain existing velocity, depth, cross-sectional area, and substrate of the existing stream while not restricting bi-directional flow of the natural tidal range as there are no permanent impacts to the bed of Little Bay.

Env-Wt 904.06: Tier 4 Stream Crossings

(a) A tier 4 stream crossing shall be a crossing located on a tidal watercourse.

(b) A tier 4 stream crossing shall be a span structure or culvert specifically designed for the geomorphic and habitat conditions of the tidal environment.

(c) The applicant may propose an alternative design by submitting a request as specified in Env-Wt 904.10.

(d) Compensatory mitigation shall be required for any new tier 4 stream crossing unless…

(e) In addition to meeting Env-Wt 903.07(c) and (d), plans for a tier 4 stream crossing shall be dated and bear the signature and seal of the professional engineer who prepared or had responsibility for and approved them, as required by RSA 310-A:18.

The proposed GSB superstructure repair project over Little Bay is classified as a Tier 4 stream crossing in accordance with (a)-(b) above. The watershed of the Little Bay at the site location is approximately 454 square miles in size. Refer to the Watershed Map provided in Appendix D. In accordance with (d) above, compensatory mitigation is required as the project proposes permanent impacts to the bank of Little Bay, a Floodplain Wetland Adjacent to a Tier 3 Stream, which qualifies as a Priority Resource Area.

Plans prepared for permitting are included in Appendices M, N, and O, dated and stamped by Mr. Gregory Goodrich, VHB, NH Professional Engineer #12284.

Env-Wt 904.07: Design Criteria for Tier 2, Tier 3, and Tier 4 Stream Crossings

(c) Tier 2, tier 3, and tier 4 stream crossings shall be designed:

(1) To meet the general design criteria specified in Env-Wt 904.01;

The proposed project meets the design criteria specified in Env-Wt 904.01 as stated in the prior section.

(2) Of sufficient size to accommodate the greater of:

a. The 100-year 24-hour design storm;

b. Flows sufficient to:

1. Prevent an increase in flooding on upstream and downstream properties; and

2.. Not affect flows and sediment transport characteristics in a way that could adversely affect channel stability; or

c. Applicable federal, state, or local requirements;

The proposed project will be able to convey the 100-year 24-hour design storm.

(3) With the bed forms and streambed characteristics necessary to cause water depths and velocities with the crossing structure at a variety of flows to be comparable to those found in the natural channel upstream and downstream of the stream crossing;

Not applicable as the project proposes no permanent fill within the bed of Little Bay, maintaining existing bed characteristics, water depths, and velocities.

(4) To provide a vegetated bank on both sides of the watercourse or to provide a wildlife shelf of suitable substrate and access to allow for wildlife passage;

Not applicable, as terrestrial wildlife are not able to cross the Little Bay at this site. The banks of Little Bay in Newington and Dover will be restored to pre-construction condition to the extent practicable upon project completion, including bank and TBZ stabilization with vegetation.

(5) To preserve the natural alignment and gradient of the stream channel, so as to accommodate natural flow regimes and the functioning of the natural floodplain;

Not applicable as the project proposes no changes to channel alignment or gradient.

(6) To simulate a natural stream channel;

The project crosses an existing natural stream channel and no permanent changes to the channel are proposed.

(7) So as not to alter sediment transport competence; and

Sediment transport will not be altered as there will be no permanent fill to the bed of Little Bay.

(8) To avoid and minimize impacts to the stream in accordance with Env-Wt 313.03.

Impacts to the stream have been avoided through the reuse of the existing GSB piers and minimized through the use of only temporary fills within the bed of Little Bay to provide construction access.

(d) In addition to meeting the criteria specified in (c), above, new, repaired, rehabilitated, or replaced tier 4 stream crossing shall be designed:

(1) Based on a hydraulic analysis that accounts for daily fluctuating tides, bidirectional flows, tidal inundation, and coastal storm surge;

(2) To prevent creating a restriction on tidal flows; and

(3) To account for tidal channel morphology and potential impacts due to sea level rise.

The proposed project has been designed to account for items (1) – (3) above. Refer to the hydraulic analysis presented in the 2007 FEIS and accommodations for sea level rise discussed in Section 5.2 of this Supplemental Narrative.

Env-Wt 904.09: Repair, Rehabilitation, or Replacement of Tier 3 and Tier 4 Existing Legal Crossings

(c) A project shall qualify under this section only if a professional engineer certifies, and provides supporting analyses to show, that:

(1) The existing crossing does not have a history of causing or contributing to flooding that damages the crossing or other human infrastructure or protected species habitat; and

(2) The proposed stream crossing will:

a. Meet the general criteria specified in Env-Wt 904.01;

b. Maintain or enhance the hydraulic capacity of the stream crossing;

c. Maintain or enhance the capacity of the crossing to accommodate aquatic organism passage;

d. Maintain or enhance the connectivity of the stream reaches upstream or downstream of the crossing; and

e. Not cause or contribute to the increase in the frequency of flooding or overtopping of the banks upstream or downstream of the crossing.

(d) Repair, rehabilitation, or replacement of a tier 4 stream crossing shall comply with Env-Wt 904.07(d)

Refer to the supplemental information provided in Appendix E, stamped by Mr. Gregory Goodrich, VHB, NH Professional Engineer #12284.

Appendices

A

Natural Resource Agency Coordination Meeting Minutes

BUREAU OF ENVIRONMENT
CONFERENCE REPORT

SUBJECT: NHDOT Monthly Natural Resource Agency Coordination Meeting
DATE OF CONFERENCE: April 18, 2018
LOCATION OF CONFERENCE: John O. Morton Building
ATTENDED BY:

NHDOT
Matt Urban
Sarah Large
Marc Laurin
Keith Cota
Mark Hemmerlein
Chris Carucci
Meli Dube
Bob Landry
Don Lyford
Bill Saffian
Trent Zanes
Brian Lombard
Maggie Baldwin
Kevin Nyhan
Bob Juliano
Steve Johnson
Shelly Winters

ACOE
Mike Hicks

Federal Highway
Jamie Sikora

EPA
Mark Kern

US Coast Guard – Bridges
Jim Rousseau

NHDES
Gino Infascelli
Lori Sommer
Tim Drew
Chris Williams

NHF&G
Carol Henderson

NH Natural Heritage Bureau
Amy Lamb

NH Office of Energy and Planning
Jennifer Gilbert
Samara Ebinger

NH Department of Business & Economic Affairs
Jimmie Hinson

Consultants/Public Participants
Chris Bean
Leo Tidd
Vicki Chase
Pete Walker
Christine Perron
Jim Fougere
Janusz Czyzowski
Colin Lentz

(When viewing these minutes online, click on an attendee to send an e-mail)

PRESENTATIONS/ PROJECTS REVIEWED THIS MONTH: *(minutes on subsequent pages)*

(When viewing these minutes online, click on a project to zoom to the minutes for that project)

Newington-Dover, #11238S (NHS-027-1(037))
We met to review the General Sullivan Bridge (GSB) project. The goal of the meeting was to discuss a list of preliminary alternatives that would be screened as part of the Supplemental Environmental Impact Statement (SEIS) currently being prepared for the project. Pete Walker and Keith Cota presented an overview of the project, discussed alternatives developed to date, reviewed public and agency coordination efforts, and outlined the process for screening alternatives. (See attached slides.)

Pete Walker provided a brief summary of the project background. The 2007 Newington-Dover Environmental Impact Statement (EIS) and 2008 Record of Decision (ROD), as well as the Section 106 Memorandum of Agreement (MOA) executed as part of the EIS, stipulated the General Sullivan Bridge (GSB) would be preserved for bicycle and pedestrian use. However, based on the results of intensive structural inspections and engineering analysis conducted from 2009 to 2017, NHDOT has found that rehabilitation of the General Sullivan Bridge would be riskier and more costly than anticipated. NHDOT believes that further study of alternatives is warranted. NHDOT made a request of FHWA for an opportunity to reconsider alternatives to the rehabilitation of the GSB; FHWA indicated that a SEIS would be necessary to re-evaluate alternatives.

As a first step in the SEIS process, FHWA sent an invitation to become a Cooperating or Participating Agency (December 21, 2017) to state, federal, and local agencies. This letter was followed by publication of a Notice of Intent to Prepare and EIS in the Federal Register (January 18, 2018). The USACOE, USCG, USEPA, and USFWS have all replied to accept as Cooperating Agencies. NHDES, NHNHB, the Strafford Regional Planning Commission, and the Town of Durham have accepted as Participating Agencies.

Pete briefly reviewed the project Purpose and Need, which is to provide access and connectivity between Newington and Dover, across Little Bay, for non-motorized use. A draft written Purpose and Need statement was distributed to meeting participants. (See attached.)

Keith Cota summarized the Jan. 30th public information meeting. About 150 people attended. The public strongly supports maintenance of a bicycle and pedestrian connection between Newington and Dover; the public supports the project Purpose and Need. Many comments expressed concerns about the safety and age of GSB, but there were no strong objections to removing the GSB if that is selected as the rehabilitation of the GSB and that it may be the best use of public funds. Major concerns were also expressed about maintaining a bicycle/pedestrian crossing during construction of whatever alternative is selected.

Pete then presented a summary of the alternatives currently under consideration, some of which were described in a 2017 Type, Span, and Location Report (TS&L Report), and others were identified during the public involvement process. The alternatives are explained and illustrated in more detail in a memorandum from VHB to NHDOT dated April 5, 2018, *General Sullivan Bridge Supplemental Environmental Impact Statement Description of Bridge Alternatives*. This memorandum was distributed in advance of the current meeting.

Pete explained that the development of alternatives use the design guidelines of the American Association of State Highway and Transportation Officials (AASHTO), which specify a *minimum* path width of 12 feet for bicycle/pedestrian paths (10 feet for the path plus one foot on each side to clear obstructions). The guidelines also outline *desired* path widths, which would be 16 feet (12 feet for the path plus two feet on each side for obstructions) to allow two-way traffic and passing maneuvers.

Alternatives 1-4 were discussed in the 2017 Type, Size and Location report (TS&L):

- Alternative 1: Complete rehabilitation of GSB (consistent with the MOA);

- Alternative 2: Complete superstructure replacement of GSB, retaining the substructure;
- Alternative 3: Partial rehabilitation of GSB – rehabilitation of central spans 4-6, replacement of approach spans 1-3 and 7-9; and
- Alternative 4: Complete replacement of GSB, including the substructure.

New Alternatives have been added, based on input received since the TS&L. Many include the use and/or modification of the Little Bay Bridge (LBB):

- Alternative 5: Reconfigure existing southbound LBB. This alternative would only provide a two-foot wide path for bicycle/pedestrian traffic. This would not meet the Purpose and Need, and would therefore be eliminated in initial screening process
- Alternative 6: Widen the southbound LBB. This alternative would add one or more girders and a pier extension to the existing GSB substructure to support a widened LLB bridge. Several options have been developed, based on the evaluation of possible widths (minimum and/or desired combinations)of the path, and highway lanes and shoulders
- Alternative 7: New separate pedestrian/bicycle path superstructure. This alternative would separate the new path from the LBB on the existing GSG substructure and supported by a pier extension to the LLB superstructure but not connected to the LBB deck.
- Alternative 8: Rehabilitation of the GSB with a 75-year life span. This alternative would consider whether more extensive rehabilitation or maintenance regime would allow the rehabilitation alternative (i.e., Alternative 1) to last longer than the 40-year life span predicted in the TS&L.
- Alternative 9: Superstructure replacement of the GSB, with a girder/frame option. This alternative would be similar to Alternative 2, but would replace the GSB superstructure with a steel girder system rather than a truss. A stable minimum width is required and would need to be further evaluated. This width could be up to 25 feet wide. Two different configurations were shown. The existing GSB navigational clearance would be maintained.

Pete explained that the next step in the EIS process is to screen the alternatives to identify a reasonable range of alternatives. He reviewed the screening criteria:

- Purpose and Need: Does the alternative meet the project's purpose and need – provide bicycle and pedestrian access between Newington and Dover?
- Feasibility: Is the alternative technically feasible, providing a practical duration, without excessive impacts (environmental and access)?
- Cost: Is the cost for construction and life cycle in line with other alternatives?
- Safety: Is the alternative safe for automobiles, non-motorized vehicles, and pedestrians?
- Transportation Capacity: Does the alternative maintain or improve the vehicle capacity on the LBB, a major recent investment?

Pete briefly outlined the upcoming public involvement schedule. The Department is anticipating a second public information meeting this summer, at which a preliminary alternatives analysis would be presented. A third public information meeting would occur in Fall 2018, following issuance of a draft SEIS. The Supplemental ROD could be issued by the end of the year.

Mark Kern asked what part of the bridge is weakest? Keith replied that the deck and floor beams need complete replacement. The gusset plates are heavily impacted by pack rust. Pete mentioned that the bottom chord of Span 7 needs complete replacement. Keith explained that the TS&L report indicated that a rehabilitated bridge would likely only last for 40 years. The intent of Alternative 8 is to see if it is possible to extend that life span to 75 years and, if so, how much that would cost.

Jim Rousseau, USCG representative, explained that if NHDOT plans to replace the GSB, then any new bridge should match the navigational clearances of the LBB. The GSB and the two Little Bay Bridges were

all authorized under a single permit. NHDOT would need to apply for an amendment to that permit. If the rehabilitation alternative is chosen the work can be handled within the existing permit.

Mike Hicks asked if the current Newington-Dover permit addressed the GSB rehabilitation, and if a new permit application would be submitted or would a permit amendment be requested? Keith replied that NHDOT would be requesting an amendment of the Corps permit, but that the NHDES permit will be expired, so a new application would be submitted to NHDES. Mike asked that NHDOT send a pdf of the presentation used during the meeting. Mike also asked whether the existing piers would be modified? Keith explained that alternative 4 is the only one that would propose any work on the existing piers. All other alternatives would re-use the existing piers.

This project has been previously discussed at the 12/20/2017, 8/20/2014, 6/18/2014, 3/19/2014, 3/21/2012, 8/17/2011, 8/19/2009, 10/15/2008, 3/21/2007, 2/21/2006, 12/14/2005, 11/2/2005, 8/17/2005, 7/20/2005, Monthly Natural Resource Agency Coordination Meetings.

Alexandria, #15937 (X-A1(047))

Chris Carucci described the culvert rehabilitation project funded under the Federal Culvert Rehabilitation Program at two locations on NH 104 in Alexandria. The existing culverts are 60 inch and 66 inch corrugated aluminum pipes that were constructed in 1965 and have severe corrosion at the top of the pipes. The proposed advertising date is August 2018 with construction occurring in the Summer of 2019. Both culvert outlets are about 200 feet from the Smith River and within Shoreland jurisdiction.

Location 1 is a 128 foot long 60 inch culvert with stone headwalls. The culvert conveys a Tier 2 perennial stream with a 294 acres watershed. Hydraulic capacity is about 200 cfs. Bypass flows would be directed to an adjacent wetland where an existing 18 inch pipe would convey the water under NH 104. Location 2 is a 86 foot long 66 inch culvert with stone headwalls. The culvert conveys a Tier 2 intermittent stream with a 224 acre watershed. Hydraulic capacity is estimated at 280 cfs. Neither culvert is within the Smith River floodplain.

Replacement options were evaluated. Due to the height of the fill, around 16 - 18 feet at Location 1, and 8 -10 feet for Location 2, replacement would involve the closure of NH 104 for about a month. Traffic volume is about 2,800 vpd, with no easy detour on State routes with east-west through traffic needing to go through Franklin to access NH 11 and US 4. The replacement structures with a 1.2 X bankfull width, would be box culverts with 9 to 10 feet spans, with a cost estimate of $500,000 each, not including PE and ROW costs.

The preferred alternative is to slip line the culverts with smaller corrugated metal pipes of 54 inch at Location 1 and 60 inch at Location 2. Existing capacity can be maintained using a liner with spiral corrugation, which has a roughness coefficient similar to concrete pipe. The inlet efficiency would be enhanced by constructing a 45% bevel. These changes will increase the outlet velocity, so a 20 to 25 foot long stone apron / channel lining is proposed at the outlets to dissipate energy and reduce velocity. A small amount of stone is also proposed at the inlets to protect the headwalls. The existing headwalls will be repaired. Cost for the slipline option would be $50,000 to $60,000 per location. The new pipes are anticipated to be pushed from the outlets. Access to

BUREAU OF ENVIRONMENT
CONFERENCE REPORT

SUBJECT: NHDOT Monthly Natural Resource Agency Coordination Meeting
DATE OF CONFERENCE: June 19, 2019
LOCATION OF CONFERENCE: John O. Morton Building
ATTENDED BY:

NHDOT
Matt Urban
Sarah Large
Andrew O'Sullivan
Doug Locker
Tim Boodey
Arin Mills
Chris Carucci
Julius Nemeth
Jennifer Reczek
Anthony Weatherbee
Maggie Baldwin
Jason Abdulla
Marc Laurin
Ralph Sanders
Tim Mallette
Jon Evans
Wendy Johnson
Tom Jameson
Chelsea Noyes

ACOE
Mike Hicks

NHDES
Collis Adams
Karl Benedict
Andrew Madison

NHF&G
Carol Henderson

NH NHB
Amy Lamb

LCHIP
Paula Bellemore

NH DNCR
Tracey Boisvert

Consultants/Public Participants
Lee Carbonneau
Thomas Marshall
Sarah Barnum
Chris Fournier
Christine Perron
Burr Phillips
Greg Howard
Jed Merrow

PRESENTATIONS/ PROJECTS REVIEWED THIS MONTH: *(minutes on subsequent pages)*

(When viewing these minutes online, click on a project to zoom to the minutes for that project)

4. On 7/11/2019, Burr informally contacted the Conway Conservation Commission and Tin Mountain Conservation Center to see if either would be interested in taking the Pequawket Pond wetland area. The Conservation Commission recommended that we approach the town manager. Tin Mountain (Lori Kinsey, Executive Director) said they presently hold bird-watching programs there and find the site to be excellent. She will review this idea with the Tin Mountain Board of Trustees.

This project was previously discussed at the 3/20/2019 Monthly Natural Resource Agency Coordination Meeting.

Newington-Dover, #11238S (NHS-027-1(037))

Keith Cota and Pete Walker (VHB) provided an update on the project. Pete briefly reviewed the project history: the 2008 FHWA Record of Decision for the Newington-Dover project identified the rehabilitation of the Gen. Sullivan Bridge (GSB) as the Selected Alternative. However, over time it became clear that rehabilitation would have substantial cost and technical issues. NHDOT and FHWA determined in 2017 that is was appropriate to re-evaluate alternatives for the General Sullivan Bridge, and a limited-scope Supplemental Environmental Impact Statement (SEIS) was initiated in 2018. As a result of inspections conducted last fall, the GSB has been closed to all access by pedestrians and cyclists.

Pete then reviewed the conceptual plan for Alternative 9, Superstructure Replacement (NHDOT's Preferred Alternative), including preliminary construction phase plans showing temporary use of a portion of Hilton Park and installation of construction access via a stone causeway and temporary pile-supported trestle. Because Alternative 9 would reuse all of the existing stone bridge piers and the existing bridge approaches, permanent impacts would be minimal. Potential impacts to a blue mussel bed located adjacent to Dover Point would result from the planned construction access. NHDOT had coordinated with NOAA regarding potential impacts to essential fish habitat and sturgeon species; NOAA found no significant concerns based on the limited work and confirmed that the project would comply with the NOAA-FHWA Programmatic Agreement on Atlantic and Shortnose Sturgeon. Pete also reviewed effects to navigation; Alternative 9 would improve navigational clearance through the project area, so navigation effects would be beneficial.

Mike Hicks asked about coordination with the Army Corps regarding a Section 408 permit and whether the coordination should be documented in the Supplemental EIS. Pete Walker will follow up with M. Hicks for further discussion.

Mark Kern asked when the Supplemental EIS would be published. K. Cota indicated that the schedule would depend on the progress of the Section 106 Consultation, which has been extensive given the potential historic impact of removing the Gen. Sullivan Bridge. However, currently, NHDOT anticipates issuing a draft SEIS in late August or September 2019.

Amy Lamb asked whether any surveys for rare species had been completed. She referenced an NHB review completed in 2014 (NHB-14-2934). Pete Walker indicated that the 2014 review was likely for the larger highway project, whereas the current project is focused on the Gen. Sullivan Bridge specifically. With such limited ground disturbance, the team's focus has been on potential effects to marine fisheries. VHB will contact NHB to discuss the 2014 review recommendations.

Carol Henderson asked if there were any archeological concerns. Pete replied that an investigation at Hilton Park in the impact area is currently being performed that will update information on the potential impacts to archaeological site.

Carol Henderson pointed out that the project team should coordinate with the NHF&G, Marine Division (Cheri Patterson). She also asked whether there is any known use of the bridge by peregrine falcons. Pete replied that none had been observed during previous inspections of the Bridge.

Karl Benedict expressed concerns about water quality impacts due to construction of the causeway. K. Benedict also pointed out that he has seen invasive species in the area between Dover Point Road and Hilton Park.

This project was previously discussed at the 04/18/2018, 12/20/2017, 8/20/2014, 6/18/2014, 3/19/2014, 3/21/2012, 8/17/2011, 8/19/2009, 10/15/2008, 3/21/2007, 2/21/2006, 12/14/2005, 11/2/2005, 8/17/2005, 7/20/2005 Monthly Natural Resource Agency Coordination Meeting.

BUREAU OF ENVIRONMENT
CONFERENCE REPORT

SUBJECT: NHDOT Monthly Natural Resource Agency Coordination Meeting
DATE OF CONFERENCE: October 19, 2022
LOCATION OF CONFERENCE: Virtual meeting held via Zoom

ATTENDED BY:

NHDOT
Matt Urban
Andrew O'Sullivan
Jon Evans
Joshua Brown
Mark Hemmerlein
Kate Masztal
Georgie Ravelli
Kerry Ryan
Tony Puntin
Marc Laurin
Jennifer Reczek
Hans Weber
Matt Lampron
Rebecca Martin
Tim Mallette
Dzijeme Ntumi
David Scott

ACOE
Mike Hicks

USCG
Gary Croot

EPA
Jean Brochi

NHDES
Karl Benedict
Lori Sommer
Christian Williams
Mary Ann Tilton
Seta Detzel
Kristin Duclos

NHB
Sabrina Stanwood
Madeline Severance
Ashley Litwinenko

NH Fish & Game
Mike Dionne
Kevin Newton

Federal Highway
Jamie Sikora

US Fish & Wildlife
Maria Tur

The Nature Conservancy
Absent

NH Transportation & Wildlife Workgroup
Sandi Houghton

Consultants/ Public Participants
Deb Coon
Hannah Beato
Bob Landry
Pete Walker
Greg Goodrich
Kimberly Peace
Josif Bicja

PRESENTATIONS/ PROJECTS REVIEWED THIS MONTH: *(minutes on subsequent pages)*

Table of Contents:

The project is scheduled to be presented at the November Cultural Resources Meeting to address the replacement of a National Register-eligible historic bridge.

Newington-Dover, #11238 (NHS-027-1(37)):

The Newington-Dover, General Sullivan Bridge (GSB) Project (the Project) involves replacement of the historic GSB superstructure. The presentation included a design update and summarized findings of the review under the National Environmental Policy Act (NEPA), which concluded when FHWA issued a combined Final Supplemental Environmental Impact Statement (Final SEIS) and Supplemental Record of Decision (SROD) in February 2022.

The Project Team is advancing design of the replacement superstructure. The GSB has been closed for several years due to safety concerns. A temporary pedestrian detour is in place along the northbound Little Bay Bridge (LBB). The old GSB truss superstructure will be advertised for sale and reuse, per the executed Section 106 Memorandum of Agreement. The new superstructure will be installed on top of the existing stone piers, which are to be reused. The southern abutment in Newington will be replaced entirely, and the Dover approach span will be kept. No permanent impacts will occur below the highest observable tide line (HOTL). Temporary impacts will occur within construction areas due to the stone fill causeways (approx. 13,460 SF total based on current design), and the trestle deck and piles (deck is approx. 33,640 SF total, with piles about 250 SF). Similar trestle and causeway infrastructure was in place during construction of the new southbound LBB. The trestle will not extend within the 200 foot navigational channel.

Pete Walker (VHB) summarized environmental concerns documented in the Final SEIS.

› **Blue mussel shellfish (*Mytilus edulis*).** On the Dover side, there is a blue mussel shellfish bed adjacent to the GSB that will sustain temporary impacts due to the stone fill causeway. Blue mussel populations appear to have rebounded since the previous impacts from the causeway that led out to the trestle that constructed the SB LBB.

› **Atlantic sturgeon (*Acipenser oxyrhynchus ocyrhynchus*) and Shortnose sturgeon (*Acipenser brevirostrum*).** The National Oceanic and Atmospheric Administration (NOAA) concurred that the project "may affect but is not likely to adversely affect" Atlantic/shortnose sturgeon critical habitat.

› **Northern Long-eared Bat (*Myotis septentrionalis*).** Minor tree clearing in Hilton Park will be needed for construction staging. There is no evidence of NLEB roosting on the GSB. US Fish and Wildlife Service (USFWS) Section 7 finding of "May affect—likely to adversely affect."

› **NHNHB Review.** Field work conducted by Amy Lamb, NHB, confirmed the absence of Prolific yellow-flowered knotweed (*Polygonum ramosissimum* spp. *prolificum*) and Smooth black sedge (*Carex nigra*). Cliff swallows (*Petrochelidon pyrrhonota*) do not currently nest on the GSB. According to GRANITView mapping, eelgrass (*Zostera marina*) beds are distant from the GSB Project work area; therefore, no impacts are anticipated.

› **Water Quality.** The surface area of the replacement bridge superstructure will be less than that of the existing GSB. Both the curb-to-curb and out-to-out distances will be reduced, effectively reducing impervious surface area. There will be a decrease in the amount of impervious area and related stormwater volumes discharged to the Little Bay compared to existing conditions.

Permit applications are anticipated to be submitted in December 2022 / January 2023. The GSB Project will be advertised for construction in August 2023, with construction anticipated to start in the winter work window of 2023/2024. Full project completion is anticipated in the summer of 2026 with removal of the trestle during the winter / spring work window of 2026.

Discussion Notes

Karl Benedict (NHDES) asked whether cofferdams are proposed to be installed. NHDOT does not intend to use coffer dam during installation of the causeway. This is due to the lack of overburden in this section of Little Bay caused by the high velocities seen during the tidal action. The material to be placed will be washed stone on a geotextile fabric.

Mark Hemmerlein (NHDOT) asked about the use of stone causeways. Jennifer Reczek (NHDOT) and Greg Goodrich (VHB) clarified that the stone causeway is proposed due to the clearance issue the contractor designed and built trestle. Eliminating the causeway section in favor of a trestle would be problematic for a number of reasons. The construction platform and access will need to reach an elevation of 16 feet, similar to the trestle elevation used during the LBB construction. This elevation of the trestle deck surface allows for passage of the tidal flow below the low steel elevation of the trestle. The stone causeway impact will be reviewed to decreased more if possible. Stone fill to access the trestle avoids the need to excavate the Dover bank. The trestle depth is about 7 feet, (including the trestle decking, stringers, and headers). The trestle will need to be substantial to support cranes and other construction needs. The trestle height will be above the existing pier caps on the Dover side, and slightly below the existing pier caps on the Newington side. There is low clearance to the trestle (6 feet or so) from mean high water.

Pete Walker noted that the proposed footprint of the causeway section is smaller than what was previously proposed and reviewed during compilation of the SEIS. Blue mussel populations seemed to have persisted in this location, even with the previous impacts from the LBB causeway. Karl Benedict asked about what could be done to lessen impacts to the mussel beds. Compensatory mitigation could be needed. Karl asked whether the old staging area in Newington could be used to limit clearing. Greg Goodrich responded that the new southbound LBB was built on the old staging area. The BMP in Newington between Shattuck Way and the south abutment will be avoided.

Kristin Duclos (NHDES) asked about the duration that the causeway will be in the water. Due to in-water work windows, construction cannot be completed in one season. Therefore, the causeways and trestles will be in place for two- and one-half years (fall/winter of 2023 to winter/spring of 2026). NHDES indicated that they would not consider the stone fill causeways and trestle pilings to be temporary impacts if they are in place for two years. Michael Hicks

(USACE) agreed that the trestle piles and causeway impacts are to be considered permanent for mitigation purposes.

Lori Sommer asked whether any tidal buffer zone impacts are associated with the new pathway. Pete Walker clarified that there are already existing pedestrian approaches on both sides of the GSB, and the temporary detour located adjacent to the NB LBB infrastructure will be removed once the new GSB bridge is opened.

Lori Sommer asked about how provisions will be handled for any loss of blue mussel bed. She also inquired about the use of Hilton Park and triggering Section 4(f). Jamie Sikora (FHWA) explained that the temporary impact to Hilton Park was previously reviewed and approved under Section 4(f). There will be temporary occupancy of Hilton Park due to staging during construction, but the temporary occupancy will not constitute a use of Hilton Park because all conditions for this exception will be met.

Michael Dionne (NHFG) asked whether the causeway would be installed during the in-water work window. Jennifer Reczek confirmed it would be. Michael Dionne noted that all anadromous fish in the Great Bay move through this restriction. Noise impacts should be avoided; piles should not be installed between March 15 - June 15. Pete Walker indicated that the SEIS contains an underwater acoustic model using NOAA's procedures. This was reviewed by NOAA, who approved the Essential Fish Habitat Assessment with no specific conservation recommendations.

Michael Dionne asked about cliff swallows at the GSB, noting there is a colony at the Scammell Bridge over the Bellamy River. He inquired if clay nests could be added to the new bridge. He was unsure whether nests were installed on the Scammell Bridge. Pete replied that, according to Pam Hunt, the colony on the GSB had been abandoned around 2012-2013.

Michael Hicks stated that the trestle pilings are structures, not fill, but will require a Section 10 permit, likely to be issued by the USCG. The causeways will require a Section 404 permit. A General Permit should apply. He inquired about the Section 106 resolution for the GSB. Pete replied that there is a new MOA in place, with mitigation stipulated for the loss of the GSB.

Gary Croot (USCG) expects to issue an amended USCG Bridge Permit, to include all three bridges. A Bridge Preliminary Navigation Determination Request was received in 2021. The Division of Ports & Harbors and Great Bay Marine were included in correspondence. USCG requests that NHDOT develop a one or two page letter identifying what has transpired and the improvements to vertical navigational clearance. Coordination during construction will be required if part of the navigational channel will be infringed upon for construction of the causeway, trestle, or bridge. USCG anticipates a minimal impact to commercial and recreational boaters, who should be able to maneuver around the infrastructure.

Mark Hemmerlein asked whether any activities require a request for a Water Quality Certificate. Gary Croot will confirm with USCG Headquarters. Gary Croot will review the FSEIS and follow up with Mark Hemmerlein.

Jean Brochi (USEPA) requested the area of impact to the blue mussel bed. VHB will follow up with the area.

Jean Brochi asked whether changes to hydrology could be cause for concern regarding erosion. No work on the piers is proposed below the HOTL. The entire steel superstructure will be removed and replaced with a new steel superstructure.

Jean Brochi also asked for confirmation as to why a SEIS was completed. Jamie Sikora clarified that the previous EIS proposed rehabilitation of the GSB, but subsequently, that alternative was determined not reasonable.

Jean Brochi questioned whether interested tribes should be notified again. Michael Hicks asked if NHDOT coordinated with the tribes. Pete Walker noted that numerous tribes were contacted during the SEIS phase; VHB maintains a list of tribes who received notification of the Project which could be provided. FHWA, USACE, and NHDOT will coordinate on practices to notify tribes.

Jean Brochi asked whether the new GSB would be highly used. Pete stated that the public has voiced strong demand for the new bridge, and that a non-motorized connection be maintained. People even used the GSB in winter prior to its closure. The 22-mile-long detour routes were assessed in the FSEIS. Pedestrian counts were taken in 2016. The findings are in the FSEIS. Jamie Sikora also mentioned the local support to expand trails and bikeways in the area.
NHB Data Check and IPaC will be re-run soon, per standard practice. Any regulatory changes surrounding the NLEB may need to be revisited.

Madeline Severance (NHB) confirmed that Amy Lamb conducted a rare plant survey in 2019 and did not find either listed rare plant species. NHB requested a finalize plan set to review erosion and sediment control for eelgrass concerns. Madeline will speak with Amy about the surveys and does not expect a new survey to be needed.

B

Mitigation Coordination & ARM Fund Calculator

THE STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION

Victoria F. Sheehan
Commissioner

William Cass, P.E.
Assistant Commissioner

November 17, 2022

Jane Hislop, Chair
Newington Conservation Commission
205 Nimble Hill Road
Newington, NH 03801

RE: Wetland Mitigation Inquiry
Newington-Dover 11238S, NHS-027-1(37)
General Sullivan Bridge, Spaulding Turnpike Improvements

Dear Ms. Hislop:

The New Hampshire Department of Transportation (NHDOT) is preparing final design plans and drafting permit applications to replace the superstructure of the General Sullivan Bridge (GSB) that spans Little Bay. This project proposes the complete removal and replacement of the existing GSB superstructure with a steel girder superstructure in order to provide recreational access and connectivity between Newington and Dover across Little Bay, for pedestrians and non-motorized vehicles.

NHDOT is preparing wetland permit applications to the NH Department of Environmental Services (NHDES) and the US Army Corps of Engineers (Corps). All wetland impacts would be temporary in nature; the impacts are required to install temporary stone causeways and pile-supported trestles to allow the contractor to access the GSB for the removal of the existing superstructure and the placement of the new superstructure. Preliminary temporary impacts to Little Bay within Newington and Dover are currently estimated at approximately 13,500 square feet for the causeway, with 500 to 600 square feet of additional impact required for the pilings to support a temporary trestle deck (see attached plan).

Temporary impacts do not normally require wetland mitigation, but NHDOT is seeking to identify potential natural resource mitigation measures if NHDES or the Corps determines that mitigation is required. We are therefore writing to you to determine whether the Newington Conservation Commission maintains a list of local projects in accordance with Env-Wt 801.03(a). If so, NHDOT would evaluate whether any project on your list would be practicable to mitigate impacts associated with this project. In order to continue to advance the permits for the project, we appreciate your response by December 5th.

Note that the Conservation Commission will be provided an opportunity by NHDES to comment on the wetland permit application following its submittal. Please don't hesitate to contact me if you have any questions or require additional information.

Sincerely,

Marc G. Laurin
Senior Environmental Manager
Bureau of Environment, NHDOT
marc.g.laurin@dot.nh.gov or (603) 271-4404

cc: Jennifer Reczek, NHDOT
Andy O'Sullivan, NHDOT
Peter J. Walker, VHB

THE STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION

Victoria F. Sheehan
Commissioner

William Cass, P.E.
Assistant Commissioner

November 17, 2022

William Hunt, Chair
Dover Conservation Commission
288 Central Avenue
Dover, NH 03820

RE: Wetland Mitigation Inquiry
Newington-Dover 11238S, NHS-027-1(37)
General Sullivan Bridge, Spaulding Turnpike Improvements

Dear Mr. Hunt:

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Sincerely,

Marc G. Laurin
Senior Environmental Manager
Bureau of Environment, NHDOT
marc.g.laurin@dot.nh.gov or (603) 271-4404

cc: Jennifer Reczek, NHDOT
Andy O'Sullivan, NHDOT
Peter J. Walker, VHB

Dover

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	5936.00
		43560.00
	Acres of impact =	0.1363

2 Determine acreage of wetland construction:

	Forested wetlands:	0.2044
	Tidal wetlands:	0.4088
	All other areas:	0.2044

3 Wetland construction cost:

	Forested wetlands:	$20,942.48
	Tidal Wetlands:	$41,884.96
	All other areas:	$20,942.48

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:	$10,888.19
	Tidal wetlands:	$21,776.37
	All other areas:	$10,888.19

5 Construction + land costs:

	Forested wetland:	$31,830.66
	Tidal wetlands:	$63,661.33
	All other areas:	$31,830.66

6 NHDES Administrative cost:

	Forested wetlands:	$6,366.13
	Tidal wetlands:	$12,732.27
	All other areas:	$6,366.13

********** **TOTAL ARM PAYMENT**********

	Forested wetlands:	$38,196.80
	Tidal wetlands:	$76,393.59
	All other areas:	$38,196.80

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

Newington, nontidal

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	1009.00
		43560.00
	Acres of impact =	0.0232

2 Determine acreage of wetland construction:

	Forested wetlands:	0.0347
	Tidal wetlands:	0.0695
	All other areas:	0.0347

3 Wetland construction cost:

	Forested wetlands:	$3,559.80
	Tidal Wetlands:	$7,119.60
	All other areas:	$3,559.80

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:	32771
	Forested wetlands:	$1,138.63
	Tidal wetlands:	$2,277.27
	All other areas:	$1,138.63

5 Construction + land costs:

	Forested wetland:	$4,698.43
	Tidal wetlands:	$9,396.86
	All other areas:	$4,698.43

6 NHDES Administrative cost:

	Forested wetlands:	$939.69
	Tidal wetlands:	$1,879.37
	All other areas:	$939.69

************** TOTAL ARM PAYMENT*************

	Forested wetlands:	$5,638.12
	Tidal wetlands:	$11,276.24
	All other areas:	$5,638.12

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

Newington, tidal

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	14413.00
		43560.00
	Acres of impact =	0.3309

2 Determine acreage of wetland construction:

Forested wetlands:	0.4963
Tidal wetlands:	0.9926
All other areas:	0.4963

3 Wetland construction cost:

Forested wetlands:	$50,849.72
Tidal Wetlands:	$101,699.44
All other areas:	$50,849.72

4 Land acquisition cost (See land value table):

Town land value:	32771
Forested wetlands:	$16,264.75
Tidal wetlands:	$32,529.51
All other areas:	$16,264.75

INSERT LAND VALUE FROM TABLE WHICH APPEARS TO THE LEFT. (Insert the amount do not copy and paste.)

