STATE OF NEW HAMPSHIRE
INTER-DEPARTMENT COMMUNICATION

DATE: March 8, 2024

FROM: Joshua Brown
Wetlands Program Specialist

AT (OFFICE): Department of Transportation
Bureau of Environment

SUBJECT Dredge & Fill Application
Woodstock, 27713

TO Karl Benedict, Public Works Permitting Officer
New Hampshire Wetlands Bureau
29 Hazen Drive, P.O. Box 95
Concord, NH 03302-0095

Forwarded herewith is the application package prepared by NH DOT Bureau of Bridge Design for the subject major impact project. The project is located along NH Route 175 in the Town of Woodstock, NH. Proposed work will consist of existing concrete abutments and wingwalls being patched; abutment back walls will be reconstructed to accommodate new bridge deck expansion joints; existing bearings, floor beams and stringers will be replaced; horizontal wire rope ties, existing steel hanger pins, and riveted floor beam connections will be replaced; floor system lateral bracing, steel beam railings and curb will be replaced; open steel grid deck will be replaced with a closed exodermic deck; concrete parapets will be reconstructed; bridge rail and approach roadway guardrail connections and drainage will be updated; and existing structural steel will be cleaned and painted.

This project was reviewed at the Natural Resource Agency Coordination Meeting on November 15, 2023. A copy of the minutes has been included with this application package. A copy of this application and plans can be accessed on the Departments website via the following link: https://www.dot.nh.gov/projects-plans-and-programs/programs/environmental-management-system/project-management-section-0.

NHDOT anticipates and request that this project be reviewed and permitted by the Army Corp of Engineers through the State Programmatic General Permit process. A copy of the application has been sent to the Army Corp of Engineers.

Mitigation was determined to not be required as the proposed work does not trigger mitigation thresholds.

Erosion Control Plans contained within this application should be considered final in accordance with Env-Wt 527.05(a).

The lead people to contact for this project are Jennifer Reczek, Bureau of Bridge Design (2713401or Jennifer.E.Reczek@dot.nh.gov) or Andrew O'Sullivan, Wetlands Program Manager, Bureau of Environment (271-3226 or Andrew.O'Sullivan@dot.nh.gov).

A payment voucher has been processed for this application (Voucher #749402) in the amount of $1,075.20

If and when this application meets with the approval of the Bureau, please send the permit directly to Andrew O'Sullivan, Wetlands Program Manager, Bureau of Environment.

JRB;
cc:
BOE Original
Town of Woodstock (4 copies via certified mail)
Mike Dionne & Kevin Newton, NH Fish & Game (via electronic notification)
Maria Tur, US Fish & Wildlife (via electronic notification)
Jeanie Brochi, US Environmental Protection Agency (via electronic notification)
Michael Hicks & Rick Kristoff, US Army Corp of Engineers (via electronic notification)
Kevin Nyhan, BOE (via electronic notification)

S:\Environment\PROJECTS\WOODSTOCK\27713\Wetlands\Final Wetland Application 3.6.24\Application Submission Documents\WETAPP - Coverletter.doc

Woodstock, NH
Bridge 177/148
NH 175 over the Pemigewasset River

NH Standard Dredge & Fill Application

Prepared By:

McFarland Johnson

Woodstock, New Hampshire
Project 27713
X-A003(597)

March 2024

Bridge 177/148 Rehabilitation
NHDES Standard Dredge & Fill Permit Application
March 2024

Contents

NHDES Standard Dredge and Fill Wetlands Permit Application Form

STANDARD DREDGE AND FILL WETLANDS PERMIT APPLICATION

Water Division / Land Resources Management

Check the Status of your Application

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

APPLICANT'S NAME: NH Dept. of Transportation **TOWN NAME:** Woodstock

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 (NHFG) 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): N. neglected reed grass ○ NHB Project ID #: NHB23-1268	(●) 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): n/a • A copy of the application was sent to the LAC on Month: n/a Day: n/a Year: n/a	( ) Yes (●) No

For dredging projects, is the subject property contaminated? • If yes, list contaminant:	○ Yes ◉ No
Is there potential to impact impaired waters, class A waters, or outstanding resource waters?	○ Yes ◉ No
For stream crossing projects, provide watershed size (see WPPT or Stream Stats):	181 sq. mi.

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

Provide a description of the project and the purpose of the project, the need for the proposed impacts to jurisdictional areas, an outline of the scope of work to be performed, and whether impacts are temporary or permanent.

This project consists of the rehabilitation of the NH Route 175 bridge over the Pemigewasset River (177/148) in Woodstock. The bridge structure is a 175-foot single span steel through-arch, constructed in 1939 and rehabilitated in 1991. The project begins at the intersection of Route 3 and Route 175 (Eastside Drive), continues east along Route 175, over the Pemigewasset River, past Old Dump Road and ends about 200' east of the bridge on Route 175. Existing concrete abutments and wingwalls will be patched; abutment back walls will be reconstructed to accommodate new bridge deck expansion joints; existing bearings, floor beams and stringers will be replaced; horizontal wire rope ties, existing steel hanger pins, and riveted floor beam connections will be replaced; floor system lateral bracing, steel beam railings and curb will be replaced; open steel grid deck will be replaced with a closed exodermic deck; concrete parapets will be reconstructed; bridge rail and approach roadway guardrail connections and drainage will be updated; and existing structural steel will be cleaned and painted.

The project will result in approximately 231 sf (24 LF) of permanent bank impacts, 687 sf (63 LF) of temporary bank impacts, and 1,770 sf (152 LF) of temporary channel impacts.

The primary purpose of the project is to correct the structural deficiencies of the bridge and remove the bridge from the NHDOT Red List. It is considered structurally deficient, is weight restricted, and has substandard rail.

SECTION 3 - PROJECT LOCATION

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

ADDRESS:	Bridge 177/148, NH Route 175 over the Pemigewasset River
TOWN/CITY:	Woodstock
TAX MAP/BLOCK/LOT/UNIT:	ROW
US GEOLOGICAL SURVEY (USGS) TOPO MAP WATERBODY NAME: ☐ N/A	Pemigewasset River
(Optional) LATITUDE/LONGITUDE in decimal degrees (to five decimal places):	44.02197, -71.68198

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: NH Department of Transportation		
MAILING ADDRESS: 7 Hazen Drive		
TOWN/CITY: Concord	STATE: NH	ZIP CODE: 03301
EMAIL ADDRESS: jennifer.reczek@dot.nh.gov		
FAX:	PHONE: (603)271-3226	

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

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

☐ N/A

LAST NAME, FIRST NAME, M.I.: Christine Perron		
COMPANY NAME: McFarland-Johnson, Inc.		
MAILING ADDRESS: 53 Regional Drive		
TOWN/CITY: Concord	STATE: NH	ZIP CODE: 03301
EMAIL ADDRESS: cperron@mjinc.com		
FAX:	PHONE: 603-225-2978	

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

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):

Env-Wt 400: A wetlands and surface waters delineation was completed in May 2023.
Env-Wt 500: The proposed project is covered under Env-Wt 527 Public Highways and Env-Wt 514 Bank/Shoreline Stabilization. The proposed project has been designed in accordance with the criteria specified in Env-Wt 527.04 and Env-Wt 514.04, and is consistent with RSA 482-A:1, 483-B, 485-A, and 212-A. The purpose of the proposed project is to rehabilitate an existing bridge and protect existing infrastructure.
Env-Wt 600: N/A
Env-Wt 700: N/A
Env-Wt 900: The bridge is a Tier 3 stream crossing. The proposed project is covered under Env-Wt 904.09 Repair, Rehabilitation, or Replacement of Tier 3 and Tier 4 Existing Legal Crossings. The proposed project has been designed in accordance with the criteria specified for a rehabilitation under Env-Wt 904.09.

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: Day: Year:

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

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

JURISDICTIONAL AREA		PERM. SF	PERM. LF	PERM. ATF	TEMP. SF	TEMP. LF	TEMP. ATF
Wetlands	Forested Wetland			☐			☐
	Scrub-shrub Wetland			☐			☐
	Emergent Wetland			☐			☐
	Wet Meadow			☐			☐
	Vernal Pool			☐			☐
	Designated Prime Wetland			☐			☐
	Duly-established 100-foot Prime Wetland Buffer			☐			☐
Surface	Intermittent / Ephemeral Stream			☐			☐
	Perennial Stream or River			☐	1770	152	☐
	Lake / Pond			☐			☐
	Docking - Lake / Pond			☐			☐
	Docking - River			☐			☐
Banks	Bank - Intermittent Stream			☐			☐
	Bank - Perennial Stream / River	231	24	☐	687	63	☐
	Bank / Shoreline - Lake / Pond			☐			☐
Tidal	Tidal Waters			☐			☐
	Tidal Marsh			☐			☐
	Sand Dune			☐			☐
	Undeveloped Tidal Buffer Zone (TBZ)			☐			☐
	Previously-developed TBZ			☐			☐
	Docking - Tidal Water			☐			☐
TOTAL		231	24		2457	215	

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): 2688	SF	× $0.40 =	$ 1075.20
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 =			$

$1,075.20

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.
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, PE	DATE: 3/6/2024
SIGNATURE (APPLICANT, IF DIFFERENT FROM OWNER):	PRINT NAME LEGIBLY:	DATE:
SIGNATURE (AGENT, IF APPLICABLE): Christine Perron	PRINT NAME LEGIBLY: Christine Perron, CWS	DATE: 3/4/24

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.

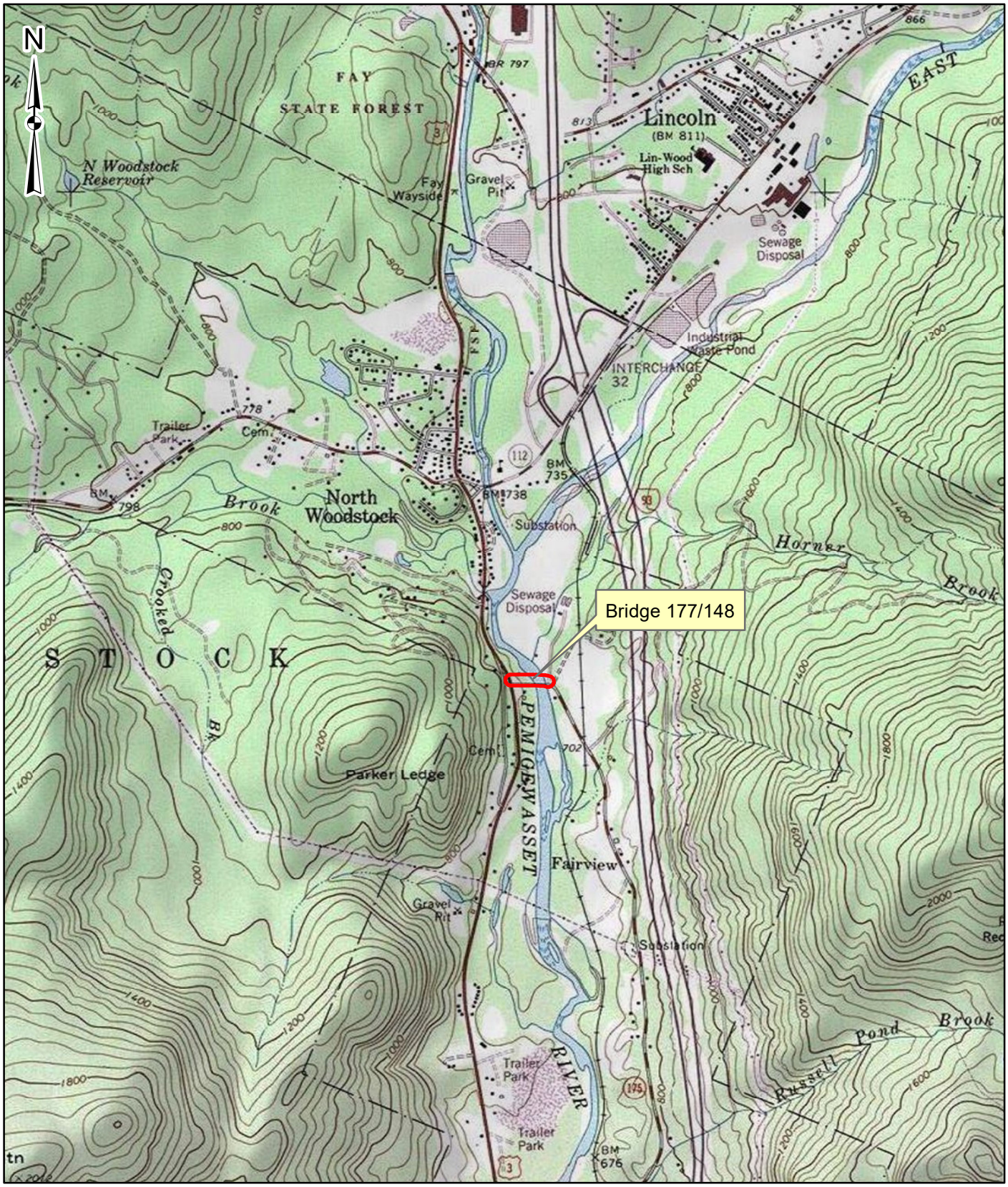
TOWN/CITY CLERK SIGNATURE: Exempt per RSA 482-A:3, I(a)(1)	PRINT NAME LEGIBLY: n/a
TOWN/CITY: Woodstock	DATE: n/a

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

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

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

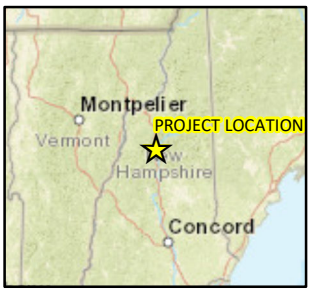
Location Map



Project Area

0 2,000 4,000

Feet



NHDOT WOODSTOCK 27713

NH ROUTE 175 - BRIDGE NO. 177/148

USGS LOCATION MAP

SCALE :	DATE :	FIGURE :
1" = 2,000'	APRIL 2023	1

McFarland Johnson

J:\19135.00 H&H Woodstock\Draw\GIS\Woodstock19135_StudyArea_Working.mxd

Attachment A: Minor and Major Projects

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: **NH Department of Transportation** **TOWN NAME:** Woodstock

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.

THERE IS NO PRACTICABLE ALTERNATIVE THAT WOULD HAVE LESS ADVERSE IMPACT ON THE RIVER WHILE ADDRESSING THE SAFETY AND STRUCTURAL NEEDS OF THE BRIDGE. THE WORK AS PROPOSED WILL REQUIRE TEMPORARY IMPACTS IN THE CHANNEL FOR THE PLACEMENT OF TEMPORARY CONSTRUCTION STAGING IN FRONT OF EACH ABUTMENT. THERE IS PROPOSED RIPRAP FOR BANK STABILIZATION IN THE SW AND SE QUADRANTS, WHICH WILL RESULT IN PERMANENT IMPACTS TO THE BANKS AT THESE LOCATIONS.

THE ONLY WORK PROPOSED FOR THE SUBSTRUCTURE WILL ENTAIL PATCHING AND CRACK REPAIR OF THE ABUTMENTS.

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.

N/A - The proposed project does not involve any impacts to tidal or non-tidal marshes

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

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

The proposed project will maintain all existing hydrologic connections. There are no fringe wetland systems or tributaries located adjacent to the Pemigewasset River within the project area. Flow in the Pemigewasset River will be maintained and the channel will remain open throughout the duration of construction.

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.

The only jurisdictional resources in the project area are the channel and banks of the Pemigewasset River; there are no Priority Resource Areas mapped in the project area.

The Natural Heritage Bureau datacheck report (NHB23-1268) listed the state-threatened northern neglected reed grass as occurring in the vicinity of the project. A survey for this plant was completed. Only one patch of grass was identified but the species could not be confirmed; however, this occurred outside the limits of work and will not be impacted. The federally listed Canada lynx could potentially occur in this area of the state; however, no impacts to suitable habitat are anticipated. The federally listed northern long-eared bat could occur in the project area. The tree that needs to be removed will be cut during the non-active season for bats and consultation will be carried out with the USFWS.

The Pemigewasset River is designated Essential Fish Habitat (EFH) for all life stages of Atlantic salmon. The National Marine Fisheries Service has determined that consultation is not required for projects on the Pemigewasset River (see enclosed correspondence).

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 proposed project is not anticipated to impact public commerce, navigation, or recreation.

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

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

There are no fringe wetlands systems in the project area.

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.

There are no natural riverine forested wetland systems or scrub-shrub marsh complexes located within the proposed project impacts. Impacts to these resource area types are not proposed.

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.

N/A - There are no palustrine wetland impacts. Therefore, the proposed project is not anticipated to impact any wetlands that would result in a detrimental impact to adjacent drinking water supply and/or groundwater aquifer levels.

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.

Impacts to the channel of the Pemigewasset River have been avoided and minimized to the maximum extent practicable. The work as proposed will require temporary impacts in the channel for the placement of temporary construction staging in front of each abutment. The only work proposed for the substructure will entail patching and crack repair of the abutments. There is proposed riprap for bank stabilization in the SW and SE quadrant of the bridge, which will result in permanent impact to the banks but not the channel of the river.

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.

N/A - The proposed project does not involve the construction of shoreline structures over surface waters.

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.

N/A - The proposed project does not involve the construction of shoreline structures over surface waters. .

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.

N/A - The proposed project does not involve the construction of shoreline structures over surface waters.

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.

N/A - The proposed project does not involve the construction of shoreline structures over surface waters.

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.

N/A - The proposed project does not involve the construction of shoreline structures over surface waters.

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.

N/A - The proposed project does not involve the construction of shoreline structures over surface waters.

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: N/A There are no wetlands in the project area
NAME OF CERTIFIED WETLAND SCIENTIST (FOR NON-TIDAL PROJECTS) OR QUALIFIED COASTAL PROFESSIONAL (FOR TIDAL PROJECTS) WHO COMPLETED THE ASSESSMENT:
DATE OF ASSESSMENT:
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.

Supplemental Narrative

NHDES MAJOR IMPACT WETLANDS PERMIT APPLICATION

NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION

WOODSTOCK, 27713

BRIDGE NO. 177/148 REHABILITATION

WOODSTOCK, NEW HAMPSHIRE

SUPPLEMENTAL NARRATIVE

McFarland Johnson

Contents

1.0 Introduction

The proposed project will rehabilitate Bridge 177/148, which carries Route 175 over the Pemigewasset River in Woodstock (Figure 1).

The bridge structure is a 175-foot single span steel through-arch constructed in 1939 and rehabilitated in 1991.

1.1 Purpose

The purpose of the project is to correct the structural deficiencies of the bridge and remove the bridge from NHDOT's Red List.

1.2 Need

The bridge is on the NHDOT's Red List of deficient structures, is weight restricted and structurally deficient, and has substandard rail.

2.0 Existing Conditions

2.1 Roadway & Bridge

Constructed in 1939, Bridge 177/148 has a total length of 183 feet (span of 175 feet) and a total width of 30.9 feet (24 feet curb-to-curb). The bridge is a single span tied arch river crossing consisting of two riveted built-up arch ribs, rolled section floorbeams and stringers, with wire rope cable tie. It is on the NHDOT Red List of Deficient Structures; a 2023 NHDOT inspection listed the deck as being in "serious" condition, and the superstructure is in "poor" condition. It is weight restricted and is considered structurally deficient based on the deteriorated floor system. The bridge was rehabilitated in 1991 to add repair plates to the stringers and to repair and replace deteriorated areas of the open grid deck. There have also been spot repairs/replacement to the grid deck. NH Route 175 has an Average Annual Daily Traffic (AADT) of 569 vehicles with 10% trucks based on 2021 traffic counts.

2.2 Jurisdictional Resources

A wetlands and surface waters delineation was completed by McFarland-Johnson, Inc. in May 2023. The only jurisdictional resource in the project area is the Pemigewasset River channel and its banks. The ordinary high water and top of bank of the Pemigewasset River were delineated. At the location of Bridge No. 177/148, the Pemigewasset River is a 4th order perennial stream with a watershed area of approximately 181 square miles. The stream crossing is classified as a Tier 3 stream crossing based on the watershed size pursuant to the NHDES Stream Crossing Rules (Env-Wt 900). The Pemigewasset River has a Cowardin Classification of R2UBH.

According to the NHDES Wetlands Permit Planning Tool (WPPT) there are no Priority Resource Areas (PRAs) mapped in the vicinity of the proposed project.

2.3 Rare Species / Fish and Wildlife

2.3.1 NH Natural Heritage Bureau

The proposed project was submitted to and reviewed by the New Hampshire Natural Heritage Bureau (NHB) via the online NHB DataCheck Tool. According to the NHB DataCheck Results Letter (NHB23-1268) dated May 2, 2023, northern neglected reed grass (*Calamagrostis stricta ssp. inexpansa)* has historically been documented north of the project area. A survey for this species was conducted on May 11, 2023, and a small patch of potential northern neglected reed grass was identified based on leaf characteristics. Species could not be confirmed due to lack of flowers or fruits. Based on the distance of this potential occurrence from the area of expected work activities (>50 feet), it was determined that the project will not result in impacts to the individual. NHB recommended that the potential rare grass be demarcated by flagging or fencing during work activities.

2.3.2 US Fish and Wildlife Service

The United States Fish and Wildlife Service's (USFWS) Information for Planning and Consultation (IPaC) planning tool was accessed on December 6, 2023 to determine if federally listed species have the potential to occur in the project area. An Official Species List was generated for the proposed project area (see attached USFWS Official Species List). According USFWS Official Species List, the proposed project is located within the range of the federally endangered northern long-eared bat (*Myotis septentrionalis*), the federally threatened Canada lynx (*Lynx* canadensis) and the monarch butterfly (*Danaus plexippus*), a candidate species currently undergoing review for potential listing. A bridge assessment was conducted on May 11, 2023 and no evidence of bats was found. The one tree that needs to be removed within the project area will be cut during the non-active season for bats and consultation will be carried out with the USFWS. No impacts to suitable Canada lynx habitat are anticipated. The proposed project area includes some potential monarch habitat, but the project would not permanently change that habitat and no monarch conservation measures are included in the project at this time. Following construction, roadside areas would continue to provide potential habitat for monarch butterfly.

2.3.3 National Marine Fisheries Service

The Pemigewasset River is designated Essential Fish Habitat (EFH) for all life stages of Atlantic salmon. The National Marine Fisheries Service has determined that projects on the Pemigewasset River do not require consultation (see enclosed correspondence).

2.3.3 NH Wildlife Action Plan

The NHF&G developed the New Hampshire Wildlife Action Plan (WAP), which includes ranked habitat tiers that identify the highest quality habitats across the state. The NHF&G created the WAP habitat tiers based on NHF&G biological data, landscape data, and human influence/disturbance information. Habitats are separated into three ranking tiers including, 1) Highest Ranked Habitat in the State, 2) Highest Ranked Habitat in the Biological Region, and 3) Supporting Landscapes.

