

STATE OF NEW HAMPSHIRE INTER-DEPARTMENT COMMUNICATION

DATE: May 31, 2023

FROM: Joshua Brown
Wetlands Program Analyst

AT (OFFICE): Department of
Transportation

SUBJECT Dredge & Fill Application
Dalton, 2021-M111-1

Bureau of
Environment

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 District 1 for the subject major impact project. The project is located along NH Route 135 in the Town of Dalton, NH. The purpose of this project is to replicate the 2008 post construction conditions, protect the structure from scour, and to prevent the headwall from being undercut. The work will include restoring the stream bed by removing the material which has filled in the pool and line the pool with larger flat stones with smaller material to fill in the voids, and the outlet will be stabilized by armoring the banks.

This project was reviewed at the Natural Resource Agency Coordination Meeting on August 18, 2021. 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:
<http://www.nh.gov/dot/org/projectdevelopment/environment/units/program-management/wetland-applications.htm>.

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 was determined to be self-mitigating.

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 Jim McMahon (603-788-4641 or james.f.mcmahon@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 # 719940) in the amount of \$400.00.

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 Dalton (4 copies via certified mail)
Connecticut River Riverbend LAC (1 copy via certified mail)
David Trubey, NH Division of Historic Resources (Cultural Review Within)
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)

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STANDARD DREDGE AND FILL WETLANDS PERMIT APPLICATION

Water Division/Land Resources Management
Wetlands Bureau
[Check the Status of your Application](#)



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

APPLICANT'S NAME: NHDOT

TOWN NAME: Dalton

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?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Does the property contain a PRA? If yes, provide the following information:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<ul style="list-style-type: none"> • Does the project qualify for an Impact Classification Adjustment (e.g. NH Fish and Game Department (NHF&G) and NHB agreement for a classification downgrade) or a Project-Type Exception (e.g. Maintenance or Statutory Permit-by-Notification (SPN) project)? See Env-Wt 407.02 and Env-Wt 407.04. • Protected species or habitat? <ul style="list-style-type: none"> ○ If yes, species or habitat name(s): ○ NHB Project ID #: NHB23-1211 • Bog? • Floodplain wetland contiguous to a tier 3 or higher watercourse? • Designated prime wetland or duly-established 100-foot buffer? • Sand dune, tidal wetland, tidal water, or undeveloped tidal buffer zone? 	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Is the property within a Designated River corridor? If yes, provide the following information:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<ul style="list-style-type: none"> • Name of Local River Management Advisory Committee (LAC): Connecticut River Riverbend Local Advisory Committee 	

irm@des.nh.gov or (603) 271-2147

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<ul style="list-style-type: none"> A copy of the application was sent to the LAC on Month: <input type="text"/> Day: <input type="text"/> Year: <input type="text"/> 	
For dredging projects, is the subject property contaminated? <ul style="list-style-type: none"> If yes, list contaminant: <input type="text"/> 	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Is there potential to impact impaired waters, class A waters, or outstanding resource waters?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
For stream crossing projects, provide watershed size (see WPPT or Stream Stats): <input type="text"/> 1837 acres	
SECTION 2 - PROJECT DESCRIPTION (Env-Wt 311.04(i)) Provide a brief description of the project and the purpose of the project, outlining the scope of work to be performed and whether impacts are temporary or permanent. DO NOT reply "See attached"; please use the space provided below.	
<p>The proposed project is a district maintenance project located at an existing 8' x 6' box culvert which carries NH Route 135 over Rix Brook in Colebrook. Work at this location was previously completed in 2008 (permit number 2006-01640), at which time the box was installed. Since that time, the outlet has not held up (likely due to not using flat stones in the stream and the stream adjusting to the larger culvert size) resulting in outlet scour and the outlet pool to partially fill with sediment. The purpose of this project is to replicate the 2008 post construction conditions, protect the structure from scour, and to prevent the headwall from being undercut. The work will include restoring the stream bed by removing the material which has filled in the pool and line the pool with larger flat stones with smaller material to fill in the voids, and the outlet will be stabilized by armoring the banks.</p> <p>The pool will be lined with larger, flat stones, compared to those installed in 2008. Voids will be filled in with existing stream bed material (ie material is being reused), the banks will be armored with rip rap and be covered with loam and seed.</p> <p>The 600 sf of permanent channel impacts and 100 sf of permanent bank impacts are for lining the pool and armoring the banks.</p> <p>Best management practices (BMP's) will be utilized to maintain water quality.</p>	
SECTION 3 - PROJECT LOCATION Separate wetland permit applications must be submitted for each municipality within which wetland impacts occur.	
ADDRESS: <input type="text"/> NH Route 135	
TOWN/CITY: <input type="text"/> Dalton	
TAX MAP/BLOCK/LOT/UNIT: <input type="text"/>	
US GEOLOGICAL SURVEY (USGS) TOPO MAP WATERBODY NAME: <input type="text"/> Rix Brook <input type="checkbox"/> N/A	
(Optional) LATITUDE/LONGITUDE in decimal degrees (to five decimal places): <input type="text"/> 44.413004° North	

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-71.695854° West		
SECTION 4 - APPLICANT (DESIRED PERMIT HOLDER) INFORMATION (Env-Wt 311.04(a))		
If the applicant is a trust or a company, then complete with the trust or company information.		
NAME: NH Department of Transportation, Jim McMahon		
MAILING ADDRESS: 7 Hazen Drive		
TOWN/CITY: Concord	STATE: NH	ZIP CODE: 03302
EMAIL ADDRESS: James.F.McMahonIII@dot.nh.gov		
FAX: NA	PHONE: 603-788-4641	
ELECTRONIC COMMUNICATION: By initialing here: <i>JFM</i> , I hereby authorize NHDES to communicate all matters relative to this application electronically.		
SECTION 5 - AUTHORIZED AGENT INFORMATION (Env-Wt 311.04(c))		
<input checked="" type="checkbox"/> N/A		
LAST NAME, FIRST NAME, M.I.:		
COMPANY 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 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.		
<input type="checkbox"/> Same as applicant		
NAME: NH Department of Transportation, Andrew O'Sullivan		
MAILING ADDRESS: 7 Hazen Drive; PO Box 483		
TOWN/CITY: Concord	STATE: NH	ZIP CODE: 03302
EMAIL ADDRESS: andrew.o'sullivan.dot.nh.gov		
FAX: 271-7199	PHONE: 271-3226	
ELECTRONIC COMMUNICATION: By initialing here AO , I hereby authorize NHDES to communicate all matters relative to this application electronically.		

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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: The wetlands were delineated by Matt Urban on July 12, 2021. The delineation classified the wetland as riverine, lower perennial, unconsolidated bottom, cobble-gravel, sand (R2UB1,2) and palustrine, forested, broad leaved deciduous, seasonally flooded/saturated (PFO1E). The project is classified as major based on the impacts and resources present.

Env-Wt 500: The project meets the requirements of public highway projects.

Env-Wt 600: Not applicable, no tidal wetlands within the project area.

Env-Wt 700: Not applicable, no prime wetlands within the project area.

Env-Wt: Tier 3 crossing Env-Wt 904.05. This district maintenance project includes repair to a Tier 3 crossing and adheres to the criteria set forth in 904.09(c): (1) The existing crossing does not have a history of causing or contributing to flooding that damages the crossing or other human infrastructure or protected species habitat; and (2) The proposed stream crossing will; (a) meet the general criteria specified in Env-Wt 904.01; (b) maintain or enhance hydraulic capacity of the stream crossing; (c) maintain or enhance the capacity of the crossing to accommodate aquatic organism passage; (d) not cause or contribute to the increase in frequency of flooding or overtopping of the banks upstream or downstream of the crossing.

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: 12 Day: 10 Year: 2021

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/ivers, the linear footage of impact is calculated by summing the lengths of disturbances to the channel and banks.