5 Construction + land costs:

Forested wetland:	$67,114.47
Tidal wetlands:	$134,228.94
All other areas:	$67,114.47

6 NHDES Administrative cost:

Forested wetlands:	$13,422.89
Tidal wetlands:	$26,845.79
All other areas:	$13,422.89

********** **TOTAL ARM PAYMENT**********

Forested wetlands:	$80,537.37
Tidal wetlands:	$161,074.73
All other areas:	$80,537.37

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

C

Wetlands Function Value Assessment Worksheets

Wetland Function-Value Evaluation Form

Total area of wetland N/A Human made? No Is wetland part of a wildlife corridor? Yes or a "habitat island"? No

Adjacent land use Highway/Bridge, Recreational (Hilton Park), Commercial Distance to nearest roadway or other development Adjacent

Dominant wetland systems present E1UBL, E2US3M Contiguous undeveloped buffer zone present No

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? Low

How many tributaries contribute to the wetland? Many Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. Little Bay

Latitude 43.117577 N Longitude 70.825885 W

Prepared by: KPW Date 11/28/2022

Wetland Impact:
Type Refer to Impact Plan Area

Evaluation based on:
Office X Field X

Corps manual wetland delineation completed? Y N X

Function/Value	Suitability Y / N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	Y	4, 5, 6, 7	X	Mapped aquifer transmissivity associated with peripheral landward areas immediately adjacent to Little Bay.
Floodflow Alteration	Y	1, 5-11, 13	X	Periphery wetlands along Little Bay act as a buffer barrier against waves and storm surge.
Fish and Shellfish Habitat	Y	1-6	X	NOAA mapped EFH is present. Brackish waters of estuaries provide spawning habitat.
Sediment/Toxicant Retention	Y	1-3, 4, 7, 8, 16	X	Bordering wetlands/marsh retain sediment and toxicants from watershed above.
Nutrient Removal	Y	1-7, 10	X	Retains nutrient loads from plant uptake and sedimentation before it enters the ocean.
Production Export	Y	1-6, 8-11	X	Estuary is a source of food for wildlife and humans. Flushing of relatively large amounts of matter occur.
Sediment/Shoreline Stabilization	N			Specific to wetlands along waterbodies.
Wildlife Habitat	Y	4-9, 14, 15, 17, 18, 21	X	Home to Great Bay National Wildlife Refuge, regionally significant for migratory birds and other wildlife.
Recreation	Y	1, 2, 5, 7, 8-11	X	Provides numerous recreational opportunities both on land and in the water.
Educational/Scientific Value	Y	3-6, 8-10, 13, 14, 16	X	Home to Great Bay National Estuarine Research Reserve
Uniqueness/Heritage	Y	4, 8, 10, 12-14, 16, 17, 19, 25, 27, 28, 30	X	Significant in terms of natural heritage and cultural history.
Visual Quality/Aesthetics	Y	1, 2, 3, 5, 8, 9		Provides scenic landscapes from both land and water.
ES Endangered Species Habitat	Y	1, 2	X	Various listed fish and bird species may utilize Little Bay and surrounding habitats.
Other				

Notes:

* Refer to backup list of numbered considerations.

Wetland Function-Value Evaluation Form

Total area of wetland ~1,016 SF Human made? No Is wetland part of a wildlife corridor? No or a "habitat island"? No

Adjacent land use Highway/Bridge & Walking Path, Commercial, Little Bay Distance to nearest roadway or other development Adjacent

Dominant wetland systems present PSS1C Contiguous undeveloped buffer zone present No

Is the wetland a separate hydraulic system? Yes If not, where does the wetland lie in the drainage basin? N/A

How many tributaries contribute to the wetland? None Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. W-1

Latitude 43.116255 N Longitude 70.824194 W

Prepared by: KPW Date 11/28/2022

Wetland Impact:
Type Temporary Area 1,016

Evaluation based on:
Office X Field X

Corps manual wetland delineation completed? Y ____ N X

Function/Value	Suitability Y / N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	N	4, 5, 6, 10		Small depression acts as conveyance not detention.
Floodflow Alteration	Y	3, 4, 7, 9, 18		Wetland captures sheet flow from surrounding areas and conveys it directly to Little Bay
Fish and Shellfish Habitat	N			Wetland located on terrace above Little Bay.
Sediment/Toxicant Retention	N	1, 2		Although sources may be present above the wetland, long duration water retention is not present within the wetland.
Nutrient Removal	N	3, 8, 9		Dense vegetation exists, however wetland does not retain water but conveys it relatively quickly to Little Bay.
Production Export	N	7		Wetland is small, disturbed and densely vegetated with invasive plant species.
Sediment/Shoreline Stabilization	N			Due to the position of the wetland, it actually contributes to ongoing erosion along the bank of Little Bay.
Wildlife Habitat	N			Wetland is small, disturbed, located along a slope, and degraded by invasive plant species.
Recreation	N			Wetland does not provide recreation opportunity.
Educational/Scientific Value	N			Wetland is not suitable as an educational site.
Uniqueness/Heritage	N			Wetland is highly degraded by invasive plants and ongoing erosion.
Visual Quality/Aesthetics	N			Wetland is densely covered by overgrown vegetation.
ES Endangered Species Habitat	N			Wetland does not contain known threatened or endangered species or supporting habitat.
Other				

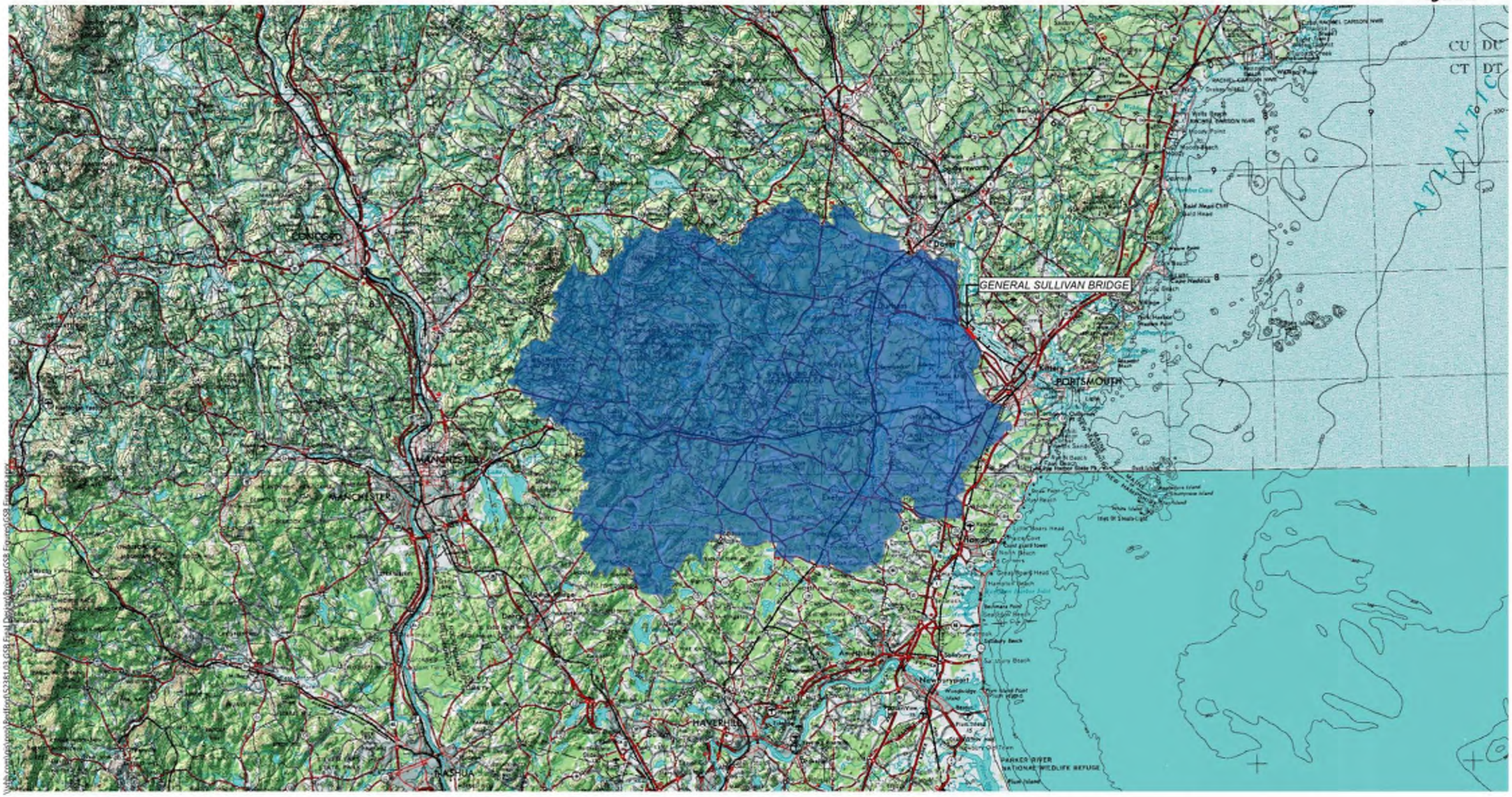
Notes:

* Refer to backup list of numbered considerations.

D

USGS Map with Watershed Boundaries

Figure 2



0 10000 20000 40000 Feet

Legend

Project Site

Newington-Dover 11238S | Newington and Dover, NH

General Sullivan Bridge | **USGS Watershed Map**

U.S. Department of Transportation
Federal Motor Carrier Safety Administration

New Hampshire DOT
Department of Transportation

Source: VHB, NH GRANIT

E

Env-Wt 904.09 Certification

Memorandum

To: NHDES Wetlands Bureau
29 Hazen Drive, PO Box 95
Concord, NH 03302-0095

Date: February 17, 2023

Project #: 52381.03

From: Greg Goodrich, PE

Re: Env-Wt 904.09 Repair, Rehabilitation, or Replacement of Tier 3 and Tier 4 Existing Legal Crossings

This memorandum serves to address the requirements of NHDES Administrative Rule Env-Wt 904.09 for the General Sullivan Bridge repair project in Newington and Dover (NHDOT Project Number 11238S). Section 904.09 is outlined below with each criterion individually addressed. The General Sullivan Bridge (GSB) crossing of Little Bay meets the definition of a tier 4 stream crossing.

Note: Sections (a), (b), and (d) of Env-Wt 904.09 are not required to be certified by a professional engineer and are therefore not included in this memorandum.

Env-Wt 904.09 Repair, Rehabilitation, or Replacement of Tier 3 and Tier 4 Existing Legal Crossings

(c) A project shall qualify under this section only if a professional engineer certifies, and provides supporting analyses to show, that:

(1) The existing crossing does not have a history of causing or contributing to flooding that damages the crossing or other human infrastructure or protected species habitat; and

The FEMA-mapped Zone AE 100-year floodplain immediately adjacent to the GSB provides elevations of 7 and 6 feet (NAVD88) in Newington and Dover, respectively. Neither the 2007 Environmental Impact Statement (EIS) nor the 2022 Final Supplemental Environmental Impact Statement (FSEIS) documented any history of the GSB or Little Bay Bridges causing or contributing to flooding that damages the structures, other human infrastructure, or protected species habitat.

(2) The proposed stream crossing will:

a. Meet the general criteria specified in Env-Wt 904.01;

In accordance with the General Design Criteria in Env-Wt 904.01, the proposed GSB repair project does not:

- **Create a barrier to sediment transport,**
- **Restrict high flows and maintains low flows,**
- **Obstruct or substantially disrupt the movement of aquatic organisms,**
- **Cause an increase in the frequency of flooding or overtopping of banks,**
- **Obstruct geomorphic compatibility,**
- **Obstruct watercourse connectivity,**
- **Cause erosion, aggradation, or scouring upstream or downstream of the crossing, nor**
- **Cause water quality degradation.**

In addition, as a stream crossing over tidal waters, this crossing is designed to:

- **Match the velocity, depth, cross-sectional area, and substrate of the natural stream, and**
- **Be of sufficient size to not restrict bi-directional flow over the natural tide range above, below, and through the crossing.**

b. Maintain or enhance the hydraulic capacity of the stream crossing;

The proposed project will not impact the hydraulic capacity of the crossing as the project will span the channel of Little Bay and reuse existing GSB piers in-kind. There will be no permanent fill within the bed of Little Bay, while the banks and TBZ within the project area will be restored to pre-existing conditions to the extent practicable upon project completion.

c. Maintain or enhance the capacity of the crossing to accommodate aquatic organism passage;

The proposed project will maintain the capacity of the crossing to accommodate aquatic organism passage as the main channel of Little Bay will remain open to aquatic organism passage throughout construction, and there will be no post-construction permanent fill within the bed of Little Bay to restrict aquatic organism passage.

d. Maintain or enhance the connectivity of the stream reaches upstream or downstream of the crossing; and

Hydraulic connectivity is well established between upstream and downstream reaches of Little Bay, with little impacts to tidal flows or hydraulic capacity due to existing piers of the GSB. As presented in the 2007 EIS, a University of New Hampshire hydrodynamic model of the Great Bay Piscataqua River Estuarine System predicted the completed conditions of the Spaulding Turnpike Improvements Project would result in a negligible increase in tidal maxima of 0.00 feet (0.1 inches) to 0.02 feet (0.24 inches) across the entirety of the Little Bay/Great Bay Estuarine system, and a slight increase in tidal current velocity within the 200-foot-wide navigational channel of 5%. The proposed project would maintain the existing connectivity as the existing GSB piers within the bed of Little Bay will be reused in-kind.

e. Not cause or contribute to the increase in the frequency of flooding or overtopping of the banks upstream or downstream of the crossing;

As summarized above and in Section 3.3.2.1 of the 2022 FSEIS, permanent direct impacts to floodplains and hydrodynamics would not occur as part of the proposed project.

_____

Mr. Gregory Goodrich, NH Professional Engineer #12284

F

NHB Results and NHB/F&G Correspondence

Memo

NH Natural Heritage Bureau
NHB DataCheck Results Letter

Please note: portions of this document are confidential.
Maps and NHB record pages are confidential and should be redacted from public documents.

To: Andrew Mahoney, VHB
2 Bedford Farms Drive Suite 200
Bedford, NH 03103

From: NHB Review, NH Natural Heritage Bureau
Date: 11/15/2022 (valid until 11/15/2023)
Re: Review by NH Natural Heritage Bureau
Permits: NHDES - Wetland Standard Dredge & Fill - Major

NHB ID: **NHB22-3557** Town: Newington and Dover Location: Along NHDOT ROW
Description: NHDOT and FHWA proposes to replace the General Sullivan Bridge located over Little Bay in Newington and Dover, NH. The Project would involve replacing the superstructure with a steel girder system with a structural steel frame extending from the bottom of the girders to the top of the existing piers. The existing piers would be preserved without requiring significant modification. Bridge replacement would require the temporary placement of causeways on either side of the bridge structure, as well as the temporary placement of piers, to facilitate bridge removal.

cc: NHFG Review

As requested, I have searched our database for records of rare species and exemplary natural communities, with the following results.

Comments **NHB: Please provide Erosion and Sediment Control plans to NHB. We confirmed with Amy Lamb that we have no concerns regarding impact to rare plant species, due to an absence during surveys in 2019 and lack of suitable habitat.**
F&G: Please continue coordination with Mike Dionne, NHFG Environmental Review Coordinator.

Natural Community	State[1]	Federal	Notes
Eelgrass bed	--	--	
Sparsely vegetated intertidal system	--	--	Threats to these communities are primarily alterations to the hydrology of the wetland (such as alterations that might affect the sheet flow of tidal waters across the intertidal flat) and increased input of nutrients and pollutants in storm runoff.
Subtidal system	--	--	Threats to these communities are primarily alterations to the hydrology of the wetland (such as alterations that might affect the sheet flow of tidal waters across the intertidal

Memo

NH Natural Heritage Bureau
NHB DataCheck Results Letter

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flat) and increased input of nutrients and pollutants in storm runoff.

Vertebrate species	State[1]	Federal	Notes
Atlantic Sturgeon (*Acipenser oxyrinchus oxyrinchus*)	T	T	Contact the NH Fish & Game Dept and the US Fish & Wildlife Service (see below).
Cliff Swallow (*Petrochelidon pyrrhonota*)	T	--	Contact the NH Fish & Game Dept (see below).
Shortnose Sturgeon (*Acipenser brevirostrum*)	E	E	Contact the NH Fish & Game Dept and the US Fish & Wildlife Service (see below).

[1]Codes: "E" = Endangered, "T" = Threatened, "SC" = Special Concern, "--" = an exemplary natural community, or a rare species tracked by NH Natural Heritage that has not yet been added to the official state list. An asterisk (*) indicates that the most recent report for that occurrence was more than 20 years ago.

For all animal reviews, refer to 'IMPORTANT: NHFG Consultation' section below.

Disclaimer: A negative result (no record in our database) does not mean that a sensitive species is not present. Our data can only tell you of known occurrences, based on information gathered by qualified biologists and reported to our office. However, many areas have never been surveyed, or have only been surveyed for certain species. An on-site survey would provide better information on what species and communities are indeed present.

IMPORTANT: NHFG Consultation

If this NHB Datacheck letter DOES NOT include ANY wildlife species records, then, based on the information submitted, no further consultation with the NH Fish and Game Department pursuant to Fis 1004 is required.

If this NHB Datacheck letter includes a record for a threatened (T) or endangered (E) wildlife species, consultation with the New Hampshire Fish and Game Department under Fis 1004 may be required. To review the Fis 1000 rules (effective February 3, 2022), please go to https://wildlife.state.nh.us/wildlife/environmental-review.html. All requests for consultation and submittals should be sent via email to NHFGreview@wildlife.nh.gov or can be sent by mail, and **must include the NHB Datacheck results letter number and "Fis 1004 consultation request" in the subject line.**

If the NHB DataCheck response letter does not include a threatened or endangered wildlife species but includes other wildlife species (e.g., Species of Special Concern), consultation under Fis 1004 is not required; however, some species are protected under other state laws or rules, so coordination with NH Fish & Game is highly recommended or may be required for certain permits. While some permitting processes are exempt from required consultation under Fis 1004 (e.g., *statutory permit by notification, permit by rule, permit by notification, routine roadway registration, docking structure registration, or conditional authorization by rule)*, coordination with NH Fish & Game may still be required under the rules governing those specific permitting processes, and it is recommended you contact the applicable permitting agency. For projects not requiring consultation under Fis 1004, but where additional coordination with NH Fish and Game is requested, please email: Kim Tuttle *kim.tuttle@wildlife.nh.gov* with a copy to NHFGreview@wildlife.nh.gov, and include the NHB Datacheck results letter number and "review request" in the email subject line.

Department of Natural and Cultural Resources
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

DNCR/NHB
172 Pembroke Rd.
Concord, NH 03301

Memo

NH Natural Heritage Bureau
NHB DataCheck Results Letter

Please note: portions of this document are confidential.
Maps and NHB record pages are confidential and should be redacted from public documents.

Contact NH Fish & Game at (603) 271-0467 with questions.

Department of Natural and Cultural Resources
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

DNCR/NHB
172 Pembroke Rd.
Concord, NH 03301

From:	Walker, Peter
To:	Matras, Lindsay
Subject:	FW: [External] Re: Newington-Dover, 11238S - Programmatic ESA Section 7 Consultation
Date:	Tuesday, June 18, 2019 2:48:02 PM
Attachments:	NH DOT_NLAA VF_Newington-Dover 11238S GSB Rehab_signed_06182019.pdf

---

Peter J. Walker
Principal

P 603.391.3942
www.vhb.com

From: William Barnhill - NOAA Federal <william.barnhill@noaa.gov>
Sent: Tuesday, June 18, 2019 9:07 AM
To: Laurin, Marc <Marc.Laurin@dot.nh.gov>
Cc: Jamie Sikora <jamie.sikora@dot.gov>; Cota, Keith <Keith.Cota@dot.nh.gov>; Walker, Peter <PWalker@VHB.com>
Subject: [External] Re: Newington-Dover, 11238S - Programmatic ESA Section 7 Consultation

Excellent Marc. Here is your signed VF back indicating that this project conforms to the FHWA-GARFO 2018 NLAA Program. Nice work by you and your project team on this. Your thoroughness and detail when it came to describing the project and analyzing the effects and applicability of PDCs were much appreciated. We look forward to working with you again on future transportation projects and consultations.

Bill

On Tue, Jun 18, 2019 at 8:45 AM Laurin, Marc <Marc.Laurin@dot.nh.gov> wrote:

> Bill,
>
> Thanks for the clarifications on the VF. Sorry for the glitch with the electronic signature. I have not used this feature in the past, and did not realize it would cause issues. I could not modify the original VF to remove my electronic signature either. So, I filled out a new VF form, hand-signed, scanned and reinserted page 2. Not a big deal.
>
> Let me know if there are issues with this VF.
>
> Marc
> **From:** William Barnhill - NOAA Federal [mailto:william.barnhill@noaa.gov]
> **Sent:** Monday, June 17, 2019 4:47 PM
> **To:** Laurin, Marc
> **Cc:** Jamie Sikora; Cota, Keith
> **Subject:** Re: Newington-Dover, 11238S - Programmatic ESA Section 7 Consultation
>
> Dear Marc,
>
> Everything contained in your verification form looks good to this point. One comment I have is that I'd recommend checking off the box at the bottom of page 3 of the VF that PDC 13 is being

complied with. You currently have marked it down as N/A, while in fact there are steel piles being driven. If steel piles are being driven, PDC 13 would apply. My apologies if the wording of that PDC is a bit confusing. In any case, as explained in your later analysis and memo from VHB using the GARFO Acoustic Tool and CALTRANS guidance, the expected underwater noise from the driving of those 14-inch steel piles will be below the physiological/injury noise thresholds for ESA-listed species in the action area, so that PDC is covered. Also, because you checked off some of the PDC boxes for the "Impingement/Entrainment and Entanglement" and "Water Quality/Turbidity" stressor categories (e.g., PDCs 20-21 and 25), I'd also check those stressor categories off at the top of page 2 of the VF.

One additional thing, I am having trouble making any edits myself or signing off on the VF on page 5 as the affixing of your CAC card e-signature seems to have locked the file where no further edits can be done. Is it possible to resubmit the completed form to me with the suggested edits above and your signature on page 2 of the VF added in another way (i.e., in some cursive style text or perhaps hand-signed and then scanned and reinserted into the file)? Apologies for that. We are currently looking into an update to the VF soon where signing off on the form for both the action agency and NMFS is a tad easier.

With regards,

Bill

On Thu, Jun 13, 2019 at 4:46 PM William Barnhill - NOAA Federal <william.barnhill@noaa.gov> wrote:

> Hi Marc,
>
> Your ESA verification from for this project has been received on my end and is currently being reviewed. If I have any questions or concerns, I will let you know as soon as possible.
>
> With regards,
>
> Bill
>
> On Wed, Jun 12, 2019 at 1:17 PM Edith Carson-Supino - NOAA Federal <edith.carson-supino@noaa.gov> wrote:
>
> > Hi Marc,
> >
> > I'm forwarding your email to Bill Barnhill (cc'ed) who will review your verification form.
> >
> > Thank you!
> >
> > Edith
> >
> > **Edith Carson-Supino, M.Sc.**
> > *Section 7 Fish Biologist*

NOAA Fisheries
U.S. Department of Commerce
Greater Atlantic Regional Fisheries Office
Phone: 978-282-8490
edith.carson-supino@noaa.gov

For ESA Section 7 guidance please see:
https://www.greateratlantic.fisheries.noaa.gov/section7

---------- Forwarded message ---------
From: **Laurin, Marc** <Marc.Laurin@dot.nh.gov>
Date: Wed, Jun 12, 2019 at 10:50 AM
Subject: Newington-Dover, 11238S - Programmatic ESA Section 7 Consultation
To: Zach Jylkka <zachary.jylkka@noaa.gov>, Edith Carson-Supino <edith.carson-supino@noaa.gov>
Cc: Jamie Sikora <jamie.sikora@dot.gov>, Mike Johnson <Mike.R.Johnson@noaa.gov>, Cota, Keith <Keith.Cota@dot.nh.gov>, Peter Walker <pwalker@vhb.com>, Goodrich, Gregory <GGoodrich@vhb.com>

Mr. Zach Jylkka and Ms. Carson-Supino,

Attached is Appendix A Verification and Continuation Sheets for the proposed bridge replacement or rehabilitation of the General Sullivan Bridge spanning Little Bay in Newington and Dover, New Hampshire. NHDOT and FHWA has determined the project is eligible for review by NOAA under the Programmatic ESA Section 7 Consultation and the FHWA GARFO 2018 NLAA Program.

I am sending a copy of this package to Ms. Carson-Supino as I it is my understanding from correspondence I have received on NOAA's review of the Portsmouth NH Wharf Replacement project that Mr. Jylkka is presently on paternity leave.

Please contact me if you need any further information.

Thanks,

Marc Laurin
Senior Environmental Manager
Bureau of Environment
NH Department of Transportation
(603) 271-4044

--

William Barnhill

Fishery Biologist - Section 7
NOAA Fisheries
Greater Atlantic Regional Fisheries Office
Protected Resources Division
55 Great Republic Drive
Gloucester, MA 01930
(978) 282-8460
William.Barnhill@noaa.gov

For ESA Section 7 Consultation Guidance and Listed Species/Critical Habitat Info ...
https://www.greateratlantic.fisheries.noaa.gov/protected/section7/

--

William Barnhill

Fishery Biologist - Section 7
NOAA Fisheries
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55 Great Republic Drive
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--

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William.Barnhill@noaa.gov

For ESA Section 7 Consultation Guidance and Listed Species/Critical Habitat Info ...
https://www.greateratlantic.fisheries.noaa.gov/protected/section7/

Appendix A. Verification Form

Federal Highway Administration (FHWA) or the applicable state Department of Transportation (state DOT) will submit a signed version of this completed form, together with any project plans, maps, supporting analyses, etc., to NOAA's National Marine Fisheries Service (NMFS), Greater Atlantic Regional Fisheries Office, Protected Resources Division (GARFO PRD) at nmfs.gar.esa.section7@noaa.gov with "FHWA GARFO 2018 NLAA Program" in the subject line, upon obtaining sufficient information.

Project Activity Type (check all that apply to entire action):

- [x] 1. Bridge repair, demolition, and replacement
- [ ] 2. Culvert repair and replacement
- [x] 3. Docks, piers, and waterway access projects
- [ ] 4. Slope stabilization

Transportation Project Information

Name of Project:	Newington-Dover 11238, General Sullivan Bridge		
Project Sponsor:	NH Departmetn of Transportation		
Contact Person:	Marc Laurin	Email/Phone:	marc.laurin@dot.nh.gov / 603-271-4044
Latitude (e.g., 42.625884):		43.117921	
Longitude (e.g., -70.646114):		-70.826102	
Anticipated Project Start Date:	09/01/2020	Anticipated Project End Date:	04/01/2022
Total Area of Habitat Alteration (acres):		~0.75 acre	
Project/Action Description and Purpose (*include town/city/state and water body where project is occurring*:	The General Sullivan Bridge spans Little Bay in Dover and Newington, NH. The Preferred Alternative would remove and replace the General Sullivan Bridge superstructure while reusing the substructure (existing piers). Under this alternative, the superstructure would be replaced with a steel girder system with a structural frame extending from the bottom of the girders to the top of the existing piers. Refer to the attached cover letter for more information.		

ESA-Listed Species and/or Critical Habitat Present (Check all that apply)

[x]	Atlantic sturgeon (all DPSs) If not all DPSs, list which here: Gulf of Maine	[ ]	Kemp's ridley sea turtle
[x]	Atlantic sturgeon critical habitat (GOM, NYB, Chesapeake Bay DPSs)	[ ]	Loggerhead sea turtle (Northwest Atlantic DPS)
[x]	Shortnose sturgeon	[ ]	Leatherback sea turtle
[ ]	Atlantic salmon (GOM DPS)	[ ]	North Atlantic right whale
[ ]	Atlantic salmon critical habitat (GOM DPS)	[ ]	North Atlantic right whale critical habitat
[ ]	Green sea turtle (North Atlantic DPS)	[ ]	Fin whale

The following stressors are applicable to the action (check all that apply- use Table 1 for guidance)

- [■] Underwater Noise
- [■] Impingement/Entrainment and Entanglement
- [■] Water Quality/Turbidity
- [■] Habitat Alteration
- [■] Vessel Traffic

FHWA's Determination of Effects to ESA-Listed Species and/or Critical Habitat

By submitting this Verification Form, FHWA, or state DOT as FHWA's designated non-federal representative, indicates that they determined that the proposed activity described above is not likely to adversely affect (NLAA) ESA-listed species or designated critical habitat under NMFS' jurisdiction in accordance with the Program, and all effects (direct, indirect, interrelated, and interdependent) are either insignificant (so small they cannot meaningfully be measured, detected, or evaluated) and/or discountable (extremely unlikely to occur).

- (●) The activity complies with all of the Project Design Criteria (PDC) in the Program, as confirmed in the PDC checklist.

- ( ) The activity does not comply with all of the PDC in the Program, but the additional justification demonstrates how the project conforms to the Program. This does not apply to PDC that are not applicable to the project.

FHWA/state DOT preparer:

Marc Laurin

Name

Signature

6/18/19

Date

By providing your determination and signature, you are certifying that to the best of your knowledge the information provided in this form is accurate and based upon the best available scientific information. This form must be filled out and signed by FHWA or state DOT staff, as an officially designated non-federal representative.

Project Design Criteria (PDC) Checklist

FHWA/state DOT shall incorporate all general PDC and all applicable PDC in the appropriate stressor category. For any PDC that are not incorporated, additional justification is required for a project to be eligible for the Program. FHWA/state DOT shall check the corresponding box for each PDC that is, or will be, incorporated into the project.

General

- [■] 1. Ensure all operators, employees, and contractors are aware of all FHWA environmental commitments, including these PDC, when working in areas where ESA-listed species may be present or in critical habitat.

■ 2. No work will individually or cumulatively have an adverse effect on ESA-listed species or critical habitat.

N/A ☐ 3. No work will occur in the tidally influenced portion of rivers/streams where Atlantic salmon presence is possible from April 10 through November 7.

N/A ☐ 4. No work will occur in areas identified as Atlantic or shortnose sturgeon spawning grounds as follows:

i. Gulf of Maine: April 1 through August 31
ii. Southern New England/New York Bight: March 15 through August 31
iii. Chesapeake Bay: March 15 through July 1 & September 15 through November 1

N/A ☐ 5. No work will occur in areas identified as sturgeon overwintering grounds where dense aggregations are known to occur, as follows:

i. Gulf of Maine: October 15 through April 30
ii. Southern New England/New York Bight: November 1 through March 15
iii. Chesapeake Bay: November 1 through March 15

■ 6. Within designated Atlantic sturgeon critical habitat, no work will affect hard bottom substrate (e.g., rock, cobble, gravel, limestone, boulder, etc.) in low salinity waters (i.e., 0.0-0.5 parts per thousand (ppt) range) for settlement of fertilized eggs, refuge, growth, and development of early life stages) (PBF 1).

■ 7. Work will result in no or only temporary/short-term changes in water temperature, water flow, salinity, or dissolved oxygen levels.

■ 8. If it is possible for ESA-listed species to pass through the action area, a zone of passage with appropriate habitat for ESA-listed species (e.g., depth, water velocity, etc.) must be maintained (i.e., physical or biological stressors such as turbidity and sound pressure must not create barrier to passage).

If the "maximum extent of stressor" exceeds the "width of water body," PDC 9 is NOT met, and justification is required to proceed with the Verification Form.
Width (m) of waterbody in action area: 450 meters
Stressor category (stressor that extends furthest distance into waterbody- e.g., turbidity plume, sound pressure wave): sound pressure wave
Maximum extent (m) of stressor into the waterbody: 300.000

■ 9. The project will not directly affect any submerged aquatic vegetation (SAV) or oyster reefs.

■ 10. No blasting or use of explosives will occur.

■ 11. No in-water work on dams or tide gates.

Underwater Noise

■ 12. If pile driving is occurring during a time of year when ESA-listed species may be present, and the anticipated noise is above the behavioral noise threshold, a 20-minute "soft start" is required to allow animals an opportunity to leave the project vicinity before sound pressure increases.

■ 13. If the project involves driving steel piles, non-steel piles greater than 24-inches in diameter, or any other noise-producing mechanism, the expected underwater noise (pressure) must be below the physiological/injury noise threshold for ESA-listed species in the action area.

Submit your calculation showing that the noise is below the injury thresholds.

Pile material (e.g., steel pipe, timber, concrete)	Pile diameter/ width (inches)	Number of piles	Installation method (e.g., impact hammer, vibratory start and then impact hammer to depth)
14" steel pipe	14"	<50	Driven (impact hammer)

■ 14. Any new pile-supported structure must involve the installation of no more than 50 piles (below MHW).

Impingement/Entrainment/Entanglement

N/A ☐ 15. Only mechanical, cutterhead, and low volume hopper dredges may be used.

N/A ☐ 16. No new dredging in Atlantic sturgeon or Atlantic salmon critical habitat (maintenance dredging still must meet all other PDC). New dredging outside Atlantic sturgeon or salmon critical habitat is limited to one-time dredge events (e.g., burying a utility line) and minor (≤2 acres) expansions of areas already subject to maintenance dredging.

N/A ☐ 17. Temporary intakes related to construction must be equipped with 2 mm wedge wire mesh screening and must not have greater than 0.5 feet per second intake velocities, to prevent impingement or entrainment of any ESA-listed species.

N/A ☐ 18. Work behind cofferdams, turbidity curtains, and other methods to block access of animals to dredge footprint is required when ESA-listed species may be present.

N/A ☐ 19. No new permanent surface water withdrawal, water intakes, or water diversions.

■ 20. Turbidity control measures, including cofferdams, must be designed to not entangle or entrap ESA-listed species.

■ 21. Any in-water lines, ropes, or chains must be made of materials and installed in a manner to minimize or avoid the risk of entanglement by using thick, heavy, and taut lines that do not loop or entangle. Lines can be enclosed in a rigid sleeve.

Water Quality/Turbidity

N/A ☐ 22. In-water offshore disposal may only occur at designated disposal sites that have already been the subject of ESA section 7 consultation with NMFS and where a valid consultation is in place.

N/A ☐ 23. Any temporary discharges must meet state water quality standards (i.e., no discharges of substances in concentrations that may cause acute or chronic adverse reactions, as defined by EPA water quality standards criteria).

N/A ☐ 24. Only repair of existing discharge pipes or replacement in-kind allowed; no new construction.

■ 25. Work behind cofferdams, turbidity curtains, or other methods to control turbidity are required when ESA-listed species may be present.

Habitat Alteration

■ 26. Minimize all new waterward encroachment and permanent fill.