According to the 2020 WAP mapping, there are Highest Ranked Habitat in the State, Highest Ranked Habitat in the Biological Region, and Supporting Landscapes in the vicinity of the proposed project (see Figure 4 – NH WAP Habitat Tiers Map), though the project itself does not fall within these areas. Impacts

on wildlife from the proposed action will be temporary and short-term in nature. The proposed action is not anticipated to result in any changes to terrestrial wildlife or aquatic organism passage or connectivity at the bridge location.

2.4 Floodplains and Floodways

The Pemigewasset River is not a Federal Emergency Management Agency (FEMA) mapped regulatory floodway. There are 100-year floodplains associated with the Pemigewasset River in the vicinity of the proposed action. The project will not result in any change to the base flood elevation.

2.5 Geomorphic Characteristics

In the vicinity of Bridge 177/148, the Pemigewasset River has an average bankfull width of 183 feet and a broad floodprone width that averages approximately 475 feet, resulting in an entrenchment ratio of 2.6 (slightly entrenched). Bankfull width was approximated based on GIS imagery and field-delineated ordinary high water; floodprone width was approximated based on FEMA floodplain mapping. The estimated bankfull depth is 5.1 feet, resulting in moderate to high width/depth ratio. Bankfull depth was approximated using New Hampshire Regional Hydraulic Geometry Curves calculation. Based on these characteristics, this is a Rosgen Type C channel. This channel type has a high potential for channel instability and lateral movement. The existing bridge has a span of 175 feet, which is slightly less than bankfull width.

2.6 Cultural and Historic Resources

The NH Division of the Federal Highway Administration (FHWA) and the NH Division of Historical Resources (NHDHR) have coordinated the identification and evaluation of historic and archaeological properties with plans to rehabilitate Bridge 177/148. Applying the criteria of effect at 36 CFR 800.5, it was determined that the project will have an adverse effect on the bridge due to the removal of the original steel bridge rail, steel curb and the open steel grid deck. Appropriate mitigation for the removal of the steel bridge rail, steel curb plates and open steel grid deck will be recorded in a Memorandum of Agreement.

3.0 Proposed Project

The following sections describe the proposed work, resource area impacts, avoidance and minimization measures, and additional components of the project.

3.1 Bridge Repairs and Replacement

The proposed project includes the rehabilitation of the existing superstructure of Bridge No. 177/148. Existing concrete abutments and wingwalls will be patched, abutment back walls will be reconstructed to accommodate new bridge deck expansion joints; existing bearings, floor beams and stringers will be replaced; horizontal wire rope ties, existing steel hanger pins, and riveted floor beam connections will be replaced; floor system lateral bracing, steel beam railings and curb will be replaced; open steel grid deck will be replaced with a closed exodermic deck with scuppers; concrete parapets will be reconstructed; bridge rail connections will be modified to meet safety requirements; and existing structural steel will be

cleaned and painted. In addition, there will be work on the roadway approaches to tie into the new deck and new guardrail will be installed.

3.2 Wetland and Surface Water Impacts

3.2.1 Wetlands

There are no fringe wetlands located along the Pemigewasset River within the project area.

3.2.2. Vernal Pools

No vernal pools were identified in the vicinity of the proposed project.

3.2.3 Surface Waters

The work as proposed will require temporary impacts in the channel for the placement of temporary construction staging in front of each abutment. There is proposed riprap for bank stabilization in the SW and SE quadrants, which will result in permanent impacts to the banks at these locations. Temporary impacts are expected to be approximately 2457 SF (215 LF) to bank and channel. Permanent impacts are expected to be 231 SF (24 LF) to banks.

3.3 Drainage

The bridge deck is being changed from an open steel grid system to a closed concrete system. Scuppers will be added to the bridge curbline to allow water to pass directly to the river below as it does in the existing condition. Drop inlet structures will be added behind the west abutment, and the outfall will be through the northwest wingwall. A stone pad for scour protection will be installed at the outlet.

3.4 Avoidance and Minimization Measures

Avoidance and minimization measures were limited by the location of the existing infrastructure. Flow within the channel of the Pemigewasset River will be maintained throughout the duration of the project, minimizing impacts to fish and other aquatic organisms. There are no permanent impacts expected within the channel of the river. Appropriate erosion and sedimentation control measures will be utilized during construction.

3.5 Water Quality / Stormwater Treatment

Section 303(d) of the Clean Water Act requires each state to submit a list of impaired waters to the US EPA every two years to identify surface waters that are impaired by pollutants, not expected to meet water quality standards within a reasonable time, and require the development of a Total Maximum Daily Load (TMDL) study. This list is prepared by NHDES as outlined in the Draft Section 305(b) and 303(d) Consolidated Assessment and Listing Methodology. According to the NHDES 303(d) list (most recent available), the Pemigewasset River (NHRIV700010203-01) is listed as impaired by pH and aluminum. The project as proposed will not contribute to these impairments and will not adversely affect water quality.

4.0 Mitigation

Based on discussion and comments received from the New Hampshire Department of Environmental Services (NHDES) staff at the November 15, 2023 NHDOT Natural Resource Agency Coordination Meeting, mitigation is not required for the proposed impacts.

NHDES Avoidance and Minimization Checklist

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.: NH Department of Transportation	
PROJECT STREET ADDRESS: Bridge 177/148, NH Route 175	PROJECT TOWN: Woodstock
TAX MAP/LOT NUMBER: ROW	

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 correct the structural deficiencies of the bridge and remove the bridge from the NHDOT Red List. The bridge is considered structurally deficient, is weight restricted, and has substandard rail.

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

NHDES Avoidance and Minimization Narrative

AVOIDANCE AND MINIMIZATION WRITTEN NARRATIVE

Water Division/Land Resources Management

Wetlands Bureau

Check the Status of your Application

RSA/ Rule: RSA 482-A/ Env-Wt 311.04(j); Env-Wt 311.07; Env-Wt 313.01(a)(1)b; Env-Wt 313.01(c)

APPLICANT'S NAME: **NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION** **TOWN NAME:** **WOODSTOCK**

An applicant for a standard permit shall submit with the permit application a written narrative that explains how all impacts to functions and values of all jurisdictional areas have been avoided and minimized to the maximum extent practicable. This attachment can be used to guide the narrative (attach additional pages if needed). Alternatively, the applicant may attach a completed Avoidance and Minimization Checklist (NHDES-W-06-050) to the permit application.

SECTION 1 - WATER ACCESS STRUCTURES (Env-Wt 311.07(b)(1))

Is the primary purpose of the proposed project to construct a water access structure?

NO

SECTION 2 - BUILDABLE LOT (Env-Wt 311.07(b)(1))

Does the proposed project require access through wetlands to reach a buildable lot or portion thereof?

NO

SECTION 3 - AVAILABLE PROPERTY (Env-Wt 311.07(b)(2))*

For any project that proposes permanent impacts of more than one acre, or that proposes permanent impacts to a PRA, or both, are any other properties reasonably available to the applicant, whether already owned or controlled by the applicant or not, that 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?

**Except as provided in any project-specific criteria and except for NH Department of Transportation projects that qualify for a categorical exclusion under the National Environmental Policy Act.*

NOT APPLICABLE

SECTION 4 - ALTERNATIVES (Env-Wt 311.07(b)(3))

Could alternative designs or techniques, such as different layouts, different construction sequencing, or alternative technologies be used to avoid impacts to jurisdictional areas or their functions and values as described in the Wetlands Best Management Practice Techniques For Avoidance and Minimization?

There is no practicable alternative that would have less adverse impact on the river while addressing the safety and structural needs of the bridge. The placement of riprap is needed for bank stabilization, and was designed with the smallest footprint possible.

SECTION 5 - CONFORMANCE WITH Env-Wt 311.10(c) (Env-Wt 311.07(b)(4))**

How does the project conform to Env-Wt 311.10(c)?

***Except for projects solely limited to construction or modification of non-tidal shoreline structures only need to complete relevant sections of Attachment A*.

The location of the proposed impacts was constrained by the location of the existing infrastructure and bridge piers. The footprint of the permanent impacts associated with bank stabilization was minimized to the maximum extent practicable, while still providing the necessary stabilization for the existing banks.

Natural Resource Agency Coordination Meeting Minutes

BUREAU OF ENVIRONMENT
CONFERENCE REPORT

SUBJECT: NHDOT Monthly Natural Resource Agency Coordination Meeting
DATE OF CONFERENCE: November 15, 2023
LOCATION OF CONFERENCE: Virtual meeting held via Zoom

ATTENDED BY:

NHDOT
Matt Urban
Joshua Brown
Jon Evans
Rebecca Martin
Marc Laurin
Jennifer Reczek
Robert Juliano

ACOE
Mike Hicks

USCG
Gary Croot

EPA
Jean Brochi

NHDES
Karl Benedict
Seta Detzel
Emily Nichols

NHB
Absent

NH Fish & Game
Mike Dionne

Federal Highway
Jamie Sikora

US Fish & Wildlife
Absent

The Nature Conservancy
Absent

NH Transportation & Wildlife Workgroup
Absent

Consultants/ Public Participants
Ned Connell
Matt Waitkins
Christine Perron
Kim Smith
Stephanie Micucci
Leo Helderman

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

Table of Contents

Additional comments by NRPC staff:

Ned Connell: nothing additional.

Matt Waitkins: Thank you for the references to the various data sources. NRPC does have a robust GIS staff that is aware of most of these resources but not all. Thank you for your time and the useful information.

Woodstock, 27713 (X-A003(597)):

Christine Perron provided an overview of the project, which entails rehabilitation of Bridge 177/148, which carries NH Route 175 over the Pemigewasset River in Woodstock. The project site is situated where Route 175 crosses the River and ends at U.S. Route 3. The primary purpose of the project is to correct the structural deficiencies of the bridge and remove the bridge from the red list. The bridge structure is a 175-foot single span steel through-arch constructed in 1939 and rehabilitated in 1991. It is considered structurally deficient, is weight restricted, and has substandard rail.

The superstructure elements that will be addressed consist of the stringers, floorbeams, deck, cable ties, hanger pins, bridge railing and curb, and concrete parapet. The only work proposed for the substructure will entail patching and crack repair of the abutments. In addition, there will be work on the roadway approaches to upgrade drainage and guardrail and to tie into the new deck. The bridge currently has an open grid deck, which will be replaced with a closed concrete deck with scuppers.

A summary of resources was provided. The only jurisdictional resources in the project area are the channel and banks of the Pemigewasset River. The bridge is a Tier 3 stream crossing and is located within a FEMA-mapped Zone AE floodplain. The Pemigewasset River is a NH Designated River; however, it is not designated through the Town of Woodstock. There will be work within the Protected Shoreland of the river, including grading, brush removal, and removal of a single tree. A Shoreland Permit will be required for the project, in addition to the Standard Dredge & Fill Permit. There are no Priority Resource Areas (PRAs) mapped in the project area. The streams are all mapped as predicted cold water fisheries.

The Natural Heritage Bureau datacheck report (NHB23-1268) listed the state-threatened northern neglected reed grass as occurring in the vicinity of the project. A survey for this plant was completed. Only one patch of grass was identified but the species could not be confirmed; however, this occurred outside the limits of work and will not be impacted. The federally listed Canada lynx could potentially occur in this area of the state; however, no impacts to suitable habitat are anticipated. The federally listed northern long-eared bat could also occur in the project area. The tree that needs to be removed will be cut during the non-active season for bats and consultation will be carried out with the USFWS.

The work as proposed will require temporary impacts in the channel for the placement of temporary construction staging in front of each abutment. There is proposed riprap for bank stabilization in the SW and SE quads, which will result in permanent impacts to the banks at these locations. Temporary impacts are expected to be approximately 1929 SF (185 LF) to bank

and channel. Permanent impacts are expected to be 725 SF (26 LF) to banks. Given that permanent impacts will be less than 200 LF, the project will not impact any PRAs, and the project meets the criteria as repair of an existing Tier 3 crossing, confirmation that mitigation will not be required was requested.

The Pemi is listed as impaired by aluminum, a common impairment of the state's surface waters. The project will result in a slight increase in impervious surface of 650 SF as a result of the approach work and new deck. The project is not anticipated to alter drainage patterns and discharge points. The bridge deck is being changed from an open steel grid system to a closed concrete system. Scuppers will be added to the bridge curbline to allow water to pass directly to the river below as it does in the existing condition. Drop inlet structures will be added behind the west abutment, and the outfall will be through the northwest wingwall.

Permit applications are expected to be submitted in January 2024. The project is currently scheduled to advertise in April 2024, with bridge construction starting in 2025.

The following is a summary of key discussion points:

Karl Benedict asked if any temporary impacts would be required for an access road or causeway. Kim Smith responded that the staging would be for personnel access only and there would be no need for an access road or causeway.

Seta Detzel stated that she agreed that mitigation would not be required.

Mike Dionne asked if a time of year restriction would be accommodated for in-water work. C. Perron noted that the project was reviewed in 2020 and at that time Carol Henderson indicated that a time of year restriction would not be necessary for the staging; however, it is understood that there are now new wetland rules regarding in-water work, as well as new review staff. C. Perron suggested that additional information could be provided to NHFG on the staging and M. Dionne agreed to discuss internally.

Jamie Sikora noted that a NEPA document would need to be approved before the final design phase.

Gary Croot noted that the bridge has an existing USCG Bridge Permit. Since the project consisted of repairs only, no further permitting with the Coast Guard was necessary.

Mike Hicks noted that the river is Essential Fish Habitat and that coordination with the National Marine Fisheries Service would be required. He asked if the river is designated as Wild and Scenic. C. Perron responded that it is not. He also asked about Section 106 consultation. C. Perron stated that the bridge is considered historic and the proposed repairs are considered an adverse effect. An effect memo has been signed by SHPO, NHDOT, and FHWA

Christine J. Perron

From: Dionne, Michael <Michael.Dionne@wildlife.nh.gov>
Sent: Friday, December 8, 2023 11:22 AM
To: Christine J. Perron
Subject: Re: Woodstock 27713 - NHDOT Bridge Rehab

Hi Christine,
Thanks for the additional information. I discussed this project with Inland Fisheries. While there are likely wild brook trout present in this location it doesn't appear as though there is good spawning habitat in the vicinity of the bridge (large substrate and pool). Therefore, it is acceptable to waive the time of year restriction at this location.

If you have further questions or concerns let me know.

Mike Dionne
Environmental Review Coordinator

NH Fish & Game Department
11 Hazen Drive
Concord, NH 03301
(603) 271-1136, michael.dionne@wildlife.nh.gov

NH Fish and Game…*connecting you to life outdoors*
www.wildnh.com, www.facebook.com/nhfishandgame

Did you know? *New Hampshire Fish and Game has been conserving New Hampshire's wildlife and their habitats since 1865.*

From: Christine J. Perron <CPerron@mjinc.com>
Sent: Thursday, December 7, 2023 4:04 PM
To: Dionne, Michael <MICHAEL.DIONNE@WILDLIFE.NH.GOV>
Subject: Woodstock 27713 - NHDOT Bridge Rehab

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

Hi Mike,

I wanted to follow up on our discussion at last month's resource agency meeting about the proposed in-water staging in the Pemigewasset River for the subject bridge project (the presentation and draft minutes are attached for reference). As discussed at the meeting, the only impact in the water will be from temporary construction staging for personnel access at the abutments.

The anticipated method for scaffolding would involve placing individual concrete blocks on the bed of the channel in front of the abutment and building steel or timber scaffolding to above the water level. The water level at the west abutment is generally low enough to access the abutment, so scaffolding on that side would likely not be in the water and possibly not even needed.

Based on this, would it be acceptable to waive a time of year restriction for the scaffolding?

Thanks,

Christine J. Perron

Subject: FW: Woodstock 27713 EFH Coordination NHDOT Bridge Rehabilitation- NH Route 175 over the Pemigewasset River

From: Kaitlyn Shaw - NOAA Federal <kaitlyn.shaw@noaa.gov>
Sent: Monday, November 27, 2023 9:14 AM
To: Martin, Rebecca <Rebecca.A.Martin@dot.nh.gov>
Cc: Laurin, Marc <marc.g.laurin@dot.nh.gov>; Sikora, Jamie (FHWA) <Jamie.Sikora@dot.gov>; Chris Boelke <Christopher.Boelke@noaa.gov>
Subject: Re: Woodstock 27713 EFH Coordination NHDOT Bridge Rehabilitation- NH Route 175 over the Pemigewasset River

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

Hi Rebecca,
Thanks for the email. I hope you had a relaxing time off last week. Chris is reviewing the general concurrence letter I've drafted on consultation in areas designated for Atlantic salmon but not currently being restored for diadromous fish passage. We are using the table below and only requesting that prioritization type 1 systems be consulted on in the Merrimack watershed. As such, we do not need to receive a worksheet for this project. As mentioned at the training, while these areas are designated Essential Fish Habitat, we are able to make the determination on whether the consultation is needed due to our best professional judgment on diadromous resource presence.

Table 3. Merrimack River Watershed Restoration Focus Areas

Watershed Number	Watershed	Drainage Area (square miles)	CP Restoration Focus Area	Prioritization	Primary characteristic(s) affecting restoration effectiveness/potential
0	Mainstem Subwatershed	-	Yes	Type I	Fish passage efficiency, lack of passage at two mainstem dams
1	Powwow River	59.3	No	Type IV	High dam density near river mouth, cost effectiveness of restoration
2	Little River	29.1	No	Type IV	Urbanization, two dams near river mouth lacking passage
3	Shawsheen River	78.2	Yes	Type I	Ballardvale Dam
4	Spicket River	77.4	No	Type IV	Five dams on lower river, cost effectiveness of restoration
5	Concord River (SuAsCo)	400.3	Yes	Type I	Talbot Mills Dam, numerous upper watershed dams, water quality
6	Beaver Brook	94.4	Yes	Type II	Three obsolete dams in lower river lacking upstream passage
7	Stony Brook	45.3	No	Type IV	Multiple impoundments, cost effectiveness of restoration
8	Salmon Brook	31.1	No	Type IV	Urbanization, several dams on lower river
9	Nashua River	532.8	Yes	Type I	Fish passage efficiency at Jackson Mills and Mine Falls, lack of passage at Pepperell and Ice House projects
10	Pennichuck Brook	26.9	No	Type IV	Many impoundments; four dams near river mouth, water supply withdrawals may conflict with outmigration
11	Souhegan River	220.5	Yes	Type II	No fish passage on remaining dams, high dam density in upper river
12	Cohas Brook	70.0	Yes	Type II	Pine Island Pond Dam, managed flows from Massabesic may conflict with outmigration in dry years
13	Piscataquog River	217.6	Yes	Type I	Lack of fish passage, series of impoundments
14	Black Brook	22.3	Yes	Type III	Pierce Brook and Kimball Pond Dams
15	Suncook River	255.9	Yes	Type III	Need passage at Hooksett to reach mouth, no passage at China Mill and Webster-Pembroke projects, other dams further up
16	Soucook River	91.4	Yes	Type III	Need passage at Hooksett to reach mouth, a few dams in upper river
17	Turkey River	37.5	Yes	Type III	Need passage at Hooksett and Garvin's Falls to reach mouth, two dams on near Turkey Pond lacking passage, several dams in ruins near river mouth - unknown passage
18	Contoocook River	764.5	Yes	Type II	Need passage at Hooksett and Garvin's Falls to reach mouth, passage lacking at Penacook projects and Rolfe Canal, numerous dams throughout watershed
19	Winnipesaukee River	472.5	Yes	Type II	Need passage at Hooksett and Garvin's Falls to reach mouth, all six mainstem dams lack passage, downstream protections for juveniles that result from stocking
20	Pemigewasset River	1023.1	No	Type IV	Need passage at Hooksett and Garvin's Falls to reach mouth, natural barrier mid-watershed

Best,

Kaitlyn Shaw (she/ her)
Marine Habitat Resource Specialist
Habitat and Ecosystem Services Division
NOAA/ National Marine Fisheries Service

Mindful NOAA Program Manager

On Mon, Nov 13, 2023 at 11:18 AM Martin, Rebecca <Rebecca.A.Martin@dot.nh.gov> wrote:

> Hello Kaitlyn,
>
> I am writing about a NHDOT and FHWA project that involves rehabilitation of Bridge 177/148, which carries NH Route 175 over the Pemigewasset River in North Woodstock, NH. The bridge is a 175' single span steel through-arch built in 1939. The project will repair or replace stringers, floor beams, cable ties, and railing. The existing steel open grid deck will be replaced with a closed concrete deck. Work will also include guardrail and drainage improvements along the approach roadway. The only in-water work will entail the installation of temporary staging for access to the abutments during construction. The areas of temporary impacts resulting from the placement of staging will be approximately 736 sq ft in front of the west abutment and 864 sq ft in front of the east abutment. Staging will be in place for up to one construction season (May-November).
>
> The Pemigewasset is a rural, sinuous waterway flowing north to south over roughly 70 miles from its headwaters within the Franconia Notch State Park to its confluence in Franklin, NH with the Winnipesaukee River to form the Merrimack River. The Route 175 Bridge is located approximately 1000 feet downstream of the wide and braided confluence with the East Branch of the Pemigewasset, and approximately 50 miles upstream of the Ayers Island Dam in New Hampton, NH. At the location of the bridge, the Pemigewasset is greater than a 4th order stream with a watershed area of 181 square miles. The substrate of the riverbed at the bridge location is predominantly sand, gravel, and cobbles, with some areas of boulders and bedrock. The river in the vicinity of the bridge has a riffle-run structure, with the bridge over a long run.
>
> The Pemigewasset River is designated Essential Fish Habitat for all life stages of Atlantic salmon. Based on observed site characteristics, suitable environmental conditions likely exist for all life stages in the vicinity of the bridge. Within the areas of proposed temporary staging, substrate is primarily sand at the east abutment and sand and bedrock at the west abutment, making the areas of temporary staging unsuitable for eggs or larvae.
>
> The placement of temporary staging is not expected to result in increases in turbidity given the coarse substrate and minimal disturbance to the riverbed. The only impact from staging is expected to be minimal, short-term disturbance of the benthic community. Given the small footprint of the staging and

the temporary nature of the impacts, the project would not have more than minimal adverse effect on EFH. No mitigation or time of year restriction for the temporary staging is proposed.

We have previously communicated about the Merrimack River, the dams which do not have upstream fish passage accommodations and that it is unlikely to support Atlantic salmon. Could you please review the information provided and let us know if you would recommend an EFH assessment worksheet be completed for the project?

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

Wetland Functional Assessment Worksheet

WETLANDS FUNCTIONAL ASSESSMENT WORKSHEET

Water Division/Land Resource Management
Wetlands Bureau

Check the Status of your Application

RSA/Rule: RSA 482-A / Env-Wt 311.03(b)(10); Env-Wt 311.10

APPLICANT LAST NAME, FIRST NAME, M.I.: NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION

As required by Env-Wt 311.03(b)(10), an application for a standard permit for minor and major projects must include a functional assessment of all wetlands on the project site as specified in Env-Wt 311.10. This worksheet will help you compile data for the functional assessment needed to meet federal (US Army Corps of Engineers (USACE); if applicable) and NHDES requirements. Additional requirements are needed for projects in tidal area; please refer to the Coastal Area Worksheet (NHDES-W-06-079) for more information.