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

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

JURISDICTIONAL AREA		PERMANENT			TEMPORARY		
		SF	LF	ATF	SF	LF	ATF
Wetlands	Forested Wetland			<input type="checkbox"/>			<input type="checkbox"/>
	Scrub-shrub Wetland			<input type="checkbox"/>			<input type="checkbox"/>
	Emergent Wetland			<input type="checkbox"/>			<input type="checkbox"/>
	Wet Meadow			<input type="checkbox"/>			<input type="checkbox"/>
	Vernal Pool			<input type="checkbox"/>			<input type="checkbox"/>
	Designated Prime Wetland			<input type="checkbox"/>			<input type="checkbox"/>
	Duly-established 100-foot Prime Wetland Buffer			<input type="checkbox"/>			<input type="checkbox"/>
Surface Water	Intermittent / Ephemeral Stream			<input type="checkbox"/>			<input type="checkbox"/>
	Perennial Stream or River	600	90	<input type="checkbox"/>			<input type="checkbox"/>
	Lake / Pond			<input type="checkbox"/>			<input type="checkbox"/>
	Docking - Lake / Pond			<input type="checkbox"/>			<input type="checkbox"/>
	Docking - River			<input type="checkbox"/>			<input type="checkbox"/>
Banks	Bank - Intermittent Stream			<input type="checkbox"/>			<input type="checkbox"/>
	Bank - Perennial Stream / River	100	20	<input type="checkbox"/>			<input type="checkbox"/>
	Bank / Shoreline - Lake / Pond			<input type="checkbox"/>			<input type="checkbox"/>
Tidal	Tidal Waters			<input type="checkbox"/>			<input type="checkbox"/>
	Tidal Marsh			<input type="checkbox"/>			<input type="checkbox"/>
	Sand Dune			<input type="checkbox"/>			<input type="checkbox"/>
	Undeveloped Tidal Buffer Zone (TBZ)			<input type="checkbox"/>			<input type="checkbox"/>
	Previously-developed TBZ			<input type="checkbox"/>			<input type="checkbox"/>
	Docking - Tidal Water			<input type="checkbox"/>			<input type="checkbox"/>
TOTAL		700	110				

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): 700 SF × \$0.40 = \$ 280.0

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 = \$ 400.0

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SECTION 13 - PROJECT CLASSIFICATION (Env-Wt 306.05)		
Indicate the project classification.		
<input type="checkbox"/> Minimum Impact Project	<input type="checkbox"/> Minor Project	<input checked="" type="checkbox"/> Major Project
SECTION 14 - REQUIRED CERTIFICATIONS (Env-Wt 311.11)		
Initial each box below to certify:		
Initials: <i>JM</i>	To the best of the signer's knowledge and belief, all required notifications have been provided.	
Initials: <i>JM</i>	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: <i>JM</i>	<p>The signer understands that:</p> <ul style="list-style-type: none"> • The submission of false, incomplete, or misleading information constitutes grounds for NHDES to: <ol style="list-style-type: none"> 1. Deny the application. 2. Revoke any approval that is granted based on the information. 3. If the signer is a certified wetland scientist, licensed surveyor, or professional engineer licensed to practice in New Hampshire, refer the matter to the joint board of licensure and certification established by RSA 310-A:1. • The signer is subject to the penalties specified in New Hampshire law for falsification in official matters, currently RSA 641. • The signature shall constitute authorization for the municipal conservation commission and the Department to inspect the site of the proposed project, except for minimum impact forestry SPN projects and minimum impact trail projects, where the signature shall authorize only the Department to inspect the site pursuant to RSA 482-A:6, II. 	
Initials: <i>JM</i>	If the applicant is not the owner of the property, each property owner signature shall constitute certification by the signer that he or she is aware of the application being filed and does not object to the filing.	
SECTION 15 - REQUIRED SIGNATURES (Env-Wt 311.04(d); Env-Wt 311.11)		
SIGNATURE (OWNER): _____	PRINT NAME LEGIBLY:	DATE:
SIGNATURE (APPLICANT, IF DIFFERENT FROM OWNER): <i>[Signature]</i>	PRINT NAME LEGIBLY: James McMahon III Assistant District Engineer	DATE: <i>5/22/23</i>
SIGNATURE (AGENT, IF APPLICABLE): _____	PRINT NAME LEGIBLY:	DATE:
SECTION 16 - TOWN / CITY CLERK SIGNATURE (Env-Wt 311.04(f))		
As required by RSA 482-A:3, I(a)(1), I hereby certify that the applicant has filed four application forms, four detailed plans, and four USGS location maps with the town/city indicated below.		
TOWN/CITY CLERK SIGNATURE: _____	PRINT NAME LEGIBLY: Exempt-State Agency per RSA 482+A:3, I(a)1	
TOWN/CITY:	DATE:	

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DIRECTIONS FOR TOWN/CITY CLERK:

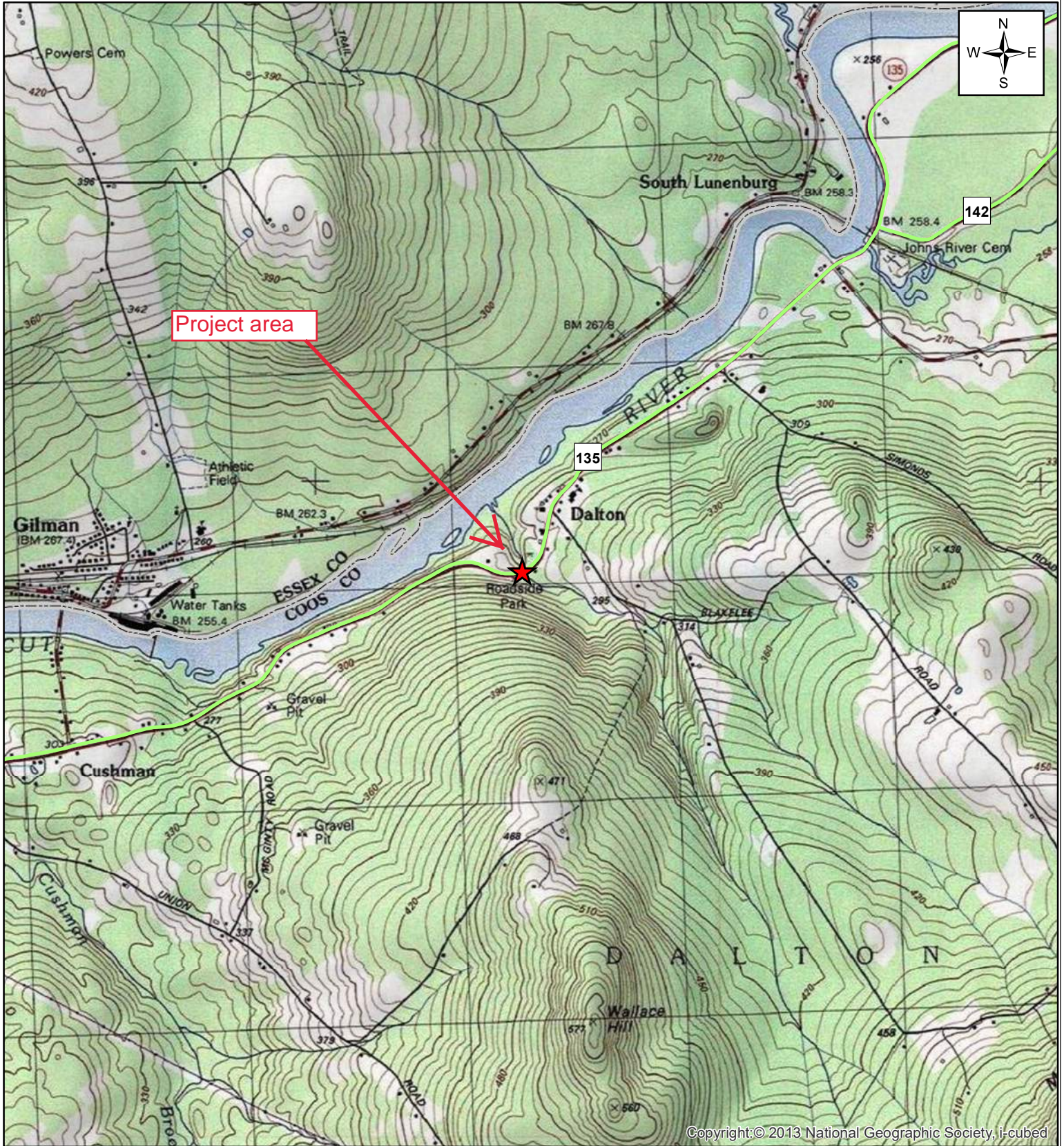
Per RSA 482-A:3, I(a)(1)

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".

Dalton, 2021-M111-1



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Legend

-  Project Location
-  State Routes

Map depicting locaton of an 8' x 6' culvert which carries NH Route 135 over Rix Brook in Dalton 1:24,000
 Map created by: K. Ryan on 6/16/21
 Source: S:\Environment\PROJECTS\Dalton M-111-1





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: NHDOT

TOWN NAME: Dalton

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 OF AN ADVERSE IMPACT ON THE AREA AND ENVIRONMENT'S UNDER THE DEPARTMENT'S JURISDICTION.

TO DO NOTHING WOULD LEAVE THE CROSSING SUSCEPTIBLE TO CONTINUED SCOURING AND EROSION AND UNDERCUTTING OF THE HEADWALL. IF LARGE, FLAT STONES WERE NOT ADDED AT THE OUTLET AND THE BANKS WERE NOT ARMORED, MATERIAL WOULD LIKELY CONTINUE TO FILL IN IN FRONT OF THE STRUCTURE FORCING THE WATER FLOWING THROUGH THE AREA TO CONTINUE TO SCOUR THE BANKS. IN ADDITION, FILL IN FRONT OF THE STRUCTURE MAY RESULT IN A FAILURE AT THE CROSSING RESULTING IN GREATER IMPACTS TO JURISDICTIONAL WETLANDS AND THE SURROUNDING LANDSCAPE IN COMPARISON TO THIS MAINTENANCE ACTIVITY.