N/A ☐ 27. In Atlantic salmon critical habitat, replaced culverts must be constructed at a minimum of 1.2 bankfull width (BFW).

N/A ☐ 28. In Atlantic salmon critical habitat, no culvert end extensions, invert line culvert rehabilitation, or slipline culvert rehabilitation may occur.

Vessel Traffic

☒ 29. Maintain project vessel speed limits below 10 knots and dredge vessel speeds of 4 knots maximum, while dredging.

☒ 30. Maintain a 150-foot buffer between project vessels and ESA-listed whales and sea turtles (1,500 feet for right whales) and while dredging, at least a 300-foot buffer between dredge vessels and ESA-listed whales and sea turtles (1,500 feet for right whales).

☒ 31. The number of project vessels must be limited to the greatest extent possible, as appropriate to size and scale of project.

☒ 32. A project must not result in the permanent net increase of commercial vessels.

Justification for NLAA Determination if not Incorporating All PDC

If the project is not in compliance with all of the applicable PDC, but FHWA/state DOT determined that the project is consistent with the Program and all effects are insignificant and/or discountable, provide justification below and identify which PDC are not incorporated. Project modifications must not result in different effects not already considered.

GARFO PRD Determination (To be filled out by GARFO PRD)

After receiving the Verification Form, GARFO PRD will contact FHWA/state DOT with any concerns and indicate whether GARFO PRD concurs with FHWA/state DOT's determination.

◉ GARFO PRD concurs with FHWA's determination that the proposed project complies with the Program.

○ GARFO PRD concurs with FHWA's determination that the proposed project complies with the Program, with the justification described.

○ GARFO PRD does not concur with FHWA's determination that the project complies with the Program and FHWA/state DOT should initiate a separate individual consultation.

GARFO PRD reviewer:

William Barnhill
Name

William Barnhill
Signature

06/18/2019
Date

Matras, Lindsay

From: Henderson, Carol <Carol.Henderson@wildlife.nh.gov>
Sent: Wednesday, November 6, 2019 10:12 AM
To: Laurin, Marc; Pamela Hunt
Cc: Cota, Keith; Johnson, Steve; Corcoran, John; Landry, Robert; Nyhan, Kevin; Crickard, Ronald; Boodey, Tim; Beato, Hannah; Walker, Peter; Matras, Lindsay
Subject: RE: [External] RE: Cliff Swallow: General Sullivan Bridge (NHDOT 11238S)

Hi Marc:

It is unfortunate that DOT is not considering the use of these clay nests for this bridge. I understand the maintenance concerns for an active vehicle bridge but sine this bridge is scheduled to be for pedestrian usage only, will it still need the level of maintenance of cleaning and structural maintenance that is required for an active non-motorized bridge? I would think it would be minimal maintenance for a historic pedestrian bridge but I will acquiesce to DOT for guidance. Thank you, Carol

From: Laurin, Marc <Marc.Laurin@dot.nh.gov>
Sent: Tuesday, November 5, 2019 1:24 PM
To: Pamela Hunt <phunt@nhaudubon.org>
Cc: Henderson, Carol <Carol.Henderson@wildlife.nh.gov>; Cota, Keith <Keith.Cota@dot.nh.gov>; Johnson, Steve <Steve.Johnson@dot.nh.gov>; Corcoran, John <John.Corcoran@dot.nh.gov>; Landry, Robert <Robert.Landry@dot.nh.gov>; Nyhan, Kevin <Kevin.Nyhan@dot.nh.gov>; Crickard, Ronald <Ronald.Crickard@dot.nh.gov>; Boodey, Tim <Tim.Boodey@dot.nh.gov>; Beato, Hannah <hbeato@VHB.com>; Walker, Peter <PWalker@VHB.com>; Matras, Lindsay <lmatras@vhb.com>
Subject: RE: [External] RE: Cliff Swallow: General Sullivan Bridge (NHDOT 11238S)

Pam,

Regarding the proposal for incorporating Cliff Swallows attractants on the proposed pedestrian bridge over the Little Bay in Newington and Dover.

I have been in touch with the Administrator of the Department's Bureau of Bridge Maintenance and of the Bureau of Turnpikes, who would be responsible for the future maintenance of the bridge. They have expressed concerns with this proposal as the Department discourages nesting of any kind on a bridge since it inevitably leads to accumulations of guano, which then needs to be cleaned off the structure, and creates issues with maintenance or construction occurring during nesting season. In addition, nesting season occurs during the timeframe when the Department would be washing the bridges and bridge seats. Even if the nests are not directly located where the washing will occur, the work is usually considered disruptive to the nesting.

As such, the Department will not entertain this proposal at this time.

If you would like to further discuss this proposal, please contact me or Keith Cota, the Project Manager (keith.cota@dot.nh.gov or 217-1615).

Marc Laurin
Senior Environmental Manager
Bureau of Environment
NH Department of Transportation
(603) 271-4044

From: Matras, Lindsay [mailto:lmatras@vhb.com]
Sent: Monday, November 04, 2019 10:58 AM
To: Pamela Hunt
Cc: Laurin, Marc; Walker, Peter; Beato, Hannah; Henderson, Carol
Subject: FW: [External] RE: Cliff Swallow: General Sullivan Bridge (NHDOT 11238S)
Importance: High

EXTERNAL: Do not open attachments or click on links unless you recognize and trust the sender.

Hi Pam,

Thank you for reaching out. I will put you in touch with Marc Laurin at NHDOT (cc'd in this email) to complete collaboration regarding cliff swallows on the General Sullivan Bridge.

Thanks!

Lindsay Matras
Environmental Scientist

P 603.391.3916
www.vhb.com

From: Pamela Hunt <phunt@nhaudubon.org>
Sent: Monday, November 4, 2019 10:36 AM
To: Matras, Lindsay <lmatras@vhb.com>
Cc: Kim Tuttle (Kim.Tuttle@wildlife.nh.gov) <Kim.Tuttle@wildlife.nh.gov>; Henderson, Carol <Carol.Henderson@wildlife.nh.gov>
Subject: [External] RE: Cliff Swallow: General Sullivan Bridge (NHDOT 11238S)
Importance: High

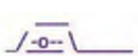
Hey Lindsay,

Not having heard anything in response to my last email on the subject of Cliff Swallows on the General Sullivan Bridge, I figured I'd check in again. While I realize that the current absence of swallows at that location places no requirements on DOT, I still think it'd be a worthy opportunity to try collaborating. I also realize that you and VHB would probably not be directly involved in anything tangential like I proposed, but could you perhaps put me in touch with the appropriate person or persons at NHDOT so we can determine if there's any possibility of moving forward on the idea of installing artificial nests?

Thank you very much,
Pam

Pamela D. Hunt, Ph.D.
Avian Conservation Biologist
New Hampshire Audubon
84 Silk Farm Road
Concord, NH 03301

(603) 224-9909 x328
phunt@nhaudubon.org



Please consider making a donation to support the work of the Conservation Department

"We have a hunger of the mind. We ask for all the knowledge around us and the more we get, the more we desire."
– Maria Mitchell, 19th Century American Astronomer

From: Pamela Hunt
Sent: Tuesday, October 08, 2019 3:23 PM
To: 'Matras, Lindsay'
Cc: Kim Tuttle (Kim.Tuttle@wildlife.nh.gov); Henderson, Carol
Subject: RE: Cliff Swallow: General Sullivan Bridge (NHDOT 11238S)

Hi Lindsay,

Sorry we keep missing each other on the phone, so thanks for sending me this email!

Cliff Swallows don't currently nest on the General Sullivan bridge, and seem to have abandoned the site around 2012-13 (there has been some ongoing confusion over the name of the bridge they used to use, and they have used the GS, Little Bay, and Scammel bridges over the years). As such, there is no danger of disturbing the birds during the work on the GSB.

HOWEVER, given the historic use by Cliff Swallows, and some tendency for this species to return to former colony sites after an absence, we were wondering if there was any possibility of incorporating Cliff Swallow attractants into the redesign/replacement. This would involve installation of clay "starter nests" to which the swallows add new mud to form a complete nest. I have a colleague who designed these nests, and who is currently working indirectly with Mass DOT on a somewhat similar project. If you think this is something that DOT might be amendable to, I can get more info from the Massachusetts side of things and we can go from there. In the long run, it wouldn't impact the bridge's design or construction significantly, and just might help out a state threatened species.

Happy to talk more about this as needed.

Pam

Pamela D. Hunt, Ph.D.
Avian Conservation Biologist
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84 Silk Farm Road
Concord, NH 03301

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phunt@nhaudubon.org

Please consider making a donation to support the work of the Conservation Department

"We have a hunger of the mind. We ask for all the knowledge around us and the more we get, the more we desire."
– Maria Mitchell, 19th Century American Astronomer

From: Matras, Lindsay [mailto:lmatras@vhb.com]
Sent: Tuesday, October 08, 2019 11:18 AM
To: Pamela Hunt
Cc: mlaurin@dot.state.nh.us; Henderson, Carol; Walker, Peter; Beato, Hannah
Subject: Cliff Swallow: General Sullivan Bridge (NHDOT 11238S)

Hello Pam,

NHDOT is planning to rehabilitate or replace the General Sullivan Bridge locate over the Little Bay in Newington and Dover. The NH Natural Heritage Bureau DataCheck report generated for this project identified cliff swallow (*Petrochelidon pyrrhonota*) within the project area.

It is my understanding that Carol Henderson from the NH Fish & Game Department reached out to you recently about this project, and you provided the information below regarding nest locations on the General Sullivan Bridge:

2009: sw "face" of bridge, mostly on nw end or in middle (~20 nests)
2010: most nests appeared to be on the NW end
2011: maybe down to <10 nests, more concentrated in the center of the span
2012: apparently 7 nests, but location not specified

We are currently preparing a Supplemental Environmental Impact Statement (EIS) for the project's Preferred Alternative (Superstructure Replacement – Girder). Since cliff swallow nests would be disturbed during the proposed superstructure replacement, if present, I was wondering if you could provide some recommendations for determining the current locations of cliff swallow nests on the General Sullivan Bridge and what your recommendations would be when these nests are disturbed (i.e., placement of clay nests). Attached is a conceptual design rendering and design plans of the Preferred Alternative for reference.

Please let me know if you have any questions or need any additional information. We appreciate any input you are able to provide.

Lindsay Matras, WSA
Environmental Scientist

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Bedford, NH 03110-6532
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Nicole Martin

From: Peter Walker
Sent: Friday, December 9, 2022 7:57 AM
To: Andrew Mahoney; Garrison Beck; Nicole Martin
Subject: FW: [External] FW: Newington-Dover, #11238 General Sullivan Bridge FW: October 19, 2022 Natural Resource Agency Meeting Minute Draft
Attachments: October 19, 2022 Draft NRAM Minutes.doc

FYI.

Peter Walker
Principal
Environmental Services

P 603.391.3942

www.vhb.com

From: Laurin, Marc <marc.g.laurin@dot.nh.gov>
Sent: Friday, December 9, 2022 7:36 AM
To: Reczek, Jennifer <Jennifer.E.Reczek@dot.nh.gov>; Peter Walker <PWalker@VHB.com>
Cc: Bob Landry <rlandry@vhb.com>; Gregory Goodrich <GGoodrich@VHB.com>
Subject: [External] FW: Newington-Dover, #11238 General Sullivan Bridge FW: October 19, 2022 Natural Resource Agency Meeting Minute Draft

FYI

From: Martin, Rebecca <Rebecca.A.Martin@dot.nh.gov>
Sent: Thursday, December 8, 2022 3:31 PM
To: Dionne, Michael <Michael.A.Dionne@wildlife.nh.gov>
Cc: Laurin, Marc <marc.g.laurin@dot.nh.gov>
Subject: Newington-Dover, #11238 General Sullivan Bridge FW: October 19, 2022 Natural Resource Agency Meeting Minute Draft

Hi Mike,

I hope that this message finds you well. Marc Laurin, the project's environmental manager, mentioned that you had inquired about encouraging cliff swallow nesting on the General Sullivan Bridge at the October Natural Resource Meeting. I am writing to follow up and share some information we gathered.

We coordinated with the Project Manager, Jennifer Reczek, and the Administrator of the Bureau of Bridge Design, Tim Boodey. Concerns were raised about the additional maintenance that results from guano on bridges and conflicts between the need for access to the bridge to complete future maintenance and avoiding impacting the species if they were nesting on the bridge. The Project Manager noted that since there are not cliff swallows currently utilizing the bridge, she is not supportive of trying to entice them to use the bridge. Thank you for your comments and assistance with the review of this project.

Please let me know if you have any further comments or questions.

Thank you,

Rebecca

Rebecca Martin
Plant and Wildlife Program Manager
NH DOT Bureau of Environment
7 Hazen Drive
Concord, NH 03302
(603)271-6781
Rebecca.A.Martin@dot.nh.gov

From: Brown, Joshua <Joshua.R.Brown@dot.nh.gov>
Sent: Wednesday, November 2, 2022 12:50 PM
To: Urban, Matt <Matt.R.Urban@dot.nh.gov>; OSullivan, Andrew <Andrew.M.OSullivan@dot.nh.gov>; Evans, Jonathan <Jonathan.A.Evans@dot.nh.gov>; Brown, Joshua <Joshua.R.Brown@dot.nh.gov>; Hemmerlein, Mark <mark.t.hemmerlein@dot.nh.gov>; jamie.sikora@fhwa.dot.gov; michael.c.hicks@usace.army.mil; Gary.T.Croot@uscg.mil; Brochi.jean@epa.gov; Maria_Tur@fws.gov; Benedict, Karl <Karl.D.Benedict@des.nh.gov>; Sommer, Lori <LORI.L.SOMMER@des.nh.gov>; Tilton, Mary Ann <mary.a.tilton@des.nh.gov>; Williams, Chris <CHRISTIAN.P.WILLIAMS@des.nh.gov>; DNCR: NHB Review <nhbreview@dncr.nh.gov>; Severance, Madeline <Madeline.P.Severance@dncr.nh.gov>; Houghton, Sandra <sandra.d.houghton@wildlife.nh.gov>; Mallette, Timothy <Timothy.S.Mallette@dot.nh.gov>; Ntumi, Dzijeme <Dzijeme.A.Ntumi@dot.nh.gov>; Martin, Rebecca <Rebecca.A.Martin@dot.nh.gov>; Scott, David <David.L.Scott@dot.nh.gov>; Masztal, Katherine <Katherine.K.Masztal@dot.nh.gov>; Weber, Hans <Hans.S.Weber@dot.nh.gov>; Lampron, Matthew <Matthew.D.Lampron@dot.nh.gov>; kpeace@hoyletanner.com; jbicja@hoyletanner.com; Puntin, Anthony <Anthony.M.Puntin@dot.nh.gov>; pwalker@vhb.com; ggoodrich@vhb.com; blandry@vhb.com; Laurin, Marc <marc.g.laurin@dot.nh.gov>; Reczek, Jennifer <Jennifer.E.Reczek@dot.nh.gov>; Detzel, Seta <Seta.A.Detzel@des.nh.gov>; Ryan, Kerry <Kerry.A.Ryan@dot.nh.gov>; Masztal, Katherine <Katherine.K.Masztal@dot.nh.gov>; Litwinenko, Ashley <Ashley.M.Litwinenko@dncr.nh.gov>; Ravelli, Georgie <Georgie.R.Ravelli@dot.nh.gov>; Newton, Kevin <Kevin.M.Newton@wildlife.nh.gov>; dcoon@hoyletanner.com; Duclos, Kristin <Kristin.L.Duclos@des.nh.gov>; OSullivan, Andrew <Andrew.M.OSullivan@dot.nh.gov>
Cc: Brown, Joshua <Joshua.R.Brown@dot.nh.gov>
Subject: October 19, 2022 Natural Resource Agency Meeting Minute Draft

Hello everyone,

I hope you're doing great and thanks to everyone who sent me drafts of your meeting minutes! Attached is the compiled draft of the Meeting Minutes for the Natural Resource Agency Meeting that took place on ***October 19, 2022***.

Please use the "Track Changes" feature in Microsoft Word for editing and reviewing the document and submit your edits for the minutes at your earliest convenience. Let me know if you have any comments or concerns.

The next Natural Resource Agency Meeting is scheduled for ***Wednesday November 16, 2022.***

Joshua R. Brown
Wetlands Program Analyst
NH Department of Transportation
Bureau of Environment

G

USF&WS IPaC Results and Correspondence

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

In Reply Refer To: February 15, 2023
Project Code: 2023-0014902
Project Name: Newington-Dover General Sullivan Bridge 11238S

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:

Updated 12/27/2022 - 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/office/new-england-ecological-services/endangered-species-project-review

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.

Northern Long-eared Bat - (Updated 12/27/2022) Please visit our New England Field Office Project Review webpage at the link above for updated northern long-eared bat consultation guidance. The Service published a final rule to reclassify the northern long-eared bat (NLEB) as endangered on November 30, 2022. The final rule will go into effect on **January 30, 2023**. After that date, the current 4(d) rule for NLEB will no longer be in effect, and the 4(d) determination key will no longer be available. New compliance tools will be available by mid- to late-January, and information will be posted on our New England Field Office Project Review webpage in January, so please check this site often for updates.
Depending on the type of effects a project has on NLEB, the change in the species' status may trigger the need to re-initiate consultation for any actions that are not completed and for which the Federal action agency retains discretion once the new listing determination becomes effective. If your project may result in incidental take of NLEB after the new listing goes into effect, this will need to be addressed in an updated consultation that includes an Incidental Take Statement. Many of these situations will be addressed through the new compliance tools. If your project may require re-initiation of consultation, please wait for information on the new tools to appear on our website or contact our office at **newengland@fws.gov** for additional guidance.

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:

https://www.fws.gov/service/section-7-consultations

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/program/migratory-bird-permit

https://www.fws.gov/library/collections/bald-and-golden-eagle-management

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: 2023-0014902
Project Name: Newington-Dover General Sullivan Bridge 11238S
Project Type: Bridge - Replacement
Project Description: NHDOT and FHWA proposes to replace the General Sullivan Bridge located over Little Bay in Newington and Dover, NH to provide recreational access and connectivity for pedestrians and non-motorized vehicles.
Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@43.117863549999996,-70.82568019585838,14z

Counties: Rockingham and Strafford counties, 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: New Hampshire Department of Transportation
Name: Andrew Mahoney
Address: 200 Bedford Farms Drive
City: Bedford
State: NH
Zip: 03103
Email amahoney@vhb.com
Phone: 6033913982

Lead Agency Contact Information

Lead Agency: Federal Highway Administration

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

In Reply Refer To: November 30, 2022
Project code: 2023-0004556
Project Name: Newington-Dover General Sullivan Bridge

Subject: Consistency letter for the 'Newington-Dover General Sullivan Bridge' project under the revised February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat.

To whom it may concern:

The U.S. Fish and Wildlife Service (Service) has received your request dated November 30, 2022 to verify that the **Newington-Dover General Sullivan Bridge** (Proposed Action) may rely on the revised February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat (PBO) to satisfy requirements under Section 7(a)(2) of the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 *et seq.*).

Based on the information you provided (Project Description shown below), you have determined that the Proposed Action is within the scope and adheres to the criteria of the PBO, including the adoption of applicable avoidance and minimization measures, and may affect, and is likely to adversely affect the endangered Indiana bat (*Myotis sodalis*) and/or the threatened Northern long-eared bat (*Myotis septentrionalis*). Consultation with the Service pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) is required.

This "may affect - likely to adversely affect" determination becomes effective when the lead Federal action agency or designated non-federal representative requests the Service rely on the PBO to satisfy the agency's consultation requirements for this project. Please provide this consistency letter to the lead Federal action agency or its designated non-federal representative for review, and as the agency deems appropriate, transmit to this Service Office for verification that the project is consistent with the PBO.

This Service Office will respond by letter to the requesting Federal action agency or designated non-federal representative within 30 calendar days after receiving request for verification to:

- verify that the Proposed Action is consistent with the scope of actions covered under the PBO;
- verify that all applicable avoidance, minimization, and compensation measures are included in the action proposal;
- identify any action-specific monitoring and reporting requirements, consistent with the monitoring and reporting requirements of the PBO, and
- identify anticipated incidental take.

ESA Section 7 compliance for this Proposed Action is not complete until the Federal action agency or its designated non-federal representative receives a verification letter from the Service.

If the Proposed Action is modified, or new information reveals that it may affect the Indiana bat and/or Northern long-eared bat in a manner or to an extent not considered in the PBO, further review to conclude the requirements of ESA Section 7(a)(2) may be required.

For Proposed Actions that include bridge/culvert or structure removal, replacement, and/or maintenance activities: If your initial bridge/culvert or structure assessments failed to detect Indiana bats, but you later detect bats prior to, or during construction, please submit the Post Assessment Discovery of Bats at Bridge/Culvert or Structure Form (User Guide Appendix E) to this Service Office. In these instances, potential incidental take of Indiana bats may be exempted provided that the take is reported to the Service.

If the Proposed Action may affect any other federally-listed or proposed species and/or designated critical habitat, additional consultation between the lead Federal action agency and this Service Office is required. If the proposed action has the potential to take bald or golden eagles, additional coordination with the Service under the Bald and Golden Eagle Protection Act may also be required. In either of these circumstances, please advise the lead Federal action agency accordingly.

The following species may occur in your project area and **are not** covered by this determination:

- Roseate Tern *Sterna dougallii dougallii* Endangered

Project Description

The following project name and description was collected in IPaC as part of the endangered species review process.

Name

Newington-Dover General Sullivan Bridge

Description

NHDOT and FHWA proposes to replace the General Sullivan Bridge located over Little Bay in Newington and Dover, NH.

Determination Key Result

Based on your answers provided, this project is likely to adversely affect the endangered Indiana bat and/or the threatened Northern long-eared bat. Therefore, consultation with the U.S. Fish and Wildlife Service pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended 16 U.S.C. 1531 *et seq.*) is required. However, also based on your answers provided, this project may rely on the conclusion and Incidental Take Statement provided in the revised February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat.

Qualification Interview

1. Is the project within the range of the Indiana bat[1]?

   [1] See Indiana bat species profile

   Automatically answered
   No

2. Is the project within the range of the Northern long-eared bat[1]?

   [1] See Northern long-eared bat species profile

   Automatically answered
   Yes

3. Which Federal Agency is the lead for the action?

   A) Federal Highway Administration (FHWA)

4. Are *all* project activities limited to non-construction[1] activities only? (examples of non-construction activities include: bridge/abandoned structure assessments, surveys, planning and technical studies, property inspections, and property sales)

   [1] Construction refers to activities involving ground disturbance, percussive noise, and/or lighting.

   No

5. Does the project include *any* activities that are **greater than** 300 feet from existing road/rail surfaces[1]?

   [1] Road surface is defined as the actively used [e.g. motorized vehicles] driving surface and shoulders [may be pavement, gravel, etc.] and rail surface is defined as the edge of the actively used rail ballast.

   No

6. Does the project include *any* activities **within** 0.5 miles of a known Indiana bat and/or NLEB hibernaculum[1]?

   [1] For the purpose of this consultation, a hibernaculum is a site, most often a cave or mine, where bats hibernate during the winter (see suitable habitat), but could also include bridges and structures if bats are found to be hibernating there during the winter.

   No

7. Is the project located **within** a karst area?

   No

8. Is there *any* suitable[1] summer habitat for Indiana Bat or NLEB **within** the project action area[2]? (includes any trees suitable for maternity, roosting, foraging, or travelling habitat)

   [1] See the Service's summer survey guidance for our current definitions of suitable habitat.

   [2] The action area is defined as all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 CFR Section 402.02). Further clarification is provided by the User's Guide for the Range-wide Programmatic Consultation for Indiana Bat and Northern Long-eared Bat.

   Yes

9. Will the project remove *any* suitable summer habitat[1] and/or remove/trim any existing trees **within** suitable summer habitat?

   [1] See the Service's summer survey guidance for our current definitions of suitable habitat.

   Yes

10. Will the project clear more than 20 acres of suitable habitat per 5-mile section of road/rail?

    No

11. Have presence/probable absence (P/A) summer surveys[1][2] been conducted[3][4] **within** the suitable habitat located within your project action area?

    [1] See the Service's summer survey guidance for our current definitions of suitable habitat.

    [2] Presence/probable absence summer surveys conducted within the fall swarming/spring emergence home range of a documented Indiana bat hibernaculum (contact local Service Field Office for appropriate distance from hibernacula) that result in a negative finding requires additional consultation with the local Service Field Office to determine if clearing of forested habitat is appropriate and/or if seasonal clearing restrictions are needed to avoid and minimize potential adverse effects on fall swarming and spring emerging Indiana bats.

    [3] For projects within the range of either the Indiana bat or NLEB in which suitable habitat is present, and no bat surveys have been conducted, the transportation agency will assume presence of the appropriate species. This assumption of presence should be based upon the presence of suitable habitat and the capability of bats to occupy it because of their mobility.

    [4] Negative presence/probable absence survey results obtained using the summer survey guidance are valid for a minimum of two years from the completion of the survey unless new information (e.g., other nearby surveys) suggest otherwise.

    No

12. Does the project include activities **within documented NLEB habitat**[1][2]?

    [1] Documented roosting or foraging habitat – for the purposes of this consultation, we are considering documented habitat as that where Indiana bats and/or NLEB have actually been captured and tracked using (1) radio telemetry to roosts; (2) radio telemetry biangulation/triangulation to estimate foraging areas; or (3) foraging areas with repeated use documented using acoustics. Documented roosting habitat is also considered as suitable summer habitat within 0.25 miles of documented roosts.)

    [2] For the purposes of this key, we are considering documented corridors as that where Indiana bats and/or NLEB have actually been captured and tracked to using (1) radio telemetry; or (2) treed corridors located directly between documented roosting and foraging habitat.

    No

13. Will the removal or trimming of habitat or trees occur **within** suitable but **undocumented NLEB** roosting/foraging habitat or travel corridors?

    Yes

14. What time of year will the removal or trimming of habitat or trees **within** suitable but **undocumented NLEB** roosting/foraging habitat or travel corridors occur?

    C) During both the active and inactive seasons

15. Will *any* tree trimming or removal occur **within** 100 feet of existing road/rail surfaces?

    Yes

16. Will **more than** 10 trees be removed **between** 0-100 feet of the road/rail surface *during* the active season[1]?

    [1] Areas containing more than 10 trees will be assessed by the local Service Field Office on a case-by-case basis with the project proponent.

    No

17. Has a visual emergence survey[1] been conducted?

    [1] Refer to the summer survey guidance

    No

18. Do you plan on conducting a visual emergence survey prior to removing trees[1]?

    [1] If bats are detected during a visual emergence survey conducted in suitable but **undocumented** Indiana and/or NLEB habitat, this consultation will no longer be valid and a new consultation will be conducted through IPaC with the habitat now considered as **documented** Indiana and/or NLEB habitat.

    No

19. Will *any* tree trimming or removal occur **between** 100-300 feet of existing road/rail surfaces?

    Yes

20. Are *all* trees that are being removed clearly demarcated?

    Yes

21. Will the removal of habitat or the removal/trimming of trees involve the use of **temporary** lighting?

    No

22. Will the removal of habitat or the removal/trimming of trees include installing new or replacing existing **permanent** lighting?

    Yes

23. Does the project include wetland or stream protection activities associated with compensatory wetland mitigation?

    No

24. Does the project include slash pile burning?

    No

25. Does the project include *any* bridge removal, replacement, and/or maintenance activities (e.g., any bridge repair, retrofit, maintenance, and/or rehabilitation work)?

    Yes

26. Is there *any* suitable habitat[1] for Indiana bat or NLEB **within** 1,000 feet of the bridge? (includes any trees suitable for maternity, roosting, foraging, or travelling habitat)

    [1] See the Service's current summer survey guidance for our current definitions of suitable habitat.

    Yes

27. Has a bridge assessment[1] been conducted **within** the last 24 months[2] to determine if the bridge is being used by bats?

    [1] See User Guide Appendix D for bridge/structure assessment guidance

    [2] Assessments must be completed no more than 2 years prior to conducting any work below the deck surface on all bridges that meet the physical characteristics described in the Programmatic Consultation, regardless of whether assessments have been conducted in the past. Due to the transitory nature of bat use, a negative result in one year does not guarantee that bats will not use that bridge/structure in subsequent years.

    Yes

    SUBMITTED DOCUMENTS

    - *2022 Bridge Bat Survey.pdf https://ipac.ecosphere.fws.gov/project/VTQSJMDQFJCKNB3XACPD4E33HA/projectDocuments/119684121*

28. Did the bridge assessment detect *any* signs of Indiana bats and/or NLEBs roosting in/under the bridge (bats, guano, etc.)[1]?

    [1] If bridge assessment detects signs of *any* species of bats, coordination with the local FWS office is needed to identify potential threatened or endangered bat species. Additional studies may be undertaken to try to identify which bat species may be utilizing the bridge prior to allowing *any* work to proceed.

    Note: There is a small chance bridge assessments for bat occupancy do not detect bats. Should a small number of bats be observed roosting on a bridge just prior to or during construction, such that take is likely to occur or does occur in the form of harassment, injury or death, the PBO requires the action agency to report the take. Report all unanticipated take within 2 working days of the incident to the USFWS. Construction activities may continue without delay provided the take is reported to the USFWS and is limited to 5 bats per project.

    No

29. Will the bridge removal, replacement, and/or maintenance activities include installing new or replacing existing **permanent** lighting?

    Yes

30. Does the project include the removal, replacement, and/or maintenance of *any* structure other than a bridge? (e.g., rest areas, offices, sheds, outbuildings, barns, parking garages, etc.)

    No

31. Will the project involve the use of **temporary** lighting *during* the active season?

    Yes

32. Is there *any* suitable habitat **within** 1,000 feet of the location(s) where **temporary** lighting will be used?

    Yes

33. Will the project install *any* new or replace any existing **permanent** lighting in addition to the lighting already indicated for habitat removal (including the removal or trimming of trees) or bridge/structure removal, replacement or maintenance activities?

    Yes

34. Is there *any* suitable habitat **within** 1,000 feet of the location(s) where **permanent** lighting (other than the lighting already indicated for habitat removal (including the removal or trimming of trees) or bridge/structure removal, replacement or maintenance activities) will be installed or replaced?

    Yes

35. Does the project include percussives or other activities (**not including tree removal/ trimming or bridge/structure work**) that will increase noise levels above existing traffic/ background levels?

    No

36. Are *all* project activities that are **not associated with** habitat removal, tree removal/ trimming, bridge and/or structure activities, temporary or permanent lighting, or use of percussives, limited to actions that DO NOT cause any additional stressors to the bat species?

    Examples: lining roadways, unlighted signage , rail road crossing signals, signal lighting, and minor road repair such as asphalt fill of potholes, etc.

    Yes

37. Will the project raise the road profile **above the tree canopy**?

    No

38. Are the project activities that are not associated with habitat removal, tree removal/ trimming, bridge and/or structure activities, temporary or permanent lighting, or use of percussives consistent with a No Effect determination in this key?

    Automatically answered
    Yes, other project activities are limited to actions that DO NOT cause any additional stressors to the bat species as described in the BA/BO

39. Is the habitat removal portion of this project consistent with a Likely to Adversely Affect determination in this key?

    Automatically answered
    Yes, because tree removal that occurs within the NLEB's active season occurs greater than 0.5 miles from the nearest hibernaculum, is less than 100 feet from the existing road/rail surface, and is not in documented NLEB roosting/foraging habitat or travel corridors, and a visual emergence survey has not been conducted

40. Is the habitat removal portion of this project consistent with a Likely to Adversely Affect determination in this key?

    Automatically answered
    Yes, because tree removal that occurs within the NLEB's active season occurs greater than 0.5 miles from the nearest hibernaculum, is 100-300 feet from the existing road/rail surface and is not in documented NLEB roosting/foraging habitat or travel corridors.

41. Is the habitat removal portion of this project consistent with a Not Likely to Adversely Affect determination in this key?

    Automatically answered
    Yes, because the tree removal/trimming that occurs outside of the NLEB's active season occurs greater than 0.5 miles from the nearest hibernaculum, is less than 100 feet from the existing road/rail surface, includes clear demarcation of the trees that are to be removed, and does not alter documented roosts and/or surrounding summer habitat within 0.25 miles of a documented roost.

42. Is the habitat removal portion of this project consistent with a Likely to Adversely Affect determination in this key?

    Automatically answered
    Yes, because the tree removal that occurs outside the NLEB's active season is 100-300 feet from the existing road/rail surface, and is not in documented roosting/foraging habitat or travel corridors.

43. Is the bridge removal, replacement, or maintenance activities portion of this project consistent with a No Effect determination in this key?

    Automatically answered
    Yes, because the bridge has been assessed using the criteria documented in the BA and no signs of bats were detected

44. **General AMM 1**
    Will the project ensure *all* operators, employees, and contractors working in areas of known or presumed bat habitat are aware of *all* FHWA/FRA/FTA (Transportation Agencies) environmental commitments, including all applicable Avoidance and Minimization Measures?

    Yes

45. **Tree Removal AMM 1**
    Can *all* phases/aspects of the project (e.g., temporary work areas, alignments) be modified, to the extent practicable, to avoid tree removal[1] in excess of what is required to implement the project safely?

    Note: Tree Removal AMM 1 is a minimization measure, the full implementation of which may not always be practicable. Projects may still be NLAA as long as Tree Removal AMMs 2, 3, and 4 are implemented and LAA as long as Tree Removal AMMs 3, 5, 6, and 7 are implemented.

    [1] The word “trees” as used in the AMMs refers to trees that are suitable habitat for each species within their range. See the USFWS’ current summer survey guidance for our latest definitions of suitable habitat.

    Yes

46. **Tree Removal AMM 3**
    Can tree removal be limited to that specified in project plans and ensure that contractors understand clearing limits and how they are marked in the field (e.g., install bright colored flagging/fencing prior to any tree clearing to ensure contractors stay within clearing limits)?

    Yes

47. **Lighting AMM 2**
    Does the lead agency use the BUG (Backlight, Uplight, and Glare) system developed by the Illuminating Engineering Society[1] to rate the amount of light emitted in unwanted directions?

    [1] Refer to The BUG System—A New Way To Control Stray Light

    No

48. **Lighting AMM 2**
    Will *all* **permanent** lighting used during removal of suitable habitat and/or the removal/ trimming of trees within suitable habitat use downward-facing, full cut-off lens lights (with same intensity or less for replacement lighting)?

    Yes

49. **Lighting AMM 2**
    Will *all* **permanent** lighting used during removal of suitable habitat and/or the removal/ trimming of trees within suitable habitat be directed away from *all* areas with suitable habitat?

    Yes

50. **Lighting AMM 1**
    Will *all* **temporary** lighting be directed away from suitable habitat during the active season?

    Yes

51. **Lighting AMM 2**
    Does the lead agency use the BUG (Backlight, Uplight, and Glare) system developed by the Illuminating Engineering Society[1] to rate the amount of light emitted in unwanted directions?

    [1] Refer to The BUG System—A New Way To Control Stray Light

    No

52. **Lighting AMM 2**
    Will *all* **permanent** lighting (other than any lighting already indicated for tree clearing or bridge/structure removal, replacement or maintenance activities) use downward-facing, full cut-off lens lights (with same intensity or less for replacement lighting)?

    Yes

53. **Lighting AMM 2**
    Will the **permanent** lighting (other than any lighting already indicated for tree clearing or bridge/structure removal, replacement or maintenance activities) be directed away from *all* areas with suitable habitat?

    Yes

54. For Indiana bat, if applicable, compensatory mitigation measures are required to offset adverse effects on the species (see Section 2.10 of the BA). Please select the mechanism in which compensatory mitigation will be implemented:

    6. Not Applicable

Project Questionnaire

1. Have you made a No Effect determination for *all* other species indicated on the FWS IPaC generated species list?

   Yes

2. Have you made a May Affect determination for *any* other species on the FWS IPaC generated species list?

   No

3. How many acres[1] of trees are proposed for removal between 0-100 feet of the existing road/rail surface?

[1] If described as number of trees, multiply by 0.09 to convert to acreage and enter that number.

0.1

4. How many acres[1] of trees are proposed for removal between 100-300 feet of the existing road/rail surface?

   [1] If described as number of trees, multiply by 0.09 to convert to acreage and enter that number.

   0.1

5. **Please verify:**
   All tree removal will occur greater than 0.5 mile from any hibernaculum.