Both a desktop review and a field examination are needed to accurately determine surrounding land use, hydrology, hydroperiod, hydric soils, vegetation, structural complexity of wetland classes, hydrologic connections between wetlands or stream systems or wetland complex, position in the landscape, and physical characteristics of wetlands and associated surface waters. The results of the evaluation are to be used to select the location of the proposed project having the least impact to wetland functions and values (Env-Wt 311.10). This worksheet can be used in conjunction with the Avoidance and Minimization Written Narrative (NHDES-W-06-089) and the Avoidance and Minimization Checklist (NHDES-W-06-050) to address Env-Wt 313.03 (Avoidance and Minimization). If more than one wetland/ stream resource is identified, multiple worksheets can be attached to the application. All wetland, vernal pools, and stream identification (ID) numbers are to be displayed and located on the wetlands delineation of the subject property.

SECTION 1 - LOCATION (USACE HIGHWAY METHODOLOGY)	
ADJACENT LAND USE: roadway, residential, sewage treatment	
CONTIGUOUS UNDEVELOPED BUFFER ZONE PRESENT? ☐ Yes ☒ No	
DISTANCE TO NEAREST ROADWAY OR OTHER DEVELOPMENT (in feet): 0'	
SECTION 2 - DELINEATION (USACE HIGHWAY METHODOLOGY; Env-Wt 311.10)	
CERTIFIED WETLAND SCIENTIST (if in a non-tidal area) or QUALIFIED COASTAL PROFESSIONAL (if in a tidal area) who prepared this assessment: Christine Perron (CWS No. 294)	
DATE(S) OF SITE VISIT(S): 05/11/2023	DELINEATION PER ENV-WT 406 COMPLETED? ☒ Yes ☐ No
CONFIRM THAT THE EVALUATION IS BASED ON: ☒ Office and ☒ Field examination.	
METHOD USED FOR FUNCTIONAL ASSESSMENT (check one and fill in blank if "other"): ☒ USACE Highway Methodology. ☐ Other scientifically supported method (enter name/ title):	

SECTION 3 - WETLAND RESOURCE SUMMARY (USACE HIGHWAY METHODOLOGY; Env-Wt 311.10)	
WETLAND ID: Pemigewasset River	LOCATION: (LAT/ LONG) 44.02203/71.68201
WETLAND AREA: N/A Stream Channel	DOMINANT WETLAND SYSTEMS PRESENT: Perennial stream
HOW MANY TRIBUTARIES CONTRIBUTE TO THE WETLAND? 3+	COWARDIN CLASS: R2UB3H
IS THE WETLAND A SEPARATE HYDRAULIC SYSTEM? ☐ Yes ☒ No if not, where does the wetland lie in the drainage basin? lower	IS THE WETLAND PART OF: ☐ A wildlife corridor or ☐ A habitat island? IS THE WETLAND HUMAN-MADE? ☐ Yes ☒ No
IS THE WETLAND IN A 100-YEAR FLOODPLAIN? ☒ Yes ☐ No	ARE VERNAL POOLS PRESENT? ☐ Yes ☒ No (If yes, complete the Vernal Pool Table)
ARE ANY WETLANDS PART OF A STREAM OR OPEN-WATER SYSTEM? ☒ Yes ☐ No	ARE ANY PUBLIC OR PRIVATE WELLS DOWNSTREAM/ DOWNGRADIENT? ☒ Yes ☐ No
PROPOSED WETLAND IMPACT TYPE: fill (riprap in channel)	PROPOSED WETLAND IMPACT AREA: n/a

SECTION 4 - WETLANDS FUNCTIONS AND VALUES (USACE HIGHWAY METHODOLOGY; Env-Wt 311.10)

The following table can be used to compile data on wetlands functions and values. The reference numbers indicated in the "Functions/ Values" column refer to the following functions and values:

1. Ecological Integrity (from RSA 482-A:2, XI)
2. Educational Potential (from USACE Highway Methodology: Educational/Scientific Value)
3. Fish & Aquatic Life Habitat (from USACE Highway Methodology: Fish & Shellfish Habitat)
4. Flood Storage (from USACE Highway Methodology: Floodflow Alteration)
5. Groundwater Recharge (from USACE Highway Methodology: Groundwater Recharge/Discharge)
6. Noteworthiness (from USACE Highway Methodology: Threatened or Endangered Species Habitat)
7. Nutrient Trapping/Retention & Transformation (from USACE Highway Methodology: Nutrient Removal)
8. Production Export (Nutrient) (from USACE Highway Methodology)
9. Scenic Quality (from USACE Highway Methodology: Visual Quality/Aesthetics)
10. Sediment Trapping (from USACE Highway Methodology: Sediment /Toxicant Retention)
11. Shoreline Anchoring (from USACE Highway Methodology: Sediment/Shoreline Stabilization)
12. Uniqueness/Heritage (from USACE Highway Methodology)
13. Wetland-based Recreation (from USACE Highway Methodology: Recreation)
14. Wetland-dependent Wildlife Habitat (from USACE Highway Methodology: Wildlife Habitat)

First, determine if a wetland is suitable for a particular function and value ("Suitability" column) and indicate the rationale behind your determination ("Rationale" column). Please use the rationale reference numbers listed in Appendix A of USACE *The Highway Methodology Workbook Supplement*. Second, indicate which functions and values are principal ("Principal Function/value?" column). As described in *The Highway Methodology Workbook Supplement*, "functions and values can be principal if they are an important physical component of a wetland ecosystem (function only) and/or are considered of special value to society, from a local, regional, and/or national perspective". "Important Notes" are to include characteristics the evaluator used to determine the principal function and value of the wetland.

FUNCTIONS/ VALUES	SUITABILITY (Y/N)	RATIONALE (Reference #)	PRINCIPAL FUNCTION/VALUE? (Y/N)	IMPORTANT NOTES
1	☐ Yes ☐ No		☐ Yes ☐ No	
2	☐ Yes ☐ No		☐ Yes ☐ No	
3	☐ Yes ☐ No		☐ Yes ☐ No	
4	☐ Yes ☐ No		☐ Yes ☐ No	
5	☐ Yes ☐ No		☐ Yes ☐ No	
6	☐ Yes ☐ No		☐ Yes ☐ No	
7	☐ Yes ☐ No		☐ Yes ☐ No	
8	☐ Yes ☐ No		☐ Yes ☐ No	
9	☐ Yes ☐ No		☐ Yes ☐ No	
10	☐ Yes ☐ No		☐ Yes ☐ No	
11	☐ Yes ☐ No		☐ Yes ☐ No	
12	☐ Yes ☐ No		☐ Yes ☐ No	
13	☐ Yes ☐ No		☐ Yes ☐ No	
14	☐ Yes ☐ No		☐ Yes ☐ No	

SECTION 5 - VERNAL POOL SUMMARY (Env-Wt 311.10)

Delineations of vernal pools shall be based on the characteristics listed in the definition of "vernal pool" in Env-Wt 104.44. To assist in the delineation, individuals may use either of the following references:

- *Identifying and Documenting Vernal Pools in New Hampshire 3rd Ed.*, 2016, published by the New Hampshire Fish and Game Department; or
- The USACE *Vernal Pool Assessment* draft guidance dated 9-10-2013 and form dated 9-6-2016, Appendix L of the USACE New England District *Compensatory Mitigation Guidance*.

All vernal pool ID numbers are to be displayed and located on the wetland delineation of the subject property.

"Important Notes" are to include documented reproductive and wildlife values, landscape context, and relationship to other vernal pools/wetlands.

Note: For projects seeking federal approval from the USACE, please attach a completed copy of The USACE "Vernal Pool Assessment" form dated 9-6-2016, Appendix L of the USACE New England District *Compensatory Mitigation Guidance*.

VERNAL POOL ID NUMBER	DATE(S) OBSERVED	PRIMARY INDICATORS PRESENT (LIST)	SECONDARY INDICATORS PRESENT (LIST)	LENGTH OF HYDROPERIOD	IMPORTANT NOTES
1					
2					
3					
4					
5					

SECTION 6 - STREAM RESOURCES SUMMARY

DESCRIPTION OF STREAM: Pemigewasset River	STREAM TYPE (ROSGEN): C
HAVE FISHERIES BEEN DOCUMENTED? ☒ Yes ☐ No	DOES THE STREAM SYSTEM APPEAR STABLE? ☒ Yes ☐ No

OTHER KEY ON-SITE FUNCTIONS OF NOTE: Predicted coldwater fisheries

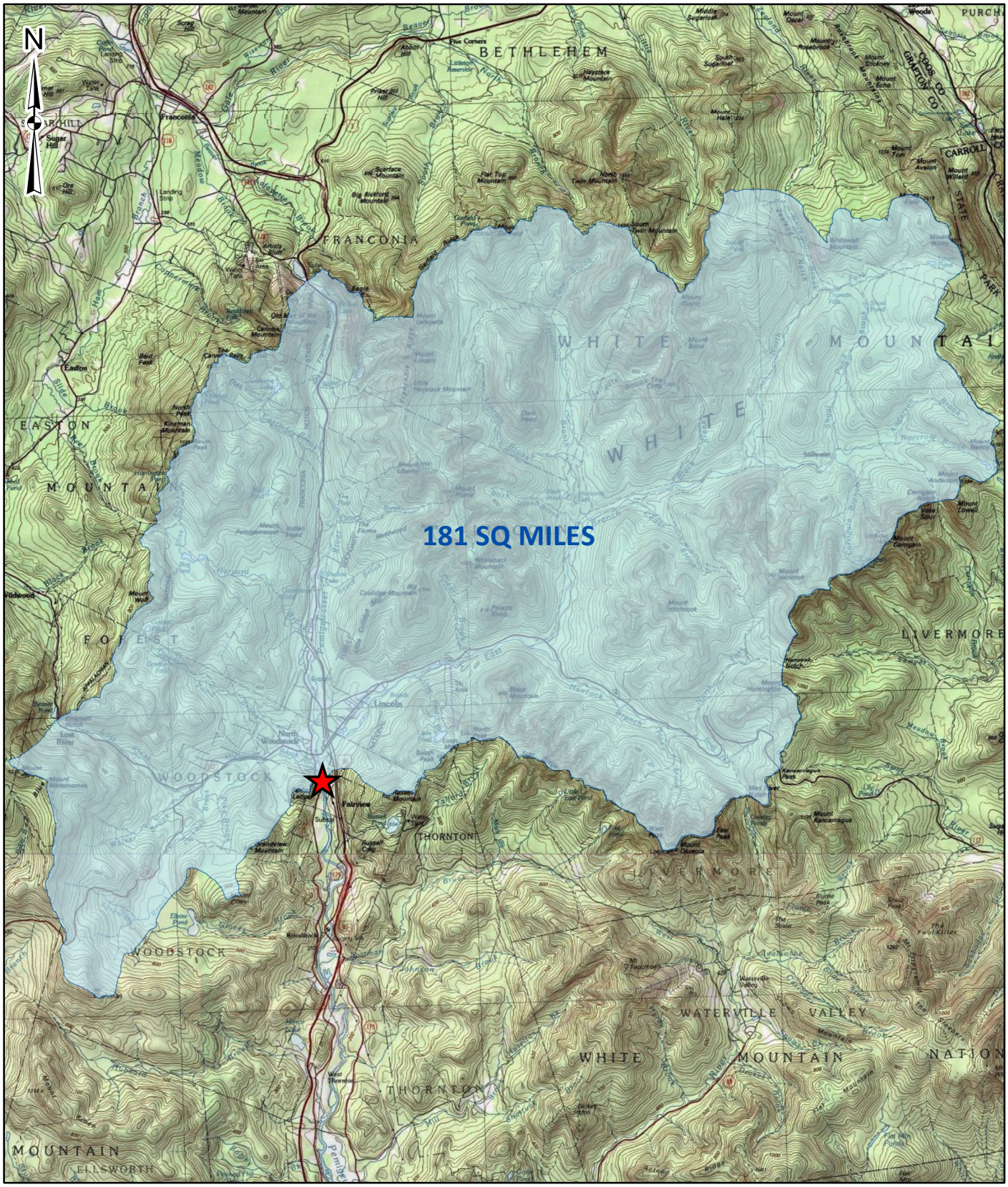
The following table can be used to compile data on stream resources. "Important Notes" are to include characteristics the evaluator used to determine principal function and value of each stream. The functions and values reference number are defined in Section 4.

FUNCTIONS/ VALUES	SUITABILITY (Y/N)	RATIONALE	PRINCIPAL FUNCTION/VALUE? (Y/N)	IMPORTANT NOTES
1	☒ Yes ☐ No		☐ Yes ☒ No	Disturbance in project area from existing bridge abutments/piers
2	☒ Yes ☐ No	2, 5, 11	☐ Yes ☒ No	
3	☒ Yes ☐ No	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17	☒ Yes ☐ No	Predicted coldwater fisheries and Essential Fish Habitat
4	☒ Yes ☐ No		☒ Yes ☐ No	stream channel provides flood storage, no adjacent wetlands
5	☒ Yes ☐ No	7	☐ Yes ☒ No	
6	☒ Yes ☐ No	2	☐ Yes ☒ No	While the Pemigewasset River does provide habitat for state and federally listed species, surveys of the project area did not identify the presence of any listed species.
7	☐ Yes ☒ No		☐ Yes ☒ No	While sources of excess nutrients may be present in upland/upstream, high gradient stream channel and high water velocity with the course substrate make this not suitable for nutrient retention
8	☒ Yes ☐ No	4, 5, 6, 10	☐ Yes ☒ No	Stream provides fish habitat, export of nutrients downstream
9	☒ Yes ☐ No	3, 6, 8, 10, 11	☒ Yes ☐ No	Pemigewasset River provides scenic visual/aesthetic value
10	☐ Yes ☒ No	1, 2, 10	☐ Yes ☒ No	High water velocities, limited sediment trapping potential
11	☐ Yes ☒ No	N/A	☐ Yes ☒ No	No wetlands adjacent to stream that provide shoreline anchoring function
12	☒ Yes ☐ No	7, 11, 14, 16, 17, 22, 27	☐ Yes ☒ No	Pemigewasset River is predicted coldwater fishery, has scenic/aesthetic value
13	☒ Yes ☐ No	2, 5, 6, 7	☒ Yes ☐ No	At this location, the Pemigewasset River provides recreational benefits such as swimming, fishing, and rafting
14	☒ Yes ☐ No	1, 3, 4, 5	☒ Yes ☐ No	

SECTION 7 - ATTACHMENTS (USACE HIGHWAY METHODOLOGY; Env-Wt 311.10)

- ☐ Wildlife and vegetation diversity/abundance list.
- ☒ Photograph of wetland.
- ☒ Wetland delineation plans showing wetlands, vernal pools, and streams in relation to the impact area and surrounding landscape. Wetland IDs, vernal pool IDs, and stream IDs must be indicated on the plans.
- ☐ For projects in tidal areas only: additional information required by Env-Wt 603.03/603.04. Please refer to the Coastal Area Worksheet (NHDES-W-06-079) for more information.

USGS Watershed Map



NHDOT WOODSTOCK 27713

NH ROUTE 175 - BRIDGE NO. 177/148

WATERSHED MAP

SCALE :	DATE :	FIGURE :
1" = 15,000'	DECEMBER 2023	2

McFarland Johnson

J:\19135.00 H&H Woodstock\Draw\GIS\Woodstock27713_WatershedMap_12062023.mxd

Env-Wt 904.09 Stream Crossing Rules

NHDES MAJOR IMPACT WETLANDS PERMIT APPLICATION

NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION

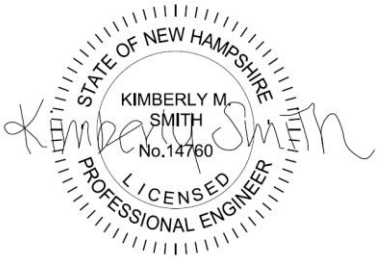
WOODSTOCK, 27713

BRIDGE NO. 177/148 REHABILITATION

WOODSTOCK, NEW HAMPSHIRE

NHDES STREAM CROSSING RULES

H&H



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

(a) The repair, rehabilitation, or replacement of tier 3 stream crossings shall be limited to existing legal crossings where the tier classification is based only on the size of the contributing watershed.

The proposed project is considered rehabilitation of an existing legal crossing. Bridge No. 177/148 was originally constructed in 1939 and is on the NHDOT's Red List of deficient structures, is weight restricted and structurally deficient, and has substandard rail.

The proposed project includes the rehabilitation of the existing superstructure of Bridge No. 177/148. Existing concrete abutments and wingwalls will be patched, abutment back walls will be reconstructed to accommodate new bridge deck expansion joints; existing bearings, floor beams and stringers will be replaced; horizontal wire rope ties, existing steel hanger pins, and riveted floor beam connections will be replaced; floor system lateral bracing, steel beam railings and curb will be replaced; open steel grid deck will be replaced with a closed exodermic deck with scuppers; concrete parapets will be reconstructed; bridge rail connections will be modified to meet safety requirements; and existing structural steel will be cleaned and painted. In addition, there will be work on the roadway approaches to tie into the new deck and new guardrail will be installed.

At the location of the existing bridge, the Pemigewasset River has a watershed size of approximately 181 square miles. Based on the size of the watershed the existing structure is a Tier 3 stream crossing.

(b) Rehabilitation of a culvert or other closed-bottom stream crossing structure pursuant to this section may be accomplished by concrete repair, slip lining, cured-in place lining, or concrete invert lining, or any combination thereof, except that slip lining shall not occur more than once.

Not applicable. The proposed project involves repairs/rehabilitation of an existing bridge span.

(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 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.

(2) The proposed stream crossing will:

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

The proposed project meets the general criteria specified in Env-Wt 904.01.

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

The hydraulic capacity of the existing bridge will be maintained. The proposed riprap in two quadrants of the bridge will not impact hydraulic capacity.

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

Aquatic organism passage will be maintained.

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

Stream connectivity will be maintained.

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

The proposed project is not anticipated to cause or contribute to an increase in the frequency of flooding or overtopping of the banks upstream or downstream from the crossing. The hydraulic opening of the existing bridge will be maintained.

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

Not applicable. The Pemigewasset River is a freshwater river.

Bank & Shoreline Stabilization Worksheet

BANK/SHORELINE STABILIZATION PROJECT-SPECIFIC WORKSHEET FOR STANDARD APPLICATION

Water Division/Land Resources Management

Wetlands Bureau

Check the Status of your Application

RSA/Rule: RSA 482/ Env-Wt 514

APPLICANT LAST NAME, FIRST NAME, M.I.: New Hampshire Department of Transportation

This worksheet summarizes the criteria and requirements for a Standard Permit for all types of "bank/shoreline stabilization" projects, as outlined in Chapter Env-Wt 500. In addition to the project-specific criteria and requirements on this worksheet, all Standard Applications must meet the criteria and requirements listed in the Standard Dredge and Fill Wetlands Permit Application form (NHDES-W-06-012).

Do **not** use this worksheet if the project is located in a coastal (tidal) area (Env-Wt 509.02(b)).

SECTION 1 - APPROVAL CRITERIA (Env-Wt 514.02)

An application for bank/shoreline stabilization must meet the following approval criteria:

☒ The project must meet the applicable conditions established in Env-Wt 300.

☒ For a hard-scape stabilization proposal, such as rip-rap or a retaining wall, the applicant must demonstrate that the bank or shoreline in that location cannot be stabilized by preserving natural vegetation, landscaping, or bioengineering.

☒ Bank/shoreline stabilization must be designed to be the least intrusive practicable method in accordance with Chapter 8 of the Wetlands Best Management Practice Techniques for Avoidance and Minimization (A/M BMPs).

☒ Bank/shoreline stabilization must conform to the natural alignment of the bank/shoreline.

☒ Bank/shoreline stabilization must not adversely affect the stream course such that water flow will be transported by the stream channel in a manner that the stream maintains it dimensions, general pattern, and slope with no unnatural raising or lowering of the channel bed elevation along the stream bed profile.

☒ Bank/shoreline stabilization must not adversely affect the physical stream forms or alter the local channel hydraulics, natural stream bank stability, or floodplain connectivity.

☒ Bank/shoreline stabilization must avoid and minimize impacts to shoreline resource functions as described in Env-Wt 514.01 and Chapter 8 of the A/M BMPs.

☐ If the project is a wall on a great pond or other surface water where the state holds fee simple ownership of the bed, bank/shoreline stabilization must locate the wall on the shoreward side of the normal high water line.

☒ If the project is to install rip-rap, bank/shoreline stabilization must locate the rip-rap shoreward of the normal high water line, where practicable, and extend it not more than two feet lakeward of that line at any point.

☒ The hierarchy of bank stabilization practices must be as follows:

(1) Soft vegetative bank stabilization, including regrading and replanting of slopes, in which all work occurs above ordinary high water or normal high water,

(2) Bioengineered bank stabilization or naturalized design techniques that uses a combination of live vegetation, woody material, or geotextile matting and may include regrading and replanting of slopes,

(3) Semi-natural form design shall be allowed only where the applicant demonstrates that anticipated turbulence, flows, restricted space, or similar factors, render vegetative or soft stabilization methods, bioengineering, and natural process design stabilization methods physically impractical,

(4) Hard-scape or rip-rap design shall be allowed only where anticipated turbulence, flows, restricted space, or similar factors render vegetative, bio-engineering, semi-natural form design and diversion methods physically impractical and where necessary to protect existing infrastructure, and

(5) Wall construction shall be allowed as the last available option, only where lack of space or other limitations of the site make alternative stabilization methods of bioengineering, seminatural, and rip-rap impractical. Wherever sufficient room exists, slopes shall be cut back to eliminate the requirement for a wall.

☐ Stream bank-stabilization project plans must be developed in accordance with the following techniques, as applicable:

- Naturalized and semi-natural design techniques where practicable in accordance with the Guidelines for Naturalized River Channel Design and Bank Stabilization dated February 2007; R. Schiff, J.G. MacBroom, and J. Armstrong Bonin.
- For bioengineering projects, National Engineering Handbook Part 654 (NEH 654), Technical Supplement 141, Streambank Soil Bioengineering, dated August 2007, USDA NRCS.
- For stream restoration projects, NEH 654, Stream Restoration Design, dated August 2007, USDA NRCS.

SECTION 2 - APPLICATION REQUIREMENTS FOR ALL BANK/SHORELINE STABILIZATION PROJECTS (Env-Wt 514.03)

An application for any bank/shoreline stabilization project must include:

☒ A narrative and photos that:

- Describe and illustrate existing conditions and locations where shoreline vegetation currently exists.

  Only the southeast quadrant of the bridge has existing vegetation and it is sparse and interspersed with large rocks and areas of erosion. The other three quadrants are already protected by riprap along the shore adjacent to the bridge.

- Identify all known causes of erosion to the bank/shoreline in that location.

  The Pemigewasset River has experienced a number of severe flooding events that resulted in erosion and scour throughout the watershed.

- Identify information and, for minor and major projects, engineering standards used to determine the appropriateness of the proposed bank stabilization treatment or practice.