A FULL REPLACEMENT OF THE STRUCTURE WOULD NOT ADDRESS THE PURPOSE AND NEED OF THIS MAINTENANCE PROJECT WHICH IS TO REMOVE MATERIAL THAT HAS FILLED IN THE PREVIOUSLY CONSTRUCTED POOL, AND PROTECT THE STRUCTURE, STREAM CHANNEL, AND BANKS BY THE PLACEMENT OF STONE.

THE PREFERRED ALTERNATIVE WILL MEET THE NEED TO PROTECT THE EXISTING INFRASTRUCTURE, PREVENT FURTHER DESTABILIZATION, AND PREVENT FURTHER DEGRADATION OF THE STREAM CHANNEL AND BANKS.

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.

Tidal and non-tidal marshes were not identified in the project area during the field investigation and delineation therefore, there is no proposed impacts to marshes. Impacts to the jurisdictional wetlands have been avoided.

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 project maintains hydrologic connections between the upstream and downstream channel of Rix Brook. There will be no change to the alignment of the structure. The replacement of stones used in the original construction of this structure with larger, flat stones, in addition to replacing rip rap will not alter the hydraulic connection of the riverine system and Rix Brook will continue to flow as it does today. In addition, the removal of sediment buildup in front of the structure will improve water flow through the crossing and will aid in maintaining hydrologic connections between the upstream and downstream channel of Rix Brook.

District engineers met with Biologist John Magee and Andy Schafermeyer 12/20/21 and discussed the proposed project. They noted quite a bit of sediment (<2") accumulated in the old scour pool, suggesting that the outlet was still adjusting to the larger pipe and slower velocities than the much smaller pipe that existed prior to 2008 construction of the 8'x6' box . They were supportive of the proposal to armor the outlet of the culvert, provided the pool is maintained and the entrance to the box culvert is not blocked in order to maintain fish passage. In addition, they were supportive of restoring the right bank (facing downstream). These actions will restore/define the channel geometry by keeping flows in the center of the channel. NHFG will be notified prior to construction in order to arrange for guidance regarding stone placement.

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 project has been designed in accordance with Env-Wt 400, 500, and 900. Impacts to wetland resources have been minimized to the extent practicable. Impacts to jurisdiction wetlands have been limited to areas necessary to protect the structure and improve the existing conditions in order to ensure the crossing continues to perform adequately and prevent a failure at the structure.

A review of the Natural Heritage Bureau Database, NHB23-1211, did not identify rare species or exemplary natural communities near the project area. A field review did not identify vernal pools.

An Official Species List was obtained from the USFWS using the Information for Planning and Consultation tool and Canada lynx, northern long-eared bat, and dwarf wedgemussel were identified on the list. For potential impacts to the NLEB, the project was reviewed using the FHWA, FRA, FTA Programmatic Biological Opinion and determined to have no effect on the NLEB. The project activities comply with the USFWS Section 7 procedure and it was determined the project would have no effect on the Canada lynx and dwarf wedgemussel.

Rix Brook is a predicted coldwater stream. The proposed project will utilize best management practices including sandbag cofferdam, clean water bypass, and perimeter control to protect water quality.

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.

It is anticipated this project will take approximately three days to complete. Traffic will continue to flow on NH Route 113A during construction which will allow for the roadway to be utilized by the travelling public. In addition the project is located in a rural area and is therefore not anticipated to impact commerce. Temporary road/lane closures are not anticipated.

The proposed action does not require a US Coast Guard bridge permit or exemption. The proposed project was reviewed by the US Coast Guard and it was determined there is no sufficient actual support for concluding that the project location has current or historic navigation occurring on this water of the United States.

Impacts to recreation areas are not anticipated as a result of this project. The project area is adjacent to the Dalton Picnic Area, sponsored by the Dalton Conservation Commission. The Dalton Conservation Commission Chair was contacted via mail on 6/16/21 and to date, no response has been received.

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.

The project is not located within a FEMA floodplain.

A palustrine, forested wetland (PFO1E) is located adjacent to the work area. Impacts to this wetland are not anticipated as a part of this project. The proposed project is a maintenance project and does not have a significant adverse impact on floodplain values or create a significant risk to human property. The purpose of this project is to restore the area to 2008 post construction conditions and is not anticipated to impact flood storage.

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.

A palustrine, forested wetlands (PFO1E) is located adjacent to the northwest quadrant of the project area. Impacts to this wetland are not anticipated as a result of this project. This project will result in channel and bank impacts only.

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.

A review of the DES OneStop database identified the project as being within a drinking water supply area and groundwater aquifer transmissivity area.

Impacts to these resources will be minimized through the use of best management practices (BMP's) in order to limit erosion and sediment transport and prevent a discharge into Rix Brook. These measures will be installed and maintained until disturbed areas are permanently stabilized. Feuling and maintenance of equipment will take place in upland areas away from Rix Brook. The project will utilize best management practices to protect surrounding resources and maintain water quality.

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 Rix Brook have been minimized and avoided where possible. The project includes impacts to the downstream channel and banks. Some disturbance to the existing bed and banks of the channel will be necessary for the replacement of stone and rip rap in previously impacted areas. The stream channel will continue to capture, contain, and convey stormwater runoff in the same manner as it does today. The surrounding landscape topography will not be changed as a result of this project, therefore stormwater runoff will enter the stream system the same way it currently does.

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

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

The project does not involve shoreline structures.

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.

The project does not involve shoreline structures.

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

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

The project does not involve shoreline structures.

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

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

The project does not involve shoreline structures.

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

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

The project does not involve shoreline structures.

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

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

The project does not involve shoreline structures.

PART II: FUNCTIONAL ASSESSMENT
<p>REQUIREMENTS</p> <p>Ensure that project meets the requirements of Env-Wt 311.10 regarding functional assessment (Env-Wt 311.04(j); Env-Wt 311.10).</p>
<p>FUNCTIONAL ASSESSMENT METHOD USED:</p> <p>This project includes permanent impacts to jurisdictional channel and banks. There are no temporary or permanent impacts to jurisdictional wetlands associated with this project.</p>
<p>NAME OF CERTIFIED WETLAND SCIENTIST (FOR NON-TIDAL PROJECTS) OR QUALIFIED COASTAL PROFESSIONAL (FOR TIDAL PROJECTS) WHO COMPLETED THE ASSESSMENT: NA</p>
<p>DATE OF ASSESSMENT: NA</p>
<p>Check this box to confirm that the application includes a NARRATIVE ON FUNCTIONAL ASSESSMENT:</p> <p><input type="checkbox"/></p>
<p>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:</p> <p><input type="checkbox"/></p> <p>Note: The Wetlands Functional Assessment worksheet can be used to compile the information needed to meet functional assessment requirements.</p>



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: NHDOT

TOWN NAME: Dalton

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, this is a culvert maintenance project to replace stone and rip rap at the outlet channel and banks of an existing structure.

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, this is a culvert maintenance project that will replace stone and rip rap at the outlet channel banks of an existing structure.

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.*

The project does not propose permanent impacts greater than one acre or a PRA.

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?](#)

Impacts cannot be completely avoided to jurisdictional wetland areas as the purpose of this maintenance project is to protect existing infrastructure by preventing further destabilization of the structure and the channel and banks of the stream. The footprint of the project is limited to areas previously disturbed during the installation of the structure in 2008.

There is no practicable alternative design or technique that would avoid impacts to jurisdictional areas. A full culvert replacement would not meet the purpose and need of the project and to do nothing would allow the structure to destabilize further which could potentially lead to a complete failure at the crossing.

The proposed project includes permanent bank and channel impacts. There are no impacts to jurisdictional wetlands therefore no impacts to wetlands functions and values.

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.*

Per RSA 310-A:79 – Exemption III, Matt Urban, NHDOT Operations Section Chief, performed the wetland identification and delineation on July 13, 2021 according to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region, Version 2.0, January 2012, US Army Corps of Engineers.

BUREAU OF ENVIRONMENT CONFERENCE REPORT

SUBJECT: NHDOT Monthly Natural Resource Agency Coordination Meeting

DATE OF CONFERENCE: August 18, 2021

LOCATION OF CONFERENCE: Virtual meeting held via Zoom

ATTENDED BY:

NHDOT

Andrew O'Sullivan

Matt Urban

Mark Hemmerlein

Rebecca Martin

Arin Mills

Samantha Fifield

Maggie Baldwin

Marc Laurin

Jennifer Reczek

Tim Boodey

Joseph Jorgens

Jim MacMahon

Jeanie Brochi

NHDES

Lori Sommer

NHB

Jessica Bouchard

Federal Highway

Jaimie Sikora

NHFGD

Carol Henderson

The Nature Conservancy

LCHIP

Consultants/ Public Participants

EPA

USACE

Mike Hicks

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

Finalize Meeting Minutes.....	2
Campton #42097 (Non-Federal)	2
Easton # 41249 (Non-Federal)	3
Dalton #2021-M111-1 (Non-Federal).....	4
Charlestown #43565, NH Route 12 Roadway Reopening.....	4

The DOT will be bringing this project to a Cultural Resources Meeting, we are trying to get into the September meeting. The reinforced concrete rails are original to the 1933 construction and will have to be removed during the deck replacement and widening. The minutes from this meeting can be included in the application package, although there are not any anticipated changes to the wetland impact areas.