   Yes, I verify that all tree removal will occur greater than 0.5 miles from any hibernaculum.

6. Is the project location 0-100 feet from the edge of existing road/rail surface?

   Yes

7. Is the project location 100-300 feet from the edge of existing road/rail surface?

   Yes

8. **Please verify:**
   No documented NLEB roosts or surrounding summer habitat within 150 feet of documented roosts will be impacted between June 1 and July 31.

   Yes, I verify that no documented NLEB roosts or surrounding summer habitat within 150 feet of documented roosts will be impacted during this period.

9. Please describe the proposed bridge work:

   The project proposes to replace the General Sullivan Bridge superstructure. The superstructure would be replaced with a steel girder system with a structural steel frame extending from the bottom of the girders to the top of the existing bridge piers. The existing piers would be used and would not require significant modifications.

10. Please state the timing of all proposed bridge work:

    Winter 2023/2024 - Summer 2026

11. Please enter the date of the bridge assessment:

    11/29/2022

12. You have indicated that the following Avoidance and Minimization Measures (AMMs) will be implemented as part of the proposed project:
    - *Tree Removal AMM 1*
    - *Lighting AMM 1*
    - *Lighting AMM 2*
    - *Tree Removal AMM 3*
    - *General AMM 1*

Avoidance And Minimization Measures (AMMs)

This determination key result includes the committment to implement the following Avoidance and Minimization Measures (AMMs):

TREE REMOVAL AMM 1
Modify all phases/aspects of the project (e.g., temporary work areas, alignments) to avoid tree removal.

LIGHTING AMM 1
Direct temporary lighting away from suitable habitat during the active season.

LIGHTING AMM 2
When installing new or replacing existing permanent lights, use downward-facing, full cut-off lens lights (with same intensity or less for replacement lighting); or for those transportation agencies using the BUG system developed by the Illuminating Engineering Society, be as close to 0 for all three ratings with a priority of "uplight" of 0 and "backlight" as low as practicable.

TREE REMOVAL AMM 3
Ensure tree removal is limited to that specified in project plans and ensure that contractors understand clearing limits and how they are marked in the field (e.g., install bright colored flagging/fencing prior to any tree clearing to ensure contractors stay within clearing limits).

GENERAL AMM 1
Ensure all operators, employees, and contractors working in areas of known or presumed bat habitat are aware of all FHWA/FRA/FTA (Transportation Agencies) environmental commitments, including all applicable AMMs.

Determination Key Description: FHWA, FRA, FTA Programmatic Consultation For Transportation Projects Affecting NLEB Or Indiana Bat

This key was last updated in IPaC on October 11, 2022. Keys are subject to periodic revision.

This decision key is intended for projects/activities funded or authorized by the Federal Highway Administration (FHWA), Federal Railroad Administration (FRA), and/or Federal Transit Administration (FTA), which may require consultation with the U.S. Fish and Wildlife Service (Service) under Section 7 of the Endangered Species Act (ESA) for the endangered **Indiana bat** (*Myotis sodalis*) and the threatened **Northern long-eared bat** (NLEB) (*Myotis septentrionalis*).

This decision key should only be used to verify project applicability with the Service's February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion for Transportation Projects. The programmatic biological opinion covers limited transportation activities that may affect either bat species, and addresses situations that are both likely and not likely to adversely affect either bat species. This decision key will assist in identifying the effect of a specific project/activity and applicability of the programmatic consultation. The programmatic biological opinion is not intended to cover all types of transportation actions. Activities outside the scope of the programmatic biological opinion, or that may affect ESA-listed species other than the Indiana bat or NLEB, or any designated critical habitat, may require additional ESA Section 7 consultation.

IPaC User Contact Information

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 Commercial Street, Suite 300
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Phone: (603) 223-2541 Fax: (603) 223-0104

In Reply Refer To: December 02, 2022
Project code: 2023-0004556
Project Name: Newington-Dover General Sullivan Bridge
Federal Nexus: yes
Federal Action Agency (if applicable): New Hampshire Department of Transportation

Subject: Federal agency coordination under the Endangered Species Act, Section 7 for 'Newington-Dover General Sullivan Bridge'

Dear Marc Laurin:

This letter records your determination using the Information for Planning and Consultation (IPaC) system provided to the U.S. Fish and Wildlife Service (Service) on [object Object], for “Newington-Dover General Sullivan Bridge” (here forward, Project). This project has been assigned Project Code and all future correspondence should clearly reference this number.

The Service developed the IPaC system and associated species’ determination keys in accordance with the Endangered Species Act of 1973 (ESA; 87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) and based on a standing analysis. All information submitted by the Project proponent into the IPaC must accurately represent the full scope and details of the Project. Failure to accurately represent or implement the Project as detailed in IPaC or the Northeast Determination Key (DKey), invalidates this letter. To make a no effect determination, the full scope of the proposed project implementation (action) should not have any effects (either positive or negative effect(s)), to a federally listed species or designated critical habitat. Effects of the action are all consequences to listed species or critical habitat that are caused by the proposed action, including the consequences of other activities that are caused by the proposed action. A consequence is caused by the proposed action if it would not occur but for the proposed action and it is reasonably certain to occur. Effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the action. (See § 402.17). Under Section 7 of the ESA, if a federal action agency makes a no effect determination, no further consultation with, or concurrence from, the Service is required (ESA §7). If a proposed Federal action may affect a listed species or designated critical habitat, formal consultation is required (except when the Service concurs, in writing, that a proposed action "is not likely to adversely affect" listed species or designated critical habitat [50 CFR §402.02, 50 CFR§402.13]).

The IPaC results indicated the following species is (are) potentially present in your project area and, based on your responses to the Service's Northeast DKey, you determined the proposed Project will have the following effect determinations:

Species	Listing Status	Determination
Roseate Tern (*Sterna dougallii dougallii*)	Endangered	No effect

Conclusion If there are no updates on listed species, no further consultation/coordination for this project is required for the species identified above. However, the Service recommends that project proponents re-evaluate the Project in IPaC if: 1) the scope, timing, duration, or location of the Project changes (includes any project changes or amendments); 2) new information reveals the Project may impact (positively or negatively) federally listed species or designated critical habitat; or 3) a new species is listed, or critical habitat designated. If any of the above conditions occurs, additional consultation with the Service should take place before project implements any changes which are final or commits additional resources.

In addition to the species listed above, the following species and/or critical habitats may also occur in your project area and are not covered by this conclusion:

- Northern Long-eared Bat *Myotis septentrionalis* Endangered

To complete consultation for species that have reached a "May Affect" determination and/or species may occur in your project area and are not covered by this conclusion, 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 these listed species and/or critical habitats, avoid and minimize potential adverse effects, and prepare and submit a project review package if necessary: https://www.fws.gov/office/new-england-ecological-services/endangered-species-project-review

Please Note: If the Action may impact bald or golden eagles, additional coordination with the Service under the Bald and Golden Eagle Protection Act (BGEPA) (54 Stat. 250, as amended, 16 U.S.C. 668a-d) by the prospective permittee may be required. Please contact the Migratory Birds Permit Office, (413) 253-8643, or PermitsR5MB@fws.gov, with any questions regarding potential impacts to Eagles.

If you have any questions regarding this letter or need further assistance, please contact the New England Ecological Services Field Office and reference the Project Code associated with this Project.

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

1. Name

Newington-Dover General Sullivan Bridge

2. Description

The following description was provided for the project 'Newington-Dover General Sullivan Bridge':

> NHDOT and FHWA proposes to replace the General Sullivan Bridge located over Little Bay in Newington and Dover, NH.

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@43.11776020677442,-70.8259373684309,14z

Qualification Interview

1. As a representative of this project, do you agree that all items submitted represent the complete scope of the project details and you will answer questions truthfully?

   Yes

2. Does the proposed project include, or is it reasonably certain to cause, intentional take of listed species?

   Note: This question could refer to research, direct species management, surveys, and/or studies that include intentional handling/encountering, harassment, collection, or capturing of any individual of a federally listed threatened, endangered, or proposed species.

   No

3. Is the action authorized, permitted, licensed, funded, or being carried out by a Federal agency in whole or in part?

   Yes

4. Is the Federal Highway Administration (FHWA), Federal Railroad Administration (FRA), or Federal Transit Administration (FTA) the lead agency for this project?

   Yes

5. FHWA, FRA, and FTA have completed a rangewide programmatic biological opinion for transportation projects within the range of the Indiana bat and northern long-eared bat. Does your proposed project fall within the scope of this programmatic consultation?

   Note: If you are unsure, please select "Yes" and use the FHWA, FRA, FTA Assisted Determination Key to determine if the programmatic biological opinion is applicable to your project.

   No

6. Are you including in this analysis all impacts to federally listed species that may result from the entirety of the project (not just the activities under federal jurisdiction)?

   Note: If there are project activities that will impact listed species that are considered to be outside of the jurisdiction of the federal agency submitting this key, contact your local Ecological Services Field Office to determine whether it is appropriate to use this key. If your Ecological Services Field Office agrees that impacts to listed species that are outside federal jurisdiction will be addressed through a separate process, you can answer yes to this question and continue through the key.

   Yes

7. Are you the lead federal action agency or designated non-federal representative requesting concurrence on behalf of the lead Federal Action Agency?

   Yes

8. Will the proposed project involve the use of herbicide?

   No

9. Are there any caves or anthropogenic features suitable for hibernating or roosting bats within the area expected to be impacted by the project?

   No

10. Does any componentof the project associated with this action include structures that may pose a collision risk to birds or bats (e.g., wind turbines, communication towers, transmission lines, any type of towers with or without guy wires)?

    NoteFor federal actions, answer ‘yes’ if the construction or operation of wind power facilities is either (1) part of the federal action or (2) would not occur but for a federal agency action (federal permit, funding, etc.).

    No

11. Will the proposed project result in permanent changes to water quantity in a stream or temporary changes that would be sufficient to result in impacts to listed species?
    For example, will the proposed project include any activities that would alter stream flow, such as water withdrawal, hydropower energy production, impoundments, intake structures, diversion structures, and/or turbines? Projects that include temporary and limited water reductions that will not displace listed species or appreciably change water availability for listed species (e.g. listed species will experience no changes to feeding, breeding or sheltering) can answer "No". Note: This question refers only to the amount of water present in a stream, other water quality factors, including sedimentation and turbidity, will be addressed in following questions.

    No

12. Will the proposed project affect wetlands?

    This includes, for example, project activities within wetlands, project activities within 300 feet of wetlands that may have impacts on wetlands, water withdrawals and/or discharge of contaminants (even with a NPDES).

    Yes

13. Will the proposed project activities (including upland project activities) occur within 0.5 miles of the water's edge of a stream or tributary of a stream?

    Yes

14. Will the proposed project directly affect a streambed (below ordinary high water mark (OHWM)) of the stream or tributary?

    Yes

15. Will the proposed project bore underneath (directional bore or horizontal directional drill) a stream?

    No

16. Will the proposed project involve a new point source discharge into a stream or change an existing point source discharge (e.g., outfalls; leachate ponds)?

    No

17. Will the proposed project involve the removal of excess sediment or debris, dredging or in-stream gravel mining?

    No

18. Will the proposed project involve the creation of a new water-borne contaminant source (e.g., leachate pond, pits containing chemicals that are not NSF/ANSI 60 compliant)?
    Note that sedimentation will be addressed in a separate question.

    No
19. Will the proposed project involve perennial stream loss that would require an individual permit under 404 of the Clean Water Act?

    No
20. Will the proposed project involve blasting?

    No
21. Will the proposed project include activities that could result in an increase to recreational fishing or potentially affect fish movement temporarily or permanently (including fish stocking, harvesting, or creation of barriers to fish passage).

    No
22. Will the proposed project involve earth moving that could cause erosion and sedimentation, and/or contamination along a stream?

    No
23. Will the proposed project involve vegetation removal within 200 feet of a perennial stream bank?

    Yes
24. Will erosion and sedimentation control Best Management Practices (BMPs) associated with applicable state and/or Federal permits, or the equivalent to these BMPs, be applied to the project?

    Yes
25. Will the proposed project result in changes to beach dynamics that may modify formation of habitat over time?

    Note: Examples of projects that result in changes to beach dynamics include 1) construction of offshore breakwaters and groins; 2) mining of sand from an updrift ebb tidal delta; 3) removing or adding beach sands; and 4) projects that stabilize dunes (including placement of sand fences or planting vegetation).

    No
26. [Hidden Semantic] Is the project area located within the roseate tern AOI?

    Automatically answered
    Yes

27. If you have determined that the roseate tern is unlikely to occur within your project's action area or that your project is unlikely to have any potential effects on the roseate tern, you may wish to make a "no effect" determination for the roseate tern. Additional guidance on how to make this decision can be found in the proejct review section of your local Ecological Services Field Office's website. CBFO: https://www.fws.gov/office/chesapeake-bay-ecological-services/project-review ; MEFO: https://www.fws.gov/office/maine-ecological-services ; NJFO: https://www.fws.gov/office/new-jersey-ecological-services/new-jersey-field-office-project-review-guide ; NEFO: https://www.fws.gov/office/new-england-ecological-services/endangered-species-project-review#Step5 ; WVFO: https://www.fws.gov/office/west-virginia-ecological-services/project-planning. If you are unsure, answer "No" and continue through the key.

    Would you like to make a no effect determination for the roseate tern?

    Yes

28. [Semantic] Does the project intersect the Virginia big-eared bat critical habitat?

    Automatically answered
    No

29. [Semantic] Does the project intersect the Indiana bat critical habitat?

    Automatically answered
    No

30. [Semantic] Does the project intersect the candy darter critical habitat?

    Automatically answered
    No

31. [Semantic] Does the project intersect the diamond darter critical habitat?

    Automatically answered
    No

32. [Semantic] Does the project intersect the Big Sandy crayfish critical habitat?

    Automatically answered
    No

33. [Hidden Semantic] Does the project intersect the Guyandotte River crayfish critical habitat?

    Automatically answered
    No

34. Do you have any other documents that you want to include with this submission?

    Yes

    SUBMITTED DOCUMENTS

    - *FWS Species Determination Table 2.docx* *https://ipac.ecosphere.fws.gov/project/VTQSJMDQFJCKNB3XACPD4E33HA/projectDocuments/119443383*

Project Questionnaire

1. Approximately how many acres of trees would the proposed project remove?

   0.2

2. Approximately how many total acres of disturbance are within the disturbance/ construction limits of the proposed project?

   0.9

3. Briefly describe the habitat within the construction/disturbance limits of the project site.

   The construction/disturbance limit of the project consists of the bed and bank of Little Bay, a small jurisdictional wetland, and upland areas within Hilton Park.

IPaC User Contact Information

Agency: New Hampshire Department of Transportation
Name: Marc Laurin
Address: 7 Hazen Drive
City: Concord
State: NH
Zip: 03302
Email marc.g.laurin@dot.nh.gov
Phone: 6032714044

APPENDIX D: Bridge/Culvert and Structure Bat Assessment Form

Bridge/Culvert and Structure Bat Assessment Form Instructions

- This form will be completed to document bat occupancy or bat use of bridges, culverts, and other structures. This form (or a different form with the same information) shall be submitted to the appropriate personnel within the DOT and USFWS for recordkeeping (or uploaded into the Information, Planning, and Consultation (IPaC) Determination Key for use of the Programmatic Biological Opinion for Transportation Projects in the Range of the Indiana Bat and Northern Long-Eared Bat) prior to conducting: any activities below the deck surface either from the underside or from above the deck surface that bore down to the underside; any activities within the culvert where bats may be located; any activities that could impact expansion joints; any activities involving deck removal on bridges; or any activities involving structure demolition for bridges, culverts, and/or other structures.
- Assessments must be completed within two (2) years of conducting any work (see the above bullet), regardless of whether assessments have been conducted in the past. Assessments conducted during the bat active season is the preferred time of year; however, we recognize this is not always possible. Assessments must be completed in appropriate weather conditions, suitable for the assessor to observe common signs of bat use.
- Evidence of bat use may include visual observation (live and/or dead), presence of guano, presence of staining, audible observation, and/or odor observation. Presence of one or more indicators is sufficient evidence that bats may be using the bridge, culvert, and/or other structure.
- If bat use of a bridge, culvert, and/or other structure is noted, additional studies may be undertaken during bat active season to identify the specific bat species utilizing the structure, or protected bat species presence can be assumed, in order to comply with threatened and endangered species regulations. Bat active season dates, typically between April and November, vary regionally and by species, so assessors should consult with their local USFWS Field Office for more specific active season dates.
- For use of the Programmatic Biological Opinion for Transportation Projects in the Range of the Indiana Bat and Northern Long-Eared Bat – If the bridge/culvert or structure is 1,000 feet or more from suitable bat habitat[1] (e.g., an urban or agricultural area without suitable foraging habitat or corridors linking the bridge to suitable foraging habitat), check the appropriate box and fill out the table below. **No further assessment is required.**

Date & Time of Assessment	**DOT Project #**	**Route/Facility Carried**	**County**
Federal Structure ID	**Structure Coordinates** (latitude and longitude)	☐ This bridge/culvert or structure is 1,000 feet or more from suitable bat habitat[2] Name:_____ Signature: _____	

- Any questions pertaining to assessments or this form should be directed to the local USFWS Field Office.

[1] Refer to the USFWS's summer survey guidance for the definition of suitable habitat (http://www.fws.gov/midwest/endangered/mammals/inba/inbasummersurveyguidance.html).

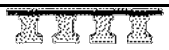
[2] This condition is only for use of the Programmatic Biological Opinion for Transportation Projects in the Range of the Indiana bat and Northern long-eard bat.

Bridge/Structure Bat Assessment Form

Date & Time of Assessment: 11/12/2022; 9:45 AM	DOT Project Number: 11238S	Route/Facility Carried: Former pedestrian/bike crossing over Little Bay	County: Rockingham
Federal Structure ID: 200/023	Structure Coordinates (latitude and longitude): 42.11209,-70.82618	Structure Height (approximate): 48' above MHW	Structure Length: 1,528 feet

Structure Type (check one)

Bridge Construction Style

○ Cast-in-place		○ Pre-stressed Girder	
○ Flat Slab/Box		○ Steel I-beam	
◉ Truss		○ Covered	
○ Parallel Box Beam		○ Other:	

Culvert Type

- ○ Box
- ○ Pipe/Round
- ○ Other:

Other Structure

- ○

Structure Material (check all that apply)

Deck Material	*Beam Material*	*End/Back Wall Material*
☐ Metal	☐ None	☒ Concrete
☒ Concrete	☐ Concrete	☐ Timber
☐ Timber	☒ Steel	☐ Stone/Masonry
☐ Open grid	☐ Timber	☐ Other:
☐ Other:	☐ Other:	

Culvert Material

- ☐ Metal
- ☐ Concrete
- ☐ Plastic
- ☐ Stone/Masonry
- ☐ Other:

Creosote Evidence

- ○ Yes ○ No
- ◉ Unknown

Notes:

Crossings Traversed (check all that apply)

☐ Bare ground	☐ Open vegetation
☐ Rip-rap	☐ Closed vegetation
☒ Flowing water	☐ Railroad
☐ Standing water	☐ Road/trail - Type:
☐ Seasonal water	☐ Other:

Surrounding Habitat (check all that apply)

☐ Agricultural	☐ Grassland
☒ Commercial	☐ Ranching
☐ Residential-urban	☐ Riparian/wetland
☒ Residential-rural	☒ Mixed use
☐ Woodland/forested	☐ Other:

Areas Assessed (check all that apply)

Check all areas that apply. If an area is not present in the structure, check the "not present" box.
Document all bat indicators observed during the assessment. Include the species present, if known, and provide photo documentation as indicated.

Area (check if assessed)	**Assessment Notes**	**Evidence of Bats** (include photos if present)
☒ All crevices and cracks: **Bridges/culverts:** rough surfaces or imperfections in concrete **Other structures:** soffits, rafters, attic areas	☒ Not present	☐ Visual - live # dead # ☐ Guano ☐ Staining ☐ Audible ☐ Odor ☐ Photos ☐ Species
☒ Concrete surfaces (open roosting on concrete)	☒ Not present	☐ Visual - live # dead # ☐ Guano ☐ Staining ☐ Audible ☐ Odor ☐ Photos ☐ Species
☒ Spaces between concrete end walls and the bridge deck	☒ Not present	☐ Visual - live # dead # ☐ Guano ☐ Staining ☐ Audible ☐ Odor ☐ Photos ☐ Species
☐ Crack between concrete railings on top of the bridge deck 	☐ Not present N/A	☐ Visual - live # dead # ☐ Guano ☐ Staining ☐ Audible ☐ Odor ☐ Photos ☐ Species
☐ Vertical surfaces on concrete I-beams	☐ Not present N/A	☐ Visual - live # dead # ☐ Guano ☐ Staining ☐ Audible ☐ Odor ☐ Photos ☐ Species
☒ Spaces between walls, ceiling joists	☒ Not present	☐ Visual - live # dead # ☐ Guano ☐ Staining ☐ Audible ☐ Odor ☐ Photos ☐ Species
☐ Weep holes, scupper drains, and inlets/pipes	☐ Not present N/A	☐ Visual - live # dead # ☐ Guano ☐ Staining ☐ Audible ☐ Odor ☐ Photos ☐ Species
☐ All guiderails	☐ Not present N/A	☐ Visual - live # dead # ☐ Guano ☐ Staining ☐ Audible ☐ Odor ☐ Photos ☐ Species
☒ All expansion joints	☒ Not present	☐ Visual - live # dead # ☐ Guano ☐ Staining ☐ Audible ☐ Odor ☐ Photos ☐ Species

Name: Marc G. Laurin

Signature: Marc G. Laurin

H

NHDHR Effect Memo and NHDOT Cultural Resources Review

MEMORANDUM OF AGREEMENT
AMONG NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION, and the NEW HAMPSHIRE STATE HISTORIC PRESERVATION OFFICER

Regarding the project known as the General Sullivan Bridge, Spaulding Turnpike Improvements Project [NHDOT Project Newington-Dover 11238S, FHWA Project NHS-027-1(37)] which plans to replace the historic General Sullivan Bridge (GSB), which spans the navigational channel of Little Bay in the Town of Newington, New Hampshire and the City of Dover, New Hampshire.

WHEREAS, the Federal Highway Administration (FHWA) plans to provide funds to the New Hampshire Department of Transportation (NHDOT) to replace the General Sullivan Bridge superstructure; and

WHEREAS, FHWA has defined the undertaking's area of potential effect (APE) as an irregularly-shaped area, beginning approximately 600 feet north of the bridge crossing on Dover Point, and extending up to 1,500 feet west, 700 feet east, and 1,200 feet south of the crossing; and

WHEREAS, the Preferred Alternative would involve the complete removal and replacement of the General Sullivan Bridge superstructure while reusing its substructure piers; and

WHEREAS, FHWA, in consultation with the New Hampshire State Historic Preservation Office (NHSHPO), has determined that the Preferred Alternative will have an Adverse Effect to the General Sullivan Bridge, which was determined eligible for the National Register of Historic Places in 1988; and

WHEREAS, FHWA has consulted with the NHDOT, the NHSHPO, and Consulting Parties pursuant to 36 CFR Part 800 of the regulations implementing Section 106 of the National Historic Preservation Act (54 USC §306108); and

WHEREAS, FHWA has consulted with several consulting parties regarding the effects of the undertaking on historic properties, including Kitty Henderson, Executive Director, Historic Bridge Foundation, Nathan Holth, HistoricBridges.org, Lulu Pickering, Newington Historic District Commission, and Christopher G. Parker, Assistant City Manager, City of Dover; and

WHEREAS, NHDOT and FHWA have met with the NHSHPO and Consulting Parties on thirteen occasions since April 2018 to evaluate potential alternatives, identify a Preferred Alternative, and identify mitigation measures; and

WHEREAS, NHDOT has coordinated with the Town of Newington, the City of Dover, and other interested parties through Public Meetings held on October 25, 2016, January 30, 2018, September 5, 2018, and at a Public Hearing on May 13, 2021; and

WHEREAS, in accordance with 36 CFR §800.6(a)(1), FHWA has notified the Advisory Council on Historic Preservation (ACHP) of its adverse effect determination with specified documentation and the ACHP has chosen not to participate in the consultation pursuant to 36 CFR §800.6(a)(1)(iii);

NOW, THEREFORE, FHWA, NHDOT and the NHSHPO agree that the undertaking shall be implemented in accordance with the following stipulations to mitigate the effect of the undertaking on historic properties.

I. STIPULATIONS

FHWA and NHDOT shall ensure that the following measures are carried out:

A. Marketing the General Sullivan Bridge

i. *NHDOT shall market the bridge for re-use (either in whole or in part) in compliance* with 23 USC Section 144. The structure shall be marketed to the public for relocation with preservation and/or maintenance covenants as agreed to by NHDOT, NHSHPO, and FHWA. NHDOT, in consultation with NHSHPO and FHWA, shall develop a notice to include, at a minimum, the following:
   a. A description of the structure;
   b. Notice that the bridge is eligible for the National Register for its engineering significance;
   c. Notice that NHDOT will transfer the structure with consideration for the offer that best protects the historic integrity of the bridge; and
   d. Notice of the requirement that the bridge will be transferred subject to covenants regarding its preservation and maintenance for a period of ten (10) years in accordance with the Secretary of the Interior's *Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings*.

ii. The contents of the advertisements, the publications in which they appear, and the frequency of publication shall be approved by NHSHPO and FHWA. The advertising period shall last a minimum of 60 days.

iii. If efforts to market the bridge are unsuccessful, final bid and construction documents shall be completed to specify demolition and disposal of the bridge.

iv. If all or part of the bridge is re-used, the Public Works Administration plaque may be reused with the salvaged portion. Otherwise, the plaque shall be incorporated into an interpretive installation to note the history of the Public Works Administration in relation to the General Sullivan Bridge (see Stipulation D.i.a.iv below). If the entire bridge is not re-used, up to 200 feet of the bridge railing will be made available to the Town of Newington.

B. Documentation of the General Sullivan Bridge

i. NHDOT shall ensure that the bridge is recorded prior to demolition or relocation, in accordance with the Historic American Engineering Record (HAER) standards.

ii. The documentation shall be completed by a 36 CFR 61-qualified Architectural Historian.

iii. The documentation shall follow the guidelines available at https://www.nps.gov/hdp/standards/haerguidelines.htm, using the version noted below or subsequent updates, whichever is more recent at the time of documentation:

a. Report: The documentation will follow the "outline format: engineering structures" described in the HAER guidelines (updated 2017).
b. Photography: To follow the guidelines for the HABS/HAER/HALS programs (updated 2015). Photographs shall consist of archival, large-format black and white 4x5" photographs of the superstructure, substructure, relationship of the bridge to its setting, and engineering/aesthetic details.
c. Drawings: To follow the HAER drawing guidelines. Original and historic construction plans shall be included as archival copies, or photographed as archival large-format black and white 4x5" photographs.
d. The final HAER package shall meet the requirements for HAER documentation transmittal (updated January 2020).

iv. A digital draft of the HAER documentation shall be submitted to NHSHPO for a review and comment period of 45 days.
v. After addressing NHSHPO comments, NHDOT shall, on behalf of FHWA, provide a draft digital copy to NPS for review and comment.
vi. One final copy of the completed HAER documentation shall be submitted to NPS by NHDOT. The format of the final deliverable shall be provided as requested by NPS.
vii. The final HAER documentation shall be produced by NHDOT for NHSHPO; a single hard copy and one electronic copy will be provided. The NHSHPO copy of the HAER materials shall include: large format photos and negatives, photo location maps, narrative, and high-quality photocopies of the photos.
viii. One archival hard copy and one electronic copy of the final documentation shall be provided to each of the City of Dover, the Town of Newington, the Newington Historical Society, and the New Hampshire Historical Society for storage at an appropriate local repository. An electronic copy shall be provided to the Portsmouth Athenaeum. An electronic copy shall be provided to additional local repositories upon request. NHDOT, in coordination with Consulting/Interested Parties, may proactively identify additional local repositories which may be interested in receiving an electronic copy of the completed HAER documentation.
ix. An electronic copy shall be provided to additional Consulting/Interested Parties, upon request.

C. NHDOT Bridge Inventory and Bridge Management Plan – Promotion and Accessibility

i. NHDOT shall assist NHSHPO in the integration of the finalized bridge inventory into the EMMIT online database and mapping tool, which is available by subscription. NHDOT shall also provide the finalized bridge inventory on its own website, where the inventory will be freely available to the public. To complete this stipulation:
a. NHDOT or their consultant shall publish the final bridge inventory as an ArcGIS map service that can be accessed directly (live) by the EMMIT application.
b. NHDOT or their consultant shall be responsible for updating the map service with any changes to be published such that the EMMIT application will automatically consume the latest data.
c. NHDOT or their consultant, in consultation with NHSHPO, shall develop the following enhancements to the EMMIT application to support the integration of the final bridge inventory:

i. The bridge inventory map service will be integrated into the EMMIT map display Data Query function, and Map Search function. The EMMIT Search Results page and Export Results function will be updated to include bridge inventory information. A View Details page will be developed for the Bridge Inventory which will display the fields for a single bridge like the existing EMMIT View Details pages.
ii. A single page inventory form report will be developed allowing a PDF to be generated from the View Details page for a single bridge.

ii. NHDOT shall ensure that promotion of the finalized bridge management plan includes a broad range of internal and external outreach to engineers, municipalities, state DOT employees, and the public, including the use of virtual platforms. NHDOT shall be responsible for three outreach and educational sessions. Possible venues include:
   a. The American Council of Engineering Companies (ACEC) annual conference;
   b. The New Hampshire Municipalities Association (NHMA) annual conference;
   c. Internal training for NHDOT employees and its consultants;
   d. Regional workshop for engineers, including representatives from other state DOTs regarding their own state's efforts to maintain historic bridges; or
   e. Potential workshop and session partnerships with NHSHPO, and/or the New Hampshire Preservation Alliance.

D. Interpretive Program

NHDOT and/or its consultant shall develop an interpretive program centered around the historic significance of the GSB:

i. On-Site Interpretive Panels – NHDOT shall fund and oversee four (4) interpretive panels located at or near the bridge crossing, including locations at, but not limited to: Bloody Point in Newington, Hilton Park in Dover, and/or the bridge.
   a. The panels topics will include:
      i. Ferries, Trains, and Automobiles Across the Little Bay: How people have crossed the Little Bay over the centuries and why the Little Bay is so challenging to cross.
      ii. Visualizing Routes through History (for placement on the bridge): Using the unique vantage point of the bridge and its view toward Fox Point, this panel will use maps and other visuals to help readers "see" where previous crossings were located.
      iii. Bringing Continuous Trusses to the American Highway: Celebrating how the GSB merged aesthetics and economy to create a graceful composition that provided the necessary clearance at the center while saving resources at the approaches.
      iv. GSB as a Textbook Example: The GSB was one of four FST designs that the firm used to refine their continuous truss design. What characteristics were taken from the Lake Champlain Bridge, and what improvements/ advancements were made for the GSB?
      v. Two panels, "Bringing Continuous Trusses to the American Highway" and "GSB as a Textbook Example" will be fabricated in duplicate and placed in multiple locations to increase the amount of mitigation that

specifically shares with the public information regarding the engineering significance of the GSB.

vi. A Viewing Station may be used in place of one of the above-mentioned panels, if determined feasible as site planning progresses. The Viewing Station would consist of a clear etched glass panel or other suitable material displaying an image of the GSB superimposed onto the current view, for visitors to understand the location and configuration of the bridge.

vii. If the Public Works Administration plaque is not reused as part of a bridge relocation (see Stipulation A.iv), then a fifth interpretive panel will be developed and installed to provide context for the plaque.

b. The content will be developed by an Architectural Historian qualified under 36 CFR 61, and a professional graphic designer shall be engaged to create the design and layout of the interpretive panels and/or elements.

c. NHSHPO shall be consulted for review and comment on the preliminary draft content of the panels as well as the draft final mockups of the panel design(s) in their entirety.

d. After submission of the preliminary draft content and draft final panels, NHSHPO and the Consulting Parties shall have 30 days to review and comment on the draft final text/layout of the displays.

e. NHDOT and the content developers will determine whether the incorporation of elements salvaged from the GSB as support structures for interpretive elements is feasible (not as public art).

f. NHDOT and the content developers will determine whether the incorporation of a QR code linking to additional online content is feasible.

ii. NHDOT shall develop an installation in collaboration with the Woodman Museum about the engineering significance of the GSB and the challenges of creating a span across the Little Bay. NHDOT will fund the creation and installation of the exhibit in its entirety; the Woodman Museum shall be responsible for future maintenance.

a. The installation shall include the use of salvaged materials and/or 3D modeling to demonstrate engineering concepts to the extent feasible.

b. The installation may include primary sources as relevant, including items from the collections of repositories such as Historic New England's archives; the Woodman Institute; the Portsmouth Athenaeum; the archives of NHDOT, and local historical organizations.

c. The installation will utilize the content developed for the "Bringing Continuous Trusses to the American Highway" and "GSB as a Textbook Example" panel content (see D.i.a.), with supplemental information as appropriate for the final location and objects used in the exhibit.

E. Newington Railroad Depot and Toll House and State-Owned Land on Bloody Point

i. NHDOT shall support the future rehabilitation and reuse of the state-owned portion of the Newington Depot property, according to the *Secretary of the Interior's Standards for Rehabilitation*. Specifically, NHDOT shall:

a. Engage a consultant team to prepare a building assessment and feasibility re-use study of the Newington Depot, following the NH Preservation Alliance's format, identifying extant character-defining features and potential future uses that can support the retention of these historic features. The building assessment and feasibility reuse study will include input from the Town of Newington, the Newington Historic District Commission, and the Newington Historical Society. The NHSHPO, the Town of Newington, the Newington Heritage Commission, and the Newington Historical Society will be given thirty (30) days to review the draft conditions assessment, feasibility reuse study and existing conditions site plan. An electronic copy of the final assessment shall be provided to NHDOT, NHSHPO, the Town of Newington, the Newington Historic District Commission, and the Newington Historical Society.

b. Develop an existing conditions site plan incorporating property boundaries, topography, wetlands, utilities, and shoreland/tidal setbacks. This plan can be used to support a land master plan/site plan for the Newington Depot property to be developed by a future owner.

c. Provide direct financial support for the stabilization/rehabilitation of the Newington Depot property based on the building assessment and re-use plan up to $150,000 on a reimbursement basis. Any costs beyond this amount shall be provided by the Town of Newington or a third party (see Stipulation E.ii below).

ii. NHDOT shall continue discussions about the feasibility of transferring ownership of the property to the Town of Newington or another public agency. If a mutual agreement is reached with the Town of Newington or another public agency, the public owner may arrange for the rehabilitation of the Depot as well as its future management and stewardship to be handled by a third party, such as through a long-term lease to a non-profit. If a mutual agreement cannot be reached within 3 months of completion of the items outlined in E.i, NHDOT shall market the property for sale at fair market value. Any transfer shall comply with the requirements of the New Hampshire Surplus Land Review Process, including all NH Revised Statutes Annotated, policies and procedures applicable to the disposal of state-owned real estate.

iii. The property will be conveyed with a historic preservation covenant, to be held by NHSHPO, requiring that the building will be retained in the same or better condition and that any future rehabilitation by the owner meet the Secretary of the Interior's Standards for Rehabilitation, to be overseen and approved by NHSHPO.

F. Dover Recreational Trail

i. NHDOT shall coordinate with the City of Dover to evaluate the feasibility of constructing a link between the existing Community Trail on the former rail bed of the Newington-Dover Branch line and the GSB. The Community Trail currently ends in the vicinity of Central Avenue (NH 108) and Rutland Street and options may include a short section of shared use path within the Spaulding Turnpike right-of-way to then follow Finch, Spur and Boston Harbor Roads to the bridge. If a plan for the trail can be mutually agreed upon, NHDOT shall determine the nature and extent of support the agency can provice for the undertaking.

ii. The feasibility study shall develop information which highlights the history of the Newington-Dover Branch line and its connection to the history of the transportation corridor including the GSB. The study shall make recommendations on incorporating interpretive signage into the design of the recreational trail.

a. Interpretive Signage – NHDOT shall fund and oversee the development of two interpretive panels to be installed along the trail. One of these panels will be based on the "Ferries, Trains, and Automobiles Across the Little Bay" panel to be created for installation at the bridge crossing (see D.i.a.1.).
b. In recognition that exact siting of the signage cannot be finalized during a feasibility study, NHDOT will provide high-resolution digital copies of the signage to the City of Dover to make available to the public. These files will contain production-ready content for later fabrication.
c. Consultation on the content of the panels shall be between NHDOT, NHSHPO, and the City of Dover.
d. The content will be developed by an Architectural Historian qualified under 36 CFR 61, and a professional graphic designer shall be engaged to create the design and layout of the interpretive panels and/or elements.
e. NHSHPO and the Dover Heritage Commission shall be consulted for review and comment on the preliminary draft content and layout of the signage as well as the draft final mockups of the signs in their entirety.
f. After submission of the preliminary draft and draft final signage, NHSHPO and the Dover Heritage Commission shall have 30 days to review and comment on the draft final text/layout of the displays.