  A detailed hydraulic analysis was performed using USACE's HEC-RAS program to evaluate flood impacts to the bridge and hydrodynamic forces applied to the superstructure during the 100-year flooding event. Field surveys of the bridge, approach roadways, and stream cross-sections were utilized in the flood modeling. Based on the results of the modeling, as well as the proposed drainage and standard NHDOT practice, it was determined that riprap was necessary for the protection of the existing bridge.

- Explain the design elements that have been incorporated to address erosion, by eliminating or minimizing the causes therefor.

  Proposed drainage will help direct runoff to a stone slope.

- For minor and major bank/shoreline stabilization projects or minimum impact bioengineering stream bank projects, identify the flood risk tolerance of the proposed treatment or practice using the appropriate technical guidance or national engineering handbook.

  The proposed riprap was designed for the 100-year flood event.

A cross-section plan that shows:

☒ The difference in elevation between the lowest point of the bank/shoreline slope to be impacted by the construction and the highest point of the bank/shoreline slope to be impacted.

☒ The linear distance across the proposed project area as measured along a straight line between the highest and lowest point of the bank/shoreline slope to be impacted.

☒ The existing and proposed slope of the bank/shoreline.

☒ The normal high water line or ordinary high water mark, as applicable.

Hard-scape, rip-rap, or unnatural design plans that must include:

☒ Designation of minimum and maximum stone size.

☒ Gradation.

☒ Minimum rip-rap thickness.

☒ Type of bedding for stone.

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

☒ A description of anticipated turbulence, flows, restricted space, or similar factors that would render vegetation and bioengineering stabilization methods physically impracticable.

☒ Engineering plans for rip-rap in excess of 100 linear feet along the bank or bed of a stream or river, including in-stream revetments, stamped by a professional engineer.

☐ If the project proposes rip-rap adjacent to great ponds or other surface waters where the state holds fee simple ownership to the bed, a stamped surveyed plan showing the location of the normal high water line and the footprint of the proposed project.

Design plans for a wall in non-tidal waters must include:

☐ Cross-section and plan views of the proposed installation and sufficient plans to clearly indicate the relationship of the project to fixed points of reference, abutting properties, and features of the natural shoreline.

☐ If the application is for a wall adjacent to a great pond or other surface water where the state holds fee simple ownership to the bed, a surveyed plan, stamped by a licensed land surveyor, showing the location of the normal high water line and the footprint of the proposed project.

SECTION 3 - DESIGN REQUIREMENTS FOR ALL BANK/SHORELINE STABILIZATION PROJECTS (Env-Wt 514.04)

In addition to meeting all applicable requirements in Env-Wt 300, bank/shoreline stabilization must be designed to:

☒ Incorporate stormwater diversion and retention to minimize erosion.

☒ Retain natural vegetation to the maximum extent possible.

☐ If space and soil conditions allow, cut back unstable banks to a flatter slope and then plant with native, non-invasive trees, shrubs, and groundcover.

☒ Avoid and minimize impacts to adjacent properties and infrastructure.

☒ Avoid and minimize impacts to water quality.

☒ Avoid and minimize impacts to priority resource areas, avian nesting areas, fish spawning locations, and other wildlife habitat to meet the requirements of Env-Wt 514.02.

☐ Incorporate naturalized and semi-natural design techniques where practicable in accordance with Guidelines for Naturalized River Channel Design and Bank Stabilization dated February 2007, R. Schiff, J.G. MacBroom, and J. Armstrong Bonin.

☐ For bioengineering projects, be in accordance with NEH 654, Technical Supplement 141, Streambank Soil Bioengineering, dated August 2007, USDA NRCS.

☐ For stream restoration projects, be in accordance with NEH 654, Stream Restoration Design, dated August, 2007, USDA NRCS.

SECTION 4 - CONSTRUCTION REQUIREMENTS FOR ALL BANK/SHORELINE STABILIZATION PROJECTS (Env-Wt 514.05)

In addition to all applicable construction standards specified in Env-Wt 300, the following apply to all bank/ shoreline stabilization projects:

☐ Materials used to emulate a natural channel bottom must:

- Be consistent with materials identified in the reference reach, and
- Not include any angular rip-rap or gravel unless specifically identified on the approved plan.

☐ Bank restoration must be constructed, landscaped, and monitored in a manner that will create a healthy riparian or lacustrine shoreline system.

☐ Bank/shoreline stabilization areas must:

(1) Have at least 75% successful establishment of vegetation after two growing seasons, or

(2) Be replanted and re-established until a functional lacustrine, wetland, or riparian system has been reestablished in accordance with the approved plans.

☒ Unless otherwise approved, construction must be performed during low flow or dry conditions.

☐ Where there is documented occurrence of a cold water fishery or protected species or habitat, unless a waiver of this condition is issued in writing by the department in consultation with the New Hampshire Fish and Game Department, work must occur:

- During low-flow or dry conditions during the growing season, and
- Prior to October 1.

☒ Work authorized must be carried out in accordance with Env-Wt 307 such that there are no discharges in or to spawning or nursery areas during spawning seasons.

☒ Work authorized must be carried out in accordance with Env-Wt 307 such that controls are in place to protect water quality and appropriate turbidity controls such that no turbidity escape the immediate dredge area and must remain until suspended particles have settled and water at the work site has returned to normal clarity.

☒ Within 60 days of completion of construction, the applicant must submit a post-construction report that:

- Has been prepared by a professional engineer, certified wetland scientist, or qualified professional, as applicable, and
- Contains a narrative, exhibits, and photographs, as necessary to report the status of the project area and restored jurisdictional area.

SECTION 5 - ON-GOING REQUIREMENTS FOR ALL BANK/SHORELINE STABILIZATION PROJECTS (Env-Wt 514.06)

The owner must monitor the project and take corrective measures if the area is inadequately stabilized or restored by:

(a) Replacing fallen or displaced materials without a permit, where no machinery in the channel is required,

(b) Identifying corrective actions and follow-up plans in accordance with Env-Wt 307, and

(c) Filing appropriate application and plans where work exceeds (a), above.

SECTION 6 - BANK STABILIZATION CONSTRUCTION PROJECT CLASSIFICATION (Env-Wt 514.07)

Refer to Env-Wt 514.07 for project classification.

SECTION 585 -- STONE FILL

Description

1.1 This work shall consist of furnishing and placing a dense stone fill at the locations shown on the plans or ordered. Stone Fill is typically required for stability of embankment fill and soil cut slopes steeper than 2 horizontal to 1 vertical, although slopes at a flatter grade with water seepage or subject to submergence, such as in water quality treatment basins, could require stone fill. Stone fill is also used for erosion protection at pipe outlets, in drainage channels and for other drainage structures where expected water flows and velocities may require it.

Materials

2.1 Stone for stone fill shall be approved quarry stone, or broken rock of a hard, sound, and durable quality. The stones and spalls shall be so graded as to produce a dense fill with a minimum of voids.

2.1.1 Class A stone shall be irregular in shape with approximately 50 percent of the mass having a minimum volume of 12 ft^3, approximately 30 percent of the mass ranging between 3 and 12 ft^3, approximately 10 percent of the mass ranging between 1 and 3 ft^3, and the remainder of the mass composed of spalls.

2.1.2 Class B stone shall be irregular in shape with approximately 50 percent of the mass having a minimum volume of 3 ft^3, approximately 40 percent of the mass ranging between 1 and 3 ft^3, and the remainder of the mass composed of spalls.

2.1.3 Class C stone shall consist of clean, durable fragments of ledge rock of uniform quality, reasonably free from thin or elongated pieces. The stone shall be made from rock which is free from topsoil and other organic material. The stone shall be graded as follows:

Sieve Size	Percentage by Weight Passing
12 in	100
4 in	50 - 90
1-1/2 in	0 - 30
3/4 in	0 - 10

2.1.4 Class D stone shall conform to Table 520-3 - Coarse Aggregate, Standard Stone Size No. 467.

2.1.5 Spalls for filling voids shall be stones or broken rock ranging downward from a maximum size of 1 ft^3.

2.2 Gravel blanket material shall conform to 209.2.1.2.

2.3 Geotextile shall conform to Section 593.

Construction Requirements

3.1 Stones and spalls for stone fill shall be deposited and graded to eliminate voids and obtain a dense mass throughout the course. The spalls shall be tamped into place using an equipment bucket or other approved method.

3.1.1 When stone fill is placed on a slope, the stones shall be deposited in such a manner as not to dislodge the underlying material unnecessarily.

3.1.2 When stone fill is placed on a geotextile, it shall be deposited in a manner to maintain the integrity of the geotextile.

3.2 When gravel blanket is shown or ordered, the gravel shall be placed in layers not exceeding 12” in depth unless otherwise ordered.

3.3 The completed surface shall approximate the lines and grades shown or ordered. When ordered, stone placed over 1 ft. outside or above such lines and grades shall be removed.

3.4 Stone fill (Bridge) shall be placed within the limits shown on the plans.

Method of Measurement

4.1 Stone fill will be measured by the cubic yard and in accordance with 109.01.

Basis of Payment

5.1 The accepted quantity of stone fill of the class specified will be paid for at the Contract unit price per cubic yard complete in place.

5.2 Gravel blanket material specified or ordered will be paid for under Section 209.

5.3 Geotextile specified or ordered will be paid for under Section 593.

5.4 The accepted quantity of excavation required for placing stone fill and for placing any underlying gravel blanket will be paid for under the item of excavation being performed. Excavation herein refers only to excavation of original ground or to material ordered removed not shown on the plans.

5.5 Free borrow will not be required to replace the accepted quantity of stone obtained from the excavation. However, when the plans do not call for borrow, but the quantity of material removed from excavation for use under this item requires the Contractor to furnish borrow to complete the work, such borrow will be subsidiary.

Pay items and units:

585.1	Stone Fill, Class A	Cubic Yard
585.2	Stone Fill, Class B	Cubic Yard
585.21	Stone Fill, Class B (Bridge)	Cubic Yard
585.3	Stone Fill, Class C	Cubic Yard
585.4	Stone Fill, Class D	Cubic Yard

NHB DataCheck Results Letter

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: Claire Hilsinger
125 Nagog Park
Acton, MA 01720

From: NHB Review, NH Natural Heritage Bureau
Date: 5/2/2023 (valid until 05/02/2024)
Re: Review by NH Natural Heritage Bureau
Permits: NHDES - Shoreland Standard Permit, NHDES - Wetland Standard Dredge & Fill - Major, USACE - General Permit, USCEQ - Federal: NEPA Review

NHB ID: **NHB23-1268** Town: Woodstock Location: Bridge No. 177/148 - NH Route 175
Description: Rehabilitation of Bridge No. 177/148 on NH Route 175 in Woodstock, NH. Bridge will be closed during construction; no temporary detour bridge will be necessary. Project is currently scheduled to advertise for bids in June 2024.

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

Comments **NHB: Please send NHB representative photos during the growing season and proposed plans so that we can determine if the nearby record of northern neglected reed grass may be impacted.**
F&G: No comments at this time.

Plant species	State[1]	Federal	Notes
northern neglected reed grass (*Calamagrostis stricta ssp. inexpansa*)*	T	--	Threats to this species include trampling and other forms of habitat degradation or loss.

[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.

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

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.

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 NHFGreview@wildlife.nh.gov, and include the NHB DataCheck results letter number and "review request" in the email subject line.

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

Christine J. Perron

From: DNCR: NHB Review <nhbreview@dncr.nh.gov>
Sent: Thursday, July 13, 2023 2:04 PM
To: Claire Hilsinger
Cc: Laurin, Marc; Christine J. Perron
Subject: RE: NHB Review: NHB23-1268

Hi Claire,

Thanks for searching the proposed project area for **northern neglected reed grass** (*Calamagrostis stricta* ssp. *inexpansa*). As this potential occurrence is more than 50ft away from work activities, NHB recommends demarcating the area with bright flagging or fencing. An updated survey of the species is not needed. NHB has no further concerns regarding **northern neglected reed grass being impacted by proposed work activities.**

If anyone who may be able to identify this rare species will be on the project site when mature spikelets are present (approximately mid-July to mid-August) additional information and photographs would be helpful so NHB can update our Database records if this is the rare species.

Thanks for reaching out,

Ashley Litwinenko
Environmental Reviewer
Natural Heritage Bureau (NHB)
Division of Forests & Lands - DNCR
172 Pembroke Rd., Concord, NH 03301
Phone: 603-271-2834
Datacheck Tool
NHB Botany information

Vacation Notice – OFF 7/24 – 7/28
Follow-up on Environmental Review related emails will be delayed during that time, please email NHBReview@dncr.nh.gov prior to that week if a follow-up review is time sensitive. NHB DataCheck Letters will still be distributed, and NHB DataCheck Tool assistance will be available during this time. Thank you for your understanding.

From: Claire Hilsinger <CHilsinger@mjinc.com>
Sent: Thursday, July 13, 2023 1:20 PM
To: DNCR: NHB Review <nhbreview@dncr.nh.gov>
Cc: Laurin, Marc <marc.g.laurin@dot.nh.gov>; Christine J. Perron <CPerron@mjinc.com>
Subject: RE: NHB Review: NHB23-1268

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

Hello Maddie.

This is a follow up concerning the bridge rehabilitation project in Woodstock, NH, providing photos and documentation requested in the NHB DataCheck Letter.

On May 11, 2023 McFarland-Johnson searched for northern neglected reed grass (*Calamagrostis stricta* ssp. *inexpansa*) within the project area. We found one bunch of grass that could potentially be this rare species (leaf characteristics

matched those of northern neglected reed grass) but we were not able to fully identify it due to its lack of flowers or fruits.

This potential rare grass is further than 50 feet from the bridge, and the project engineer has confirmed that the area containing the grass can be avoided during construction. Do you think it is necessary to conduct a follow-up survey of this species?

Attached are photos of the potential rare grass taken during our May 11 survey, GIS location map, and proposed general bridge plan.

Thank you,
Claire

McFarland Johnson

Claire Hilsinger | Environmental Analyst
978-692-0522
Visit our website to see how MJ employee owners are innovating to improve our world.

From: DNCR: NHB Review <nhbreview@dncr.nh.gov>
Sent: Tuesday, May 2, 2023 1:02 PM
To: Claire Hilsinger <CHilsinger@mjinc.com>
Cc: Laurin, Marc <marc.g.laurin@dot.nh.gov>
Subject: NHB Review: NHB23-1268

Attached, please find the review of the NH Natural Heritage Bureau's (NHB) database to determine whether the proposed project could impact rare species and exemplary natural communities.

If you received a comment on the DataCheck Letter from NHB, please reply to this email with any documents, photos, or information requested.

If you received a comment on the DataCheck Letter from NHFG, please follow the consultation requirements listed on the DataCheck Letter and coordinate with NHFGreview@wildlife.nh.gov

Best,
Maddie

Maddie Severance
Assistant Ecological Information Specialist

NH Natural Heritage Bureau
DNCR - Forests & Lands

172 Pembroke Rd
Concord, NH 03301
603-271-0687

If there are problems with your DataCheck letter or you need help using the DataCheck Tool, contact Maddie Severance: (603) 271-0687

If there is a rare plant or exemplary natural community and an NHB Comment on your DataCheck letter, contact Ashley Litwinenko for any environmental review questions: (603) 271-2834

If there is a rare wildlife species and an NHFG comment on your DataCheck Letter, contact Kim Snyder for any environmental review questions: (603) 271- 0467

USFWS Official Species List

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:
Project Code: 2023-0073475
Project Name: NHDOT Woodstock 27713

December 06, 2023

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 4/12/2023 - 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 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 4/12/2023**) The Service published a final rule to reclassify the northern long-eared bat (NLEB) as endangered on November 30, 2022. The final rule went into effect on March 31, 2023. You may utilize the **Northern Long-eared Bat Rangewide Determination Key** available in IPaC. More information about this Determination Key and the Interim Consultation Framework are available on the northern long-eared bat species page:

https://www.fws.gov/species/northern-long-eared-bat-myotis-septentrionalis

For projects that previously utilized the 4(d) Determination Key, 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 was not completed by March 31, 2023, and may result in incidental take of NLEB, please reach out to our office at newengland@fws.gov to see if reinitiation is necessary.

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".

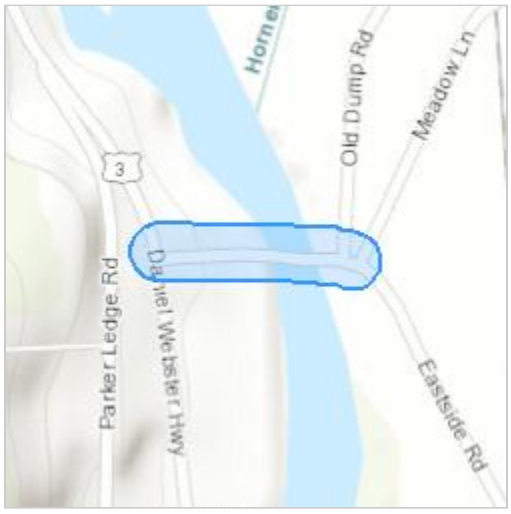
This species list is provided by:

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

PROJECT SUMMARY

Project Code: 2023-0073475
Project Name: NHDOT Woodstock 27713
Project Type: Bridge - Maintenance
Project Description: Bridge rehabilitation
Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@44.02202365,-71.68238054758804,14z



Counties: Grafton County, New Hampshire

ENDANGERED SPECIES ACT SPECIES

There is a total of 3 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
Canada Lynx *Lynx canadensis* Population: Wherever Found in Contiguous U.S. There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3652	Threatened
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

CRITICAL HABITATS

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

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: McFarland Johnson
Name: Christine Perron
Address: 53 Regional Drive
City: Concord
State: NH
Zip: 03301
Email cperron@mjinc.com
Phone: 6032252978

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Federal Highway Administration

USFWS Concurrence Letters (Northern Long-Eared Bat, Canada Lynx)

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:
Project code: 2023-0073475
Project Name: NHDOT Woodstock 27713

January 19, 2024

Subject: Concurrence verification letter for the 'NHDOT Woodstock 27713' project under the amended February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion (dated March 23, 2023) for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat (NLEB).

To whom it may concern:

The U.S. Fish and Wildlife Service (Service) has received your request dated January 19, 2024 to verify that the **NHDOT Woodstock 27713** (Proposed Action) may rely on the concurrence provided in the amended February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion (dated March 23, 2023) 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. **At least one of the qualification interview questions indicated an activity or portion of your project is consistent with a not likely to adversely affect determination therefore, the overall determination for your project is, may affect, and is not likely to adversely affect (NLAA) the endangered Indiana bat (*Myotis sodalis*) and/or the endangered northern long-eared bat (*Myotis septentrionalis*)**. Consultation with the Service pursuant to section 7(a)(2) of ESA (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq*.) is required.

The Service has 14 calendar days to notify the lead Federal action agency or designated non-federal representative if we determine that the Proposed Action does not meet the criteria for a NLAA determination under the PBO. If we do not notify the lead Federal action agency or designated non-federal representative within that timeframe, you may proceed with the Proposed Action under the terms of the NLAA concurrence provided in the PBO. This verification period allows Service Field Offices to apply local knowledge to implementation of the PBO, as we may identify a small subset of actions having impacts that were unanticipated. In such instances,

Service Field Offices may request additional information that is necessary to verify inclusion of the proposed action under the PBO.

For Proposed Actions that include bridge/culvert or structure removal, replacement, and/or maintenance activities: If your initial bridge/culvert or structure assessment documented signs of bat use or occupancy, or an assessment failed to detect Indiana bats and/or NLEBs, yet are later detected 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 within 2 working days of any potential take. In these instances, potential incidental take of Indiana bats and/or NLEBs is covered under the Incidental Take Statement in the 2018 FHWA, FRA, FTA PBO (provided that the take is reported to 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 and/or NLEB use or occupancy, yet bats are later detected 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 within 2 working days of the incident. In these instances, potential incidental take of Indiana bats and/or NLEBs 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 any 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 contact this Service Office.

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

- Canada Lynx *Lynx canadensis* Threatened
- Monarch Butterfly *Danaus plexippus* Candidate

PROJECT DESCRIPTION

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

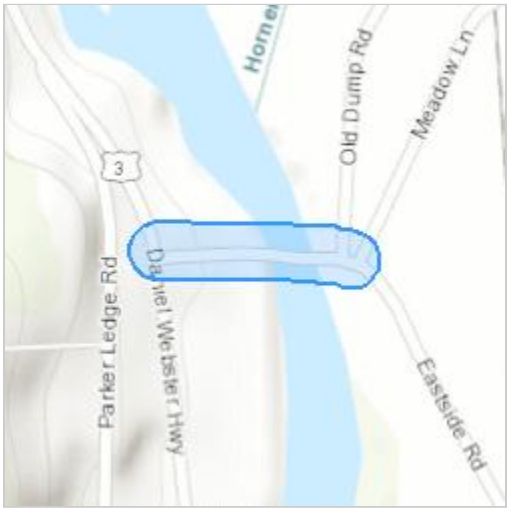
NAME

NHDOT Woodstock 27713

DESCRIPTION

Rehabilitation of the historic arch bridge carrying NH 175 over the Pemigewasset River in Woodstock, NH. The work on this Red List bridge involves replacement of the existing open steel grid decking with a solid surface, replacement of the floor system and wire rope ties, and cleaning and painting of the structural steel.

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@44.02202365,-71.68238054758804,14z



DETERMINATION KEY RESULT

Based on your answers provided, this project(s) may affect, but is not likely to adversely affect the endangered Indiana bat and/or the endangered 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 concurrence provided in the amended February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion (dated March 23, 2023) 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.

    Yes

    SUBMITTED DOCUMENTS

    - *Woodstock27713_BatAssessmentForm_05112023.pdf https://ipac.ecosphere.fws.gov/project/LRBTYVPZZJBAHNTWIAZMZRG234/projectDocuments/130797335*

12. Did the presence/probable absence (P/A) summer surveys detect Indiana bats and/or NLEB[1]?

    [1] P/A summer surveys conducted within the fall swarming/spring emergence home range of a documented Indiana bat hibernaculum (contact local Service Field Office for appropriate home range) 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.

    No

13. Were the P/A summer surveys conducted **within** the fall swarming/spring emergence range of a documented Indiana bat hibernaculum[1]?

    [1] Contact the local Service Field Office for appropriate distance from hibernacula.

    No

14. 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

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

    Yes

16. 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?

    B) During the inactive season

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

    Yes

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

    No

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

    Yes

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

    No

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

    No

22. Does the project include slash pile burning?

    No

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

    Yes

24. 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

25. 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

    - *Woodstock27713_BatAssessmentForm_05112023.pdf https://ipac.ecosphere.fws.gov/project/LRBTYVPZZJBAHNTWIAZMZRG234/projectDocuments/130797335*

26. 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

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

    No

28. 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

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

    No

30. Will the project install new or replace existing **permanent** lighting?

    No

31. 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

32. 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

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

    No

34. 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

35. Is the location of this project consistent with a Not Likely to Adversely Affect determination in this key?

    Automatically answered
    Yes, because no bats were detected during presence/probable absence surveys conducted during the summer survey season and outside of the fall swarming/spring emergence periods. Additionally, all activities were at least 0.5 miles from any hibernaculum.