Lori Sommer, NHDES, wanted us to highlight wetland rule 904.09 in the application, show existing and proposed rip rap on the plans for mitigation purposes and was satisfied that we are going to address the Q100.

Carol Henderson, NHF&G, mentioned that the NHB did not have any hits and the project should be culturally reviewed.

Michael Hicks, ACOE, had no comments.

Dalton #2021-M111-1 (Non-Federal)

Jim McMahon, D1 Assistant District Engineer presented the project which is a culvert maintenance project on NH Route 135 in Dalton. It was described work was previously completed at this location in 2008 and since then the outlet has not held up resulting in the pool in front of the structure to partially fill with sediment and the creation of a pool along the edge of the stream.

Proposed work would replicate what was done in 2008 by removing material from the pool that has filled in, in front of the culvert, and place larger stone along the bank. J. McMahon shared a 2008 plan with new impacts shown in previously permitted impact areas and comparison photos.

Lori Sommer of NHDES asked what the previous permit number was and J. McMahon indicated it was 2006-1640. L. Sommer said wetland rule 904.09 would need to be addressed and there is a need to look into what is contributing to the sedimentation, and asked if hydraulics have been looked at. L. Sommer said she would flag the project as needing follow up with Karl.

Carol Henderson of NHFG said John Magee wants to participate with the stream passage solution and help by coordinating with Jim. It appears the pool creation was to eliminate the perch of the culvert and this should still be the goal. Also, J. Magee had mentioned that fish weirs were installed at some point and is willing to work with the engineer to resolve the issues at this culvert.

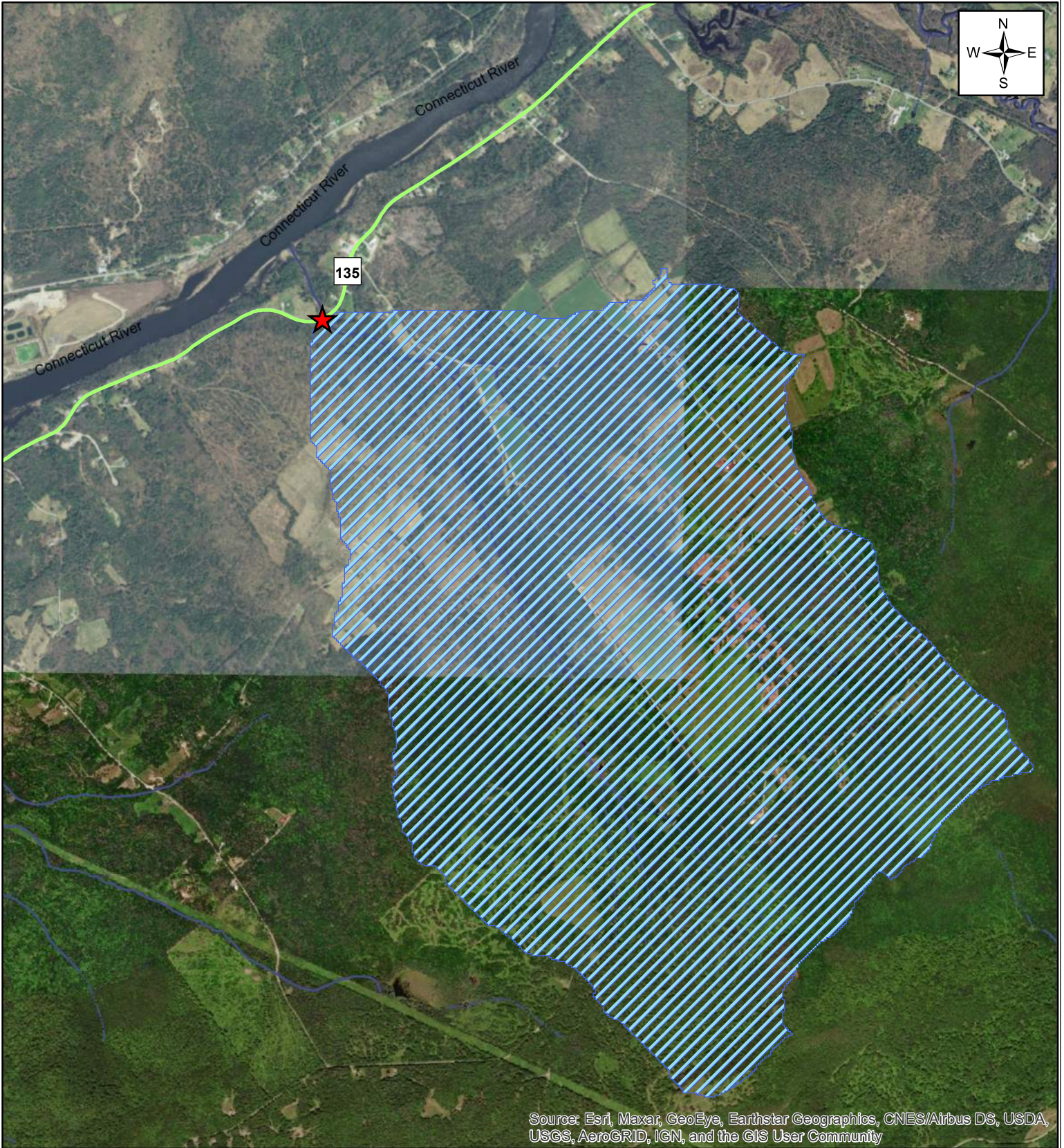
Mike Hicks of ACOE said no corps permit is needed because the project is within the same footprint.

Charlestown #43565, NH Route 12 Roadway Reopening

Andy O'Sullivan introduced the project and explained that the NH Route 12 roadway is currently closed with a detour through Vermont.

The Project Manager, Jason Ayotte shared that the purpose of the project is to reopen NH Route 12 and explained that the Charlestown 43565 project area is approximately 1-mile north of the current construction for the Walpole-Charlestown project. J. Ayotte described that the project is working through the need for right-of-way acquisitions, easements and rights of entry. He stated that the main goal for the meeting, since specific design details are not available, is to describe the range of alternatives and why the work is necessary. The current road closure and detour are a significant concern. Public officials want NH Route 12 opened as soon as possible. The detour will impact school traffic, the local economy, and a farmer who typically moves his harvest in September. J.

Dalton, 2021-M111-1



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

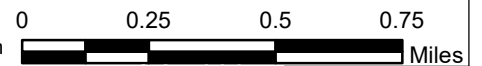
Legend

- Project_Location
- State Routes
- globalwatershed

8' x 6' culvert which carries NH Route 135 over Rix Brook in Wentworth

Map created by: K. Ryan on 6/7/21

Source: S:\Environment\PROJECTS\Dalton M-111-1



1:24,000



052 StreamStats Report

Region ID:

Workspace ID:

Clicked Point (Latitude, Longitude):

Time:

NH

NH20191015112934406000

44.41296, -71.69599

2019-10-15 07:29:51 -0400



NH-135, Dalton - Rix Brook

Basin Characteristics			
Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	2.87	square miles
CONIF	Percentage of land surface covered by coniferous forest	19.6508	percent
PREBC0103	Mean annual precipitation of basin centroid for January 1 to March 15 winter period	6.1	inches
BSLDEM30M	Mean basin slope computed from 30 m DEM	14.321	percent
MIXFOR	Percentage of land area covered by mixed deciduous and coniferous forest	40.3505	percent
PREG_03_05	Mean precipitation at gaging station location for March 16 to May 31 spring period	7.2	inches
TEMP	Mean Annual Temperature	42.079	degrees F
TEMP_06_10	Basinwide average temperature for June to October summer period	59.027	degrees F
PREG_06_10	Mean precipitation at gaging station location for June to October summer period	18.5	inches
ELEVMAX	Maximum basin elevation	2154.216	feet
SNOFALL	Mean Annual Snowfall	85.039	inches
PREBC_1112	Mean annual precipitation of basin centroid for November 1 to December 31 period	7.05	inches
PRECIPCENT	Mean Annual Precip at Basin Centroid	40.1	inches
PRECIPOUT	Mean annual precip at the stream outlet (based on annual PRISM precip data in inches from 1971-2000)	37.6	inches
MINTEMP_W	Mean winter minimum air temperature over basin surface area	9.051	degrees F
APRAVPRE	Mean April Precipitation	2.969	inches
WETLAND	Percentage of Wetlands	0	percent
CSL10_85	Change in elevation divided by length between points 10 and 85 percent of distance along main channel to basin divide - main channel method not known	339	feet per mi