II. UNANTICIPATED DISCOVERIES

The NHDOT will ensure that if additional previously unidentified architectural and / or archeological properties are discovered, which may be affected by the undertaking or known properties are affected in an unanticipated manner, it will notify FHWA and the NHSHPO. FHWA and the NHSHPO will apply the criteria of eligibility and consult pursuant to 36 CFR 800.13.

III. DURATION

This MOA will expire if its terms are not carried out within five (5) years from the date of its execution. Prior to such time, FHWA may consult with the other signatories to reconsider the terms of the MOA and amend it in accordance with Item VI below.

IV. MONITORING AND REPORTING

Each year following the execution of this MOA until it expires, is terminated, or stipulations completed, NHDOT shall provide all parties to this MOA a summary report detailing work undertaken pursuant to its terms. Such report shall include any scheduling changes proposed, any problems encountered, and any disputes and objections received in FHWA's efforts to carry out the terms of this MOA.

V. DISPUTE RESOLUTION

Should any signatory to this MOA object at any time to any actions proposed or the manner in which the terms of this MOA are implemented, FHWA shall consult with such party to resolve the objection. If the FHWA determines that such objection cannot be resolved, FHWA will:

A. Forward all documentation relevant to the dispute, including FHWA's proposed resolution, to the ACHP. The ACHP shall provide FHWA with its advice on the resolution of the objection within thirty (30) days of receiving adequate documentation. Prior to reaching a final decision on the dispute, FHWA shall prepare a written response that takes into account any timely advice or comments regarding the dispute from the ACHP, signatories and concurring parties, and provide them with a copy of this written response. FHWA will then proceed according to its final decision.

B. If the ACHP does not provide its advice regarding the dispute within the thirty (30)-day time period, FHWA may make a final decision on the dispute and proceed accordingly. Prior to reaching such a final decision, FHWA shall prepare a written response that takes into account any timely comments regarding the dispute from the signatories and concurring parties to the MOA and provide them and the ACHP with a copy of such written response.

C. FHWA's responsibility to carry out all other actions subject to the terms of this MOA that are not the subject of the dispute remain unchanged.

VI. AMENDMENTS

This MOA may be amended when such an amendment is agreed to in writing by all signatories. The amendment will be effective on the date a copy signed by all of the signatories is filed with the ACHP.

VII. TERMINATION

If any signatory to this MOA determines that its terms will not or cannot be carried out, that party shall immediately consult with the other parties to attempt to develop an amendment per Stipulation V, above. If within thirty (30) days (or another time period agreed to by all signatories) an amendment cannot be reached, any signatory may terminate the MOA upon written notification to the other signatories.

Once the MOA is terminated, and prior to work continuing on the undertaking, FHWA must either (a) execute a MOA pursuant to 36 CFR § 800.6 or (b) request, take into account, and respond to the comments of the ACHP under 36 CFR § 800.7. FHWA shall notify the signatories as to the course of action it will pursue.

Execution of this MOA by FHWA, NHDOT and NHSHPO and implementation of its terms evidence that FHWA has taken into account the effects of this undertaking on historic properties and afforded the ACHP an opportunity to comment.

SIGNATORIES:

FEDERAL HIGHWAY ADMINISTRATION

By: PATRICK A BAUER Digitally signed by PATRICK A BAUER Date: 2021.11.10 13:48:02 -05'00' Date: 11-10-2021

Patrick A. Bauer
NH Division Administrator

NEW HAMPSHIRE DIVISION OF HISTORICAL RESOURCES

By: _____ Date: 10/8/2021

Nadine M. Miller
Deputy State Historic Preservation Officer

NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION

By: _____ Date: 11/8/2021

Peter E. Stamnas
Director of Project Development

CONCURRING PARTIES:

TOWN OF NEWINGTON, NEW HAMPSHIRE

By: _____ Date: _____

Ted Connors
Board of Selectmen, Chair

CONCURRING PARTIES:

CITY OF DOVER, NEW HAMPSHIRE

By: _____ Date: 10/19/21

Christopher G. Parker
Assistant City Manager

CONCURRING PARTIES:

WOODMAN MUSEUM

By: _____ Date: 11/4/21

David Tompkins
Executive Director

ACOE - Appendix B and Supplemental Narrative

US Army Corps of Engineers®
New England District

Appendix B
New Hampshire General Permits
Required Information and USACE Section 404Checklist

USACE Section 404 Checklist

1. Attach any explanations to this checklist. Lack of information could delay a USACE 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 3 for information on single and complete projects.
4. Contact USACE at (978) 318-8832 with any questions.
5. The information requested below is generally required in the NHDES Wetland Application. See page 61 for NHDES references and Admin Rules as they relate to the information below.

1. Impaired Waters	Yes	No
1.1 Will any work occur within 1 mile upstream in the watershed of an impaired water? See the following to determine if there is an impaired water in the vicinity of your work area. * https://nhdes-surface-water-quality-assessment-site-nhdes.hub.arcgis.com/ https://www.des.nh.gov/water/rivers-and-lakes/water-quality-assessment https://www4.des.state.nh.us/onestopdatamapper/onestopmapper.aspx	**X**[1]	
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 tidal SAS, prime wetlands, or priority resource areas? 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://www4.des.state.nh.us/NHB-DataCheck/.	**X**	
2.3 If wetland crossings are proposed, are they adequately designed to maintain hydrology, sediment transport & wildlife passage?		**X**
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]	
2.5 The overall project site is more than 40 acres?		**X**
2.6 What is the area of the previously filled wetlands?	**N/A**	
2.7 What is the area of the proposed fill in wetlands?	**24,822**[3]	
2.8 What % of the overall project sire will be previously and proposed filled wetlands?	**N/A**	
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://www4.des.state.nh.us/NHB-DataCheck/. USFWS IPAC website: https://ipac.ecosphere.fws.gov/	**X**[4]	

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**[5]	
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 31?		**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**[6]	
4.2 If 4.1 is yes, will compensatory flood storage be provided if the project results in a loss of flood storage?		**N/A**
5. Historic/Archaeological Resources		
For a minimum, minor or major impact project - a copy of the 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 37 GC 14(d) of the GP document**	**X**[7]	
6. Minimal Impact Determination (for projects that exceed 1 acre of permanent impact)	Yes	No
Projects with greater than 1 acre of permanent impact must include the following: • Functional assessment for aquatic resources in the project area. • On and off-site alternative analysis. • Provide additional information and description for how the below criteria are met.		
6.1 Will there be complete loss of aquatic resources on site?		
6.2 Have the impacts to the aquatic resources been avoided and minimized to the greatest extent practicable?		
6.3 Will all aquatic resource function be lost?		
6.4 Does the aquatic resource (s) have regional significance (watershed or ecoregion)?		
6.5 Is there an on-site alternative with less impact?		
6.6 Is there an off-site alternative with less impact?		
6.7 Will there be a loss to a resource dependent species?		
6.8 Are indirect impacts greater than 1 acre within and adjacent to the project area?		
6.9 Does the proposed mitigation replace aquatic resource function for direct, indirect, and cumulative impacts?		

*Although this checklist utilizes state information, its submittal to USACE is a federal requirement.

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

Supporting Notes

1. New Hampshire's 2020/2022 303(d) list of water quality impairments for the Little Bay (Assessment Unit # NHEST600030904-06-15), beneath the GSB and part of the lower Little Bay, indicates the water body is impaired due to previously observed elevated levels of Polychlorinated biphenyls (PCBs) and Dioxin that presumably are legacy pollutants from past industrial activities in marine and waterfront areas. Additionally, the NHDES OneStop Data Mapper further indicated that water quality impairments of elevated light attenuation coefficient readings, fecal coliform, and poor estuarine bioassessment results occur within the same area.

2. The proposed project will remove six (6) trees within the Dover buffer. The Newington buffer consists of primary successional woody vegetation and invasive plant species. A portion of this area will be removed as part of the proposed project, and native vegetation will be replanted in its place upon completion of work.

3. The project proposes to temporarily impact approximately 23,813 square feet of natural resources under the jurisdiction of the USACE, which includes the bed of Little Bay below the HOTL and excluding the temporary trestle's pilings. The project proposes permanent impacts to the 1,009 square foot palustrine wetland in Newington.

4. NHB22-3557 generated for this project indicated the potential presence of Atlantic sturgeon *(Acipenser oxyrinchus oxyrinchus*), Shortnose sturgeon *(Acipenser brevirostrum*), and the State threatened Cliff Swallow (*Petrochelidon pyrrhonota*) in the vicinity of the project area. The National Oceanic and Atmospheric Administration concurred that the project conforms to the FHWA-GARFO NLAA Program relative to Atlantic and Shortnose surgeon critical habitat per correspondence with William Barnhill, NOAA, on June 18, 2019. Natural communities of eelgrass beds, sparsely vegetated intertidal systems, and subtidal systems were also found to occur in the vicinity of the project area. The project was also reviewed for the presence of federally listed or proposed threatened, or endangered species, designated critical habitat, or other natural communities using the US Fish and Wildlife Services' (USFWS) Information for Planning and Consultation (IPaC) project planning tool. Results dated February 15, 2023 indicated the potential presence of the Northern long-eared bat (NLEB, *Myotis septentronalis*) and Roseate tern *(Sterna dougallii dougalli*) within the vicinity of the project area. After completing the Endangered Species Determination Key, it was determined that the proposed project would have "no effect" on the roseate tern as no suitable habitat is located within the project area. A consistency letter regarding the NLEB was also generated in IPaC and found that the proposed project "may affect – likely to adversely affect" the species. Refer to Section 6 of the Wetland Permit Application Narrative for detailed information and documentation regarding the consultations.

5. Habitat tiers are separated into three tier rankings, which are 1) Top Ranked Habitat in the State, 2) Top Ranked Habitat in Biological Region, and 3) Supporting Landscape. The Great Bay, including Little Bay, is identified as a Tier 1, Top Ranked Habitat starting at the General Sullivan Bridge (GSB) and extending west. This Tier 1 habitat includes a small portion of shoreline along Little Bay in the project area. There are additional select areas of Tier 1 habitat along the shoreline of the Piscataqua River in the southeast corner of the project area. No Tier 2, Top Ranked Habitat in Biological Region, or Tier 3, Supporting Landscape habitat rankings are located in the project area.

6. The General Sullivan Bridge (NHS-027-1(37), 11238) is located within the Special Flood Hazard Area Zone AE (regulatory floodway and 100-year floodplain) of the Piscataqua River. The proposed activities will not have any permanent impacts to the hydrodynamics of the Little Bay or Piscataqua River as no permanent changes are proposed to structures below the highest observable tide line (HOTL).

7. The proposed project was subject to an extensive, multi-party Section 106 Memorandum of Agreement (MOA) dated and approved October 19, 2021. Refer to Appendix H for further details. A Request for Project Review (#7241) was reviewed by the New Hampshire Division of Historical Resources (NHDHR) on December 3, 2015.

J

Color Photos with Captions

Representative Site Photographs
General Sullivan Bridge – Newington & Dover, NH

Photo 1: View southeast of General Sullivan Bridge from Hilton Park.

Photo 2: View east of proposed staging area within Hilton Park.

Representative Site Photographs
General Sullivan Bridge – Newington & Dover, NH

Photo 3: View west along the shoreline of Hilton Park towards Great Bay.

Photo 4: View west of the gazebo within Hilton Park that will be removed and replaced to provide a construction staging area for materials and equipment.

Representative Site Photographs
General Sullivan Bridge – Newington & Dover, NH

Photo 5: View west of General Sullivan Bridge from Hilton Park in Dover in the vicinity of one proposed temporary causeway.

Photo 6: View north across Little Bay towards Newington.

Representative Site Photographs
General Sullivan Bridge – Newington & Dover, NH

Photo 7: View north of the approach slab on the Dover side of the General Sullivan Bridge.

Photo 8: View north along the General Sullivan Bridge. The bridge has been closed since 2018.

Representative Site Photographs
General Sullivan Bridge – Newington & Dover, NH

Photo 9: View north of the General Sullivan Bridge superstructure from Newington.

Photo 10: View east of the General Sullivan Bridge superstructure.

Representative Site Photographs
General Sullivan Bridge – Newington & Dover, NH

Photo 11: View east of General Sullivan Bridge.

Photo 12: View south of the General Sullivan Bridge stone masonry piers. The existing piers will be reused as part of the proposed project.

Representative Site Photographs
General Sullivan Bridge – Newington & Dover, NH

Photo 13: View north of corrosion and deterioration of the General Sullivan Bridge superstructure.

Photo 14: View south of the underside of the General Sullivan Bridge along the Newington shoreline.

Representative Site Photographs
General Sullivan Bridge – Newington & Dover, NH

Photo 15: View north of Hilton Park and the Dover shoreline.

Photo 16: View south of the General Sullivan Bridge towards the Newington shoreline.

Representative Site Photographs
General Sullivan Bridge – Newington & Dover, NH

Photo 17: View south of the General Sullivan Bridge abutment along the Newington shoreline.

Photo 18: View east of the small jurisdictional wetland (Wetland W-1) within the Newington side of the project area.

Representative Site Photographs
General Sullivan Bridge – Newington & Dover, NH

Photo 19: View south of the General Sullivan Bridge in Newington in the vicinity of one proposed temporary causeway (to right of bridge in the photo).

Photo 20: View south below the GSB in Newington in vicinity of one proposed temporary causeway (to right of bridge in the photo).

Representative Site Photographs
General Sullivan Bridge – Newington & Dover, NH

Photo 21: View north of GSB from Newington towards Dover at approximate location of temporary causeway.

Photo 22: View south of GSB from Dover towards Newington at approximate location of temporary causeway.

Representative Site Photographs
General Sullivan Bridge – Newington & Dover, NH

Photo 23: View south from center span of the GSB towards Newington approach.

Photo 24: View north of the GSB along Newington approach.

K

Construction Sequence Narrative

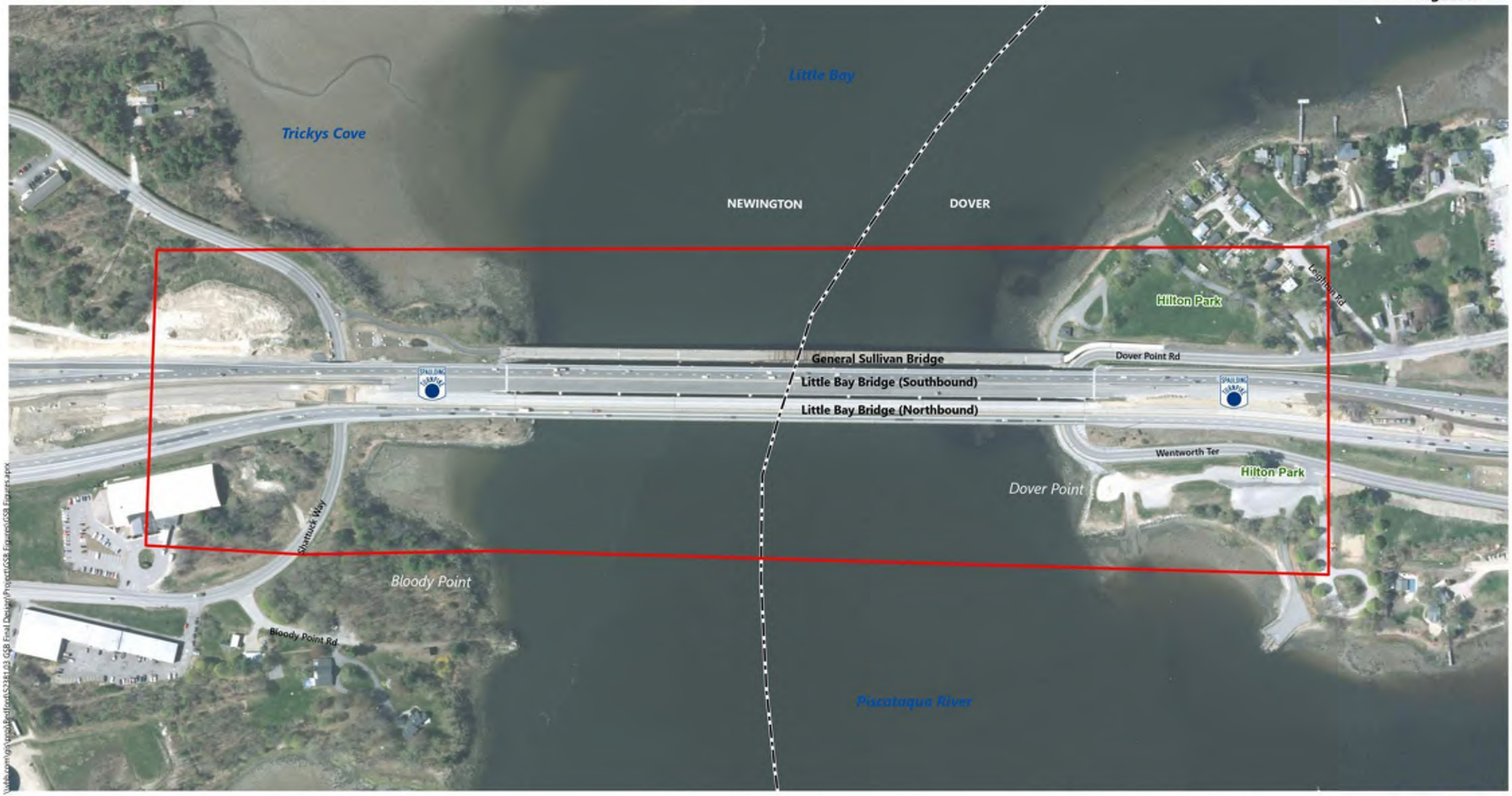
General Sullivan Bridge Superstructure Replacement
Construction Sequence

1. All work will occur to the southwest of the existing Little Bay Bridges within the existing or recently acquired Right-Of-Way (ROW) and existing and obtained easements.
2. Contractor will mobilize to the site, install all traffic control devices, fencing, and temporary sediment and erosion control measures prior to construction.
3. Construction will occur simultaneously from both the Newington and Dover GSB approaches. Public recreational access will be maintained to the remainder of Hilton Park in Dover. Sensitive upland areas within the Park will not be disturbed. The existing Hilton Park pavilion will be demolished (to be rebuilt at the end of the project).
4. Clear necessary vegetation within staging areas and install temporary causeways, pilings, and trestle work platforms from Dover and Newington channel banks.
5. Remove the existing General Sullivan Bridge superstructure.
6. Remove the existing Newington bridge abutment.
7. Install new bearing pedestals on the tops of the existing piers.
8. Construct new Newington abutment and modify existing Dover abutment.
9. Install temporary cofferdam directly to the existing GSB piers above existing pier foundation with no disturbance of channel bed and install dewatering equipment.
10. Dewater cofferdams, clean and repoint grout masonry of piers.
11. Erect new GSB structural steel and install new waterline on bridge.
12. Install deck overhang brackets and erect precast partial depth bridge deck panels.
13. Install bridge deck reinforcing steel and prepare screed rails and screed machine in preparation for concrete bridge deck placement.
14. Place concrete bridge deck and cure.
15. Remove temporary trestles, piles, and causeways. Restore embankments.
16. Form and place concrete brush curbs and cure.
17. Strip deck falsework and install bridge rail and lighting.
18. Complete Final grading at Newington abutment, pave, and final restoration/plantings.
19. Construct new pavilion at Hilton Park.
20. Open new General Sullivan Bridge to bicycle and pedestrian use.
21. Remove temporary bicycle and pedestrian path on NB Route 16 and restore site.
22. Mill and overlay on NB Route 16, including final striping.
23. Demobilize from site, remove fencing, perimeter controls, and perform final site restoration.

L

Project Mapping

Figure 3



0 125 250 500 Feet

Legend

Project Site

Town Boundaries

Newington-Dover 11238S | Newington and Dover, NH

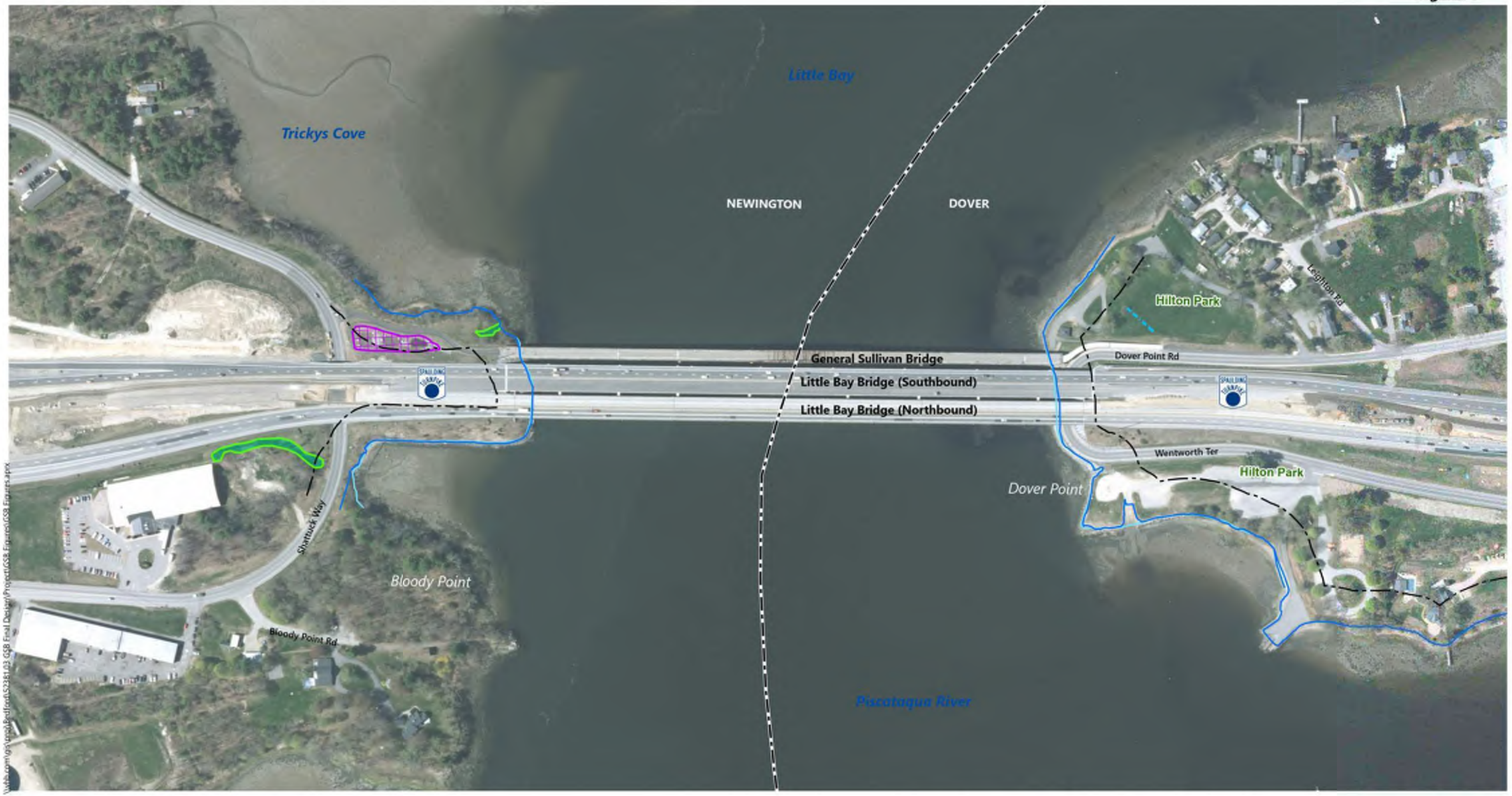
General Sullivan Bridge | **Aerial Overview Map**

U.S. Department of Transportation
Federal Motor Carrier Safety Administration

New Hampshire DOT
Department of Transportation

Source: VHB, NH GRANIT

Figure 4



0 125 250 500 Feet

Legend

- Town Boundaries
- Wetland Edge
- Top of Bank
- Tidal Buffer Zone
- Non Jursdictional Drainage
- Highest Observable Tide Line
- Wetland Resource Area
- Non Jurisdictional Detention Basin

Newington-Dover 11238S | Newington and Dover, NH

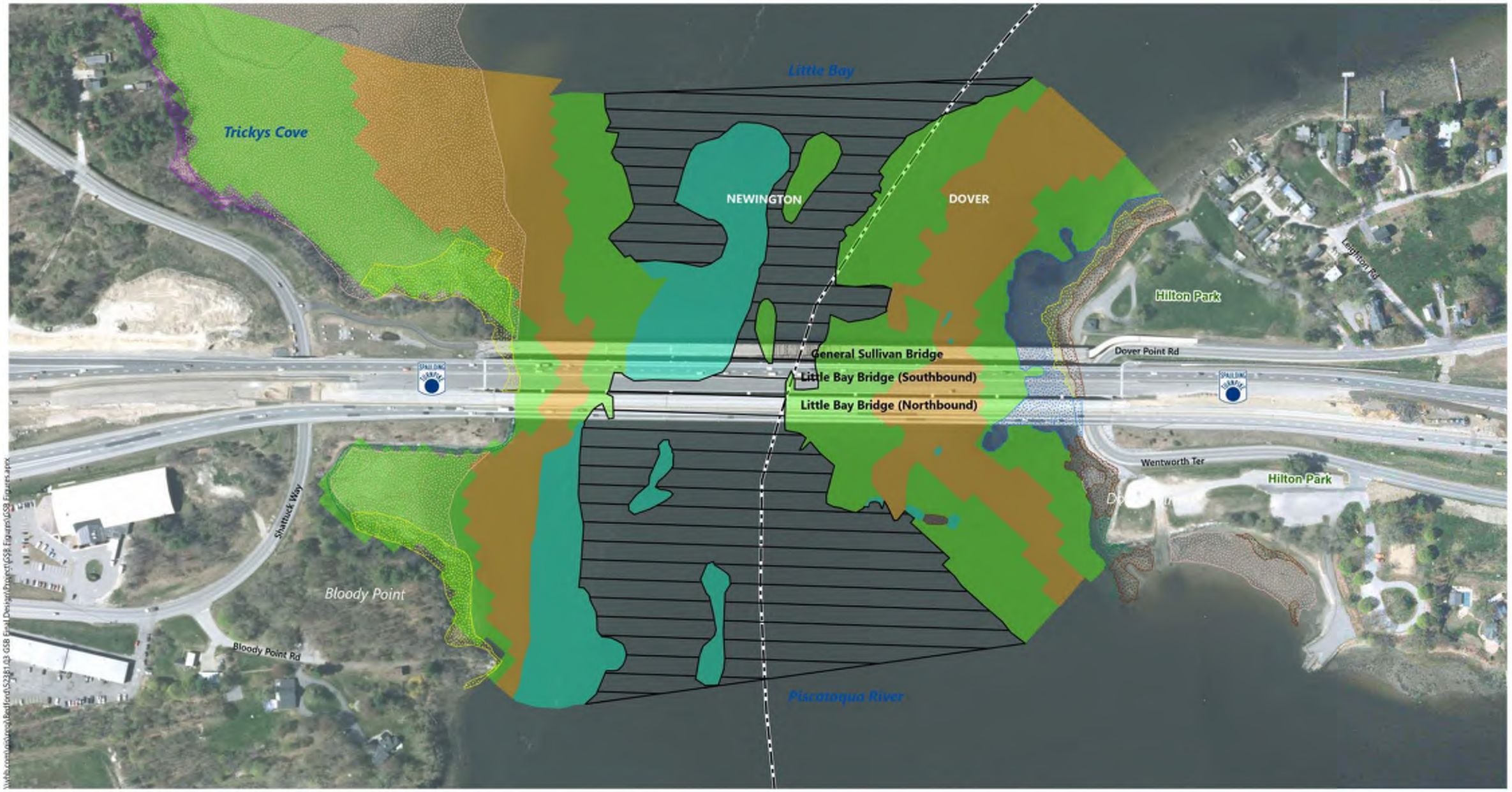
General Sullivan Bridge | **Wetland and Surface Water Resources**

U.S. Department of Transportation
Federal Motor Carrier Safety Administration

New Hampshire DOT Department of Transportation

Source: VHB, NH GRANIT

Figure 5



0 125 250 500 Feet

Legend

Town Boundaries

Intertidal Habitats

- Hard Bottom with Rockweed
- Mudflat
- Rock/Algal Abundant Mussel
- Rock/Algal Sparse Mussel
- Salt Marsh
- Scattered Rock/Algal Soft Sediment

Subtidal Habitats

- Kelp Bed
- Macroalgal (Non-Kelp) Bed
- Mussel Reef
- Other

Newington-Dover 11238S | Newington and Dover, NH

General Sullivan Bridge

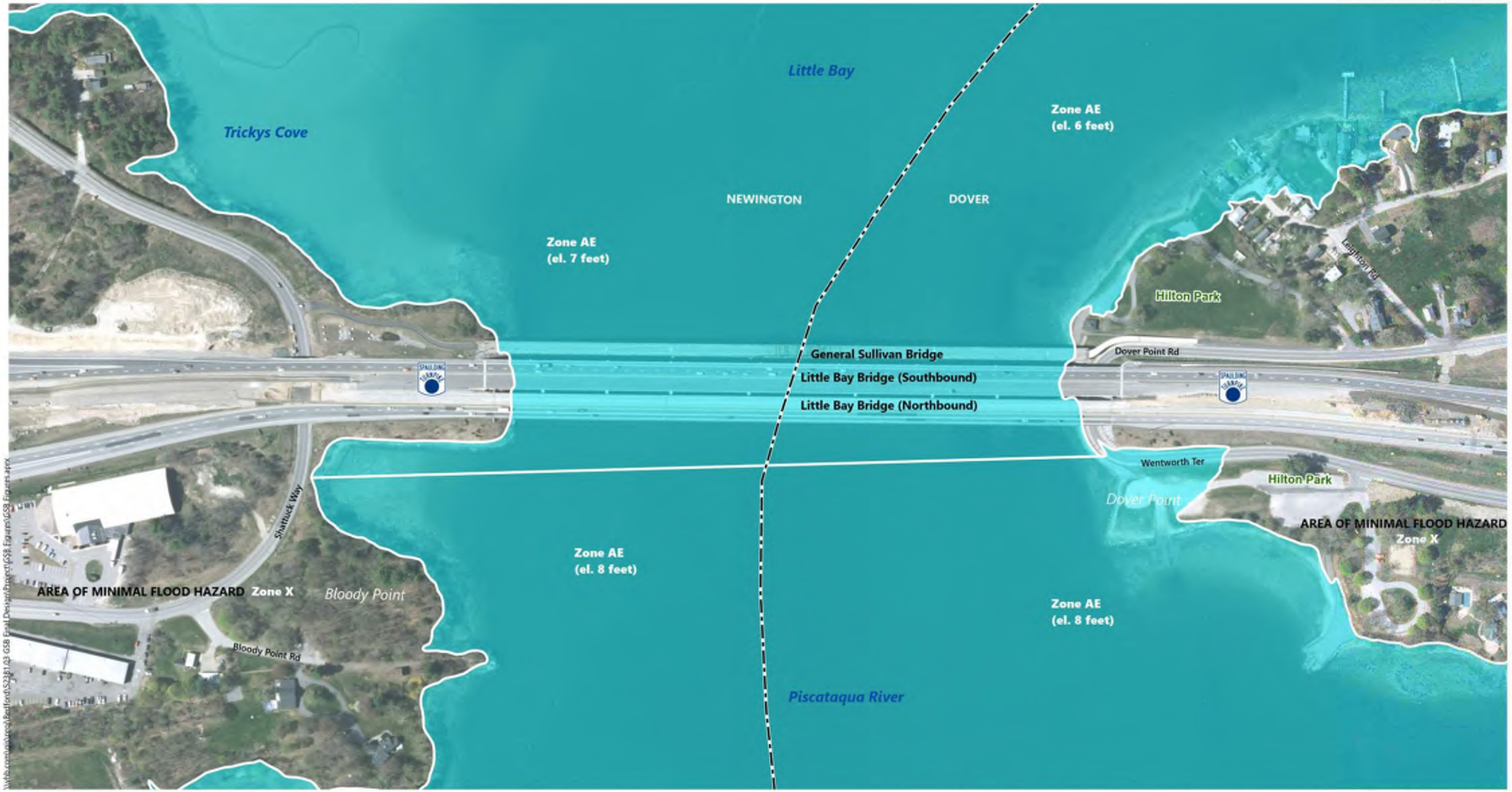
Intertidal and Subtidal Habitat Types

U.S. Department of Transportation
Federal Motor Carrier Safety Administration

New Hampshire DOT Department of Transportation

Source: VHB, NH GRANIT

Figure 6



\\vhb.com\gov\src\Bedford\52361.03 GSB Final Design\Project\GSB Figures\GSB Figures.aprx

0 125 250 500 Feet

Legend

Town Boundaries

1% Annual Chance Flood Hazard (FEMA)
PER FEMA FIRM 33017C0340E (09/30/2015)
and 33015C0255F (01/29/2021)

Newington-Dover 11238S | Newington and Dover, NH

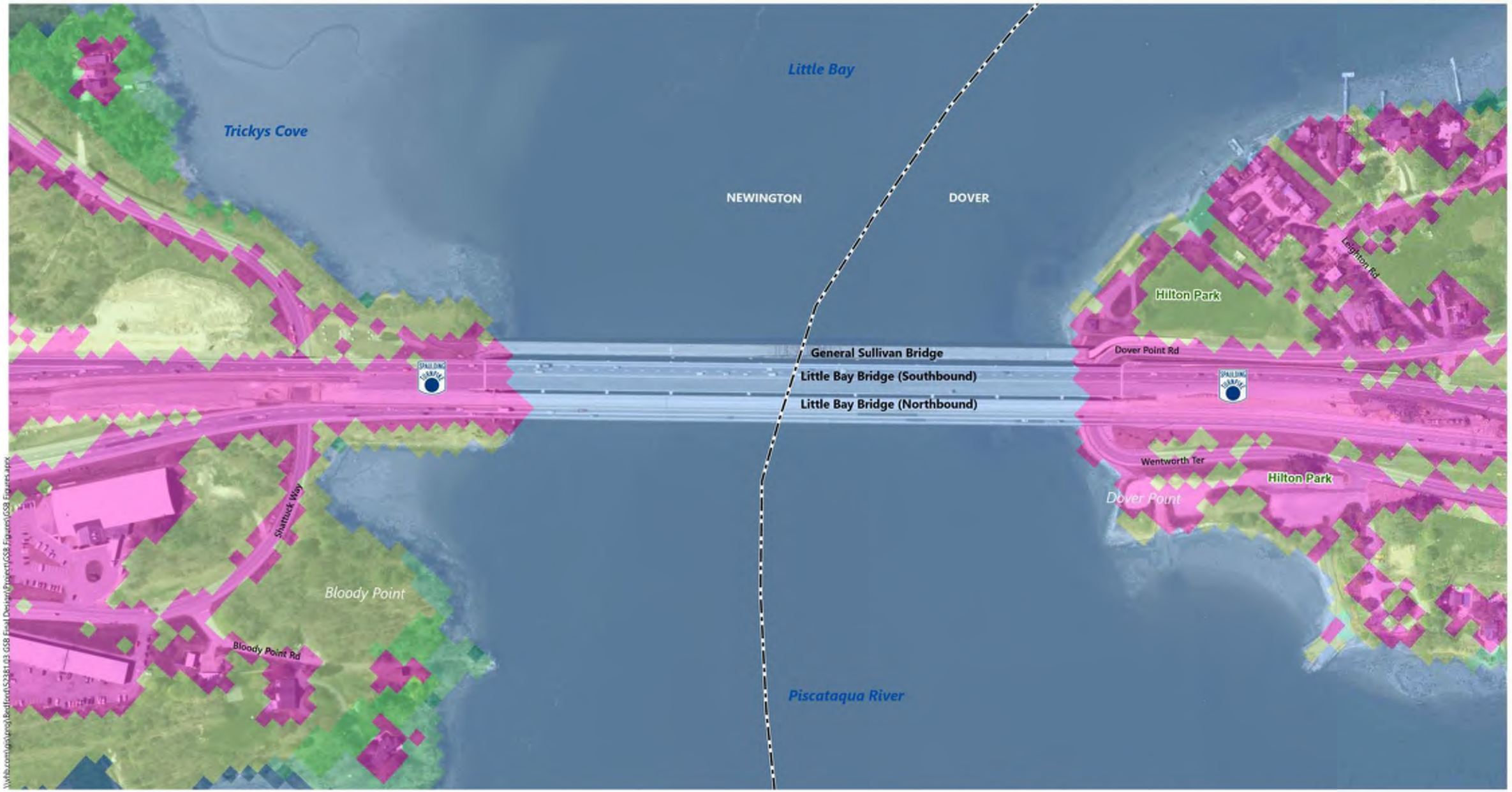
General Sullivan Bridge | **Floodplain and Hydrodynamics**