36. 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

37. **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

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.

   0.09

4. Please describe the proposed bridge work:

   entails rehabilitation or replacement of bridge elements due to structural condition, and replacement of the open grid deck with a closed system for increased durability. Bridge 177/148 carries NH Route 175 over the Pemigewasset River in Woodstock. Drainage and guardrail upgrades will also be completed. One tree will require removal to accommodate grading required for guardrail work.

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

   Project is scheduled to advertise in April 2024. With a one year lead time required for obtaining steel, construction on the bridge is expected to start in spring 2025. Removal of the tree will be carried out between Oct 31, 2024 and April 1, 2025.

6. Please enter the date of the bridge assessment:

   5/11/2023

AVOIDANCE AND MINIMIZATION MEASURES (AMMS)

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

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 10, 2023. 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 endangered **northern long-eared bat** (NLEB) (*Myotis septentrionalis*).

This decision key should only be used to verify project applicability with the Service's amended February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion (dated March 23, 2023) 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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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:
Project code: 2023-0073475
Project Name: NHDOT Woodstock 27713

January 15, 2024

Federal Nexus: yes
Federal Action Agency (if applicable): Federal Highway Administration

Subject: Federal agency coordination under the Endangered Species Act, Section 7 for 'NHDOT Woodstock 27713'

Dear Christine Perron:

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 January 15, 2024, for "NHDOT Woodstock 27713" (here forward, Project). This project has been assigned Project Code 2023-0073475 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. ***Answers to certain questions in the DKey commit the project proponent to implementation of conservation measures that must be followed for the ESA determination to remain valid.***

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 (NLAA)" 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
Canada Lynx (*Lynx canadensis*)	Threatened	NLAA

Conclusion
The Service concurs to the above-mentioned determination(s) of may affect, not likely to adversely affect. This concurrence confirms receipt of your agencies coordination required under Section 7(a)(2) of the ESA.

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:

- Monarch Butterfly *Danaus plexippus* Candidate
- 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

If no changes occur with the Project or 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.

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

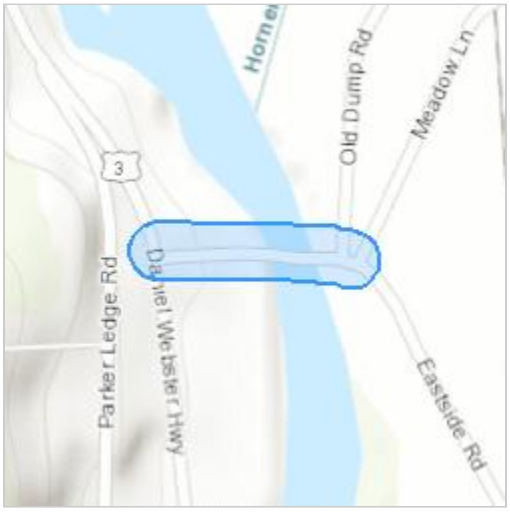
NHDOT Woodstock 27713

2. Description

The following description was provided for the project 'NHDOT Woodstock 27713':

> Bridge rehabilitation

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@44.02202365,-71.68238054758804,14z



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 using the Northeast Key to satisfy consultation requirements for species not covered by the FHWA programmatic (e.g., species other than Indiana bat or northern long-eared bat), select "No" and continue through the key. If you are unsure whether your project qualifies for the FHWA programmatic, please select "Yes" and use the FHWA, FRA, FTA Assisted Determination Key to determine if the programmatic biological opinion is applicable to your project. If it is not applicable, you can return to this key.

   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 action 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 the federal action agency's 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. Is the lead federal action agency the Environmental Protection Agency (EPA) or Federal Communications Commission (FCC)?

   No

9. Is the lead federal action agency the Federal Energy Regulatory Commission (FERC)?

   No

10. Is the lead federal action agency the Natural Resources Conservation Service?

    No

11. Will the proposed project involve the use of herbicide where listed species are present?

    No

12. Are there any caves or anthropogenic features suitable for hibernating or roosting bats within the area expected to be impacted by the project?

    No

13. Does any component of the project associated with this action include activities or structures that may pose a collision risk to **birds** (e.g., plane-based surveys, land-based or offshore wind turbines, communication towers, high voltage transmission lines, any type of towers with or without guy wires)?

    Note: For 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

14. Does any component of the project associated with this action include activities or structures that may pose a collision risk to **bats** (e.g., plane-based surveys, land-based or offshore wind turbines)?

    Note: For 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

15. 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

16. Will the proposed project affect wetlands where listed species are present?

    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).

    No

17. 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 where listed species may be present?

    No

18. Will the proposed project directly affect a streambed (below ordinary high water mark (OHWM)) of the stream or tributary where listed species may be present?

    No

19. Will the proposed project bore underneath (directional bore or horizontal directional drill) a stream where listed species may be present?

    No

20. 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) where listed species may be present?

    No

21. Will the proposed project involve the removal of excess sediment or debris, dredging or in-stream gravel mining where listed species may be present?

    No

22. Will the proposed project involve the creation of a new water-borne contaminant source where listed species may be present?

    Note New water-borne contaminant sources occur through improper storage, usage, or creation of chemicals. For example: leachate ponds and pits containing chemicals that are not NSF/ANSI 60 compliant have contaminated waterways. Sedimentation will be addressed in a separate question.

    No

23. Will the proposed project involve perennial stream loss, in a stream of tributary of a stream where listed species may be present, that would require an individual permit under 404 of the Clean Water Act?

    No

24. Will the proposed project involve blasting where listed species may be present?

    No

25. Will the proposed project include activities that could negatively affect fish movement temporarily or permanently (including fish stocking, harvesting, or creation of barriers to fish passage).

    No

26. Will the proposed project involve earth moving that could cause erosion and sedimentation, and/or contamination along a stream or tributary of a stream where listed species may be present?

    Note: Answer "Yes" to this question if erosion and sediment control measures will be used to protect the stream.

    No

27. Will earth moving activities result in sediment being introduced to streams or tributaries of streams where listed species may be present through activities such as, but not limited to, valley fills, large-scale vegetation removal, and/or change in site topography?

    No

28. Will the proposed project involve vegetation removal within 200 feet of a perennial stream bank where aquatic listed species may be present?

    No

29. Will erosion and sedimentation control Best Management Practices (BMPs) associated with applicable state and/or Federal permits, be applied to the project? If BMPs have been provided by and/or coordinated with and approved by the appropriate Ecological Services Field Office, answer "Yes" to this question.

    Yes

30. Is the project being funded, lead, or managed in whole or in part by U.S Fish and Wildlife Restoration and Recovery Program (e.g., Partners, Coastal, Fisheries, Wildlife and Sport Fish Restoration, Refuges)?

    No

31. [Semantic] Does the project intersect the Virginia big-eared bat critical habitat?

    Automatically answered
    No

32. [Semantic] Does the project intersect the Indiana bat critical habitat?

    Automatically answered
    No

33. [Hidden Semantic] Does the project intersect the Canada lynx AOI?

    Automatically answered
    Yes

34. Will the project involve trapping, poisoning, or broadcasting disease control agents for wild animals (e.g. animal damage control, controlling or managing furbearer wildlife, capturing animals for research projects, rabies baits)?

    No

35. Will the project be enclosed by fencing that could unintentionally trap lynx (e.g. wind and solar development, waste treatment settling ponds, impervious fencing along roads)?

    No

36. Is this a road or highway project?

    Yes

37. Will the project involve maintenance or construction of a road, bridge, or culvert?

    Yes

38. Could the project disturb lynx or increase the risk of road mortality (e.g. new forest or public road, improvements to roads that will increase traffic volume and speed, temporary fencing that could block movement of lynx)?

    No

39. Is the project in a non-forested habitat (fields, towns and urban areas, agricultural fields) and of a nature that will not result in take of lynx?

    Yes

40. [Semantic] Does the project intersect the candy darter critical habitat?

    Automatically answered
    No

41. [Semantic] Does the project intersect the diamond darter critical habitat?

    Automatically answered
    No

42. [Semantic] Does the project intersect the Big Sandy crayfish critical habitat?

    Automatically answered
    No

43. [Hidden Semantic] Does the project intersect the Guyandotte River crayfish critical habitat?

    Automatically answered
    No

44. Do you have any other documents that you want to include with this submission?

    No

PROJECT QUESTIONNAIRE

1. Approximately how many acres of trees would the proposed project remove?

   .01

2. Approximately how many total acres of disturbance are within the disturbance/ construction limits of the proposed project?

   0.25

3. Briefly describe the habitat within the construction/disturbance limits of the project site.

   Maintained roadside and disturbed streambanks

IPAC USER CONTACT INFORMATION

Agency: McFarland Johnson
Name: Christine Perron
Address: 53 Regional Drive
City: Concord
State: NH
Zip: 03301
Email cperron@mjinc.com
Phone: 6032252978

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Federal Highway Administration

Bridge Culvert Bat Assessment Form

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**
10:00–13:00 05/11/2023	27713	State Route 175	Grafton
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: _____	
State Bridge # 177/148	43.2605, -72.4272		

- 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: 05/11/2023 10:00-13:00	DOT Project Number: 27713	Route/Facility Carried: State Route 175	County: Grafton
Federal Structure ID: State Bridge# 177/148	Structure Coordinates (latitude and longitude): 43.2605, -72.4272	Structure Height (approximate): 50 feet	Structure Length: 175 feet

Structure Type (check one)

Bridge Construction Style

○ Cast-in-place		○ Pre-stressed Girder	
○ Flat Slab/Box		○ Steel I-beam	
● Truss (Side View)		○ 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:	

Creosote Evidence

- ○ Yes ● No ○ Unknown

Culvert Material

- ☐ Metal
- ☐ Concrete
- ☐ Plastic
- ☐ Stone/Masonry
- ☐ Other:

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 # 0 dead # 0; ☐ Guano; ☐ Staining; ☐ Audible; ☐ Odor; ☐ Photos; ☐ Species
☑ Concrete surfaces (open roosting on concrete)	☐ Not present	☐ Visual - live # 0 dead # 0; ☐ Guano; ☐ Staining; ☐ Audible; ☐ Odor; ☐ Photos; ☐ Species
☑ Spaces between concrete end walls and the bridge deck	☐ Not present	☐ Visual - live # 0 dead # 0; ☐ Guano; ☐ Staining; ☐ Audible; ☐ Odor; ☐ Photos; ☐ Species
☐ Crack between concrete railings on top of the bridge deck (Gap / Railing)	☑ Not present	☐ Visual - live # dead #; ☐ Guano; ☐ Staining; ☐ Audible; ☐ Odor; ☐ Photos; ☐ Species
☑ Vertical surfaces on concrete I-beams	☐ Not present	☐ Visual - live # 0 dead # 0; ☐ Guano; ☐ Staining; ☐ Audible; ☐ Odor; ☐ Photos; ☐ Species
☑ Spaces between walls, ceiling joists	☐ Not present	☐ Visual - live # 0 dead # 0; ☐ Guano; ☐ Staining; ☐ Audible; ☐ Odor; ☐ Photos; ☐ Species
☑ Weep holes, scupper drains, and inlets/pipes	☐ Not present	☐ Visual - live # 0 dead # 0; ☐ Guano; ☐ Staining; ☐ Audible; ☐ Odor; ☐ Photos; ☐ Species
☑ All guiderails	☐ Not present	☐ Visual - live # 0 dead # 0; ☐ Guano; ☐ Staining; ☐ Audible; ☐ Odor; ☐ Photos; ☐ Species
☑ All expansion joints	☐ Not present	☐ Visual - live # 0 dead # 0; ☐ Guano; ☐ Staining; ☐ Audible; ☐ Odor; ☐ Photos; ☐ Species

Name: Kathryn Claire Hilsinger

Signature: [signature]

Note: Binoculars were used to review bridge; Bridge Inspection Photos from June 2019 were inspected for bat evidence. None was found.

NHFG Correspondence

Christine J. Perron

From: Dionne, Michael <Michael.Dionne@wildlife.nh.gov>
Sent: Friday, December 8, 2023 11:22 AM
To: Christine J. Perron
Subject: Re: Woodstock 27713 - NHDOT Bridge Rehab

Hi Christine,
Thanks for the additional information. I discussed this project with Inland Fisheries. While there are likely wild brook trout present in this location it doesn't appear as though there is good spawning habitat in the vicinity of the bridge (large substrate and pool). Therefore, it is acceptable to waive the time of year restriction at this location.

If you have further questions or concerns let me know.

Mike Dionne
Environmental Review Coordinator

NH Fish & Game Department
11 Hazen Drive
Concord, NH 03301
(603) 271-1136, michael.dionne@wildlife.nh.gov

NH Fish and Game…*connecting you to life outdoors*
www.wildnh.com, www.facebook.com/nhfishandgame

Did you know? *New Hampshire Fish and Game has been conserving New Hampshire's wildlife and their habitats since 1865.*

From: Christine J. Perron <CPerron@mjinc.com>
Sent: Thursday, December 7, 2023 4:04 PM
To: Dionne, Michael <MICHAEL.DIONNE@WILDLIFE.NH.GOV>
Subject: Woodstock 27713 - NHDOT Bridge Rehab

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

Hi Mike,

I wanted to follow up on our discussion at last month's resource agency meeting about the proposed in-water staging in the Pemigewasset River for the subject bridge project (the presentation and draft minutes are attached for reference). As discussed at the meeting, the only impact in the water will be from temporary construction staging for personnel access at the abutments.

The anticipated method for scaffolding would involve placing individual concrete blocks on the bed of the channel in front of the abutment and building steel or timber scaffolding to above the water level. The water level at the west abutment is generally low enough to access the abutment, so scaffolding on that side would likely not be in the water and possibly not even needed.

Based on this, would it be acceptable to waive a time of year restriction for the scaffolding?

Thanks,

Christine

McFarland Johnson

Christine J. Perron, CWS | Regional Environmental Manager

603-931-3327

Visit our website to see how MJ employee owners are innovating to improve our world.

Section 106 Effect Memo

10622

New Hampshire DOT
Department of Transportation

William Cass, P.E.
Commissioner

THE STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION

RECEIVED OCT 1 2 2023

David Rodrigue, P.E.
Assistant Commissioner
Andre Briere, Colonel, USAF (RET)
Deputy Commissioner

WOODSTOCK
X-A003(597)
27713
RPR 10622

Adverse Effect Memo

For the purpose of compliance with regulations of the National Historic Preservation Act, as amended, and the Advisory Council on Historic Preservation's Procedures for the Protection of Historic Properties (36 CFR 800), the NH Division of the Federal Highway Administration (FHWA) and the NH Division of Historical Resources (NHDHR) have coordinated the identification and evaluation of historic and archaeological properties with plans to rehabilitate the bridge that carries NH Route 175 over the Pemigewasset River in Woodstock, New Hampshire.

Project Description:

The project consists of the rehabilitation of the NH Route 175 Bridge over the Pemigewasset River (177/148) in Woodstock. Constructed in 1939, the bridge is a well-preserved example of a steel through arch bridge with a tied-arch design.

The Area of Potential Effect begins at the intersection of Route 3 and Route 175 (Eastside Drive), it continues east along Route 175, over the Pemigewasset River, past Old Dump Road and ends about 200' east of the bridge on Route 175. The APE extends about 100' north of the bridge, and approximately 30' south of the bridge.

The following actions will occur as part of the rehabilitation project:

- The existing concrete abutments and wingwalls will be patched as needed and coated.
- The abutment back walls will be reconstructed to accommodate new bridge deck expansion joints.
- The existing cast steel fixed and rocker bearings will be replaced with elastomeric bearing assemblies consisting of steel top and bottom plates with a neoprene element in between.
- The existing rolled wide-flange floor beams and stringers will be replaced. The pinned connections to the vertical hangers will be maintained.
- The existing horizontal wire rope ties located under the floor beams will be replaced with a redundant system of two wire rope ties at each arch rib.
- The existing steel hanger pins connecting the vertical hangers to the arch ribs and the floor beams will be replaced with pins of the same diameter and a higher grade steel. The riveted connection to the floor beams will be replaced with bolts.

- The floor system lateral bracing will be replaced.
- The open steel grid deck which has been partially filled with concrete will be replaced with a closed exodermic deck.
- The existing, original steel beam railings and steel curb will be removed and replaced by steel posts with three horizontal rails that meet current safety standards and a concrete curb.
- The four concrete parapets at the ends of the bridge, only one of which is original, will be reconstructed to align with the proposed face of rail and curb. The connections of the bridge rail and approach roadway guardrail on each of the ends will be modified to meet safety requirements and prevent vehicle snagging.
- All existing structural steel will be cleaned and painted. All new structural steel will be painted to match existing.

Identification:
Within the APE the following resources were identified:

- NH Route 175 Bridge over the Pemigewasset River (177/148)
- Route 3 Cultural Landscape (ZMT-RTCL)
- Meadow Lark Motor Court (WDS0009)
- Montaup Cabins (WDS0007)

A detailed description of each of the above resources is on file at the New Hampshire Division of Historical Resources in Concord, New Hampshire.

Based on the proposed impacts, there are no archaeological concerns at this location. A Phase IA Archaeological Sensitivity Assessment was completed and found the area to be primarily disturbed from the previous bridge construction. Should project plans change, NHDOT will continue consultation with FHWA and NHDHR to determine if any archaeological investigations are necessary.

Public Consultation:
NHDOT made a presentation at the Woodstock Select Board meeting on May 31, 2022. A public informational meeting was held on April 23, 2023. There are no consulting parties to date.

Outreach letters in the form of the NHDOT Initial Contact Letter were sent out on June 27, 2023 to the Woodstock Select Board, Planning Board, and Conservation Commission as well as to the Upper Pemigewasset Historical Society.

A Request for Project Review to initiate the Section 106 process was reviewed by NHDHR on April 15, 2019. Meetings with the NHDHR were held on August 13, 2020, January 14, 2021, and July 13, 2023.

Determination of Effect:
The proposed rehabilitation does not present any direct or indirect impacts to the Route 3 Cultural Landscape, the Meadow Lark Motor Court or the Montaup Cabins.

Applying the criteria of effect at 36 CFR 800.5, we have determined that the project will have an adverse effect on the bridge due to the removal of the original steel bridge rail, steel curb and the open steel grid deck.

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The existing rail and curb need to be removed in order to replace the existing deck. The existing railings do not meet current safety standards and will be replaced by steel posts with three horizontal rails. In order to maintain the existing horizontal clearance of 28 feet, it is also not possible to put a new rail in front of the existing. The new railings will be attached to the concrete brush curbs. The proposed top of the new rail as measured from the bridge deck surface will be two inches higher (3'-8" proposed vs. 3'-6" existing). The concrete curb will have the benefit of directing roadway runoff away from the bridge's superstructure and substructure.

While the open grid deck was a feature of the original bridge, it is in poor condition and portions at the ends and over the floor beams were filled with concrete in 1992. Replacing the open deck with a closed exodermic deck will help with the continued preservation of the bridge by removing the roadway run-off from directly impacting the steel floor system framing and substructure elements. This will also allow for safer riding surfaces for bicyclists.

Although all actions comply with the SOI standards for rehabilitation the project would have an Adverse Effect on the bridge, due to the loss of original elements.

Mitigation Measures:
Appropriate mitigation for the removal of the steel bridge rail, steel curb plates and open steel grid deck will be recorded in a Memorandum of Agreement.

Section 4(f) *(to be completed by FHWA)*				
	There Will Be:	☐ **No 4(f);**	☒ **Programmatic 4(f);**	☐ **Full 4 (f);** or
	☐ **A finding of *de minimis* 4(f) impact as stated:** In addition, with NHDHR concurrence of no adverse effect for the above undertaking, and in accordance with 23 CFR 774.3, FHWA intends to, and by signature below, does make a finding of *de minimis* impact. NHDHR's signature represents concurrence with both the no adverse effect determination and the *de minimis* findings. Parties to the Section 106 process have been consulted and their concerns have been taken into account. Therefore, the requirements of Section 4(f) have been satisfied.			

In accordance with the Advisory Council's regulations, consultation will continue, as appropriate, as this project proceeds.

JAMISON S SIKORA Digitally signed by JAMISON S SIKORA Date: 2023.10.20 12:30:31 -04'00'

For: Patrick Bauer, Administrator Federal Highway Administrator — Date

Jill Edelmann — 10/10/2023
Jill Edelmann, Cultural Resources Manager — Date

Concurred with by the NH State Historic Preservation Officer:

Nadine Miller — 10/13/23
Nadine Miller, Deputy State Historic Preservation Officer, NH Division of Historical Resources — Date

c.c. Jamie Sikora, FHWA
Nadine Miller, NHDHR
Bob Juliano, NHDOT
Marc Laurin, NHDOT
Kimberly Smith, Hardesty & Hanover
Christine Perron, MJ

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NH GP Appendix B – Corps Secondary Impacts Checklist 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	
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
2.5 The overall project site is more than 40 acres?		X
2.6 What is the area of the previously filled wetlands?	unknown	
2.7 What is the area of the proposed fill in wetlands?	0 sf	
2.8 What % of the overall project sire will be previously and proposed filled wetlands?	unknown	
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	

3.2 Would work occur in any area identified as either "Highest Ranked Habitat in N.H." or "Highest Ranked Habitat in Ecological Region"? (These areas are colored magenta and green, respectively, on NH Fish and Game's map, "2010 Highest Ranked Wildlife Habitat by Ecological Condition.") Map information can be found at: • PDF: https://wildlife.state.nh.us/wildlife/wap-high-rank.html. • Data Mapper: www.granit.unh.edu. • GIS: www.granit.unh.edu/data/downloadfreedata/category/databycategory.html.		X
3.3 Would the project impact more than 20 acres of an undeveloped land block (upland, wetland/waterway) on the entire project site and/or on an adjoining property(s)?		X
3.4 Does the project propose more than a 10-lot residential subdivision, or a commercial or industrial development?		X
3.5 Are stream crossings designed in accordance with the GC 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	
4.2 If 4.1 is yes, will compensatory flood storage be provided if the project results in a loss of flood storage?		X
5. Historic/Archaeological Resources		
For a minimum, minor or major impact project - a copy of the 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	
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.

1.1 Will any work occur within 1 mile upstream in the watershed of an impaired water?

Section 303(d) of the Clean Water Act requires each state to submit a list of impaired waters to the US EPA every two years to identify surface waters that are impaired by pollutants, not expected to meet water quality standards within a reasonable time, and require the development of a Total Maximum Daily Load (TMDL) study. This list is prepared by NHDES as outlined in the Draft Section 305(b) and 303(d) Consolidated Assessment and Listing Methodology. According to the NHDES 303(d) list (most recent available), the Pemigewasset River (NHRIV700010203-01) is listed as impaired by pH and aluminum.

The project will result in a slight increase in impervious surface of 650 SF as a result of the approach work and new deck. The project is not anticipated to alter drainage patterns or discharge points. The bridge deck is being changed from an open steel grid system to a closed concrete system. Scuppers will be added to the bridge curbline to allow water to pass directly to the river below as it does in the existing condition. Drop inlet structures will be added behind the west abutment, and the outfall will be through the northwest wingwall. With the minimal increase in impervious area, the proposed project is not expected to result in an adverse impact on water quality and will not cause or contribute to surface water impairments.