Seasonal Flow Statistics Parameters_[Low Flow Statewide]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	2.87	square miles	3.26	689
CONIF	Percent Coniferous Forest	19.6508	percent	3.07	56.2
PREBC0103	Jan to Mar Basin Centroid Precip	6.1	inches	5.79	15.1
BSLDEM30M	Mean Basin Slope from 30m DEM	14.321	percent	3.19	38.1
MIXFOR	Percent Mixed Forest	40.3505	percent	6.21	46.1
PREG_03_05	Mar to May Gage Precipitation	7.2	inches	6.83	11.5
TEMP	Mean Annual Temperature	42.079	degrees F	36	48.7
TEMP_06_10	Jun to Oct Mean Basinwide Temp	59.027	degrees F	52.9	64.4
PREG_06_10	Jun to Oct Gage Precipitation	18.5	inches	16.5	23.1
ELEVMAX	Maximum Basin Elevation	2154.216	feet	260	6290

Seasonal Flow Statistics Disclaimers_[Low Flow Statewide]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Seasonal Flow Statistics Flow Report_[Low Flow Statewide]

Statistic	Value	Unit
Jan to Mar15 60 Percent Flow	1.44	ft ³ /s
Jan to Mar15 70 Percent Flow	1.19	ft ³ /s
Jan to Mar15 80 Percent Flow	1.05	ft ³ /s
Jan to Mar15 90 Percent Flow	0.791	ft ³ /s
Jan to Mar15 95 Percent Flow	0.628	ft ³ /s
Jan to Mar15 98 Percent Flow	0.529	ft ³ /s
Jan to Mar15 7 Day 2 Year Low Flow	1.07	ft ³ /s
Jan to Mar15 7 Day 10 Year Low Flow	0.573	ft ³ /s
Mar16 to May 60 Percent Flow	6.71	ft ³ /s
Mar16 to May 70 Percent Flow	5.24	ft ³ /s
Mar16 to May 80 Percent Flow	3.8	ft ³ /s
Mar16 to May 90 Percent Flow	2.6	ft ³ /s
Mar16 to May 95 Percent Flow	1.87	ft ³ /s
Mar16 to May 98 Percent Flow	1.3	ft ³ /s
Mar16 to May 7 Day 2 Year Low Flow	1.53	ft ³ /s
Mar16 to May 7 Day 10 Year Low Flow	0.804	ft ³ /s
Jun to Oct 60 Percent Flow	0.537	ft ³ /s
Jun to Oct 70 Percent Flow	0.397	ft ³ /s
Jun to Oct 80 Percent Flow	0.297	ft ³ /s
Jun to Oct 90 Percent Flow	0.191	ft ³ /s
Jun to Oct 95 Percent Flow	0.133	ft ³ /s
Jun to Oct 98 Percent Flow	0.112	ft ³ /s
Jun to Oct 7 Day 2 Year Low Flow	0.21	ft ³ /s
Jun to Oct 7 Day 10 Year Low Flow	0.0773	ft ³ /s
Nov to Dec 60 Percent Flow	2.95	ft ³ /s
Nov to Dec 70 Percent Flow	2.31	ft ³ /s
Nov to Dec 80 Percent Flow	1.81	ft ³ /s
Nov to Dec 90 Percent Flow	1.22	ft ³ /s

Statistic	Value	Unit
Nov to Dec 95 Percent Flow	0.825	ft ³ /s
Nov to Dec 98 Percent Flow	0.536	ft ³ /s
Oct to Nov 7 Day 2 Year Low Flow	1.74	ft ³ /s
Oct to Nov 7 Day 10 Year Low Flow	0.793	ft ³ /s

Seasonal Flow Statistics Citations

Flynn, R.H. and Tasker, G.D., 2002, Development of Regression Equations to Estimate Flow Durations and Low-Flow-Frequency Statistics in New Hampshire Streams: U.S. Geological Survey Scientific Investigations Report 02-4298, 66 p. (<http://pubs.water.usgs.gov/wrir02-4298>)

Flow-Duration Statistics Parameters_(Low Flow Statewide)

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	2.87	square miles	3.26	689
PREG_06_10	Jun to Oct Gage Precipitation	18.5	inches	16.5	23.1
TEMP	Mean Annual Temperature	42.079	degrees F	36	48.7

Flow-Duration Statistics Disclaimers_(Low Flow Statewide)

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Flow-Duration Statistics Flow Report_(Low Flow Statewide)

Statistic	Value	Unit
60 Percent Duration	1.56	ft ³ /s
70 Percent Duration	1.1	ft ³ /s
80 Percent Duration	0.666	ft ³ /s
90 Percent Duration	0.357	ft ³ /s
95 Percent Duration	0.228	ft ³ /s
98 Percent Duration	0.146	ft ³ /s

Flow-Duration Statistics Citations

Flynn, R.H. and Tasker, G.D., 2002, Development of Regression Equations to Estimate Flow Durations and Low-Flow-Frequency Statistics in New Hampshire Streams: U.S. Geological Survey Scientific Investigations Report 02-4298, 66 p. (<http://pubs.water.usgs.gov/wrir02-4298>)

Low-Flow Statistics Parameters_(Low Flow Statewide)

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	2.87	square miles	3.26	689
TEMP	Mean Annual Temperature	42.079	degrees F	36	48.7
PREG_06_10	Jun to Oct Gage Precipitation	18.5	inches	16.5	23.1

Low-Flow Statistics Disclaimers_(Low Flow Statewide)

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Low-Flow Statistics Flow Report_(Low Flow Statewide)

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.214	ft ³ /s
7 Day 10 Year Low Flow	0.0791	ft ³ /s

Low-Flow Statistics Citations

Flynn, R.H. and Tasker, G.D., 2002, **Development of Regression Equations to Estimate Flow Durations and Low-Flow-Frequency Statistics in New Hampshire Streams: U.S. Geological Survey Scientific Investigations Report 02-4298**, 66 p. (<http://pubs.water.usgs.gov/wrir02-4298>)

Recharge Statistics Parameters[Groundwater Recharge Statewide 2004 5019]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
PREG_03_05	Mar to May Gage Precipitation	7.2	inches	6.83	11.54
CONIF	Percent Coniferous Forest	19.6508	percent	3.07	56.18
SNOFALL	Mean Annual Snowfall	85.039	inches	54.46	219.07
PREG_06_10	Jun to Oct Gage Precipitation	18.5	inches	16.46	23.11
TEMP	Mean Annual Temperature	42.079	degrees F	36.05	48.69
MIXFOR	Percent Mixed Forest	40.3505	percent	6.21	46.13
PREBC_1112	Nov to Dec Basin Centroid Precip	7.05	inches	6.57	15.2
PRECIPCENT	Mean Annual Precip at Basin Centroid	40.1	inches	37.44	75.91
PRECIPOUT	Mean Annual Precip at Gage	37.6	inches	35.83	53.11
MINTEMP_W	Mean Winter Min Temperature	9.051	degrees F	0.8	19.88

Recharge Statistics Flow Report[Groundwater Recharge Statewide 2004 5019]

PII: Prediction Interval-Lower, PIu: Prediction Interval-Upper, SEp: Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	SEp
GW_Recharge_Jan_to_Mar15	3.25	in	15.5
GW_Recharge_Mar16_to_May	6.85	in	12.4
GW_Recharge_Jun_to_Oct	3.37	in	26.5
GW_Recharge_Nov_to_Dec	2.94	in	15.8
GW_Recharge_Ann	18.2	in	12.4

Recharge Statistics Citations

Flynn, R.H. and Tasker, G.D., 2004, **Generalized Estimates from Streamflow Data of Annual and Seasonal Ground-Water-Recharge Rates for Drainage Basins in New Hampshire, U.S. Geological Survey Scientific Investigations Report 2004-5019**, 67 p. (<http://pubs.usgs.gov/sir/2004/5019/http://pubs.usgs.gov/sir/2004/5019/>)

Peak-Flow Statistics Parameters[Peak Flow Statewide SIR2008 5206]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	2.87	square miles	0.7	1290
APRAVPRE	Mean April Precipitation	2.969	inches	2.79	6.23
WETLAND	Percent Wetlands	0	percent	0	21.8
CSL10_85	Stream Slope 10 and 85 Method	339	feet per mi	5.43	543

Peak-Flow Statistics Flow Report[Peak Flow Statewide SIR2008 5206]

PII: Prediction Interval-Lower, PIu: Prediction Interval-Upper, SEp: Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	PII	PIu	SEp	Equiv. Yrs.
2 Year Peak Flood	121	ft ³ /s	73.2	199	30.1	3.2
5 Year Peak Flood	193	ft ³ /s	115	323	31.1	4.7
10 Year Peak Flood	254	ft ³ /s	149	435	32.3	6.2
25 Year Peak Flood	337	ft ³ /s	190	599	34.3	8
50 Year Peak Flood	406	ft ³ /s	221	743	36.4	9

Statistic	Value	Unit	PII	PIu	SEp	Equiv. Yrs.
100 Year Peak Flood	486	ft ³ /s	256	923	38.6	9.8
500 Year Peak Flood	680	ft ³ /s	328	1410	44.1	11

Peak-Flow Statistics Citations

Olson, S.A., 2009, Estimation of flood discharges at selected recurrence intervals for streams in New Hampshire: U.S. Geological Survey Scientific Investigations Report 2008-5206, 57 p. (<http://pubs.usgs.gov/sir/2008/5206/>)

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Application Version: 4.3.8



**WETLANDS PERMIT APPLICATION
STREAM CROSSING WORKSHEET**
Land Resources Management
Wetlands Bureau



RSA 482-A/ Env-Wt-900

NOTE: This worksheet can be used to accompany Wetlands Permit Applications when proposing stream crossings.