U.S. Department of Transportation
Federal Motor Carrier Safety Administration

New Hampshire DOT Department of Transportation

Source: VHB, NH GRANIT, FEMA

Figure 7



0 125 250 500 Feet

Legend

Town Boundaries

NHF&GD Wildlife Action Plan Habitats

- Appalachian oak-pine
- Developed Impervious
- Developed or Barren land
- Hemlock-hardwood-pine
- Open water
- Salt marsh
- Temperate swamp
- Wet meadow/shrub wetland

Newington-Dover 11238S | Newington and Dover, NH

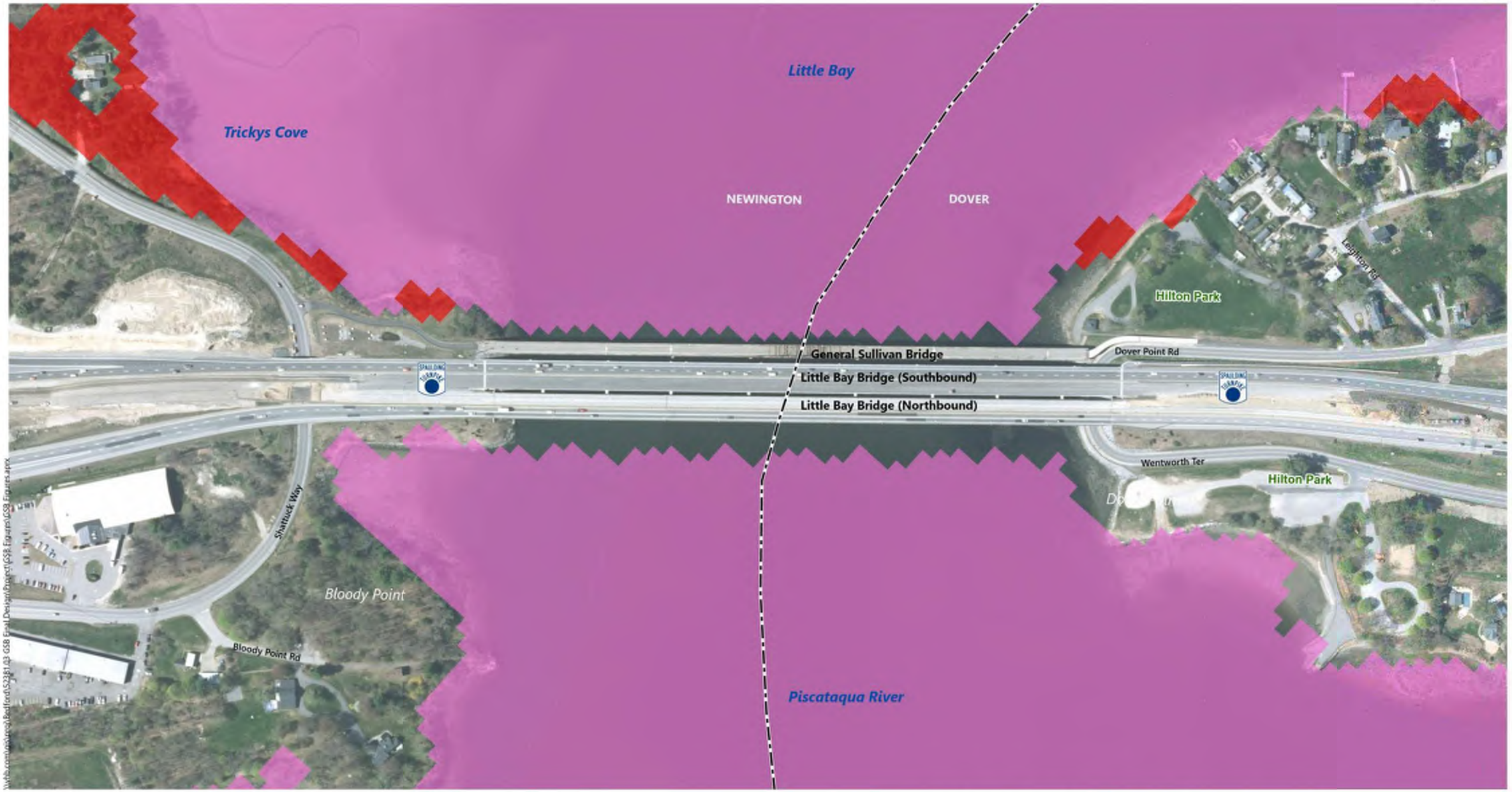
General Sullivan Bridge | **NHF&GD Wildlife Action Plan Habitats**

U.S. Department of Transportation
Federal Motor Carrier Safety Administration

New Hampshire DOT Department of Transportation

Source: NHGRANIT, NHF&GD WAP

Figure 8



0 125 250 500 Feet

Legend

Town Boundaries

NHF&GD Wildlife Action Plan Habitat Tiers

- Tier 1
- Tier 2
- Tier 3

Newington-Dover 11238S | Newington and Dover, NH

General Sullivan Bridge

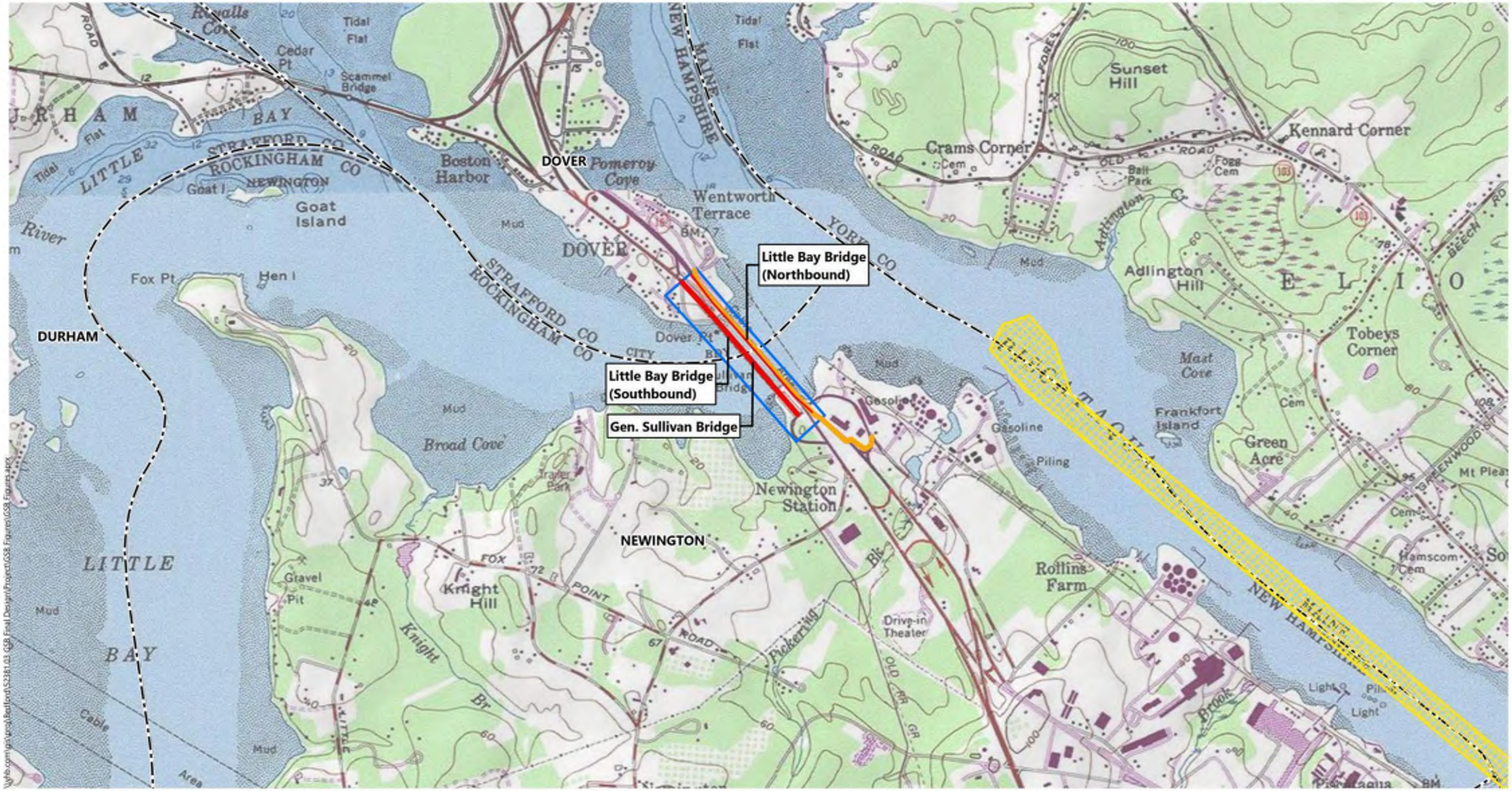
NHF&GD Wildlife Action Plan Habitat Tiers

U.S. Department of Transportation
Federal Motor Carrier Safety Administration

New Hampshire DOT Department of Transportation

Source: NHGRANIT, NHF&GD WAP

Figure 9



0 750 1500 3000 Feet

Approximate Work Limits
Study Area
Approx. Limits of Federal Project
Town Boundaries
Temporary Bicycle and Pedestrian Detour (Approximate)

Note: USGS topographic source map is from 1983 and therefore does not reflect all current conditions.

Newington-Dover 11238S | Newington and Dover, NH

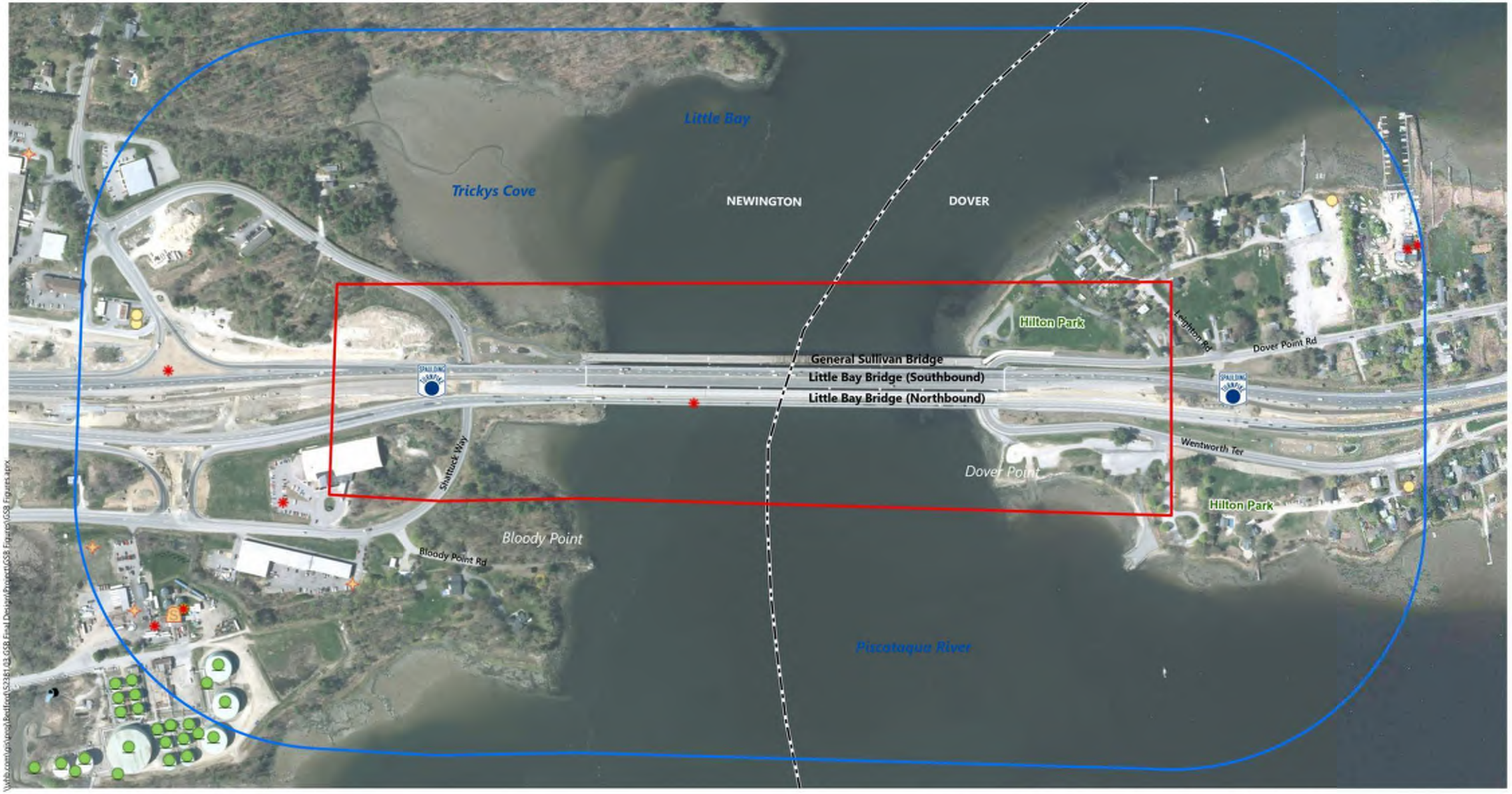
General Sullivan Bridge | **Navigation**

U.S. Department of Transportation Federal Motor Carrier Safety Administration

New Hampshire DOT Department of Transportation

Source: VHB, NH GRANIT, USGS 7.5-minute Topographic Quadrangles Dover East and Portsmouth, dated 1983

Figure 10



0 125 250 500 Feet

Legend

- Project Site
- 1,000' Buffer
- Town Boundaries
- Aboveground Storage Tank Sites
- Underground Storage Tank Sites
- Solid Waste Facilities
- Remediation Sites
- NPDES Outfalls
- Hazardous Waste Generators

Newington-Dover 11238S | Newington and Dover, NH

General Sullivan Bridge | **NHDES OneStop Review**

U.S. Department of Transportation
Federal Motor Carrier Safety Administration

New Hampshire DOT Department of Transportation

Source: VHB, NH GRANIT

GSB Action Area & Overlapping S7 Consultation Areas

Area of Interest (AOI) Information

Area : 2,724.31 acres

Nov 18 2022 11:51:56 Eastern Standard Time

GSB Action Area with 1-Mile Buffer

Summary

Name	Count	Area(acres)	Length(mi)
Atlantic Sturgeon	2	2,500.88	N/A
Shortnose Sturgeon	1	1,250.44	N/A
Atlantic Salmon	0	0	N/A
Sea Turtles	0	0	N/A
Atlantic Large Whales	0	0	N/A
In or Near Critical Habitat	1	1,243.16	N/A

Atlantic Sturgeon

#	Feature ID	Species	Lifestage	Behavior	Zone	From	Until	From (2)	Until (2)	Area(acres)
1	ANS_PIS_ADU_MAF	Atlantic sturgeon	Adult	Migrating & Foraging	Piscataqua River	01/01	12/31	N/A	N/A	1,250.44
2	ANS_PIS_SUB_MAF	Atlantic sturgeon	Subadult	Migrating & Foraging	Piscataqua River	01/01	12/31	N/A	N/A	1,250.44

Shortnose Sturgeon

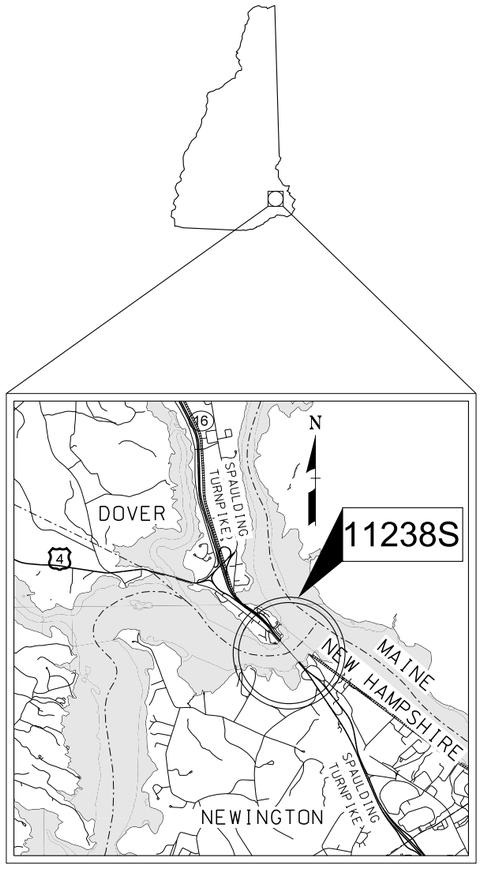
#	Feature ID	Species	Life Stage	Behavior	Zone	From	Until	From (2)	Until (2)	Area(acres)
1	SNS_PIS_ADU_MAF	Shortnose sturgeon	Adult	Migrating & Foraging	Piscataqua River	04/01	11/30	N/A	N/A	1,250.44

In or Near Critical Habitat

#	Species	In or Near Critical Habitat	Area(acres)
1	Atlantic Sturgeon	Gulf of Maine Unit 4: Piscataqua River	1,243.16

M

Wetland Impact Plans



LOCATION MAP

1 ½ 0 1 2 mi.

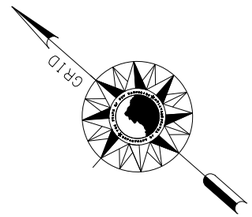
GRAPHIC SCALE

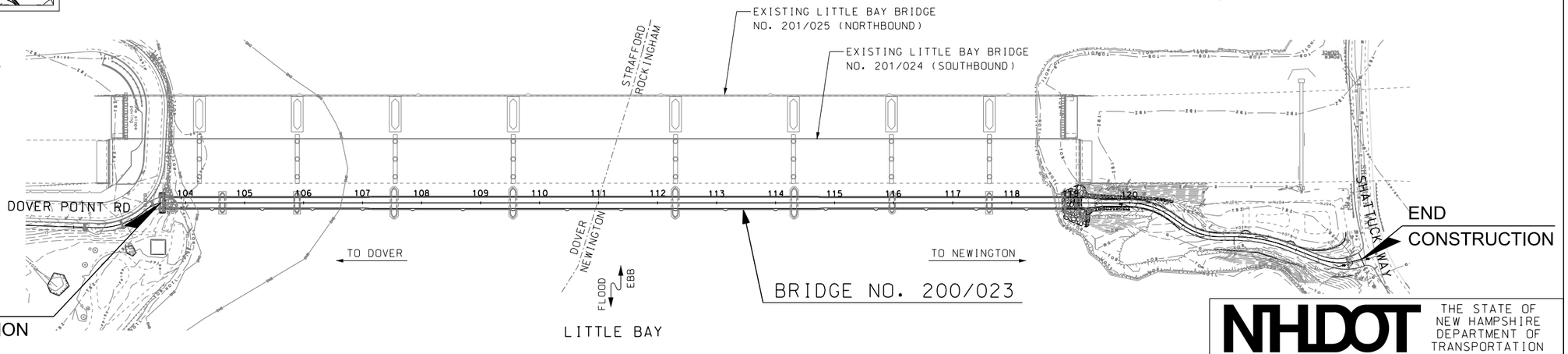
STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION

WETLAND IMPACT PLANS

NH PROJECT NO. 11238S
BRIDGE NO. 200/023
GENERAL SULLIVAN BRIDGE OVER LITTLE BAY
MULTI-USE PATH

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
1	COVER SHEET
2-3	STANDARD SYMBOLS (2 SHEETS)
4	EROSION CONTROL LEGEND AND STRATEGY
5-6	EXISTING CONDITIONS PLAN (2 SHEETS)
7-8	WETLAND IMPACT PLAN (2 SHEETS)
9-10	EROSION CONTROL PLAN (2 SHEETS)





TOWN OF NEWINGTON & CITY OF DOVER

COUNTIES OF ROCKINGHAM & STRAFFORD

SCALE: 1" = 100'

DRAWN BY BJM DATE 2/2/2023

CHECKED BY MAC DATE 2/2/2023

CHRISTOPHER P. WILKES No. 288 PROFESSIONAL ENGINEER

REVISED
PRELIMINARY PLANS
SUBJECT TO CHANGE
DATE 2/2/2023

PRELIMINARY PLANS
2/2/2023
ISSUED FOR PERMITTING

vhb

GREGORY S. GOODRICH No. 12254 LICENSED PROFESSIONAL ENGINEER

NHDOT THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION

RECOMMENDED FOR APPROVAL:

DIRECTOR OF PROJECT DEVELOPMENT — DATE

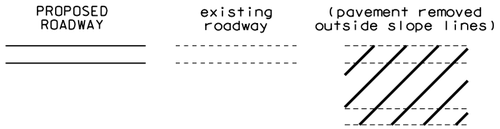
APPROVED:

ASSISTANT COMMISSIONER AND CHIEF ENGINEER — DATE

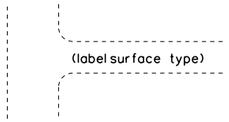
DRAWING NAME	FEDERAL PROJECT NO.	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
11238S_cov-permit		11238S	1	10

GENERAL

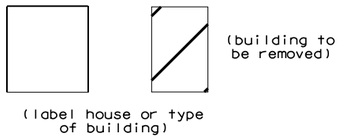
EDGE OF PAVEMENT
TRAVELED WAY



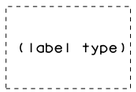
DRIVEWAYS



BUILDINGS

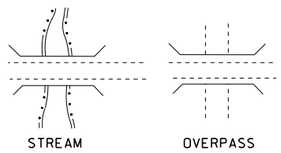


FOUNDATION



LEACH FIELD

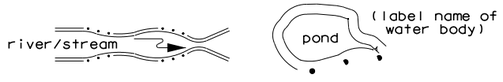
BRIDGE CROSSINGS



STEPS AND WALK

INTERMITTENT WATER COURSE

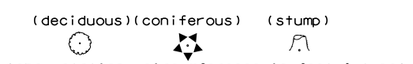
SHORE LINE



POTENTIAL WET AREA SYMBOL

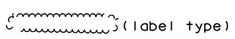
BRUSH OR WOODS LINE

TREES (PLANS)



TREE OR STUMP (CROSS-SECTIONS)

HEDGE



MONITORING WELL

WELL

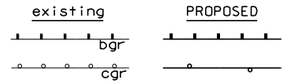
FLAG POLE

ORIGINAL GROUND (TYPICALS)

ROCK OUTCROP

ROCK LINE (TYPICALS & SECTIONS ONLY)

GUARDRAIL (label type)



JERSEY BARRIER

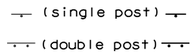
CURB (LABEL TYPE)

STONE WALL

RETAINING WALL (LABEL TYPE)

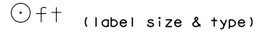
FENCE (LABEL TYPE)

SIGNS



GAS PUMP

FUEL TANK (ABOVE GROUND)



STORAGE TANK FILLER CAP

SEPTIC TANK

GRAVE

MAILBOX

VENT PIPE

SATELLITE DISH ANTENNA

PHONE

GROUND LIGHT/LAMP POST

BORING LOCATION

TEST PIT

INTERSTATE NUMBERED HIGHWAY

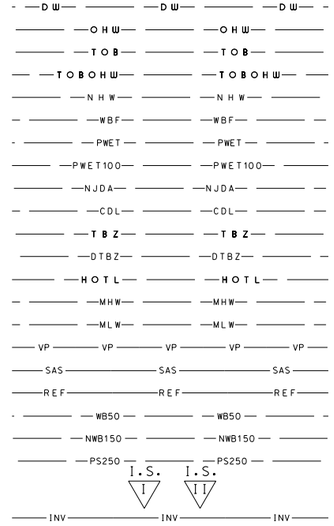
UNITED STATES NUMBERED HIGHWAY

STATE NUMBERED HIGHWAY

SHORELAND - WETLAND

WETLAND DESIGNATION AND TYPE

DELINEATED WETLAND
ORDINARY HIGH WATER
TOP OF BANK
TOP OF BANK & ORDINARY HIGH WATER
NORMAL HIGH WATER
WIDTH AT BANK FULL
PRIME WETLAND
PRIME WETLAND 100' BUFFER
NON-JURISDICTIONAL DRAINAGE AREA
COWARDIN DISTINCTION LINE
TIDAL BUFFER ZONE
DEVELOPED TIDAL BUFFER ZONE
HIGHEST OBSERVABLE TIDE LINE
MEAN HIGH WATER
MEAN LOW WATER
VERNAL POOL
SPECIAL AQUATIC SITE
REFERENCE LINE
WATER FRONT BUFFER
NATURAL WOODLAND BUFFER
PROTECTED SHORELAND

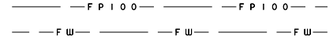


INVASIVE SPECIES LABEL

INVASIVE SPECIES

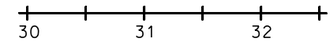
FLOODPLAIN / FLOODWAY

500 YEAR FLOODPLAIN BOUNDARY
100 YEAR FLOODPLAIN BOUNDARY
FLOODWAY



ENGINEERING

CONSTRUCTION BASELINE



PC, PT, POT (ON CONST BASELINE)

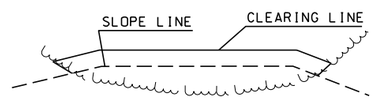
PI (IN CONSTRUCTION BASELINES)

INTERSECTION OR EQUATION OF TWO LINES

ORIGINAL GROUND LINE (PROFILES AND CROSS-SECTIONS)

PROFILE GRADE LINE (PROFILES AND CROSS-SECTIONS)

CLEARING LINE
SLOPE LINE



SLOPE LINE (FILL)

SLOPE LINE (CUT)

PROFILES AND CROSS SECTIONS:
ORIGINAL GROUND ELEVATION (LEFT)
FINISHED GRADE ELEVATION (RIGHT)

PPS&E PLANS
SUBJECT TO CHANGE
DATE 3/6/2023

STATE OF NEW HAMPSHIRE
Standards
DEPARTMENT OF TRANSPORTATION ◦ BUREAU OF HIGHWAY DESIGN

STANDARD SYMBOLS

REVISION DATE	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
11-21-2014	11238S_wetsymb1	11238S	2	10

DRAINAGE

MANHOLE

CATCH BASIN — cb

DROP INLET — di

(existing) (PROPOSED)

DRAINAGE PIPE (existing) — (label size & type)

DRAINAGE PIPE (PROPOSED)

UNDERDRAIN (existing) W/ FLUSHING BASIN — fb — (label size & type)

UNDERDRAIN (PROPOSED) W/ FLUSHING BASIN

show direction of flow

HEADER (existing & PROPOSED) — (with stone outlet protection)

END SECTION (existing & PROPOSED) — METAL or PLASTIC; RCP

OPEN DITCH (PROPOSED)

EROSION CONTROL/ STONE SLOPE PROTECTION

BOUNDARIES / RIGHT-OF-WAY

RIGHT-OF-WAY LINE — (label type)

RR RIGHT-OF-WAY LINE

PROPERTY LINE

PROPERTY LINE (COMMON OWNER) — Z

TOWN LINE — BOW / CONCORD

COUNTY LINE — COOS / GRAFTON

STATE LINE — MAINE / NEW HAMPSHIRE

NATIONAL FOREST

CONSERVATION LAND — LC

BENCH MARK / SURVEY DISK

BOUND — bnd — (PROPOSED)

STATE LINE/ TOWN LINE MONUMENT — S/L — T/L

NHDOT PROJECT MARKER

IRON PIPE OR PIN — ip

DRILL HOLE IN ROCK — dh

TAX MAP AND LOT NUMBER — 156 / 14 — 1642/341 — 6.80 Ac.±

PROPERTY PARCEL NUMBER — 12

HISTORIC PROPERTY — H

UTILITIES

existing PROPOSED

TELEPHONE POLE

POWER POLE

JOINT OCCUPANCY

MISCELLANEOUS/UNKNOWN POLE

GUY POLE OR PUSH BRACE

(plot point at face not center of symbol)

LIGHT POLE

LIGHT ON POWER POLE

LIGHT ON JOINT POLE

POLE STATUS:
REMOVE, LEAVE, PROPOSED, OR TEMPORARY
AS APPLICABLE e.g.:

R L — P+04 25.0' — T+04 25.0'

RAILROAD — (label ownership)

RAILROAD SIGN

RAILROAD SIGNAL

UTILITY JUNCTION BOX — jb — JB

OVERHEAD WIRE — OW — (label type)

UNDERGROUND UTILITIES

WATER (on existing lines label size, type and note if abandoned) — W — PW

SEWER — S — PS

TELEPHONE — T — PT

ELECTRIC — E — PE

GAS — G — PG

LIGHTING — L — PL

INTELLIGENT TRANSPORTATION SYSTEM — ITS

FIBER OPTIC — FO — PFO

WATER SHUT OFF

GAS SHUT OFF

HYDRANT

MANHOLES

SEWER — MHS

TELEPHONE — MHT

ELECTRICAL — MHE

GAS — MHG

UNKNOWN — U

TRAFFIC SIGNALS / ITS

existing PROPOSED

MAST ARM (existing) — 30' MA (NOTE ANGLE FROM ℄)

OPTICOM RECEIVER

OPTICOM STROBE

TRAFFIC SIGNAL

PEDESTAL WITH PEDESTRIAN SIGNAL HEADS AND PUSH BUTTON UNIT

SIGNAL CONDUIT — C — PC

CONTROLLER CABINET — cc — CC

METER PEDESTAL — mp — MP

PULL BOX — pb — PB

LOOP DETECTOR (QUADRUPOLE) — (label size)

LOOP DETECTOR (RECTANGULAR) — (label size)

CAMERA POLE (CCTV)

FIBER OPTIC DELINEATOR — fod — FOD

FIBER OPTIC SPLICE VAULT — SVF

ITS EQUIPMENT CABINET — its — ITS

VARIABLE SPEED LIMIT SIGN

DYNAMIC MESSAGE SIGN

ROAD AND WEATHER INFO SYSTEM

CONSTRUCTION NOTES

CURB MARK NUMBER - BITUMINOUS — B-1

CURB MARK NUMBER - GRANITE — G-1

CLEARING AND GRUBBING AREA — A

DRAINAGE NOTE — 1

EROSION CONTROL NOTE — A

FENCING NOTE — A

GUARDRAIL NOTE — 1

ITS NOTE — 1

LIGHTING NOTE — A

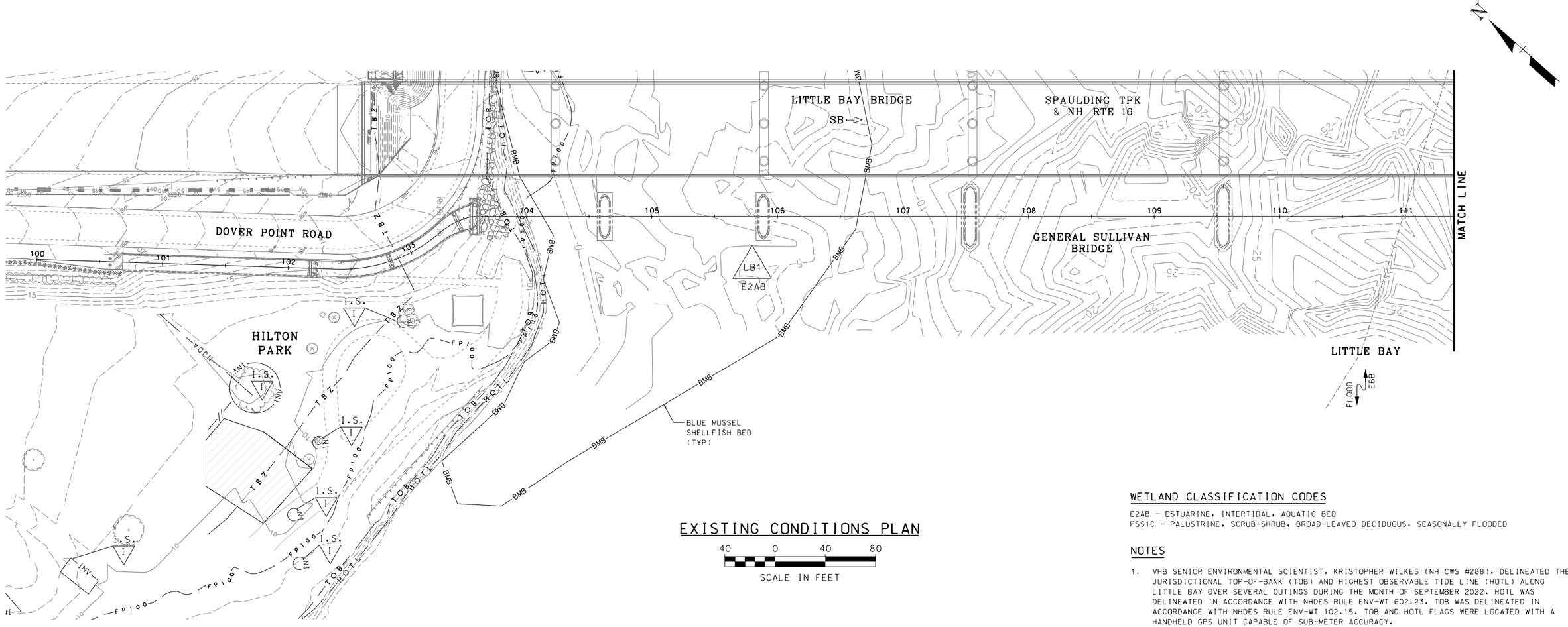
TRAFFIC SIGNAL NOTE — 1

SHEET 2 OF 2

STATE OF NEW HAMPSHIRE
Standards
DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

STANDARD SYMBOLS

REVISION DATE	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
9-1-2016	11238S_wetsymb2	11238S	3	10



EXISTING CONDITIONS PLAN

40 0 40 80

SCALE IN FEET

WETLAND CLASSIFICATION CODES

E2AB - ESTUARINE, INTERTIDAL, AQUATIC BED
PSS1C - PALUSTRINE, SCRUB-SHRUB, BROAD-LEAVED DECIDUOUS, SEASONALLY FLOODED

NOTES

1. VHB SENIOR ENVIRONMENTAL SCIENTIST, KRISTOPHER WILKES (NH CWS #288), DELINEATED THE JURISDICTIONAL TOP-OF-BANK (TOB) AND HIGHEST OBSERVABLE TIDE LINE (HOTL) ALONG LITTLE BAY OVER SEVERAL OUTINGS DURING THE MONTH OF SEPTEMBER 2022. HOTL WAS DELINEATED IN ACCORDANCE WITH NHDES RULE ENV-WT 602.23. TOB WAS DELINEATED IN ACCORDANCE WITH NHDES RULE ENV-WT 102.15. TOB AND HOTL FLAGS WERE LOCATED WITH A HANDHELD GPS UNIT CAPABLE OF SUB-METER ACCURACY.
2. THE SINGLE JURISDICTIONAL WETLAND LOCATED TO THE SOUTH OF THE GENERAL SULLIVAN BRIDGE WAS PREVIOUSLY DELINEATED BY VHB IN 2019. THE BOUNDARIES OF THIS WETLAND WERE REVIEWED AND CONFIRMED BY KRISTOPHER WILKES OF VHB (NH CWS #288) IN SEPTEMBER 2022.
3. WETLAND REVIEW/VERIFICATION WAS PERFORMED IN ACCORDANCE WITH THE PROCEDURES AND STANDARDS OUTLINED IN THE REGIONAL SUPPLEMENT TO THE U.S. ARMY CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION, VERSION 2.0 (JANUARY 2012).
4. WETLAND REVIEW/VERIFICATION ALSO RELIED UPON THE FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN THE UNITED STATES, VERSION 8.2, PUBLISHED BY THE NATURAL RESOURCE CONSERVATION SERVICE AND THE FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND, VERSION 4.0, PUBLISHED BY THE NEW ENGLAND INTERSTATE WATER POLLUTION CONTROL COMMISSION.
5. DOMINANT WETLAND VEGETATION WAS ASSESSED USING THE NORTHCENTRAL AND NORTHEAST REGIONAL WETLAND PLANT LIST PUBLISHED BY THE U.S. ARMY CORPS OF ENGINEERS.
6. WETLANDS AND SURFACE WATERS WERE CLASSIFIED USING THE USFWS METHODOLOGY CLASSIFICATION OF WETLANDS AND DEEPWATER HABITATS OF THE UNITED STATES (COWARDIN ET AL. 1979, REVISED 1985).
7. INVASIVE PLANT SPECIES (TYPE I & II) WERE MAPPED BY KRISTOPHER WILKES OF VHB IN SEPTEMBER 2022.