2.1 Are there streams, brooks, rivers, ponds, or lakes within 200 feet of any proposed work?

As mentioned above in Section 1.1, the bridge is located over the Pemigewasset River, which is a perennial stream.

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?

The proposed project was submitted to and reviewed by the New Hampshire Natural Heritage Bureau (NHB) via the online NHB DataCheck Tool. According to the NHB DataCheck Results Letter (NHB23-1268) dated May 2, 2023, northern neglected reed grass (*Calamagrostis stricta ssp. inexpansa)* has historically been documented north of the project area. A survey for this species was conducted on May 11, 2023, and a small patch of potential northern neglected reed grass was identified based on leaf characteristics. Species could not be confirmed due to lack of flowers or fruits. Based on the distance of this potential occurrence from the area of expected work activities (>50 feet), it was determined that the project will not result in impacts to the individual. NHB recommended that the potential rare grass be demarcated by flagging or fencing during work activities.

The United States Fish and Wildlife Service's (USFWS) Information for Planning and Consultation (IPaC) planning tool was accessed on December 6, 2023 to determine if federally listed species have the potential to occur in the project area. An Official Species List was generated for the proposed project area (see attached USFWS Official Species List). According USFWS Official Species List, the proposed project is located within the range of the federally endangered northern long-eared bat (*Myotis septentrionalis*), the federally threatened Canada lynx (*Lynx* canadensis) and the monarch butterfly

(*Danaus plexippus*), a candidate species currently undergoing review for potential listing. A bridge assessment was conducted on May 11, 2023 and no evidence of bats was found. The one tree that needs to be removed within the project area will be cut during the non-active season for bats and consultation will be carried out with the USFWS. No impacts to suitable Canada lynx habitat are anticipated. The proposed project area includes some potential monarch habitat, but the project would not permanently change that habitat and no monarch conservation measures are included in the project at this time. Following construction, roadside areas would continue to provide potential habitat for monarch butterfly.

4.1 Is the proposed project within the 100-year floodplain of an adjacent river or stream?

The Pemigewasset River is not a Federal Emergency Management Agency (FEMA) mapped regulatory floodway. There are 100-year floodplains associated with the Pemigewasset River through the project area. The project will not result in a loss of flood storage.

5. Historic/Archaeological Resources

The Request for Project Review (RPR) was sent to NH DHR and Section 106 consultation was carried out for the project. Applying the criteria of effect at 36 CFR 800.5, it was determined that the project will have an adverse effect on the bridge due to the removal of the original steel bridge rail, steel curb and the open steel grid deck. Appropriate mitigation will be recorded in a Memorandum of Agreement.

6. Minimal Impact Determination

This project will not have greater than one acre of impact.

Photographs

Photo 1: Facing south from NE quadrant

Photo 2: Facing northwest from east bank

Photo 3: Facing east from west bank

Photo 4: Facing west from east bank

Photo 5: Facing east from west bank

Photo 6: Impact Location A + B (NW quadrant)

McFarland Johnson

Photo 7: Impact Location C + D (SW quadrant)

Photo 8: Impact Location E (NE quadrant)

Photo 9: Impact Location F, G + H (SE quadrant)

Construction Sequence

NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
WOODSTOCK 27713
NHDES WETLANDS PERMIT APPLICATION
FEBRUARY 2024

Anticipated Construction Sequence

Notes:

- The advertisement date is currently anticipated to be April 2024
- The following sequence is a preliminary and likely order of construction but the exact means and methods will ultimately be decided by the selected contractor.
- Any trees that must be removed will be cut between November 1 and March 31 to avoid potential impacts to bats.

Construction Sequence:

1.) Mobilize equipment and materials to the project site.
2.) Remove all existing temporary traffic control devices and temporary signage.
3.) Using appropriate traffic control procedures to the satisfaction of the Engineer, close the road with the signed detour and install construction barrier.
4.) Install appropriate perimeter controls for soil erosion and sediment control.
5.) Install under bridge staging/access at each abutment.
6.) Remove existing roadway guardrail, bridge railing, and steel safety walk.
7.) Remove existing steel grid floor and stringers. Remove existing slot drain on west approach.
8.) Remove and replace floor beams, lateral bracing, cable tie, and hanger pins.
9.) Install new stringers, grid flooring, scuppers, and expansion joints.
10.) Place concrete for new bridge deck and cure.
11.) Install new concrete curb and bridge rail.
12.) Paint bridge structure.
13.) Reconstruct roadway approaches up to crushed gravel layer of full box section.
14.) Install new drainage structures and pipe on west approach, including stone outlet protection.
15.) Pave roadway approaches to finished grade.

16.) Install new guardrail, granite curb, and stone fill for ditch lines and slope protection on roadway approaches.

17.) Replace and install new permanent signage.

18.) Reopen bridge and roadway to traffic.

19.) Remove under bridge staging, perimeter controls, and temporary traffic control signage.

20.) Patch concrete abutments.

21.) Clean up project site.

22.) Remove perimeter controls for soil erosion and sediment control. Install permanent erosion control.

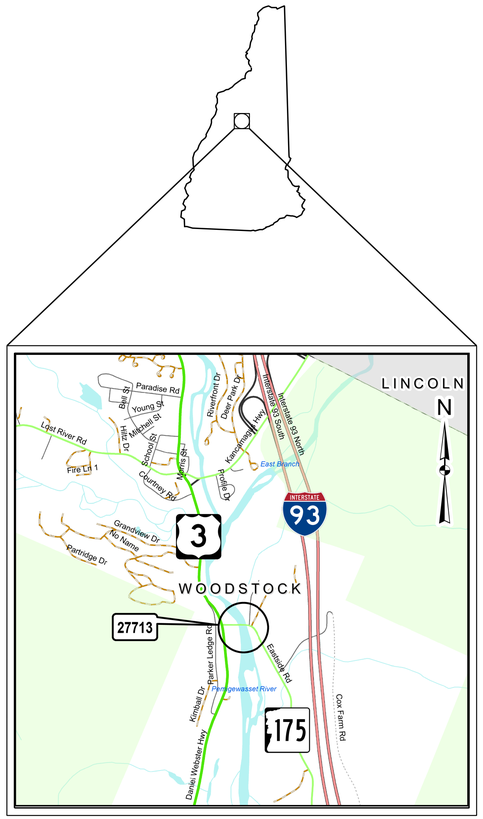
Wetland Impact Plan and Erosion Control Set

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION

WETLAND PLANS
FEDERAL AID PROJECT

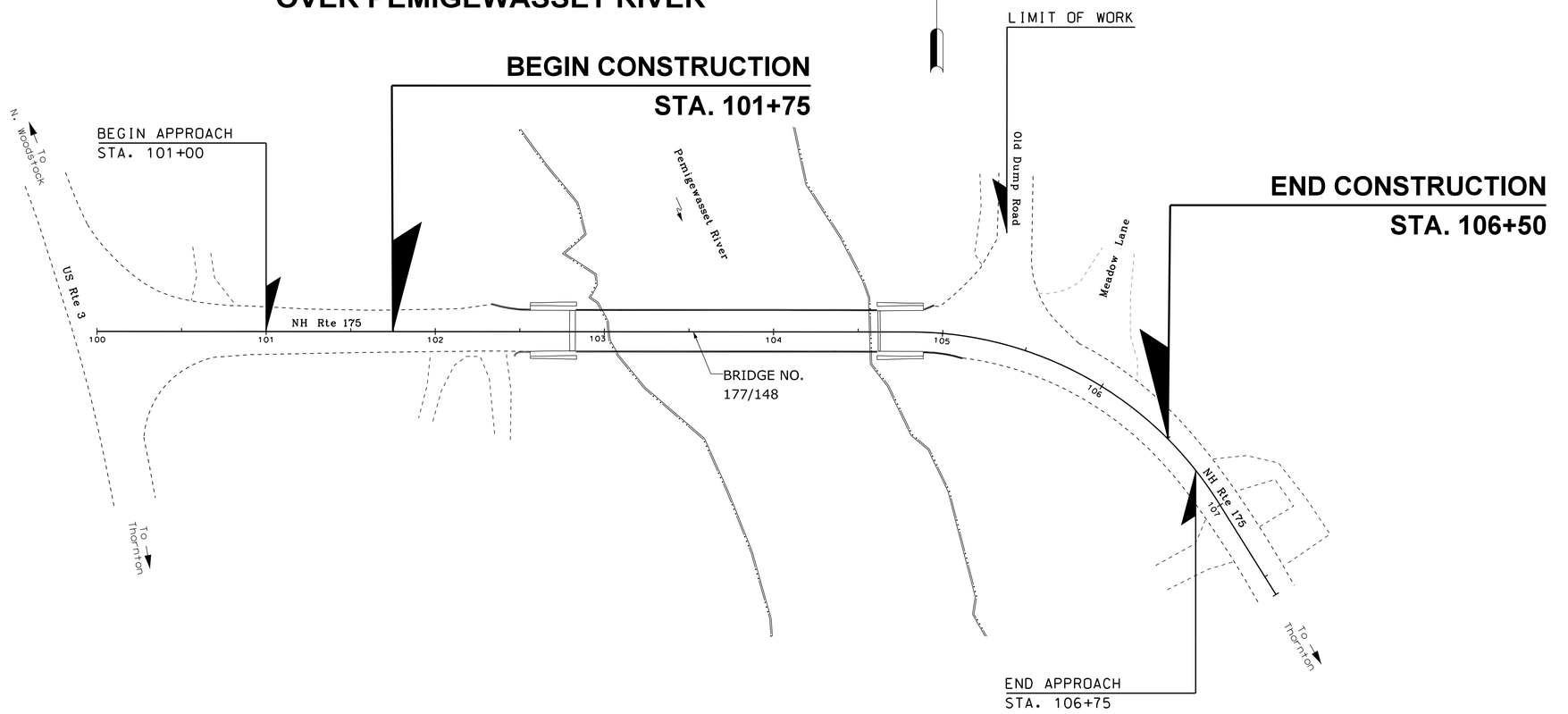
X-A003(597)
N.H. PROJECT NO. 27713
BR. NO. 177/148 CARRYING NH ROUTE 175
OVER PEMIGEWASSET RIVER

DESIGN DATA	
AVERAGE DAILY TRAFFIC (2021)	569
AVERAGE DAILY TRAFFIC (DESIGN)	750
PERCENT OF TRUCKS	9%
DESIGN SPEED	40 MPH
LENGTH OF PROJECT	575 FT



LOCATION MAP

0.25 0.125 0 0.25 0.5 Miles



TOWN OF WOODSTOCK
COUNTY OF GRAFTON
SCALE: 1" = 40'

FOR CONSTRUCTION AND ALIGNMENT DETAILS - SEE CONSTRUCTION PLANS

INDEX OF SHEETS

DRAWN BY JGD DATE FEBRUARY 2024
CHECKED BY SLM DATE FEBRUARY 2024

H&H

STATE OF NEW HAMPSHIRE
KIMBERLY M. SMITH
No. 14760
LICENSED PROFESSIONAL ENGINEER

NHDOT THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION

RECOMMENDED FOR APPROVAL:

DIRECTOR OF PROJECT DEVELOPMENT — DATE

MUNICIPAL HIGHWAYS ENGINEER
BUREAU OF PLANNING AND COMMUNITY ASSISTANCE — DATE

APPROVED:

ASSISTANT COMMISSIONER AND CHIEF ENGINEER — DATE

FEDERAL PROJECT NO.	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
X-A003(597)	27713	1	10

GENERAL

EDGE OF PAVEMENT — PROPOSED ROADWAY
TRAVELED WAY — existing roadway — (pavement removed outside slope lines)

DRIVEWAYS — (label surface type)

BUILDINGS — (building to be removed)
(label house or type of building)

FOUNDATION — (label type)

LEACH FIELD — leach field

BRIDGE CROSSINGS — STREAM — OVERPASS

STEPS AND WALK — (label type)

INTERMITTENT WATER COURSE

SHORE LINE — river/stream — pond — (label name of water body)

POTENTIAL WET AREA SYMBOL

BRUSH OR WOODS LINE

TREES (PLANS) — (deciduous) (coniferous) (stump)

TREE OR STUMP (CROSS-SECTIONS) — (show station, circumference in feet & type)

HEDGE — (label type)

MONITORING WELL — mon W

WELL — W

FLAG POLE — fp

ORIGINAL GROUND (TYPICALS)

ROCK OUTCROP

ROCK LINE (TYPICALS & SECTIONS ONLY)

GUARDRAIL (label type) — existing — PROPOSED — bgr — cgr

JERSEY BARRIER

CURB (LABEL TYPE)

STONE WALL

RETAINING WALL (LABEL TYPE) — (points toward retained ground)

FENCE (LABEL TYPE)

SIGNS — (single post) — (double post)

GAS PUMP — gp

FUEL TANK (ABOVE GROUND) — ft (label size & type)

STORAGE TANK FILLER CAP — fc

SEPTIC TANK — S

GRAVE — gr

MAILBOX — mb

VENT PIPE — vp

SATELLITE DISH ANTENNA — da

PHONE — ph

GROUND LIGHT/LAMP POST — gl — lp

BORING LOCATION — B

TEST PIT — TP

INTERSTATE NUMBERED HIGHWAY — 293

UNITED STATES NUMBERED HIGHWAY — 3

STATE NUMBERED HIGHWAY — 102

SHORELAND - WETLAND

WETLAND DESIGNATION AND TYPE — 2 PUB2E

DELINEATED WETLAND — DW
ORDINARY HIGH WATER — OHW
TOP OF BANK — TOB
TOP OF BANK & ORDINARY HIGH WATER — TOBOHW
NORMAL HIGH WATER — NHW
WIDTH AT BANK FULL — WBF
PRIME WETLAND — PWET
PRIME WETLAND 100' BUFFER — PWET100
NON-JURISDICTIONAL DRAINAGE AREA — NJDA
COWARDIN DISTINCTION LINE — CDL
TIDAL BUFFER ZONE — TBZ
DEVELOPED TIDAL BUFFER ZONE — DTBZ
HIGHEST OBSERVABLE TIDE LINE — HOTL
MEAN HIGH WATER — MHW
MEAN LOW WATER — MLW
VERNAL POOL — VP
SPECIAL AQUATIC SITE — SAS
REFERENCE LINE — REF
WATER FRONT BUFFER — WB50
NATURAL WOODLAND BUFFER — NWB150
PROTECTED SHORELAND — PS250
INVASIVE SPECIES LABEL — I.S. I — I.S. II
INVASIVE SPECIES — INV

FLOODPLAIN / FLOODWAY

500 YEAR FLOODPLAIN BOUNDARY — FP500
100 YEAR FLOODPLAIN BOUNDARY — FP100
FLOODWAY — FW

ENGINEERING

CONSTRUCTION BASELINE — 30 — 31 — 32

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

SLOPE LINE (FILL)

SLOPE LINE (CUT)

PROFILES AND CROSS SECTIONS:
ORIGINAL GROUND ELEVATION (LEFT) — 72.5
FINISHED GRADE ELEVATION (RIGHT) — 79.14

STATE OF NEW HAMPSHIRE
WOODSTOCK
DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

STANDARD SYMBOLS

REVISION DATE	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
9-1-2016	27713_Notes_Qnts	27713	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 — 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 — OW — (label type)

UNDERGROUND UTILITIES

WATER (on existing lines label size, type and note if abandoned) — W — W — PW — PW

SEWER — S — S — PS — PS

TELEPHONE — T — T — PT — PT

ELECTRIC — E — E — PE — PE

GAS — G — G — PG — PG

LIGHTING — L — L — PL — PL

INTELLIGENT TRANSPORTATION SYSTEM — ITS — ITS — PITS — PITS

FIBER OPTIC — FO — FO — PFO — PFO

WATER SHUT OFF

GAS SHUT OFF

HYDRANT

MANHOLES

SEWER — MHS

TELEPHONE — MHT

ELECTRICAL — MHE

GAS — MHG

UNKNOWN

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 — C — C — PC — PC — 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

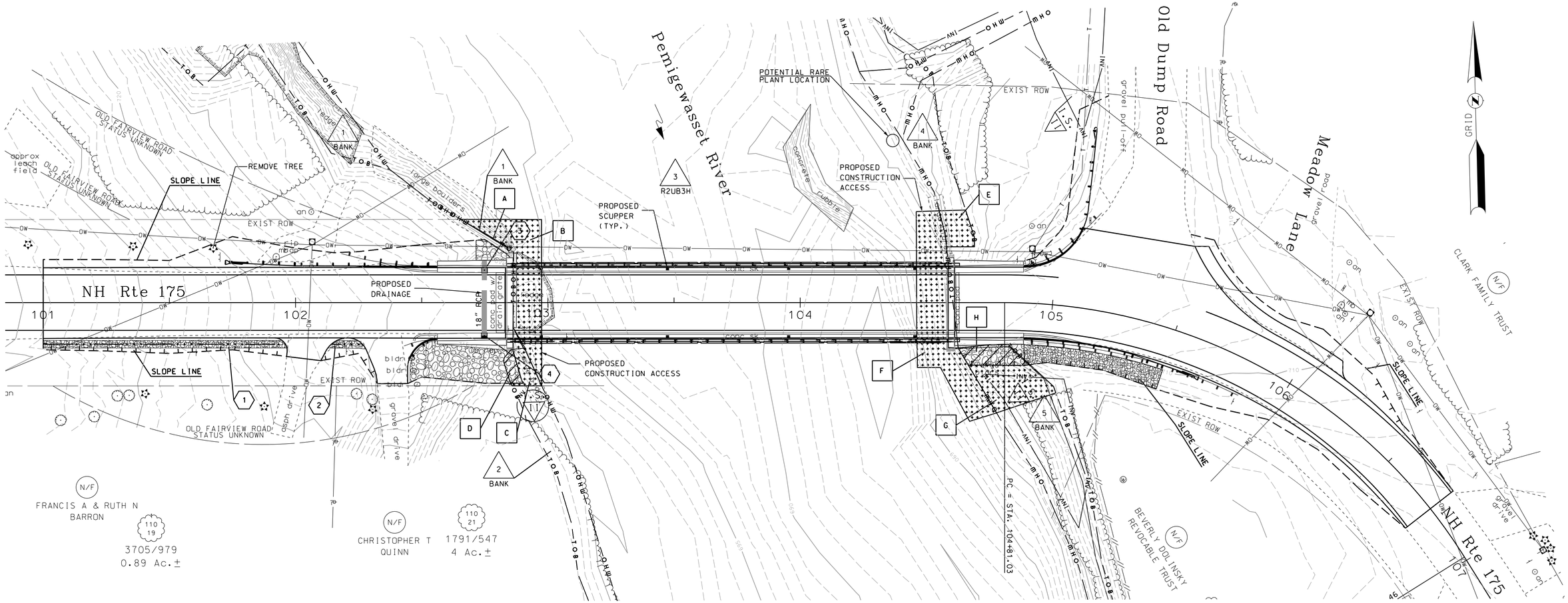
CONSTRUCTION NOTES

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

STATE OF NEW HAMPSHIRE
WOODSTOCK
DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

STANDARD SYMBOLS

REVISION DATE	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
9-1-2016	27713_Notes_Qnts	27713	3	10



* BRIDGE SUPERSTRUCTURE NOT SHOWN FOR CLARITY *

LEGEND

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	

- # — WETLAND DESIGNATION NUMBER
- # — WETLAND IMPACT LOCATION
- # — WETLAND MITIGATION AREA
- MITIGATION
- # — DRAINAGE NOTES (SEE DRAINAGE DETAILS SHEET)

WETLANDS AND SURFACE WATERS DELINEATED IN ACCORDANCE WITH THE CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL AND THE REGIONAL SUPPLEMENT, NORTHCENTRAL AND NORTEAST REGION, VERSION 2.0, JANUARY 2012.

WETLANDS DELINEATED BY: MCFARLAND JOHNSON
DATE: MAY 11, 2023

STATE OF NEW HAMPSHIRE
CHRISTINE J. PERRON
Woodstock 27713
No. 294
CERTIFIED WETLAND SCIENTIST

WETLAND IMPACT SUMMARY

WETLAND NUMBER	WETLAND CLASS-IFICATION	LOCATION	AREA IMPACTS						LINEAR STREAM IMPACTS FOR MITIGATION		
			PERMANENT				TEMPORARY		PERMANENT		
			N.H.W.B. (NON-WETLAND)		N.H.W.B. & A.C.O.E. (WETLAND)				BANK LEFT	BANK RIGHT	CHANNEL
			SF	LF	SF	LF	SF	LF	LF	LF	LF
1	BANK	A					5	14			
3	R2UB3H	B					736	66			
2	BANK	C					112	16			
2	BANK	D	56	15							
4	BANK	E					160	15			
3	R2UB3H	F					1034	86			
5	BANK	G					410	18			
5	BANK	H	175	9							
		TOTAL	231	24			2457	215			

PERMANENT IMPACTS: 231 SF
TEMPORARY IMPACTS: 2457 SF
TOTAL IMPACTS: 2688 SF

WETLAND CLASSIFICATION CODES	
BANK	BANK
R2UB3H	LOWER PERENNIAL. UNCONSOLIDATED BOTTOM. COBBLE-GRAVEL. PERMANENTLY FLOODED

REVISIONS AFTER PROPOSAL			
NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED	NHDOT	DATE 3/5/2024
NEW DESIGN	JGD	DATE 3/5/2024
SHEET CHECKED	SLM	DATE 3/5/2024
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
WOODSTOCK
DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

WETLAND IMPACT PLAN

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
27713_pr_wet	27713	4	10

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	DATE	STATION

SDR PROCESSED	NHDOT	DATE 3/5/2024
NEW DESIGN	JGD	DATE 3/5/2024
SHEET CHECKED	SLM	DATE 3/5/2024
AS BUILT DETAILS		DATE

Pemigewasset River

Old Dump Road

Meadow Lane

NH Rte 175

NH Rte 175

OLD FAIRVIEW ROAD
STATUS UNKNOWN

OLD FAIRVIEW ROAD
STATUS UNKNOWN

OLD FAIRVIEW ROAD
STATUS UNKNOWN

SLOPE LINE

REMOVE TREE

EXIST ROW

PROPOSED
S88°35'47.68"E DRAINAGE

18" RCP

PROPOSED
SCUPPER
(TYP.)