1. Tier Classifications	
Determine the contributing watershed size at USGS StreamStats <i>Note: Plans for Tier 2 and 3 crossings shall be designed and stamped by a professional engineer who is licensed under RSA 310-A to practice in New Hampshire.</i>	
Size of contributing watershed at the crossing location:	_1,837_ acres
<input type="checkbox"/> Tier 1: A tier 1 stream crossing is a crossing located on a watercourse where the contributing watershed size is less than or equal to 200 acres	
<input type="checkbox"/> Tier 2: A tier 2 stream crossing is a crossing located on a watercourse where the contributing watershed size is greater than 200 acres and less than 640 acres	
<input checked="" type="checkbox"/> Tier 3: A tier 3 stream crossing is a crossing that meets <u>any</u> of the following criteria:	
<input checked="" type="checkbox"/> On a watercourse where the contributing watershed is more than 640 acres	
<input checked="" type="checkbox"/> Within a Designated River Corridor unless:	
a. The crossing would be a tier 1 stream based on contributing watershed size; or	
b. The structure does not create a direct surface water connection to the designated river as depicted on the national hydrography dataset as found on GRANIT	
<input type="checkbox"/> On a watercourse that is listed on the surface water assessment 305(b) report	
<input type="checkbox"/> Within a 100-year floodplain (see section 2 below)	
<input type="checkbox"/> In a jurisdictional area having any protected species or habitat (NHB DataCheck)	
<input type="checkbox"/> In a Prime Wetland or within a duly-established 100-foot buffer, unless a waiver has been granted pursuant to RSA 482-A:11,IV(b) and Env-Wt 706	
<input type="checkbox"/> Tier 4: A tier 4 stream crossing is a crossing located on a tidal watercourse	

2. 100-year Floodplain
Use the FEMA Map Service Center to determine if the crossing is located within a 100-year floodplain. Please answer the questions below:
<input checked="" type="checkbox"/> No: The proposed stream crossing <i>is not</i> within the FEMA 100-year floodplain.
<input type="checkbox"/> Yes: The proposed project <i>is</i> within the FEMA 100-year floodplain. Zone = _____
<input type="checkbox"/> Elevation of the 100-year floodplain at the inlet: _____ feet (FEMA El. or Modeled El.)

3. Calculating Peak Discharge	
Existing 100-year peak discharge (Q) calculated in cubic feet per second (CFS): _____ CFS	Calculation method: _____
Estimated Bankfull discharge at the crossing location: _____ CFS	Calculation method: _____

➔ **Note: If Tier 1 then skip to Section 10** ➔

4. Predicted Channel Geometry based on Regional Hydraulic Curves

For Tier 2, Tier 3 and Tier 4 Crossings Only

Bankfull Width: 20.88 feet Mean Bankfull Depth: 1.6 feet
 Bankfull Cross Sectional Area: 697.5 square feet

5. Cross Sectional Channel Geometry:

Measurements of the Existing Stream within a Reference Reach

For Tier 2, Tier 3 and Tier 4 Crossings Only

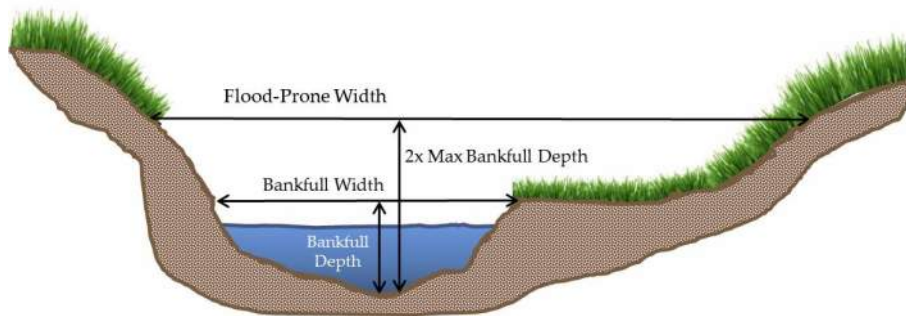
Describe the reference reach location: Upstream

Reference reach watershed size: 2.87 Sq Mi / 4,480 acres

Parameter	Cross Section 1 Describe bed form Riffle, step, pool_ (e.g. pool, riffle, glide)	Cross Section 2 Describe bed form _Riffle, step_ (e.g. pool, riffle, glide)	Cross Section 3 Describe bed form _Riffle, step_ (e.g. pool, riffle, glide)	Range
<u>Bankfull Width</u>	<u>24</u> feet	<u>23</u> feet	<u>23</u> feet	<u>23 - 24</u> feet
<u>Bankfull Cross Sectional Area</u>	<u>16.1</u> SF	<u>31.3</u> SF	<u>25.6</u> SF	<u>16.1 - 31.3</u> SF
<u>Mean Bankfull Depth</u>	<u>.67</u> feet	<u>1.36</u> feet	<u>1.16</u> feet	<u>.67 - 1.16</u> feet
<u>Width to Depth Ratio</u>	<u>32</u>	<u>16.9</u>	<u>20.7</u>	<u>16.9 - 32</u>
<u>Max Bankfull Depth</u>	<u>1.0</u> feet	<u>2.4</u> feet	<u>2.7</u> feet	<u>1.0 - 2.7</u> feet
<u>Flood Prone Width</u>	<u>24</u> feet	<u>35</u> feet	<u>93</u> feet	<u>24 - 93</u> feet
<u>Entrenchment Ratio</u>	<u>1</u>	<u>.65</u>	<u>4.0</u>	<u>.65 - 4.0</u>

Use **Figure 1** below to determine the measurements of the Reference Reach Attributes

Figure 1: Determining the Reference Reach Attributes



6. Longitudinal Parameters of the Reference Reach and Crossing Location

For Tier 2, Tier 3 and Tier 4 Crossings Only

Average Channel Slope of the Reference Reach: 3%
 Average Channel Slope at the Crossing Location: 7%

7. Plan View Geometry

For Tier 2, Tier 3 and Tier 4 Crossings Only

Sinuosity of the Reference Reach: 1.0
 Sinuosity of the Crossing Location: 1.06

Note: Sinuosity is measured a distance of at least 20 times bankfull width, or 2 meander belt widths

8. Substrate Classification based on Field Observations

For Tier 2, Tier 3 and Tier 4 Crossings Only

% of reach that is <i>bedrock</i>	_____ 0 _____ %
% of reach that is <i>boulder</i>	_____ 20 _____ %
% of reach that is <i>cobble</i>	_____ 40 _____ %
% of reach that is <i>gravel</i>	_____ 20 _____ %
% of reach that is <i>sand</i>	_____ 20 _____ %
% of reach that is <i>silt</i>	_____ 0 _____ %

9. Stream Type of Reference Reach

For Tier 2, Tier 3 and Tier 4 Crossings Only

Stream Type of Reference Reach:	_____ C type _____
---------------------------------	--------------------