REVISED
PRELIMINARY PLANS
SUBJECT TO CHANGE
DATE 3/6/2023

vhb

PLOT DATE	DRAWING NAME	SHEET SCALE
3/6/2023	11238S_exc-permit.dgn	AS NOTED

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN NEWINGTON-DOVER BRIDGE NO. 200/023 STATE PROJECT 11238S

LOCATION GENERAL SULLIVAN BRIDGE OVER LITTLE BAY

EXISTING CONDITIONS PLAN (1 OF 2)

BRIDGE SHEET 5 OF 10

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	TSP	10/22	CHECKED	-	10/22
	DRAWN	BJM	10/22	CHECKED	TSP	10/22
	QUANTITIES			CHECKED		
	ISSUE DATE			FEDERAL PROJECT NO.		SHEET NO.
	REV. DATE					

FILE NUMBER

TOTAL SHEETS

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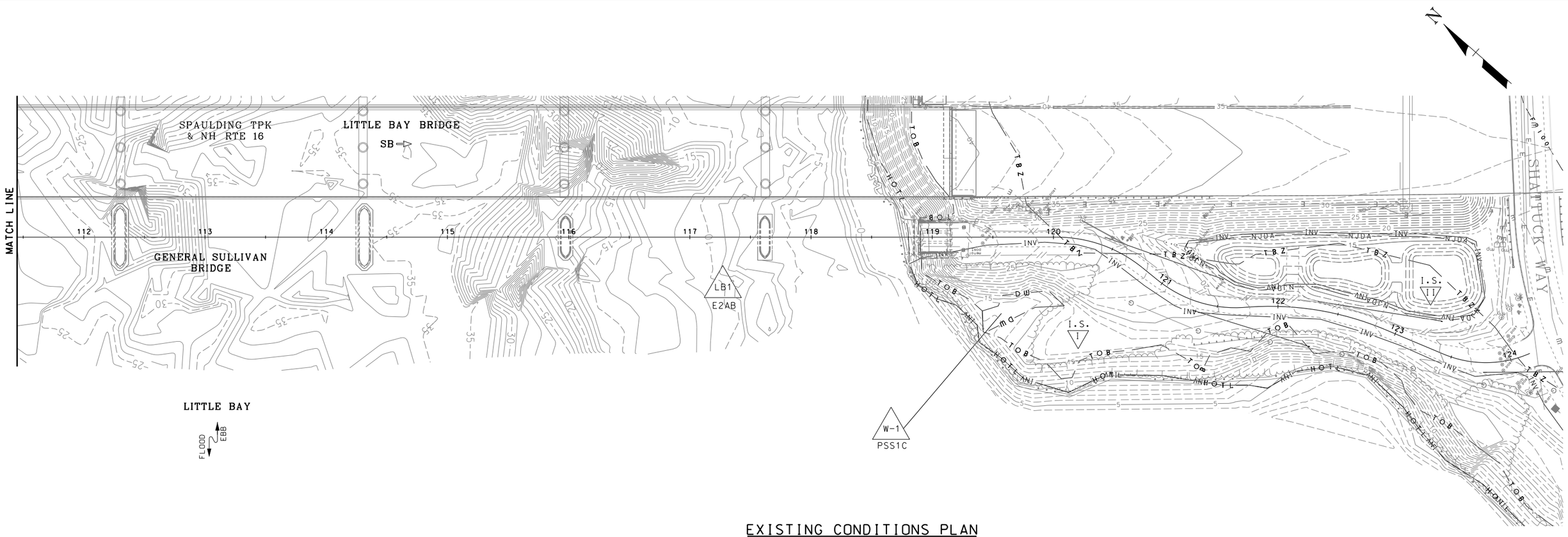

EXISTING CONDITIONS PLAN

40 0 40 80

SCALE IN FEET

REVISED
PRELIMINARY PLANS
SUBJECT TO CHANGE
DATE 3/6/2023

PLOT DATE	DRAWING NAME	SHEET SCALE
3/6/2023	11238S_exe-permit2.dgn	AS NOTED

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN NEWINGTON-DOVER BRIDGE NO. 200/023 STATE PROJECT 11238S

LOCATION GENERAL SULLIVAN BRIDGE OVER LITTLE BAY

EXISTING CONDITIONS PLAN (2 OF 2)

BRIDGE SHEET 6 OF 10

FILE NUMBER

REVISIONS AFTER PROPOSAL	BY	DATE

	BY	DATE		BY	DATE
DESIGNED	TSP	10/22	CHECKED	-	10/22
DRAWN	BJM	10/22	CHECKED	TSP	10/22
QUANTITIES			CHECKED		

ISSUE DATE	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
REV. DATE			

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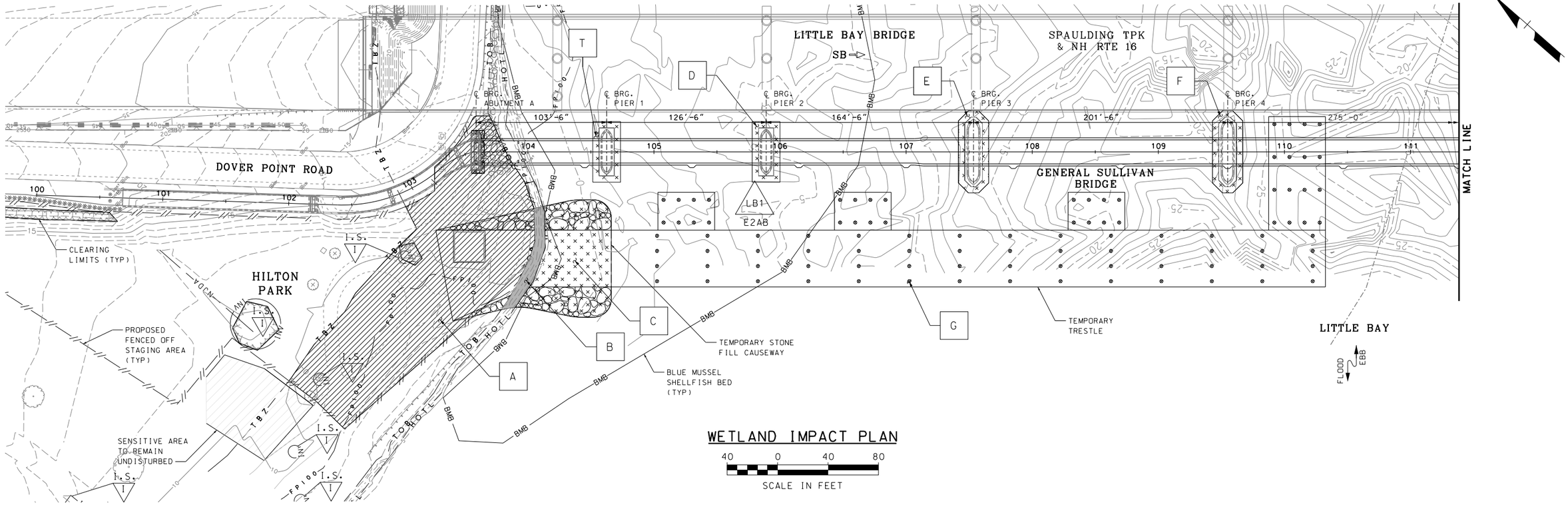


WETLAND IMPACT PLAN

40 0 40 80

SCALE IN FEET

WETLAND IMPACT SUMMARY											
WETLAND IDENT-IFICATION	WETLAND CLASS-IFICATION	WETLAND DESIGNA-TION	AREA IMPACTS								
			PERMANENT					TEMPORARY			
			N.H.W.B. (NON-WETLAND) BANK		N.H.W.B. & A.C.O.E. (WETLAND) BED		PALUSTRINE WETLAND	(NON-WETLAND)		(WETLAND)	
			SF	LF	SF	LF	SF	SF	LF	SF	LF
A	TBZ	-						19807			
B	BANK	-	756	85							
C	E2AB	LB1								5180	93
D	E2AB	LB1								600	
E	E2AB	LB1								715	
F	E2AB	LB1								715	65
G	E2AB	LB1								480	
H	E2AB	LB1								710	65
I	E2AB	LB1								710	
J	E2AB	LB1								536	
K	E2AB	LB1								600	
L	E2AB	LB1								540	
M	E2AB	LB1								12427	105
N	BANK	-	1555	170							
O	PSS1C	W-1					1009				
P	TBZ	-						19915			
Q	BANK	-	431	59							
R	TBZ	-						524			
S	TBZ	-						3973			
T	E2AB	LB1								600	48
U	BANK	-						165			
TOTAL			2742	314			1009	44384		23813	376

NOTE:
WETLAND IDENTIFICATION "A" REPRESENTS IMPACTS ON THE TIDAL BUFFER ZONE. WETLAND IDENTIFICATION "B" REPRESENTS IMPACTS ON THE BANK.

PERMANENT IMPACTS: 3751 SF
TEMPORARY IMPACTS: 68197 SF
TOTAL IMPACTS: 71948 SF

ARMY CORPS OF ENGINEERS
PERMANENT IMPACTS: 1009 SF
TEMPORARY IMPACTS: 23813 SF
TOTAL IMPACTS: 24822 SF

LEGEND

WETLAND IMPACT LOCATION

WETLAND DESIGNATION NUMBER

TYPE OF WETLAND IMPACT	SHADING/ HATCHING
NEW HAMPSHIRE WETLANDS BUREAU (PERMANENT NON-WETLAND)	
NEW HAMPSHIRE WETLANDS BUREAU & ARMY CORP OF ENGINEERS (PERMANENT WETLAND)	
TEMPORARY IMPACTS (NON-WETLAND)	
TEMPORARY IMPACTS (WETLAND)	

WETLAND CLASSIFICATION CODES	
E2AB	ESTUARINE. INTERTIDAL. AQUATIC BED
PSS1C	PALUSTRINE. SCRUB-SHRUB. BROAD-LEAVED DECIDUOUS. SEASONALLY FLOODED

REVISED
PRELIMINARY PLANS
SUBJECT TO CHANGE
DATE 3/6/2023

vhb

PLOT DATE	DRAWING NAME	SHEET SCALE
3/6/2023	11238S_imp-permit.dgn	AS NOTED

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN NEWINGTON-DOVER BRIDGE NO. 200/023 STATE PROJECT 11238S

LOCATION GENERAL SULLIVAN BRIDGE OVER LITTLE BAY

WETLAND IMPACT PLAN (1 OF 2)

BRIDGE SHEET 7 OF 10

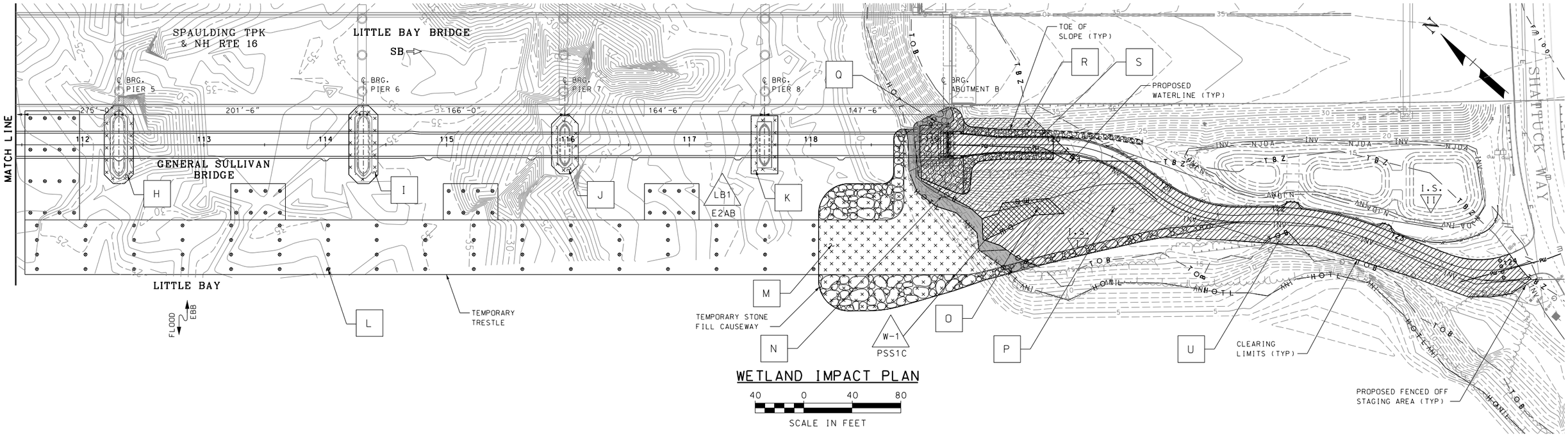
FILE NUMBER

REVISIONS AFTER PROPOSAL	BY	DATE

	BY	DATE		BY	DATE
DESIGNED	TSP	10/22	CHECKED	-	10/22
DRAWN	BJM	10/22	CHECKED	TSP	10/22
QUANTITIES			CHECKED		
ISSUE DATE			FEDERAL PROJECT NO.		SHEET NO.
REV. DATE					

TOTAL SHEETS

\\vhb\gbl\proj\Bedford\52381.03 GSB Final Design\cad\sst\BRC\PlanSet\11238S_imp-permit.dgn



WETLAND IMPACT PLAN

40 0 40 80

SCALE IN FEET

WETLAND IMPACT SUMMARY

WETLAND IDENT-IFICATION	WETLAND CLASS-IFICATION	WETLAND DESIGNA-TION	AREA IMPACTS								
			PERMANENT					TEMPORARY			
			N.H.W.B. (NON-WETLAND) BANK		N.H.W.B. & A.C.O.E. (WETLAND) BED		PALUSTRINE WETLAND	(NON-WETLAND)		(WETLAND)	
			SF	LF	SF	LF	SF	SF	LF	SF	LF
A	TBZ	-						19807			
B	BANK	-	756	85							
C	E2AB	LB1								5180	93
D	E2AB	LB1								600	
E	E2AB	LB1								715	
F	E2AB	LB1								715	65
G	E2AB	LB1								480	
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J	E2AB	LB1								536	
K	E2AB	LB1								600	
L	E2AB	LB1								540	
M	E2AB	LB1								12427	105
N	BANK	-	1555	170							
O	PSS1C	W-1					1009				
P	TBZ	-						19915			
Q	BANK	-	431	59							
R	TBZ	-						524			
S	TBZ	-						3973			
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LEGEND

WETLAND IMPACT LOCATION

WETLAND DESIGNATION NUMBER

TYPE OF WETLAND IMPACT	SHADING/ HATCHING
NEW HAMPSHIRE WETLANDS BUREAU (PERMANENT NON-WETLAND)	
NEW HAMPSHIRE WETLANDS BUREAU & ARMY CORP OF ENGINEERS (PERMANENT WETLAND)	
TEMPORARY IMPACTS (NON-WETLAND)	
TEMPORARY IMPACTS (WETLAND)	

WETLAND CLASSIFICATION CODES	
E2AB	ESTUARINE, INTERTIDAL, AQUATIC BED
PSS1C	PALUSTRINE, SCRUB-SHRUB, BROAD-LEAVED DECIDUOUS, SEASONALLY FLOODED

REVISED
PRELIMINARY PLANS
SUBJECT TO CHANGE
DATE 3/6/2023

vhb

PLOT DATE	DRAWING NAME	SHEET SCALE
3/6/2023	11238S_imp-permit2.dgn	AS NOTED

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN NEWINGTON-DOVER BRIDGE NO. 200/023 STATE PROJECT 11238S

LOCATION GENERAL SULLIVAN BRIDGE OVER LITTLE BAY

WETLAND IMPACT PLAN (2 OF 2)

BRIDGE SHEET 8 OF 10

FILE NUMBER

REVISIONS AFTER PROPOSAL	BY	DATE		BY	DATE
	DESIGNED	TSP	10/22	CHECKED	- 10/22
	DRAWN	BJM	10/22	CHECKED	TSP 10/22
	QUANTITIES			CHECKED	
	ISSUE DATE			FEDERAL PROJECT NO.	SHEET NO.
	REV. DATE				TOTAL SHEETS

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N

Erosion Control Plans

EROSION CONTROL STRATEGIES

1. ENVIRONMENTAL COMMITMENTS:
   1.1. THESE GUIDELINES DO NOT RELIEVE THE CONTRACTOR FROM COMPLIANCE WITH ANY CONTRACT PROVISIONS, OR APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS.
   1.2. THIS PROJECT WILL BE SUBJECT TO THE US EPA'S NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) STORM WATER CONSTRUCTION GENERAL PERMIT AS ADMINISTERED BY THE ENVIRONMENTAL PROTECTION AGENCY (EPA). THIS PROJECT IS SUBJECT TO REQUIREMENTS IN THE MOST RECENT CONSTRUCTION GENERAL PERMIT (CGP).
   1.3. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE NHDES WETLAND PERMIT, THE US ARMY CORPS OF ENGINEERS PERMIT, WATER QUALITY CERTIFICATION AND THE SPECIAL ATTENTION ITEMS INCLUDED IN THE CONTRACT DOCUMENTS.
   1.4. ALL STORM WATER, EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE NEW HAMPSHIRE STORMWATER MANUAL, VOLUME 3, EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION (DECEMBER 2008) (BMP MANUAL) AVAILABLE FROM THE NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES (NHDES).
   1.5. THE CONTRACTOR SHALL COMPLY WITH RSA 485-A:17, AND ALL, PUBLISHED NHDES ALTERATION OF TERRAIN ENV-WQ 1500 REQUIREMENTS (HTTP://DES.NH.GOV/ORGANIZATION/COMMISSIONER/LEGAL/RULES/INDEX.HTM)
   1.6. THE CONTRACTOR IS DIRECTED TO REVIEW AND COMPLY WITH SECTION 107.1 OF THE CONTRACT AS IT REFERS TO SPILLAGE, AND ALSO WITH REGARDS TO EROSION, POLLUTION, AND TURBIDITY PRECAUTIONS.

2. STANDARD EROSION CONTROL SEQUENCING APPLICABLE TO ALL CONSTRUCTION PROJECTS:
   2.1. PERIMETER CONTROLS SHALL BE INSTALLED PRIOR TO EARTH DISTURBING ACTIVITIES. PERIMETER CONTROLS AND STABILIZED CONSTRUCTION EXITS SHALL BE INSTALLED AS SHOWN IN THE BMP MANUAL AND AS DIRECTED BY THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) PREPARER.
   2.2. EROSION, SEDIMENTATION CONTROL MEASURES AND INFILTRATION BASINS SHALL BE CLEANED, REPLACED AND AUGMENTED AS NECESSARY TO PREVENT SEDIMENTATION BEYOND PROJECT LIMITS THROUGHOUT THE PROJECT DURATION.
   2.3. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSPECTED IN ACCORDANCE WITH THE CONSTRUCTION GENERAL PERMIT AND SECTION 645 OF THE NHDOT SPECIFICATIONS FOR ROAD AND BRIDGES CONSTRUCTION.
   2.4. AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
      (A) BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED;
      (B) A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
      (C) A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIP-RAP HAS BEEN INSTALLED;
      (D) TEMPORARY SLOPE STABILIZATION CONFORMING TO TABLE 1 HAS BEEN PROPERLY INSTALLED
   2.5. ALL STOCKPILES SHALL BE CONTAINED WITH A PERIMETER CONTROL. IF THE STOCKPILE IS TO REMAIN UNDISTURBED FOR MORE THAN 14 DAYS, MULCHING WILL BE REQUIRED.
   2.6. A WATER TRUCK SHALL BE AVAILABLE TO CONTROL EXCESSIVE DUST AT THE DIRECTION OF THE CONTRACT ADMINISTRATOR.
   2.7. TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES SHALL REMAIN UNTIL THE AREA HAS BEEN PERMANENTLY STABILIZED.
   2.8. CONSTRUCTION PERFORMED ANY TIME BETWEEN NOVEMBER 30" AND MAY 1" OF ANY YEAR SHALL BE CONSIDERED WINTER CONSTRUCTION AND SHALL CONFORM TO THE FOLLOWING REQUIREMENTS.
      (A) ALL PROPOSED VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15", OR WHICH ARE DISTURBED AFTER OCTOBER 15", SHALL BE STABILIZED IN ACCORDANCE WITH TABLE 1.
      (B) ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15", OR WHICH ARE DISTURBED AFTER OCTOBER 15", SHALL BE STABILIZED TEMPORARILY WITH STONE OR IN ACCORDANCE WITH TABLE 1.
      (C) AFTER NOVEMBER 30" INCOMPLETE ROAD SURFACES, WHERE WORK HAS STOPPED FOR THE SEASON, SHALL BE PROTECTED IN ACCORDANCE WITH TABLE 1.
      (D) WINTER EXCAVATION AND EARTHWORK SHALL BE DONE SUCH THAT NO MORE THAN 1 ACRE OF THE PROJECT IS WITHOUT STABILIZATION AT ONE TIME, UNLESS A WINTER CONSTRUCTION PLAN HAS BEEN APPROVED BY NHDOT THAT MEETS THE REQUIREMENTS OF ENV-WQ 1505.02 AND ENV-WQ 1505.05.
      (E) A SWPPP AMENDMENT SHALL BE SUBMITTED TO THE DEPARTMENT, FOR APPROVAL, ADDRESSING COLD WEATHER STABILIZATION (ENV-WQ 1505.05) AND INCLUDING THE REQUIREMENTS OF NO LESS THAN 30 DAYS PRIOR TO THE COMMENCEMENT OF WORK SCHEDULED AFTER NOVEMBER 30".

GENERAL CONSTRUCTION PLANNING AND SELECTION OF STRATEGIES TO CONTROL EROSION AND SEDIMENT ON HIGHWAY CONSTRUCTION PROJECTS

3. PLAN ACTIVITIES TO ACCOUNT FOR SENSITIVE SITE CONDITIONS:
   3.1. CLEARLY FLAG AREAS TO BE PROTECTED IN THE FIELD AND PROVIDE CONSTRUCTION BARRIERS TO PREVENT TRAFFICKING OUTSIDE OF WORK AREAS.
   3.2. CONSTRUCTION SHALL BE SEQUENCED TO LIMIT THE DURATION AND AREA OF EXPOSED SOILS.
   3.3. PROTECT AND MAXIMIZE EXISTING NATIVE VEGETATION AND NATURAL FOREST BUFFERS BETWEEN CONSTRUCTION ACTIVITY AND SENSITIVE AREAS.
   3.4. WHEN WORK IS PERFORMED IN AND NEAR WATER COURSES, STREAM FLOW DIVERSION METHODS SHALL BE IMPLEMENTED PRIOR TO ANY EXCAVATION OR FILLING.
   3.5. WHEN WORK IS PERFORMED WITHIN 50 FEET OF SURFACE WATERS (WETLAND, OPEN WATER OR FLOWING WATER), PERIMETER CONTROL SHALL BE ENHANCED CONSISTENT WITH SECTION 2.1.2.1. OF THE 2012 NPDES CONSTRUCTION GENERAL PERMIT.

4. MINIMIZE THE AMOUNT OF EXPOSED SOIL:
   4.1. CONSTRUCTION SHALL BE SEQUENCED TO LIMIT THE DURATION AND AREA OF EXPOSED SOILS. MINIMIZE THE AREA OF EXPOSED SOIL AT ANY ONE TIME. PHASING SHALL BE USED TO REDUCE THE AMOUNT AND DURATION OF SOIL EXPOSED TO THE ELEMENTS AND VEHICLE TRACKING.
   4.2. UTILIZE TEMPORARY MULCHING OR PROVIDE ALTERNATE TEMPORARY STABILIZATION ON EXPOSED SOILS IN ACCORDANCE WITH TABLE 1.
   4.3. THE MAXIMUM AMOUNT OF DISTURBED EARTH SHALL NOT EXCEED A TOTAL OF 5 ACRES FROM MAY 1" THROUGH NOVEMBER 30", OR EXCEED ONE ACRE DURING WINTER MONTHS, UNLESS THE CONTRACTOR DEMONSTRATES TO THE DEPARTMENT THAT THE ADDITIONAL AREA OF DISTURBANCE IS NECESSARY TO MEET THE CONTRACTORS CRITICAL PATH METHOD SCHEDULE (CPM), AND THE CONTRACTOR HAS ADEQUATE RESOURCES AVAILABLE TO ENSURE THAT ENVIRONMENTAL COMMITMENTS WILL BE MET.

5. CONTROL STORMWATER FLOWING ONTO AND THROUGH THE PROJECT:
   5.1. DIVERT OFF SITE RUNOFF OR CLEAN WATER AWAY FROM THE CONSTRUCTION ACTIVITY TO REDUCE THE VOLUME THAT NEEDS TO BE TREATED ON SITE.
   5.2. DIVERT STORM RUNOFF FROM UPSLOPE DRAINAGE AREAS AWAY FROM DISTURBED AREAS, SLOPES, AND AROUND ACTIVE WORK AREAS AND TO A STABILIZED OUTLET LOCATION.
   5.3. CONSTRUCT IMPERMEABLE BARRIERS AS NECESSARY TO COLLECT OR DIVERT CONCENTRATED FLOWS FROM WORK OR DISTURBED AREAS.
   5.4. STABILIZE, TO APPROPRIATE ANTICIPATED VELOCITIES, CONVEYANCE CHANNELS OR PUMPING SYSTEMS NEEDED TO CONVEY CONSTRUCTION STORMWATER TO BASINS AND DISCHARGE LOCATIONS PRIOR TO USE.
   5.5. DIVERT OFF-SITE WATER THROUGH THE PROJECT IN AN APPROPRIATE MANNER SO NOT TO DISTURB THE UPSTREAM OR DOWNSTREAM SOILS, VEGETATION OR HYDROLOGY BEYOND THE PERMITTED AREA.

6. PROTECT SLOPES:
   6.1. INTERCEPT AND DIVERT STORM RUNOFF FROM UPSLOPE DRAINAGE AREAS AWAY FROM UNPROTECTED AND NEWLY ESTABLISHED AREAS AND SLOPES TO A STABILIZED OUTLET OR CONVEYANCE.
   6.2. CONSIDER HOW GROUNDWATER SEEPAGE ON CUT SLOPES MAY IMPACT SLOPE STABILITY AND INCORPORATE APPROPRIATE MEASURES TO MINIMIZE EROSION.
   6.3. CONVEY STORMWATER DOWN THE SLOPE IN A STABILIZED CHANNEL OR SLOPE DRAIN.
   6.4. THE OUTER FACE OF THE FILL SLOPE SHOULD BE IN A LOOSE RUFFLED CONDITION PRIOR TO TURF ESTABLISHMENT. TOPSOIL OR HUMUS LAYERS SHALL BE TRACKED UP AND DOWN THE SLOPE, DISKED, HARROWED, DRAGGED WITH A CHAIN OR MAT, MACHINE-RAKED, OR HAND-WORKED TO PRODUCE A RUFFLED SURFACE.

7. ESTABLISH STABILIZED CONSTRUCTION EXITS:
   7.1. INSTALL AND MAINTAIN CONSTRUCTION EXITS, ANYWHERE TRAFFIC LEAVES A CONSTRUCTION SITE ONTO A PUBLIC RIGHT-OF-WAY.
   7.2. SWEEP ALL CONSTRUCTION RELATED DEBRIS AND SOIL FROM THE ADJACENT PAVED ROADWAYS AS NECESSARY.

8. PROTECT STORM DRAIN INLETS:
   8.1. DIVERT SEDIMENT LADEN WATER AWAY FROM INLET STRUCTURES TO THE EXTENT POSSIBLE.
   8.2. INSTALL SEDIMENT BARRIERS AND SEDIMENT TRAPS AT INLETS TO PREVENT SEDIMENT FROM ENTERING THE DRAINAGE SYSTEM.
   8.3. CLEAN CATCH BASINS, DRAINAGE PIPES, AND CULVERTS IF SIGNIFICANT SEDIMENT IS DEPOSITED.
   8.4. DROP INLET SEDIMENT BARRIERS SHOULD NEVER BE USED AS THE PRIMARY MEANS OF SEDIMENT CONTROL AND SHOULD ONLY BE USED TO PROVIDE AN ADDITIONAL LEVEL OF PROTECTION TO STRUCTURES AND DOWN-GRADIENT SENSITIVE RECEPTORS.

9. SOIL STABILIZATION:
   9.1. WITHIN THREE DAYS OF THE LAST ACTIVITY IN AN AREA, ALL EXPOSED SOIL AREAS, WHERE CONSTRUCTION ACTIVITIES ARE COMPLETE, SHALL BE STABILIZED.
   9.2. IN ALL AREAS, TEMPORARY SOIL STABILIZATION MEASURES SHALL BE APPLIED IN ACCORDANCE WITH THE STABILIZATION REQUIREMENTS (SECTION 2.2) OF THE 2012 CGP. (SEE TABLE 1 FOR GUIDANCE ON THE SELECTION OF TEMPORARY SOIL STABILIZATION MEASURES.)
   9.3. EROSION CONTROL SEED MIX SHALL BE SOWN IN ALL INACTIVE CONSTRUCTION AREAS THAT WILL NOT BE PERMANENTLY SEEDED WITHIN TWO WEEKS OF DISTURBANCE AND PRIOR TO SEPTEMBER 15, OF ANY GIVEN YEAR, IN ORDER TO ACHIEVE VEGETATIVE STABILIZATION PRIOR TO THE END OF THE GROWING SEASON.
   9.4. SOIL TACKIFIERS MAY BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND REAPPLIED AS NECESSARY TO MINIMIZE SOIL AND MULCH LOSS UNTIL PERMANENT VEGETATION IS ESTABLISHED.

10. RETAIN SEDIMENT ON-SITE AND CONTROL DEWATERING PRACTICES:
   10.1. TEMPORARY SEDIMENT BASINS (CGP-SECTION 2.1.3.2) OR SEDIMENT TRAPS (ENV-WQ 1506.10) SHALL BE SIZED TO RETAIN, ON SITE, THE VOLUME OF A 2-YEAR 24-HOUR STORM EVENT FOR ANY AREA OF DISTURBANCE OR 3,600 CUBIC FEET OF STORMWATER RUNOFF PER ACRE OF DISTURBANCE, WHICHEVER IS GREATER. TEMPORARY SEDIMENT BASINS USED TO TREAT STORMWATER RUNOFF FROM AREAS GREATER THAN 5-ACRES OF DISTURBANCE SHALL BE SIZED TO ALSO CONTROL STORMWATER RUNOFF FROM A 10-YEAR 24 HOUR STORM EVENT. ON-SITE RETENTION OF THE 10-YEAR 24-HOUR EVENT IS NOT REQUIRED.
   10.2. CONSTRUCT AND STABILIZE DEWATERING INFILTRATION BASINS PRIOR TO ANY EXCAVATION THAT MAY REQUIRE DEWATERING.
   10.3. TEMPORARY SEDIMENT BASINS OR TRAPS SHALL BE PLACED AND STABILIZED AT LOCATIONS WHERE CONCENTRATED FLOW (CHANNELS AND PIPES) DISCHARGE TO THE SURROUNDING ENVIRONMENT FROM AREAS OF UNSTABILIZED EARTH DISTURBING ACTIVITIES.

11. ADDITIONAL EROSION AND SEDIMENT CONTROL GENERAL PRACTICES:
   11.1. USE TEMPORARY MULCHING, PERMANENT MULCHING, TEMPORARY VEGETATIVE COVER, AND PERMANENT VEGETATIVE COVER TO REDUCE THE NEED FOR DUST CONTROL. USE MECHANICAL SWEEPERS ON PAVED SURFACES WHERE NECESSARY TO PREVENT DUST BUILDUP. APPLY WATER, OR OTHER DUST INHIBITING AGENTS OR TACKIFIERS, AS APPROVED BY THE NHDES.
   11.2. ALL STOCKPILES SHALL BE CONTAINED WITH TEMPORARY PERIMETER CONTROLS. INACTIVE SOIL STOCKPILES SHOULD BE PROTECTED WITH SOIL STABILIZATION MEASURES (TEMPORARY EROSION CONTROL SEED MIX AND MULCH, SOIL BINDER) OR COVERED WITH ANCHORED TARPS.
   11.3. EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSPECTED IN ACCORDANCE WITH SECTION 645 OF NHDOT SPECIFICATIONS, WEEKLY AND WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN 0.25 IN. OF RAIN PER 24-HOUR PERIOD. EROSION AND SEDIMENT CONTROL MEASURES WILL ALSO BE INSPECTED IN ACCORDANCE WITH THE GUIDANCE MEMO FROM THE NHDES CONTAINED WITHIN THE CONTRACT PROPOSAL AND THE EPA CONSTRUCTION GENERAL PERMIT.
   11.4. THE CONTRACTOR SHOULD UTILIZE STORM DRAIN INLET PROTECTION TO PREVENT SEDIMENT FROM ENTERING A STORM DRAINAGE SYSTEM PRIOR TO THE PERMANENT STABILIZATION OF THE CONTRIBUTING DISTURBED AREA.
   11.5. PERMANENT STABILIZATION MEASURES WILL BE CONSTRUCTED AND MAINTAINED IN LOCATIONS AS SHOWN ON THE CONSTRUCTION PLANS TO STABILIZE AREAS. VEGETATIVE STABILIZATION SHALL NOT BE CONSIDERED PERMANENTLY STABILIZED UNTIL VEGETATIVE GROWTH COVERS AT LEAST 85% OF THE DISTURBED AREA. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EROSION AND SEDIMENT CONTROL FOR ONE YEAR AFTER PROJECT COMPLETION.
   11.6. CATCH BASINS: CARE SHALL BE TAKEN TO ENSURE THAT SEDIMENTS DO NOT ENTER ANY EXISTING CATCH BASINS DURING CONSTRUCTION. THE CONTRACTOR SHALL PLACE TEMPORARY STONE INLET PROTECTION OVER INLETS IN AREAS OF SOIL DISTURBANCE THAT ARE SUBJECT TO SEDIMENT CONTAMINATION.
   11.7. TEMPORARY AND PERMANENT DITCHES SHALL BE CONSTRUCTED, STABILIZED AND MAINTAINED IN A MANNER THAT WILL MINIMIZE SCOUR. TEMPORARY AND PERMANENT DITCHES SHALL BE DIRECTED TO DRAIN TO SEDIMENT BASINS OR STORM WATER COLLECTION AREAS.
   11.8. WINTER EXCAVATION AND EARTHWORK ACTIVITIES NEED TO BE LIMITED IN EXTENT AND DURATION, TO MINIMIZE POTENTIAL EROSION AND SEDIMENTATION IMPACTS. THE AREA OF EXPOSED SOIL SHALL BE LIMITED TO ONE ACRE, OR THAT WHICH CAN BE STABILIZED AT THE END OF EACH DAY UNLESS A WINTER CONSTRUCTION PLAN, DEVELOPED BY A QUALIFIED ENGINEER OR A CPESC SPECIALIST, IS REVIEWED AND APPROVED BY THE DEPARTMENT.
   11.9. CHANNEL PROTECTION MEASURES SHALL BE SUPPLEMENTED WITH PERIMETER CONTROL MEASURES WHEN THE DITCH LINES OCCUR AT THE BOTTOM OF LONG FILL SLOPES. THE PERIMETER CONTROLS SHALL BE INSTALLED ON THE FILL SLOPE TO MINIMIZE THE POTENTIAL FOR FILL SLOPE SEDIMENT DEPOSITS IN THE DITCH LINE.