PROPOSED
CONSTRUCTION ACCESS

POTENTIAL RARE
PLANT LOCATION

PROPOSED
CONSTRUCTION
ACCESS

1 BANK

2 BANK

3 R2UB3H

4 BANK

5 BANK

A

B

C

D

E

F

G

H

PC = STA. 104+81.03

PT = STA. 106+98.46

gravel drive

asph drive

gravel pull-off

gravel road

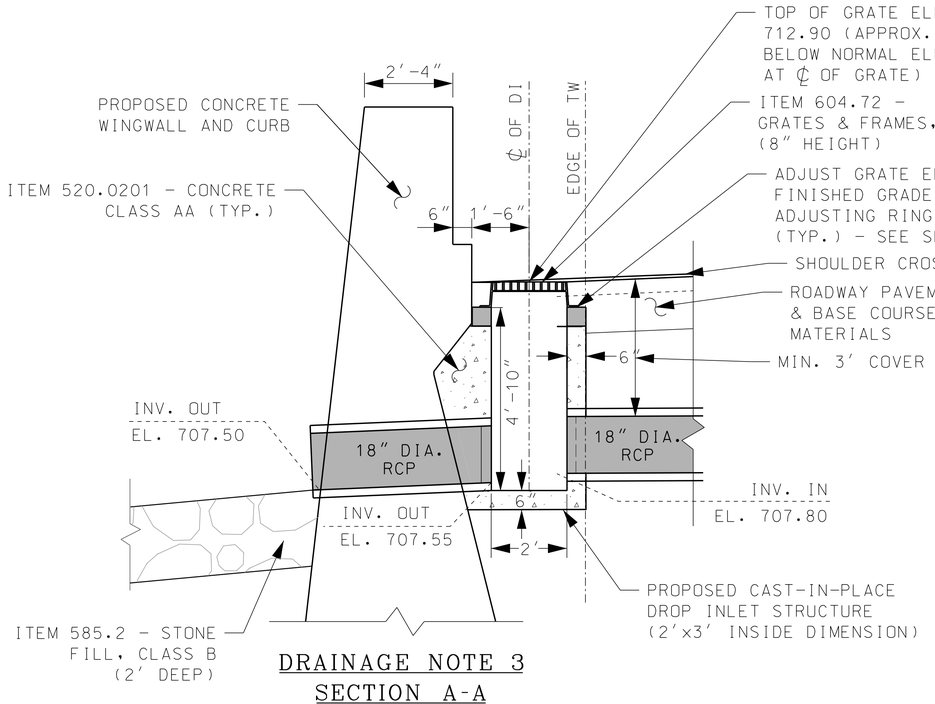
SCALE IN FEET
20 0 20 40

BRIDGE STRUCTURE NOT SHOWN FOR CLARITY

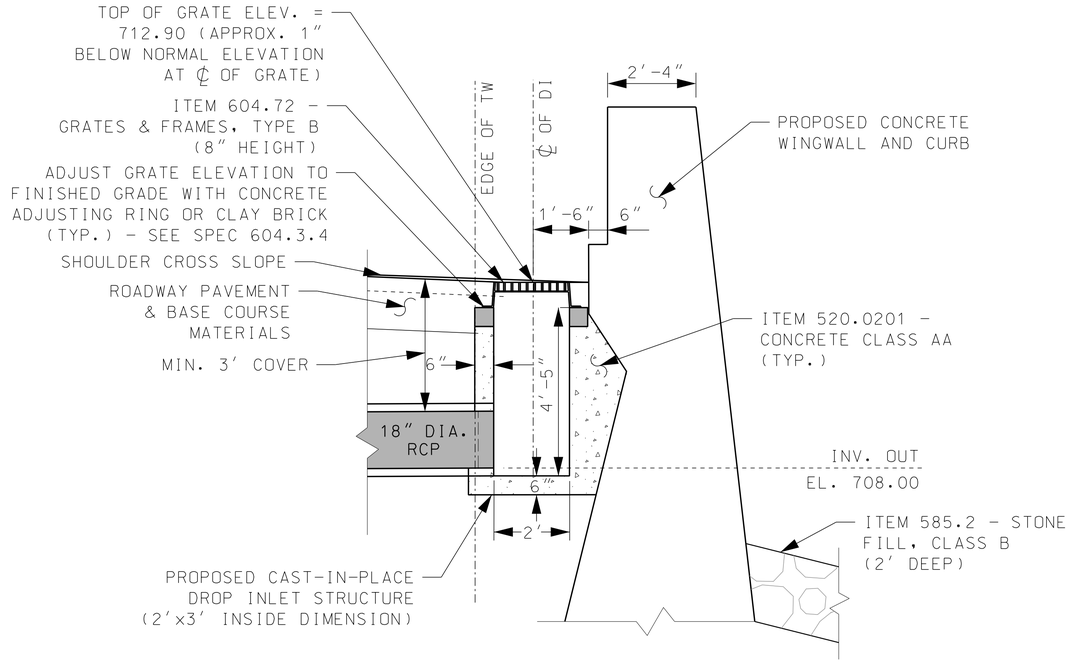
STATE OF NEW HAMPSHIRE
WOODSTOCK
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF BRIDGE DESIGN

2' CONTOUR PLAN

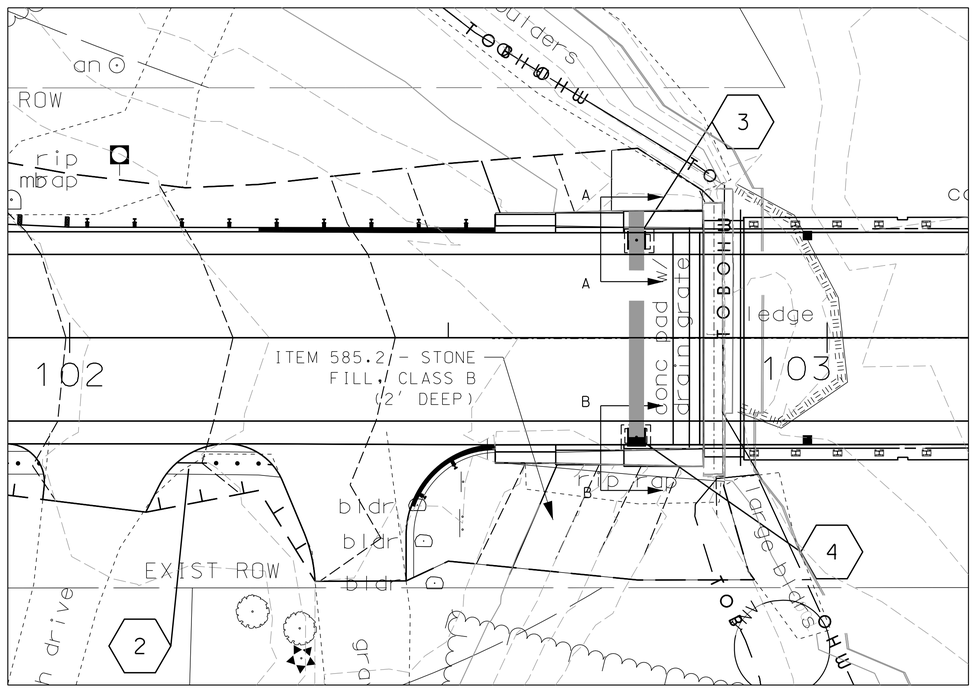
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
pcn.dgn	27713	5	10



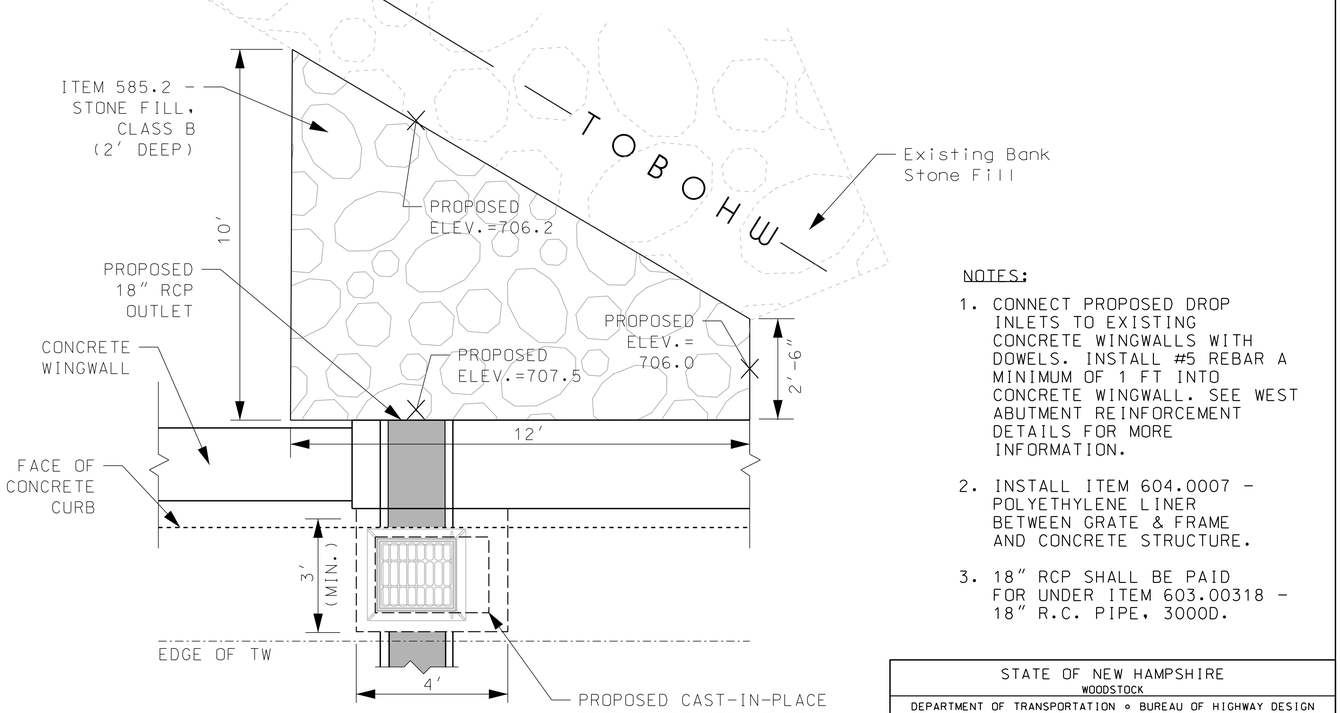
DRAINAGE NOTE 3
SECTION A-A
SCALE: 1"=2'



DRAINAGE NOTE 4
SECTION B-B
SCALE: 1"=2'



DRAINAGE AND GRADING PLAN
SCALE: 1"=10'



DRAINAGE NOTE 3
PLAN VIEW
SCALE: 1"=2'

NOTES:

1. CONNECT PROPOSED DROP INLETS TO EXISTING CONCRETE WINGWALLS WITH DOWELS. INSTALL #5 REBAR A MINIMUM OF 1 FT INTO CONCRETE WINGWALL. SEE WEST ABUTMENT REINFORCEMENT DETAILS FOR MORE INFORMATION.
2. INSTALL ITEM 604.0007 - POLYETHYLENE LINER BETWEEN GRATE & FRAME AND CONCRETE STRUCTURE.
3. 18" RCP SHALL BE PAID FOR UNDER ITEM 603.00318 - 18" R.C. PIPE, 3000D.

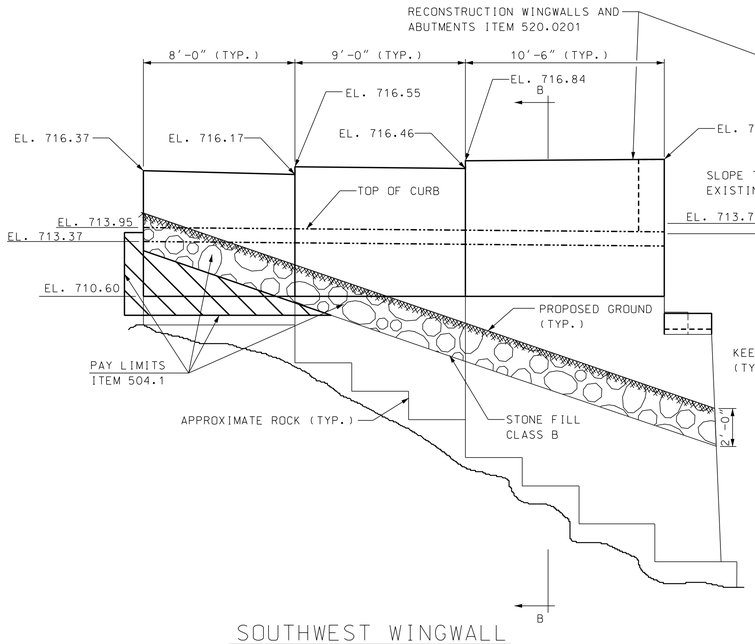
REVISIONS AFTER PROPOSAL	DESCRIPTION	STATION	NUMBER	DATE

		DATE
SDR PROCESSED	NHDOT	02-2024
NEW DESIGN	GRS	02-2024
SHEET CHECKED	SLM	02-2024
AS BUILT DETAILS		DATE

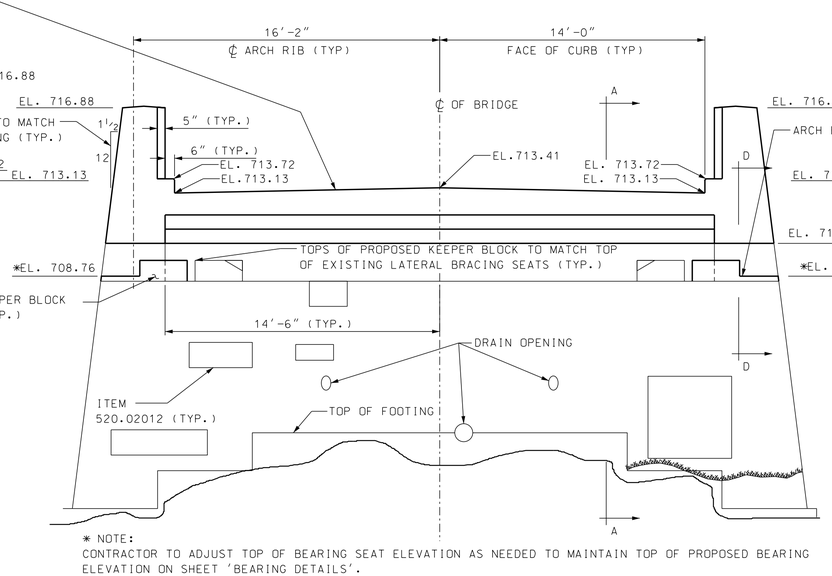
STATE OF NEW HAMPSHIRE
WOODSTOCK
DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

DRAINAGE DETAILS

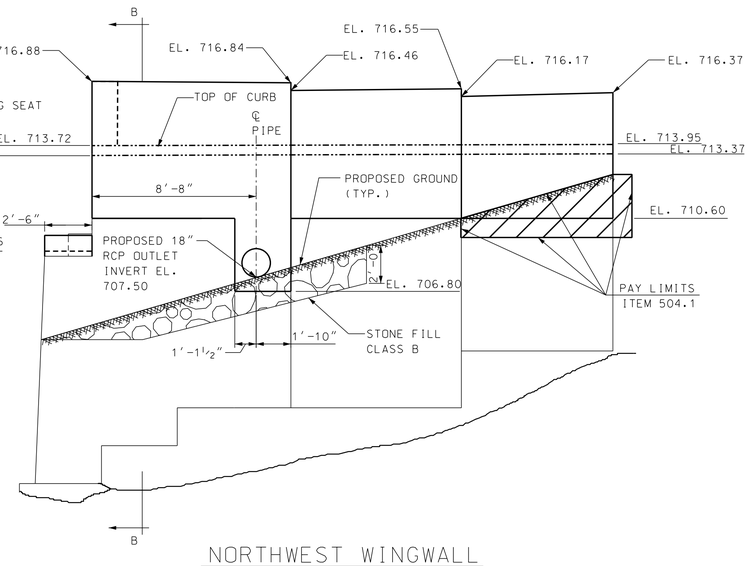
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
27713 drainage	27713	6	10



SOUTHWEST WINGWALL



* NOTE:
CONTRACTOR TO ADJUST TOP OF BEARING SEAT ELEVATION AS NEEDED TO MAINTAIN TOP OF PROPOSED BEARING ELEVATION ON SHEET 'BEARING DETAILS'.

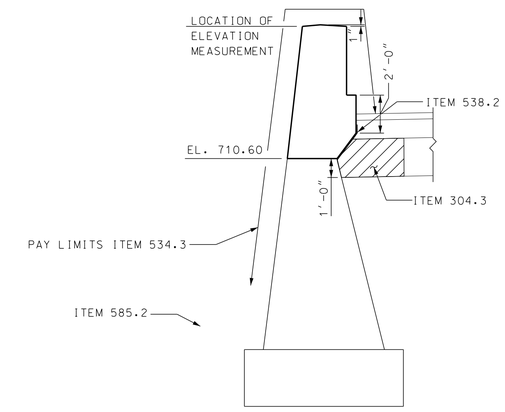


NORTHWEST WINGWALL

ELEVATIONS WEST ABUTMENT AND WINGWALLS

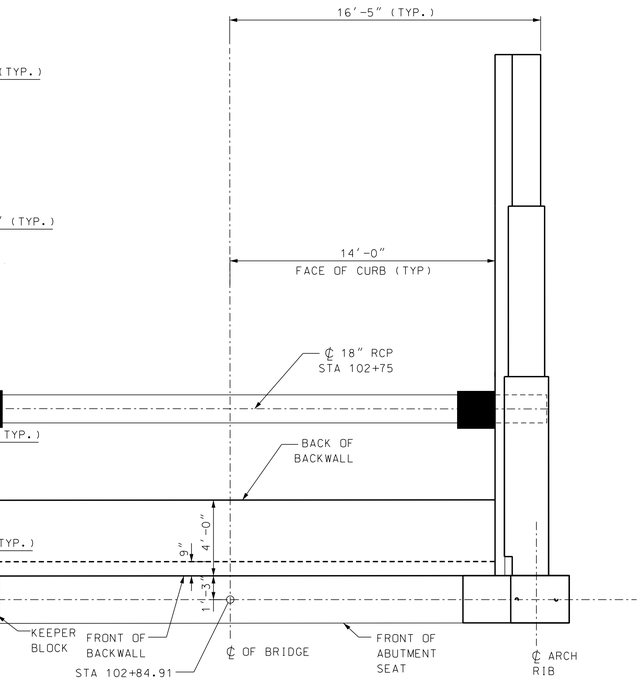
SCALE: ¼" = 1'-0"

ELEVATIONS ARE SHOWN AT THE FRONT FACE OF THE BACKWALL.



SECTION B-B

SCALE: ¼" = 1'-0"

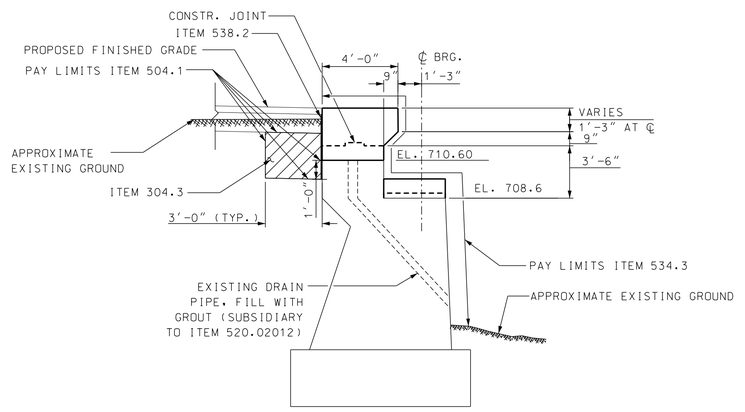


** DIMENSIONS GIVEN AT TOP OF WALL

PLAN

SCALE: ¼" = 1'-0"

(TAPERED SIDES OF SUBSTRUCTURES ARE NOT SHOWN FOR CLARITY)



SECTION A-A

SCALE: ¼" = 1'-0"

NOTES:

1. ABUTMENT FOOTINGS ARE NOT SHOWN IN PLAN VIEW FOR CLARITY.
2. SUPERSTRUCTURE, BEARINGS, AND DECK JOINTS ASSEMBLIES ARE NOT SHOWN FOR CLARITY. SEE DETAILS ON SHEETS 'BEARING DETAILS', 'STEEL DETAILS 2', AND 'STRIP SEAL DETAILS 1 AND 2'.
3. SEE 'ABUTMENT RECONSTRUCTION DETAILS' FOR SECTION D-D.