Refer to Rosgen Classification Chart (Figure 2) below

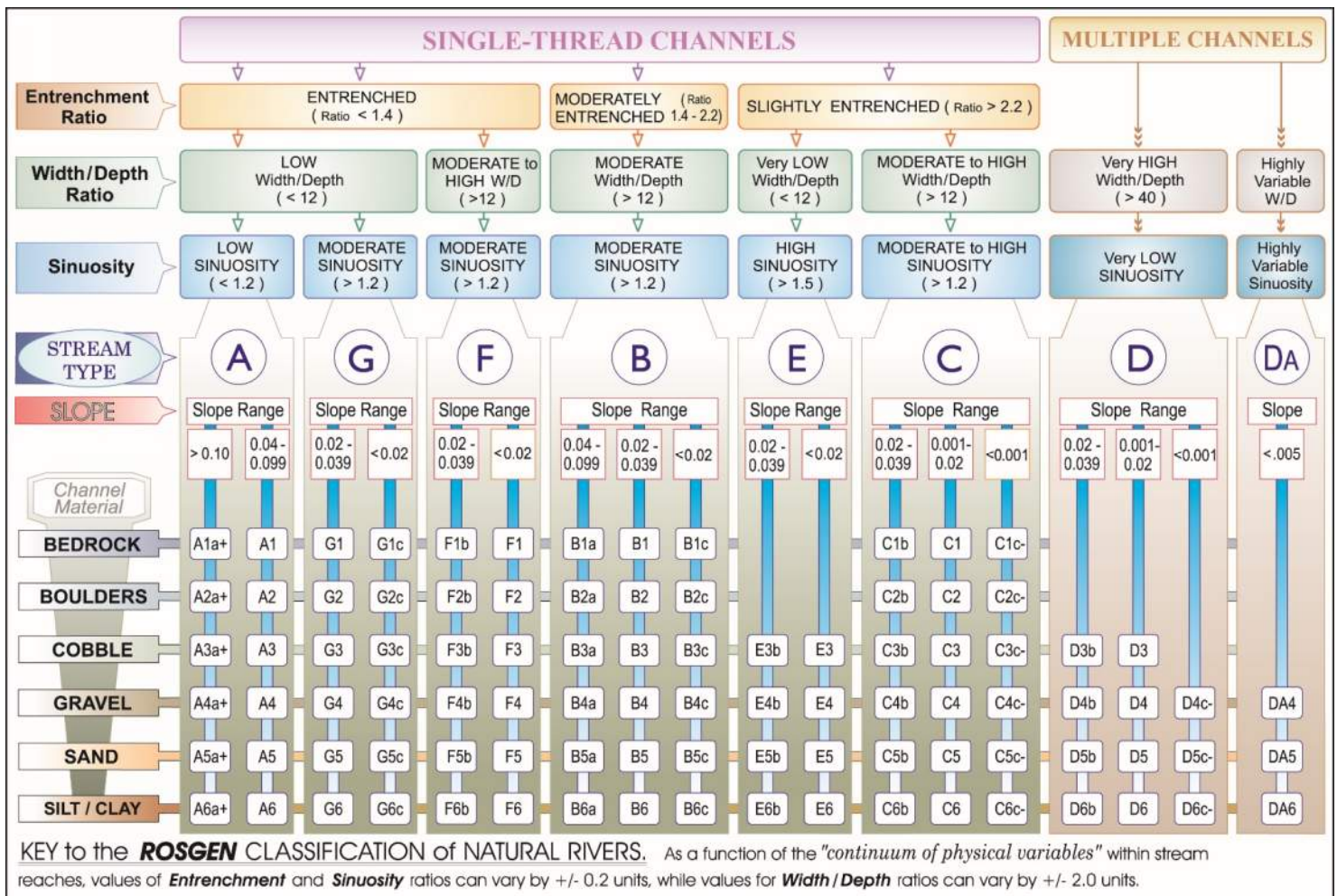


Figure 2. Reference from Applied River Morphology, Rosgen, 1996

10. Crossing Structure Metrics

Existing Conditions

Existing Structure Type:	<input type="checkbox"/> Bridge Span <input type="checkbox"/> Pipe Arch <input type="checkbox"/> Open-bottom Culvert <input checked="" type="checkbox"/> Closed-bottom Culvert <input type="checkbox"/> Closed-bottom Culvert with stream simulation <input type="checkbox"/> Other: _____	
Existing Crossing Span <i>(perpendicular to flow)</i>	_____ feet	Culvert Diameter _____ feet Inlet Elevation _____
Existing Crossing Length <i>(parallel to flow)</i>	_____ feet	Outlet Elevation _____ Culvert Slope _____

Proposed Conditions

Proposed Structure Type:	Tier 1	Tier 2	Tier 3	Alternative Design
Bridge Span	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pipe Arch	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Closed-bottom Culvert	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Open-bottom Culvert	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Closed-bottom Culvert with stream simulation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Proposed structure Span <i>(perpendicular to flow)</i>	_____ feet		Culvert Diameter _____ feet Inlet Elevation _____	
Proposed Structure Length <i>(parallel to flow)</i>	_____ feet		Outlet Elevation _____ Culvert Slope _____	
Proposed Entrenchment Ratio* <i>For Tier 2, Tier 3 and Tier 4 Crossings Only</i>			_____	
			<i>Note: To accommodate the entrenchment ratio, floodplain drainage structures may be utilized</i>	

* Note: Proposed Entrenchment Ratio must meet the minimum ratio for each stream type listed in **Figure 3**, otherwise the applicant must address the Alternative Design criteria listed in Env-Wt 904.09

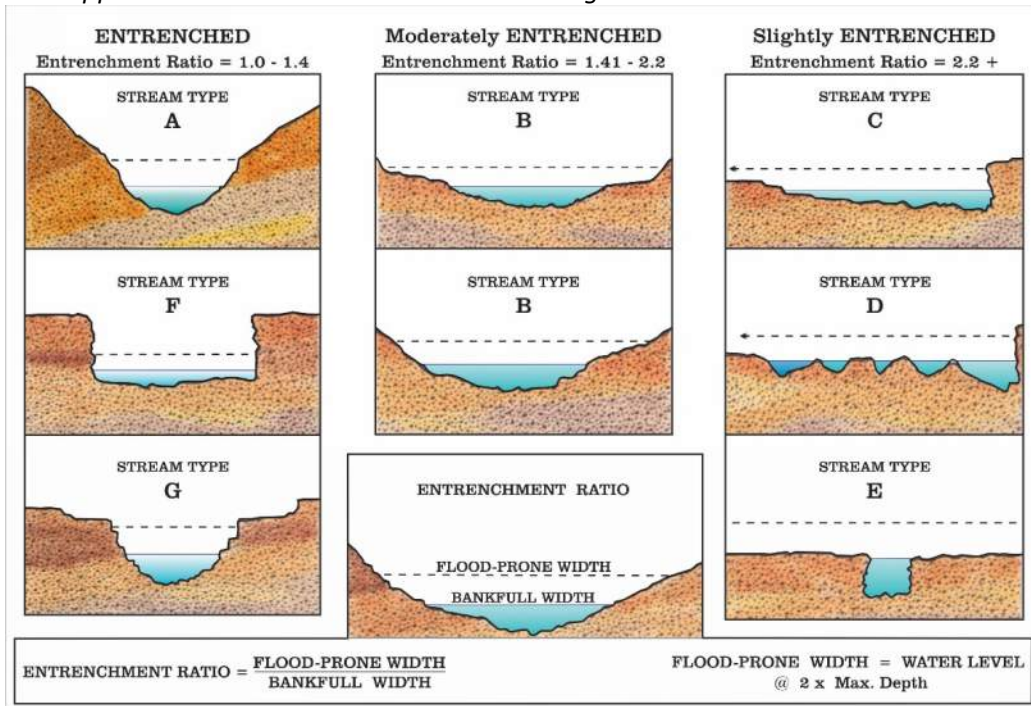


Figure 3. Reference from Applied River Morphology, Rosgen, 1996

11. Crossing Structure Hydraulics		
	Existing	Proposed
100 year flood stage elevation at inlet	_____	_____
Flow velocity at outlet in feet per second (FPS)	_____	_____
Calculated 100 year peak discharge (Q) for the <u>proposed</u> structure in CFS		_____
Calculated 50 year peak discharge (Q) for the <u>proposed</u> structure in CFS		_____

12. Crossing Structure Openness Ratio
For Tier 2, Tier 3 and Tier 4 Crossings Only

Crossing Structure Openness Ratio = _____
Openness box culvert = (height x width)/length
Openness round culvert = (3.14 x radius²)/length

13. General Design Considerations

Env-Wt 904.01 requires all stream crossings to be designed and constructed according to the following requirements. Check each box if the project meets these general design considerations.

All stream crossings shall be designed and constructed so as to:

Not be a barrier to sediment transport

Prevent the restriction of high flows and maintain existing low flows

Not obstruct or otherwise substantially disrupt the movement of aquatic life indigenous to the waterbody beyond the actual duration of construction

Not cause an increase in the frequency of flooding or overtopping of banks

Maintain or enhance geomorphic compatibility by:

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

 b. Preserving the natural alignment of the stream channel

Preserve watercourse connectivity where it currently exists

Restore watercourse connectivity where:

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

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

Not cause erosion, aggradation, or scouring upstream or downstream of the crossing

Not cause water quality degradation

14. Tier-Specific Design Criteria

Stream crossings must be designed in accordance with the Tier specific design criteria listed in Part Env-Wt 904.