BEST MANAGEMENT PRACTICES (BMP) BASED ON AMOUNT OF OPEN CONSTRUCTION AREA

12. STRATEGIES SPECIFIC TO OPEN AREAS LESS THAN 5 ACRES:
   12.1. THE CONTRACTOR SHALL COMPLY WITH RSA 485:A:17 AND ENV-WQ 1500: ALTERATION OF TERRAIN FOR CONSTRUCTION AND USE ALL CONVENTIONAL BMP STRATEGIES.
   12.2. SLOPES STEEPER THAN 3:1 WILL RECEIVE TURF ESTABLISHMENT WITH MATTING.
   12.3. SLOPES 3:1 OR FLATTER WILL RECEIVE TURF ESTABLISHMENT ALONE.
   12.4. AREAS WHERE HAUL ROADS ARE CONSTRUCTED AND STORMWATER CANNOT BE TREATED THE DEPARTMENT WILL CONSIDER INFILTRATION.
   12.5. FOR HAUL ROADS ADJACENT TO SENSITIVE ENVIRONMENTAL AREAS OR STEEPER THAN 5%, THE DEPARTMENT WILL CONSIDER USING EROSION STONE, CRUSHED GRAVEL, OR CRUSHED STONE BASE TO HELP MINIMIZE EROSION ISSUES.
   12.6. ALL AREAS THAT CAN BE STABILIZED SHALL BE STABILIZED PRIOR TO OPENING UP NEW TERRITORY.
   12.7. DETENTION BASINS SHALL BE DESIGNED AND CONSTRUCTED TO ACCOMMODATE A 2 YEAR STORM EVENT.

13. STRATEGIES SPECIFIC TO OPEN AREAS BETWEEN 5 AND 10 ACRES:
   13.1. THE CONTRACTOR SHALL COMPLY WITH RSA 485:A:17 AND ENV-WQ 1500 ALTERATION OF TERRAIN AND SHALL USE CONVENTIONAL BMP STRATEGIES AND ALL TREATMENT OPTIONS USED FOR UNDER 5 ACRES WILL BE UTILIZED.
   13.2. DETENTION BASINS WILL BE CONSTRUCTED TO ACCOMMODATE THE 2-YEAR 24-HOUR STORM EVENT AND CONTROL A 10-YEAR 24-HOUR STORM EVENT.
   13.3. SLOPES STEEPER THAN A 3:1 WILL RECEIVE TURF ESTABLISHMENT WITH MATTING OR OTHER TEMPORARY SOIL STABILIZATION MEASURES DETAILED IN TABLE 1. THE CONTRACTOR MAY ALSO CONSIDER A SOIL BINDER IN ACCORDANCE WITH THE NHDES APPROVALS OR REGULATIONS. OTHER ALTERNATIVE MEASURES, SUCH AS BONDED FIBER MATRIXES (BFMS) OR FLEXIBLE GROWTH MEDIUMS (FGMS) MAY BE UTILIZED, IF MEETING THE NHDES APPROVALS AND REGULATIONS.
   13.4. SLOPES 3:1 OR FLATTER WILL RECEIVE TURF ESTABLISHMENT OR OTHER TEMPORARY SOIL STABILIZATION MEASURES DETAILED IN TABLE 1. THE CONTRACTOR MAY ALSO CONSIDER A SOIL BINDER IN ACCORDANCE WITH THE NHDES APPROVALS OR REGULATIONS.

14. STRATEGIES SPECIFIC TO OPEN AREAS OVER 10 ACRES:
   14.1. THE CONTRACTOR SHALL COMPLY WITH RSA 485:A:17 AND ENV-WQ 1500 ALTERATION OF TERRAIN AND SHALL USE CONVENTIONAL BMP STRATEGIES AND ALL TREATMENT OPTIONS USED FOR UNDER 5 ACRES AND BETWEEN 5 AND 10 ACRES WILL BE UTILIZED.
   14.2. THE DEPARTMENT ANTICIPATES THAT SOIL BINDERS WILL BE NEEDED ON ALL SLOPES STEEPER THAN 3:1, IN ORDER TO MINIMIZE EROSION AND REDUCE THE AMOUNT OF SEDIMENT IN THE STORMWATER TREATMENT BASINS.
   14.3. THE CONTRACTOR WILL BE REQUIRED TO HAVE AN APPROVED DESIGN IN ACCORDANCE WITH ENV-WQ 1506.12 FOR AN ACTIVE FLOCCULANT TREATMENT SYSTEM TO TREAT AND RELEASE WATER CAPTURED IN STORM WATER BASINS. THE CONTRACTOR SHALL ALSO RETAIN THE SERVICES OF AN ENVIRONMENTAL CONSULTANT WHO HAS DEMONSTRATED EXPERIENCE IN THE DESIGN OF FLOCCULANT TREATMENT SYSTEMS. THE CONSULTANT WILL ALSO BE RESPONSIBLE FOR THE IMPLEMENTATION AND MONITORING OF THE SYSTEM.

TABLE 1
GUIDANCE ON SELECTING TEMPORARY SOIL STABILIZATION MEASURES

APPLICATION AREAS	DRY MULCH METHODS				HYDRAULICALLY APPLIED MULCHES[2]				ROLLED EROSION CONTROL BLANKETS[3]			
	HMT	WC	SG	CB	HM	SMM	BFM	FRM	SNSB	DNSB	DNSCB	DNCB
SLOPES[1]												
STEEPER THAN 2:1	NO	NO	YES	NO	NO	NO	NO	YES	NO	NO	NO	YES
2:1 SLOPE	YES'	YES'	YES	YES	NO	NO	YES	YES	NO	YES	YES	YES
3:1 SLOPE	YES	YES	YES	YES	NO	YES	YES	YES	YES	YES	YES	NO
4:1 SLOPE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO
WINTER STABILIZATION	4T/AC	YES	YES	YES	NO	NO	YES	YES	YES	YES	YES	YES
CHANNELS												
LOW FLOW CHANNELS	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES
HIGH FLOW CHANNELS	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES

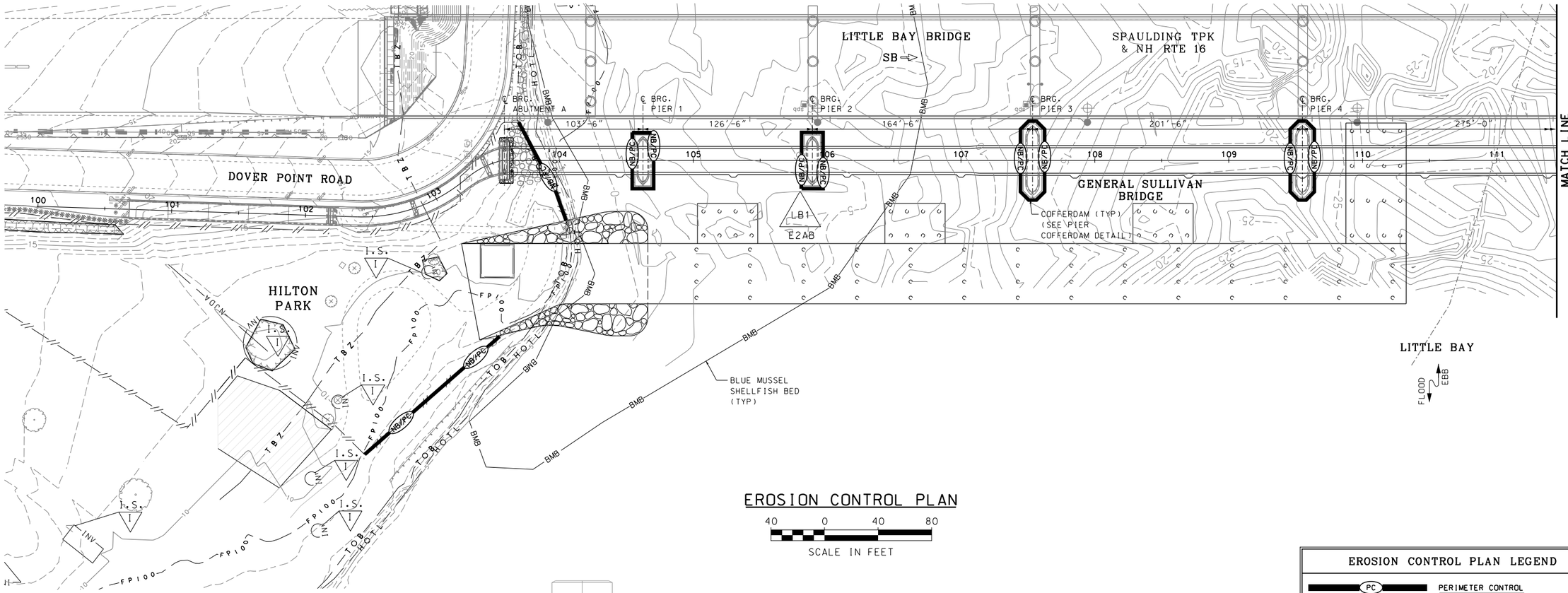
ABBREV.	STABILIZATION MEASURE	ABBREV.	STABILIZATION MEASURE	ABBREV.	STABILIZATION MEASURE
HMT	HAY MULCH & TACK	HM	HYDRAULIC MULCH	SNSB	SINGLE NET STRAW BLANKET
WC	WOOD CHIPS	SMM	STABILIZED MULCH MATRIX	DNSB	DOUBLE NET STRAW BLANKET
SG	STUMP GRINDINGS	BFM	BONDED FIBER MATRIX	DNSCB	2 NET STRAW-COCONUT BLANKET
CB	COMPOST BLANKET	FRM	FIBER REINFORCED MEDIUM	DNCB	2 NET COCONUT BLANKET

NOTES:
1. ALL SLOPE STABILIZATION OPTIONS ASSUME A SLOPE LENGTH ≤10 TIMES THE HORIZONTAL DISTANCE COMPONENT OF THE SLOPE, IN FEET.
2. PRODUCTS CONTAINING POLYACRYLAMIDE (PAM) SHALL NOT BE APPLIED DIRECTLY TO OR WITHIN 100 FEET OF ANY SURFACE WATER WITHOUT PRIOR WRITTEN APPROVAL FROM THE NH DEPARTMENT OF ENVIRONMENTAL SERVICES.
3. ALL EROSION CONTROL BLANKETS SHALL BE MADE WITH WILDLIFE FRIENDLY BIODEGRADABLE NETTING.

STATE OF NEW HAMPSHIRE
SPECIAL DETAILS
DEPARTMENT OF TRANSPORTATION ◦ BUREAU OF HIGHWAY DESIGN

EROSION CONTROL LEGEND AND STRATEGY

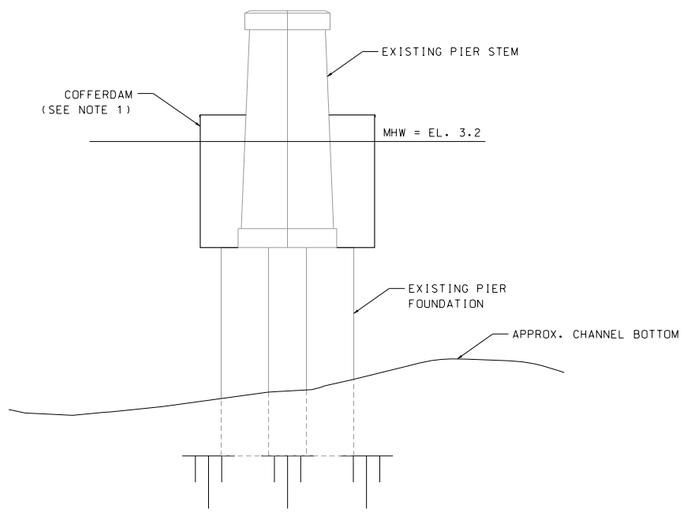
REVISION DATE	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
12-21-2015	11238S_erosstrat	11238S	4	10



EROSION CONTROL PLAN

40 0 40 80

SCALE IN FEET



PIER COFFERDAM DETAIL

NOT TO SCALE

EROSION CONTROL PLAN LEGEND

- PERIMETER CONTROL
  - SILT FENCE
  - EROSION CONTROL MIX BERM
  - EROSION CONTROL MIX SOX
  - TURBIDITY CURTAIN
  - SHEET PILE
  - COFFER DAM
- NATURAL BUFFER/PERIMETER CONTROL
  - SILT FENCE
  - EROSION CONTROL MIX BERM
  - EROSION CONTROL MIX SOX
  - TURBIDITY CURTAIN
  - SHEET PILE
  - COFFER DAM
- CHANNEL PROTECTION
  - STONE CHECK DAMS
  - STRAW WATTLES
  - CHANNEL MATTING
  - CLASS D EROSION STONE
  - CLASS C STONE
- CLEAN WATER BYPASS
  - PUMP THROUGH PIPE
  - DRAIN THROUGH PIPE OR CHANNEL

REVISED
PRELIMINARY PLANS
SUBJECT TO CHANGE
DATE 3/6/2023

NOTE

1. PIERS WILL BE REHABILITATED DURING CONSTRUCTION AND WILL REQUIRE CONSTANT DEWATERING. A COFFERDAM WILL BE ANCHORED AND BRACED TO THE EXISTING PIERS.

vhb

PLOT DATE	DRAWING NAME	SHEET SCALE
3/6/2023	11238S_ero-permit.dgn	AS NOTED

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN NEWINGTON-DOVER BRIDGE NO. 200/023 STATE PROJECT 11238S

LOCATION GENERAL SULLIVAN BRIDGE OVER LITTLE BAY

EROSION CONTROL PLAN (1 OF 2)

BRIDGE SHEET 9 OF 10

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
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	REV. DATE					

FILE NUMBER

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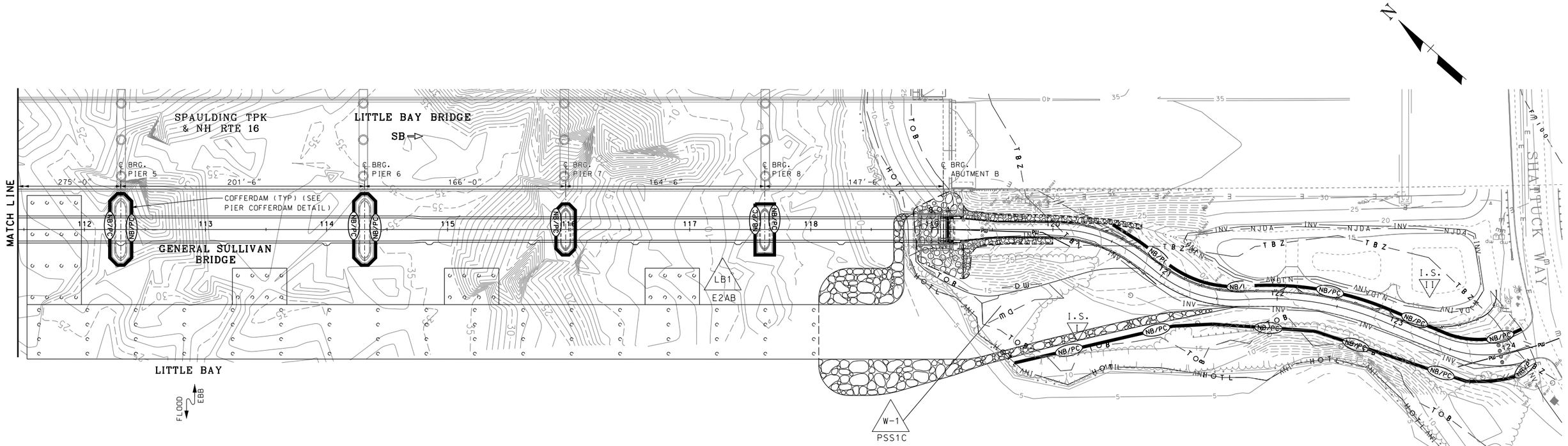

EROSION CONTROL PLAN

40 0 40 80

SCALE IN FEET

EROSION CONTROL PLAN LEGEND

PC	PERIMETER CONTROL
	SILT FENCE
	EROSION CONTROL MIX BERM
	EROSION CONTROL MIX SOX
	TURBIDITY CURTAIN
	SHEET PILE
	COFFER DAM
NB/PC	NATURAL BUFFER/PERIMETER CONTROL
	SILT FENCE
	EROSION CONTROL MIX BERM
	EROSION CONTROL MIX SOX
	TURBIDITY CURTAIN
	SHEET PILE
	COFFER DAM
CP	CHANNEL PROTECTION
	STONE CHECK DAMS
	STRAW WATTLES
	CHANNEL MATTING
	CLASS D EROSION STONE
	CLASS C STONE
CWB	CLEAN WATER BYPASS
	PUMP THROUGH PIPE
	DRAIN THROUGH PIPE OR CHANNEL

REVISED
PRELIMINARY PLANS
SUBJECT TO CHANGE
DATE 3/6/2023

PLOT DATE	DRAWING NAME	SHEET SCALE
3/6/2023	11238S_ero-permit2.dgn	AS NOTED

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN NEWINGTON-DOVER BRIDGE NO. 200/023 STATE PROJECT 11238S

LOCATION GENERAL SULLIVAN BRIDGE OVER LITTLE BAY

EROSION CONTROL PLAN (2 OF 2)

BRIDGE SHEET 10 OF 10

FILE NUMBER

REVISIONS AFTER PROPOSAL	BY	DATE		BY	DATE
	DESIGNED	TSP	10/22	CHECKED -	10/22
	DRAWN	BJM	10/22	CHECKED TSP	10/22
	QUANTITIES			CHECKED	
	ISSUE DATE			FEDERAL PROJECT NO.	SHEET NO.
	REV. DATE				

TOTAL SHEETS

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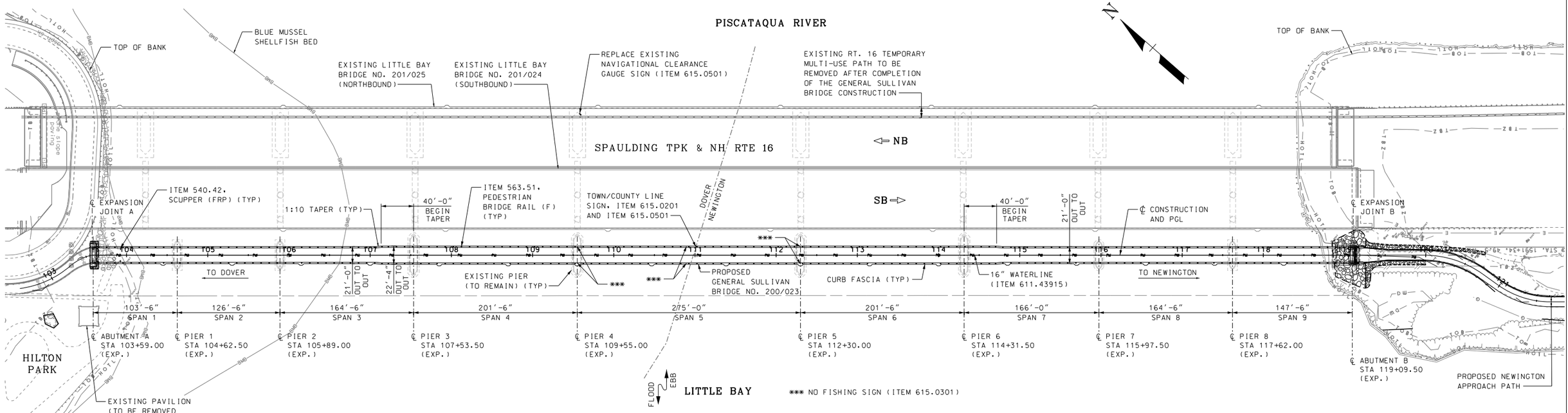
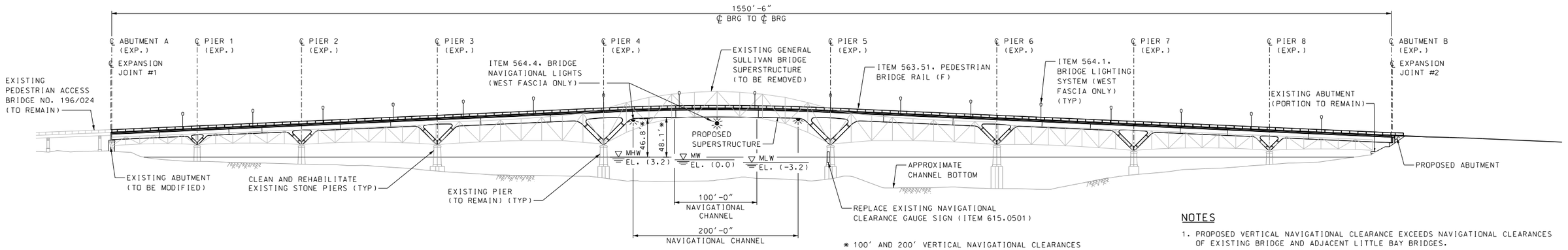
Additional Plan Sheets



PLAN

60 0 60 120

SCALE IN FEET



ELEVATION

60 0 60 120

SCALE IN FEET

* 100' AND 200' VERTICAL NAVIGATIONAL CLEARANCES SHOWN FOR GENERAL SULLIVAN BRIDGE (SEE NOTE 1)

HYDRAULIC DATA

MEAN LOW WATER (MLW) = -3.2 (NGVD29)
MEAN TIDE LEVEL (MTL) = 0.0 (NGVD29)
MEAN HIGH WATER (MHW) = +3.2 (NGVD29)
** 0100 ELEVATION = EL +9 (NGVD29)

DESIGN VELOCITY FOR FOUNDATIONS = 10 FPS
FLOW ATTACK ANGLE FOR EXISTING FOUNDATION ANALYSIS = 35 DEGREES

** FLOOD ELEVATIONS ARE BASED ON VALUES FROM THE 2005 FEMA FLOOD INSURANCE STUDY FOR ROCKINGHAM COUNTY.

NOTES

1. PROPOSED VERTICAL NAVIGATIONAL CLEARANCE EXCEEDS NAVIGATIONAL CLEARANCES OF EXISTING BRIDGE AND ADJACENT LITTLE BAY BRIDGES.
2. SEE BRIDGE SHEET 2 FOR INDEX OF BRIDGE SHEETS.
3. SEE SPECIAL USE PLANS FOR DETAILS AT NEWINGTON APPROACH PATH, HILTON PARK, RT. 16 TEMPORARY MULTI-USE PATH REMOVAL, AND SIGNAGE DETAILS.
4. SEE WATERLINE UTILITY PLANS FOR WATERLINE UTILITY DETAILS.

PPS&E PLANS
SUBJECT TO CHANGE
DATE 12/22/2022

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN NEWINGTON-DOVER BRIDGE NO. 200/023 STATE PROJECT 11238S

LOCATION GENERAL SULLIVAN BRIDGE OVER LITTLE BAY

GENERAL PLAN AND ELEVATION

BRIDGE SHEET 1 OF 55

REVISIONS AFTER PROPOSAL	BY	DATE		BY	DATE
	DESIGNED	JGM	12/22	CHECKED	GSG	12/22
	DRAWN	BJM	12/22	CHECKED	JGM	12/22
	QUANTITIES			CHECKED		
	ISSUE DATE					
	REV. DATE					

FILE NUMBER 143-2-1

FEDERAL PROJECT NO. | SHEET NO. 9 | TOTAL SHEETS 80

PLOT DATE	DRAWING NAME	SHEET SCALE
12/22/2022	11238S_pe.dgn	AS NOTED

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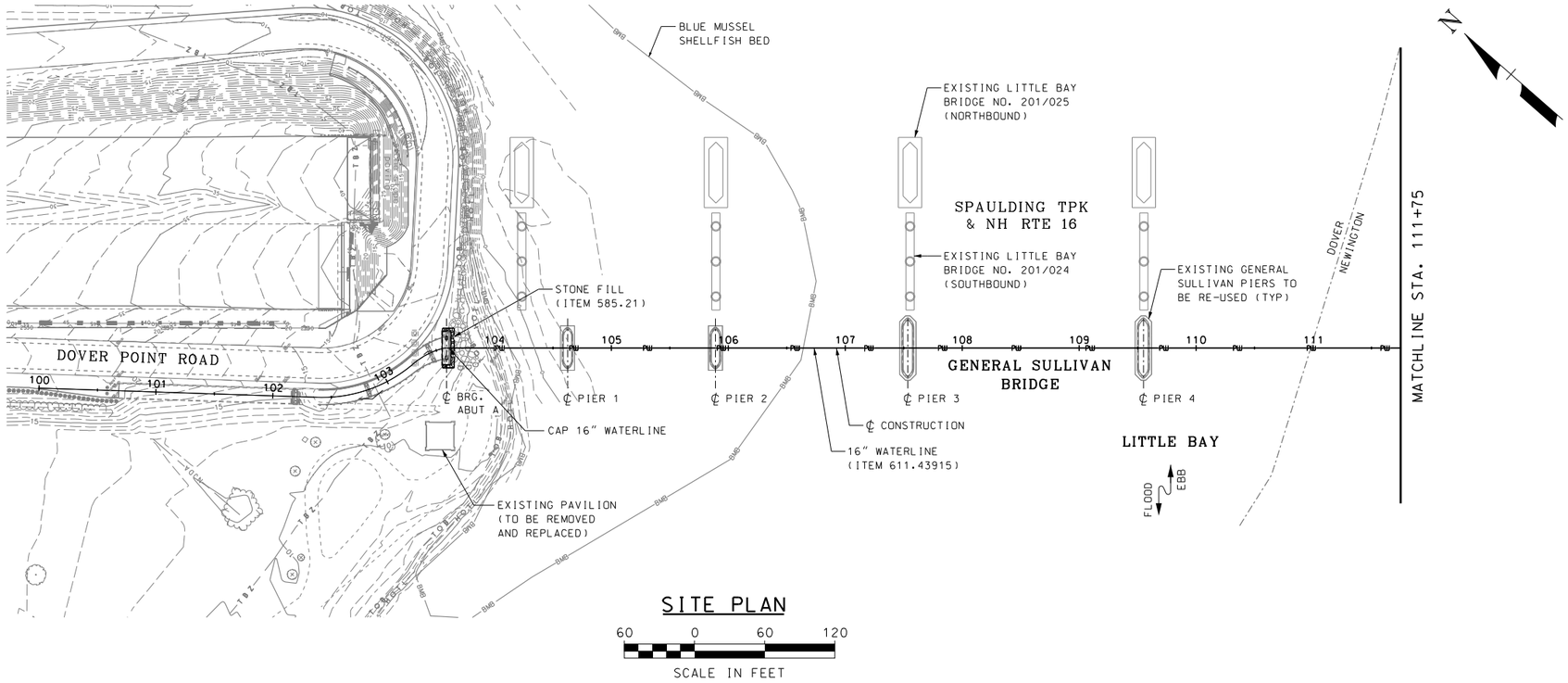
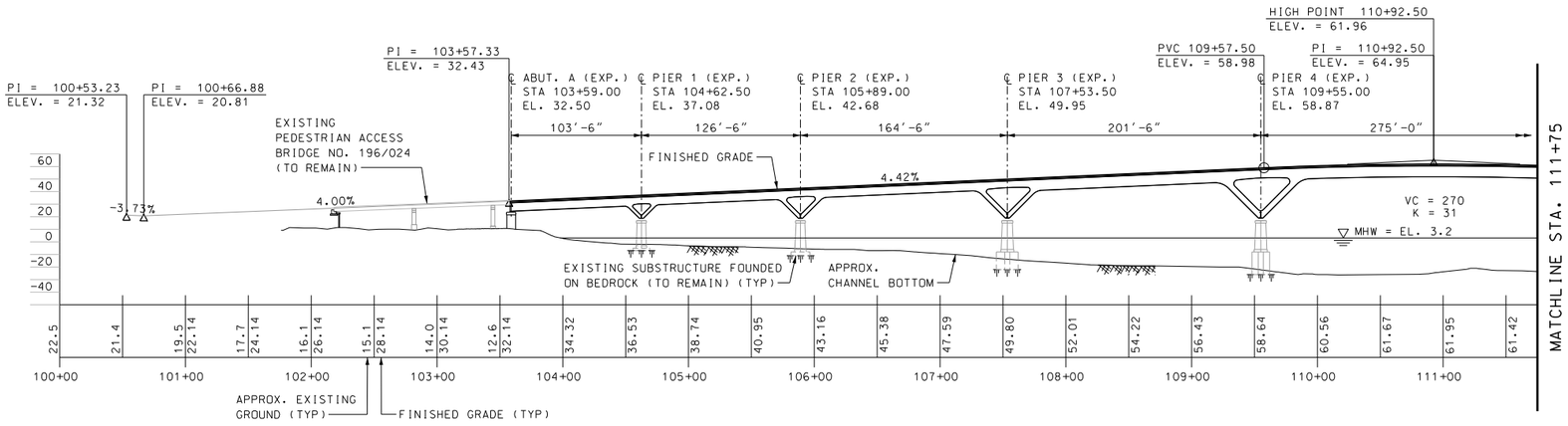


SITE PLAN

60 0 60 120

SCALE IN FEET



PROFILE AT ℄ CONSTRUCTION

60 0 60 120

SCALE IN FEET

NOTE

1. SEE LANDSCAPING SHEETS FOR HILTON PARK RECONSTRUCTION DETAILS.

PPS&E PLANS
SUBJECT TO CHANGE
DATE 12/22/2022

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PLOT DATE	DRAWING NAME	SHEET SCALE
12/22/2022	11238S_site1.dgn	AS NOTED

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN NEWINGTON-DOVER BRIDGE NO. 200/023 STATE PROJECT 11238S

LOCATION GENERAL SULLIVAN BRIDGE OVER LITTLE BAY

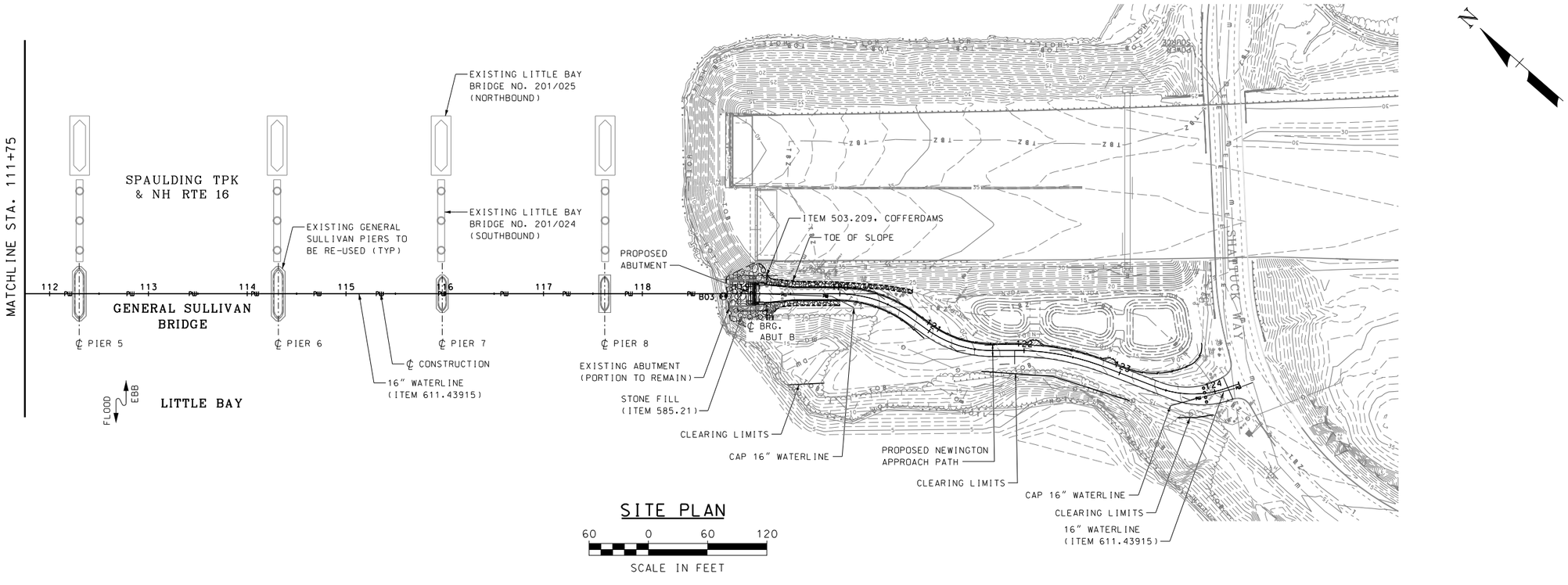
SITE PLAN AND PROFILE (1 OF 2)

BRIDGE SHEET 5 OF 55

REVISIONS AFTER PROPOSAL	BY	DATE		BY	DATE
	DESIGNED	TSP	12/22	CHECKED	GSG	12/22
	DRAWN	BJM	12/22	CHECKED	JGM	12/22
	QUANTITIES			CHECKED		

FILE NUMBER 143-2-1

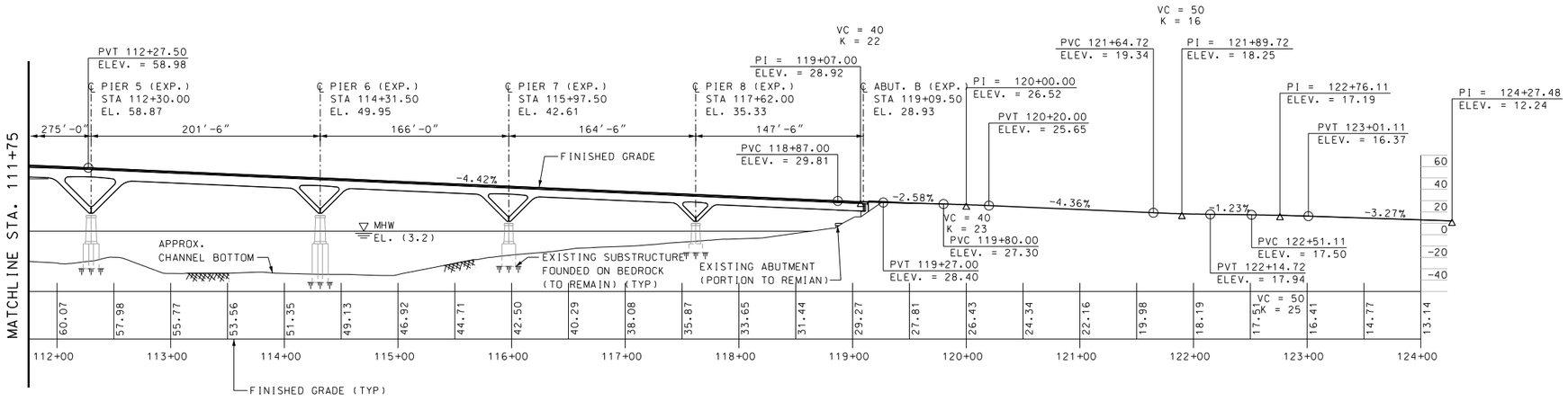
ISSUE DATE	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
REV. DATE		13	80



SITE PLAN

60 0 60 120

SCALE IN FEET



PROFILE AT ℄ CONSTRUCTION

60 0 60 120

SCALE IN FEET

NOTE

1. SEE NEWINGTON APPROACH PATH RECONSTRUCTION SHEET AND LANDSCAPING SHEETS FOR DETAILS ON THE NEWINGTON APPROACH.

PPS&E PLANS
SUBJECT TO CHANGE
DATE 12/22/2022

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN NEWINGTON-DOVER BRIDGE NO. 200/023 STATE PROJECT 11238S

LOCATION GENERAL SULLIVAN BRIDGE OVER LITTLE BAY

SITE PLAN AND PROFILE (2 OF 2)

BRIDGE SHEET 6 OF 55

REVISIONS AFTER PROPOSAL	BY	DATE

	BY	DATE		BY	DATE
DESIGNED	TSP	12/22	CHECKED	GSG	12/22
DRAWN	BJM	12/22	CHECKED	JGM	12/22
QUANTITIES			CHECKED		

FILE NUMBER 143-2-1

PLOT DATE	DRAWING NAME	SHEET SCALE
12/22/2022	11238S_site2.dgn	AS NOTED

ISSUE DATE		FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
REV. DATE			14	80

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