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN WOODSTOCK	BRIDGE NO. 177/148	STATE PROJECT	27713
LOCATION NH 175 OVER PEMIGEWASSET RIVER			

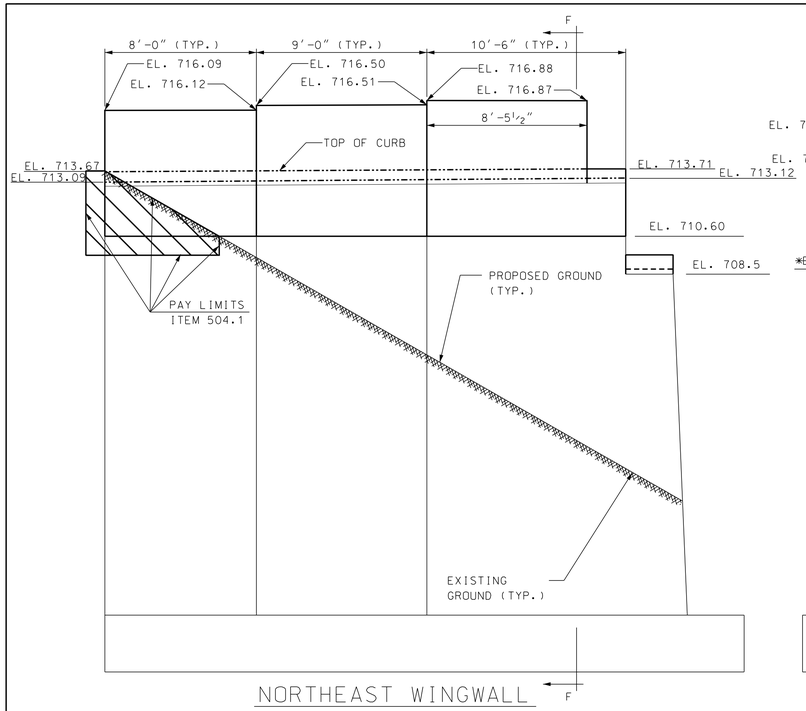
WEST ABUTMENT RECONSTRUCTION

BRIDGE SHEET 6 OF 32

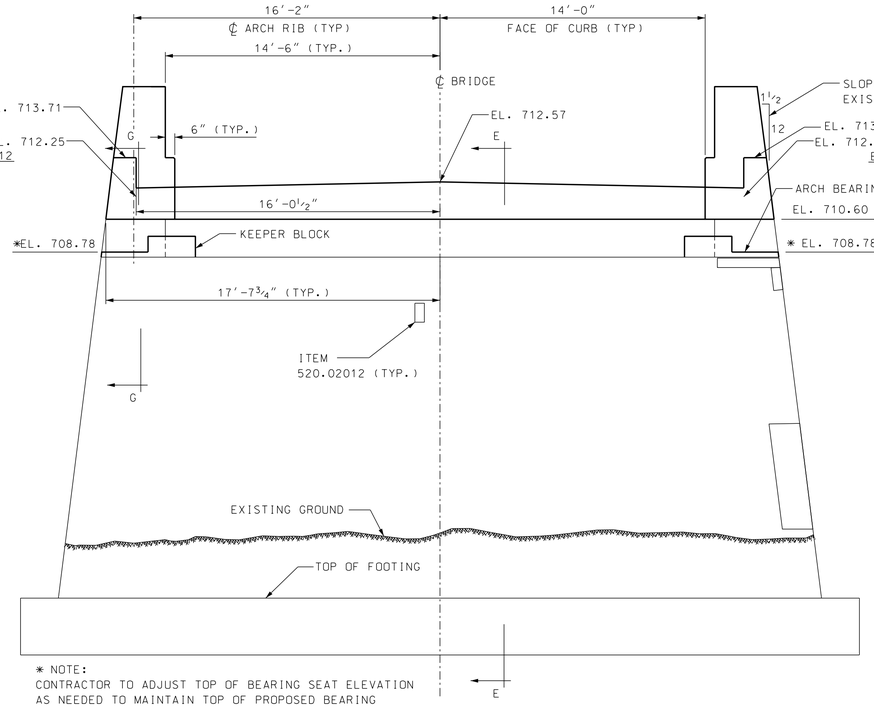
FILE NUMBER

REVISIONS AFTER PROPOSAL	BY	DATE		BY	DATE
	DESIGNED LNH	02/24	CHECKED	KZS	02/24
	DRAWN CNJ	02/24	CHECKED	KZS	02/24
	QUANTITIES CNJ	02/24	CHECKED	KZS	02/24

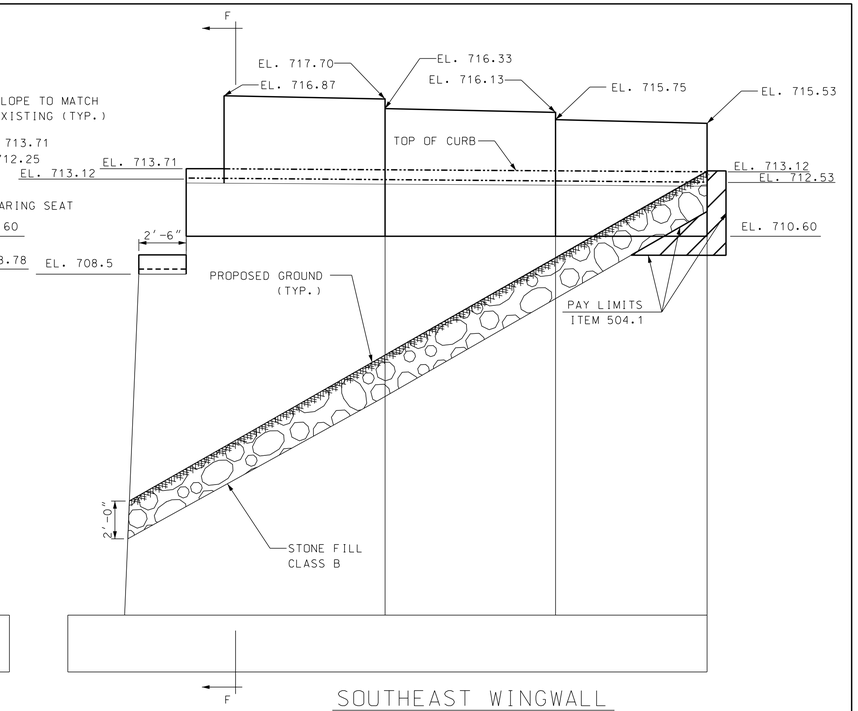
.DGN LOCATOR	SHEET SCALE	ISSUE DATE	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
27713_A-Abut	AS NOTED	REV. DATE	X-A003(597)	7	10



NORTHEAST WINGWALL



* NOTE:
CONTRACTOR TO ADJUST TOP OF BEARING SEAT ELEVATION AS NEEDED TO MAINTAIN TOP OF PROPOSED BEARING ELEVATION ON SHEET 'BEARING DETAILS'.

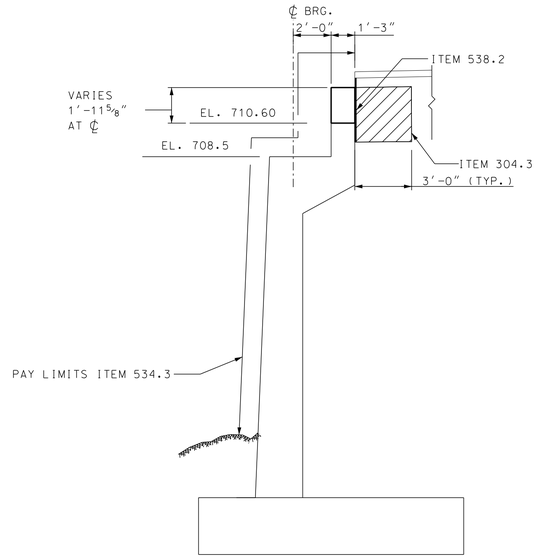


SOUTHEAST WINGWALL

ELEVATION EAST ABUTMENT AND WINGWALLS

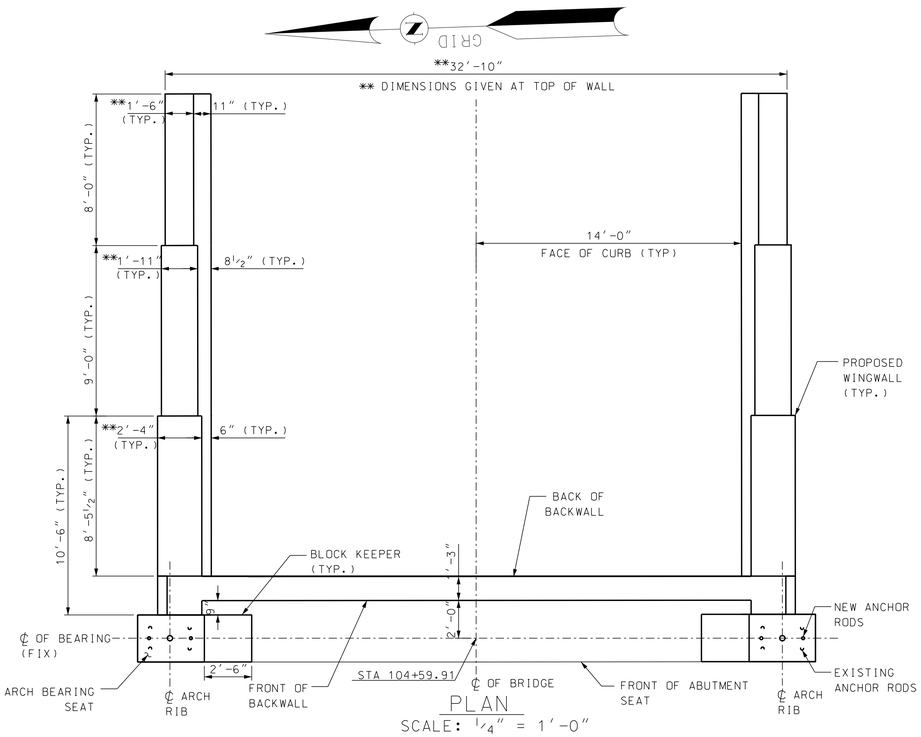
SCALE: ¼″ = 1′-0″

ELEVATIONS ARE SHOWN AT THE BACK FACE OF THE BACKWALL.



SECTION E-E

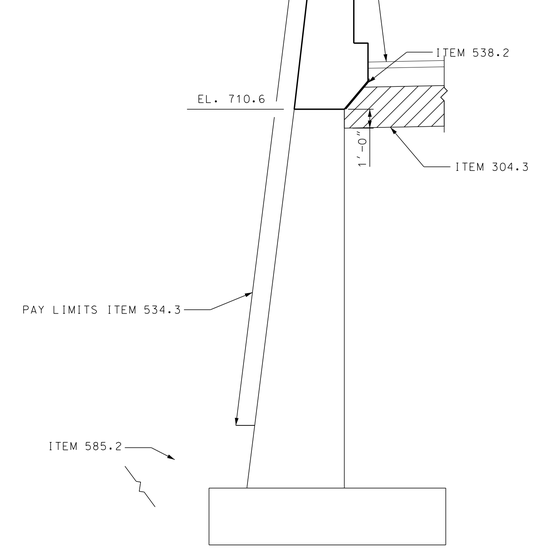
SCALE: ¼″ = 1′-0″



PLAN

SCALE: ¼″ = 1′-0″

(TAPERED SIDES OF SUBSTRUCTURES ARE NOT SHOWN FOR CLARITY)



SECTION F-F

SCALE: ¼″ = 1′-0″

NOTES:

1. ABUTMENT FOOTING ARE NOT SHOWN IN PLAN VIEW FOR CLARITY.
2. SUPERSTRUCTURE, BEARING, AND DECK JOINT ASSEMBLIES ARE NOT SHOW FOR CLARITY.
3. SEE DETAILS ON NEXT SHEET FOR PEDESTAL REINFORCEMENT, SECTION G-G, CONCRETE REPAIR DETAIL, AND WINGWALL ARCHITECTURAL DETAIL.

.DGN LOCATOR	SHEET SCALE
27713_B-Abut	AS NOTED

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN WOODSTOCK | BRIDGE NO. 177/148 | STATE PROJECT 27713

LOCATION NH 175 OVER PEMIGEWASSET RIVER

EAST ABUTMENT RECONSTRUCTION

BRIDGE SHEET: 9 OF 32

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	LNH	02/24	CHECKED	KZS	02/24
	DRAWN	CNJ	02/24	CHECKED	KZS	02/24
	QUANTITIES	CNJ	02/24	CHECKED	KZS	02/24
	ISSUE DATE					
	REV. DATE					

FILE NUMBER

FEDERAL PROJECT NO.: X-A003(597)

SHEET NO.: 8

TOTAL SHEETS: 10

EROSION CONTROL NOTES AND STRATEGIES

1. **Erosion Control/Stormwater Control Selection, Sequencing and Maintenance**
   - 1.1. Comply with RSA 485-A:17 Terrain Alteration.
   - 1.2. Install and maintain all erosion control/stormwater controls in accordance with the New Hampshire Stormwater Management Manual, Volume 3, Erosion and Sediment Controls During Construction, December 2008 (BMP Manual) , available from the NH Department of Environmental Services (NHDES).
   - 1.3. Install erosion control/stormwater control measures prior to the start of work and in accordance with the manufacturer's recommendations.
   - 1.4. Select erosion control/stormwater control measures based on the size and nature of the project and physical characteristics of the site, including slope, soil type, vegetative cover, and proximity to jurisdictional areas.
   - 1.5. Install perimeter controls prior to earth disturbing activities.
   - 1.6. Install stormwater treatment ponds and drainage swales before rough grading the site.
   - 1.7. Clean, replace, and augment stormwater control measures and infiltration basins as necessary to prevent sedimentation beyond project limits throughout the project duration.
   - 1.8. Inspect erosion and sediment control measures in accordance with Section 645 of the specifications, weekly, and within 24 hours (during normal work hours), of any storm event greater than 0.25 inches of rain in a 24-hour period.
   - 1.9. Contain stockpiles with temporary perimeter controls. Protect inactive soil stockpiles with soil stabilization measures (temporary erosion control seed mix and mulch, soil binder) or cover them with anchored tarps. If the stockpile is to remain undisturbed for more than 14 days, mulch the stockpile.
   - 1.10. Maintain temporary erosion and stormwater control measures in place until the area has been permanently stabilized.
   - 1.11. An area is considered stable if one of the following has occurred:
     - · Base course gravels have been installed in areas to be paved;
     - · A minimum of 85% vegetative growth has been established;
     - · A minimum of 3"of non-erosive material such as stone or rip-rap has been installed;
     - · Temporary slope stabilization has been properly installed (see Table 1).
   - 1.12. Direct runoff to temporary practices until permanent stormwater infrastructure is constructed and stabilized.
   - 1.13. 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.
   - 1.14. Plan activities to account for sensitive site conditions
     - · Sequence construction to limit the duration and area of exposed soils.
     - · Clearly flag areas to be protected in the field and provide construction barrier to prevent trafficking outside of work areas.
     - · Protect and maximize existing native vegetation and natural forest buffers between construction activities and sensitive areas.
     - · When work is undertaken in a flowing watercourse, implement stream flow diversion methods prior to any excavation or filling activity.
   - 1.15. Utilize storm drain inlet protection to prevent sediment from entering a storm drainage system prior to the permanent stabilization of the contributing disturbed area.
   - 1.16. Use care to ensure that sediments do not enter any existing catch basins during construction. Place temporary inlet protection at inlets in areas of soil disturbance that are subject to sedimentation.
   - 1.17. Construct, stabilize, and maintain temporary and permanent ditches in a manner that will minimize scour. Direct temporary and permanent ditches to drain to sediment basins or stormwater collection areas.
   - 1.18. Supplement channel protection measures with perimeter control measures when ditch lines occur at the bottom of long fill slopes. Install the perimeter controls on the fill slope to minimize the potential for fill slope sediment deposits in the ditch line.
   - 1.19. Divert sediment laden water away from drainage inlet structures to the extent possible.
   - 1.20. Install sediment barriers and sediment traps at drainage inlets to prevent sediment from entering the drainage system.
   - 1.21. Clean catch basins, drainage pipes, and culverts if significant sediment is deposited.
   - 1.22. Construct and stabilize dewatering infiltration basins prior to any excavation that may require dewatering.
   - 1.23. Place and stabilize temporary sediment basins or traps at locations where concentrated flow (channels and pipes) discharge to the surrounding environment from areas of unstabilized earth disturbing activities.
   - 1.24. Stabilize, to appropriate anticipated velocities, conveyance channels or pumping systems needed to convey construction stormwater to basins and discharge locations prior to use.
   - 1.25. Size temporary sediment basins to contain the 2-year, 24 hour storm event.
   - 1.26. Size temporary sediment traps to contain 3,600 cubic feet of storage for each acre of drainage area.
   - 1.27. Construct detention basins to accommodate the 2-year, 24-hour storm event.

2. **Construction Planning**
   - 2.1. Divert off site runoff or clean water away from the construction activities to reduce the volume that needs to be treated on site.
   - 2.2. Divert storm runoff from upslope drainage areas away from disturbed areas, slopes and around active work areas to a stabilized outlet location.
   - 2.3. Construct impermeable barriers, as necessary, to collect or divert concentrated flows from work or disturbed areas.
   - 2.4. Locate staging areas and stockpiles outside of wetlands jurisdiction.
   - 2.5. Do not store, maintain, or repair mobile heavy equipment in wetlands, unless equipment cannot be practicably removed and secondary containment is provided.
   - 2.6. Provide a water truck to control excessive dust, at the discretion of the Contract Administrator.

3. Site Stabilization
   - **3.1. Stabilize all areas of unstabilized soil as soon as practicable, but no later than 45 days after initial disturbance.**
   - **3.2. Limit unstabilized soil to a maximum of 5 acres unless documentation is provided that demonstrates that cuts and fills are such that 5 acres is unreasonable.**
   - **3.3. Use erosion control seed mix 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.**
   - **3.4. Apply, and reapply as necessary, soil tackifiers in accordance with the manufacturer's specifications to minimize soil and mulch loss until permanent vegetation is established.**
   - **3.5. Stabilize basins, ditches and swales prior to directing runoff to them.**
   - **3.6. Stabilize roadway and parking areas within 72 hours of achieving finished grade.**
   - **3.7. Stabilize cut and fill slopes within 72 hours of achieving finished grade.**
   - **3.8. When temporarily stabilizing soils and slopes, utilize the techniques outlined in Table 1.**
   - **3.9. Stabilize all areas that can be stabilized prior to opening up new areas to construction activities.**
   - **3.10. Utilize Table 1 when selecting temporary soil stabilization measures.**
   - **3.11. Divert off-site water through the project in an appropriate manner so as not to disturb the upstream or downstream soils, vegetation or hydrology beyond the permitted area.**
   - **3.12. Install and maintain construction exits anywhere traffic leaves a construction site onto a public right-of-way.**
   - **3.13. Sweep all construction related debris and soil from the adjacent paved roadways, as necessary.**

4. **Slope Protection**
   - **4**.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.
   - 4.2. Consider how groundwater seepage on cut slopes may impact slope stability and incorporate appropriate measures to minimize erosion.
   - 4.3. Convey storm water down the slope in a stabilized channel or slope drain.
   - 4.4. The outer face of the fill slope should be in a loose, ruffled condition prior to turf establishment.

5. Winter Construction
   - 5.1. To minimize erosion and sedimentation impacts, limit the extent and duration of winter excavation and earthwork activities. 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 contractor's Critical Path Method (CPM) schedule, and the contractor has adequate resources available to ensure that environmental requirements will be met.
   - 5.2. Construction performed any time between November 30 " and May 1 " of any year is considered winter construction. During winter construction:
     - · Stabilize all proposed vegetation areas which do not exhibit a minimum of 85% vegetative growth by October 15 ", or which are disturbed after October 15 ", in accordance with Table 1.
     - · Stabilize all ditches or swales which do not exhibit a minimum of 85% vegetative growth by October 15 ", or which are disturbed after October 15 ", in accordance with Table 1.
     - · Protect incomplete road surfaces, where base course gravels have not been installed, and where work has stopped for the season after November 30 ", in accordance with Table 1.
     - · Unless a winter construction plan has been approved by NHDOT, conduct winter excavation and earthwork such that no more than 1 acre of the project is without stabilization an any one time.

6. Wildlife Protection Measures
   - 6.1. Report all observations of threatened and endangered species on the project site to the Department's Bureau of Environment by phone at 603-271-3226 or by email at Bureau16@dot.nh.gov , indicating in the subject line the project name, number, and that a threatened/endangered species was found.
   - 6.2. Photograph the observed species and nearby elements of habitat or areas of land disturbance and provide them to the Department's Bureau of Environment at the above email address.
   - 6.3. In the event that a threatened or endangered species is observed on the project during work, the species shall not be disturbed, handled, or harmed prior to receiving direction from the Bureau of Environment.
   - 6.4. Utilize wildlife friendly erosion control methods when:
     - · Erosion control blankets are used,
     - · A protected species or habitat is documented,
     - · The proposed work is in or adjacent to a priority resource area, and/or when specifically requested by NHB or NHF&G

GUIDANCE ON SELECTING TEMPORARY SOIL STABILIZATION MEASURES
TABLE 1

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

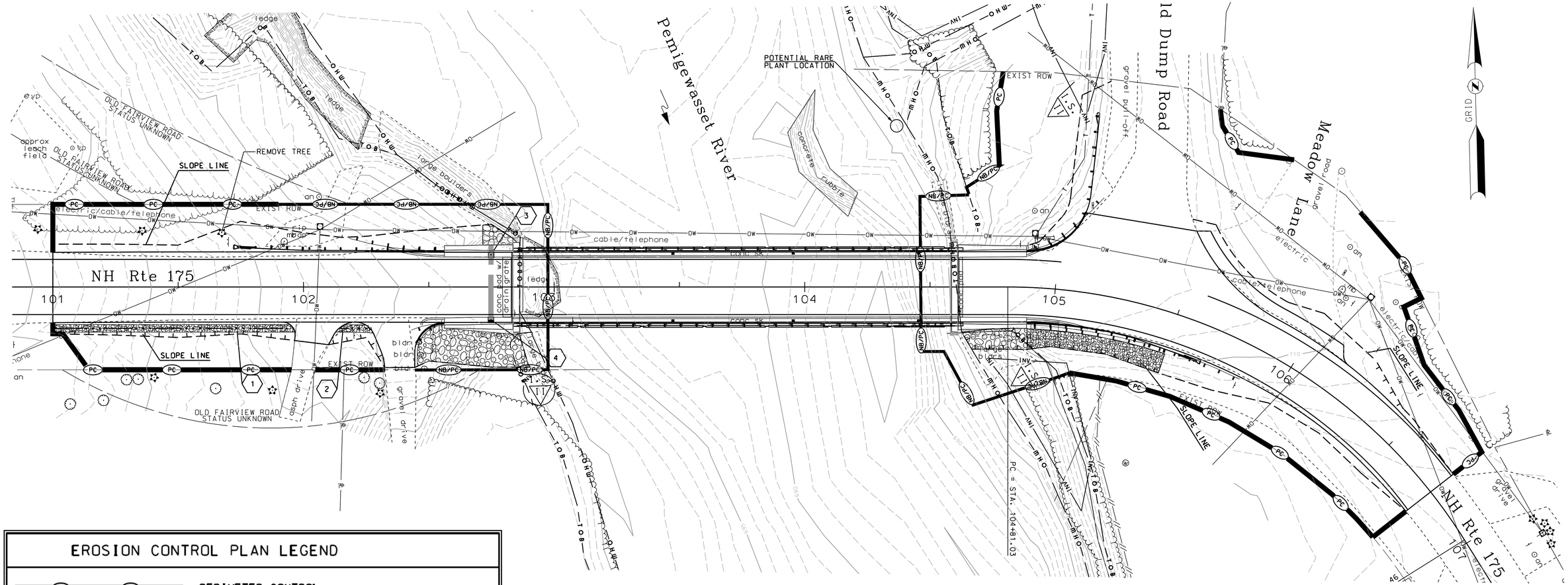
ABBREV.	STABILIZATION MEASURE	ABBREV.	STABILIZATION MEASURE	ABBREV.	STABILIZATION MEASURE
HMT	HAY MULCH & TACK	HM	HYDRAULIC MULCH	SNSB	SINGLE NET STRAW BLANKET
WC	WOOD CHIPS	SMM	STABILIZED MULCH MATRIX	DNSB	DOUBLE NET STRAW BLANKET
SG	STUMP GRINDINGS	BFM	BONDED FIBER MATRIX	DNSCB	2 NET STRAW-COCONUT 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. Do not apply products containing polyacrylamide (PAM) directly to, or within 100 feet of any surface water without NHDES approval.
3. Install all methods in Table 1 per the manufacturer's recommendation for time of year and steepness of slope.

STATE OF NEW HAMPSHIRE
WOODSTOCK
DEPARTMENT OF TRANSPORTATION ◦ BUREAU OF BRIDGE DESIGN

EROSION CONTROL STRATEGIES

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
27713_Notes_Qnts	27713	9	10



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

STREAM DIVERSION
DRAIN THROUGH PIPE OR CHANNEL

UNIMPACTED RIVERINE SURFACE WATERS
NO WORK AND/OR IMPACT

ROUTINE ROADWAY QUALIFYING ACTIVITY
NO WORK AND/OR IMPACT

* BRIDGE SUPERSTRUCTURE NOT SHOWN FOR CLARITY *

20 0 20 40
1" = 20'

NUMBER	DATE	STATION	DESCRIPTION
			REVISIONS AFTER PROPOSAL

SDR PROCESSED	NHDOT	DATE 3/5/2024
NEW DESIGN	JGD	DATE 3/5/2024
SHEET CHECKED	SLM	DATE 3/5/2024
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE
WOODSTOCK
DEPARTMENT OF TRANSPORTATION ◦ BUREAU OF HIGHWAY DESIGN

EROSION CONTROL PLAN

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
27713_pr_wet	27713	10	10