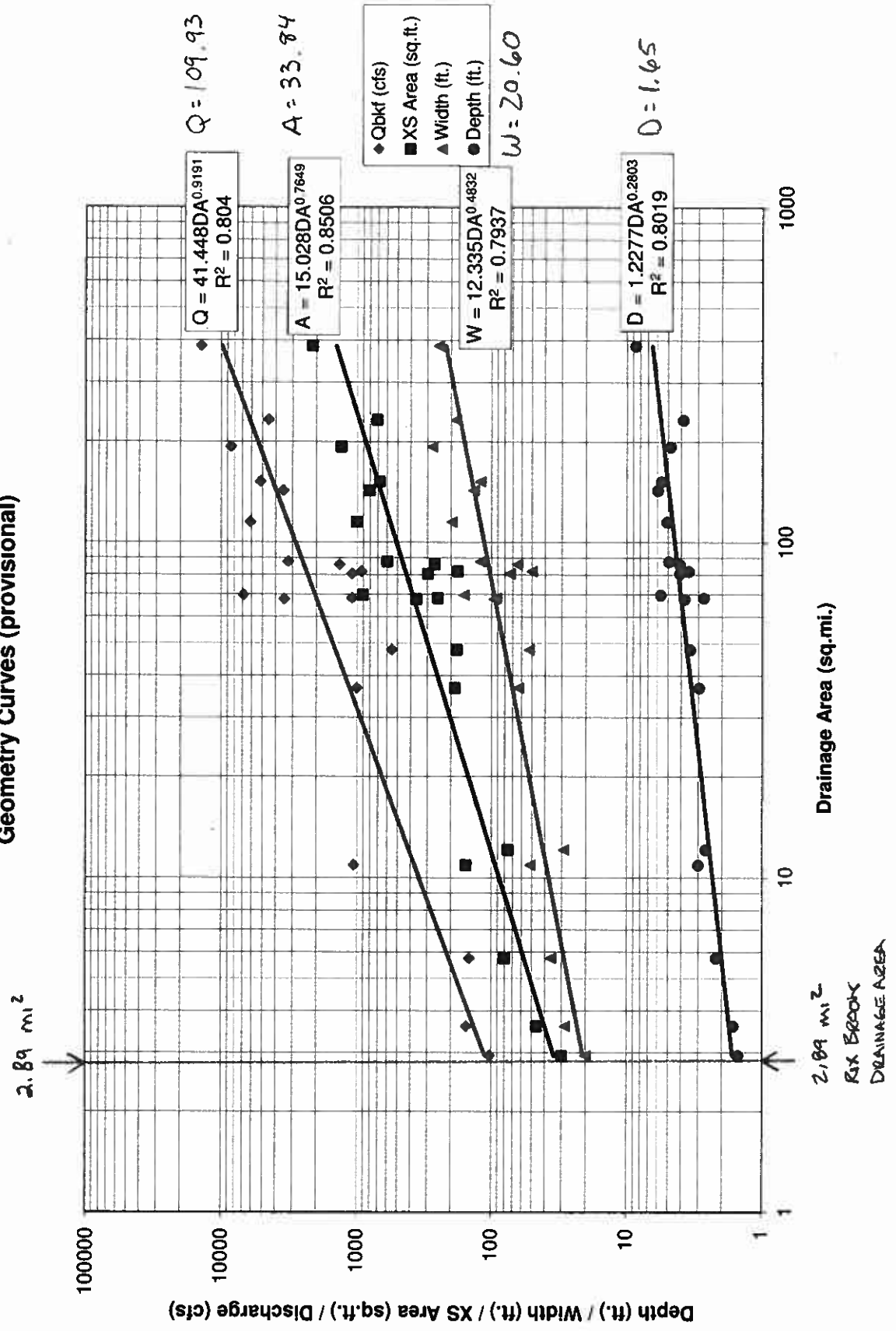
The proposed project meets the Tier specific design criteria listed in Part Env-Wt 904 and each requirement has been addressed in the plans and as part of the wetland application.

15. Alternative Design

NOTE: If the proposed crossing does not meet all of the general design considerations, the Tier specific design criteria, or the minimum entrenchment ratio for each given stream type listed in **Figure 3**, then an alternative design plan and associated requirements must be addressed pursuant to Env-Wt 904.09.

I have submitted an alternative design and addressed each requirement listed in Env-Wt 904.09

New Hampshire 2005 Regional Hydraulic Geometry Curves (provisional)



===HYDRAULICS ===

FHWA's HY-8 Program produced an outlet scour prediction with dimensions 65' long x 40' wide x 6' deep.

The existing scour pool is likely from the original pipe. Assuming the existing pool has similar or larger dimensions it would not need to be modified, but could be lined with stone to prevent further changes.

FHWA's Hydraulic Toolbox was used to predict the stone size necessary for a stable channel of similar dimensions

as the outlet pool. The outlet channel slope of 0.5% used to model slope between culvert outlet and end of pool.

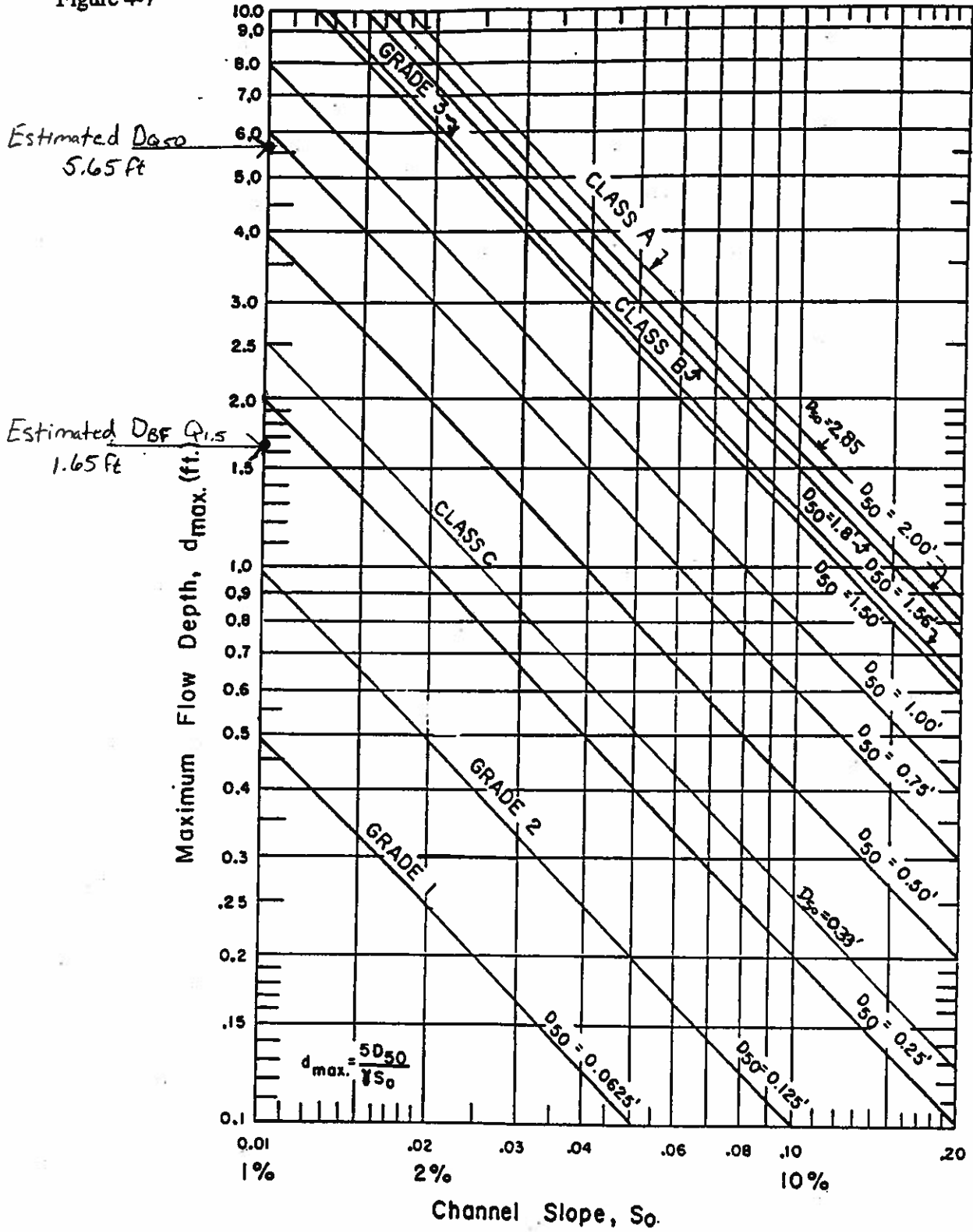
Stone meeting Class B size is predicted to be stable.

For the rock weir at the end of the pool, at least 3' nominal size stone or larger if practical. Stones should be aligned in an arch shape, with the curvature pointing upstream and with the end rocks embedded in the banks. The top of the stones should be

at least 12" higher than the culvert outlet invert, so that low flow only goes through the notches between a few of the stones.

The upstream face of the weir should be chinked / filled so that flow does not bypass under or between stones below the normal pool elevation.

Figure 4-7



Metric Conversion: 1 in = 25.4 mm
1 ft = 0.3048 m

Maximum Permissible Depth of Flow for Stone Lined Channels

HY-8 Energy Dissipation Report

Scour Hole Geometry

By C. Carucci 9/15/21

Parameter	Value	Units
Select Culvert and Flow		
Crossing	Dalton - NH 135 over Rix Brook	
Culvert	6x8 Box Emb	
Flow	765.00 Q50 Design	cfs
Culvert Data		
Culvert Width (including multiple barrels)	8.0	ft
Culvert Height	7.0 (includes 1' embedment)	ft
Outlet Depth	4.81	ft
Outlet Velocity	19.86	ft/s
Froude Number	1.60	
Tailwater Depth	4.19	ft
Tailwater Velocity	4.04	ft/s
Tailwater Slope (SO)	0.0700	
Scour Data		
Time to Peak		
Note:	if Time to Peak is unknown, enter 30 min	
Time to Peak	30.00	min
Cohesion	Noncohesive	
D16 Value	1.00	mm
D84 Value	200.00	mm
Tailwater Flow Depth after Culvert Outlet	Normal Depth	
Results		
Assumptions		
Soil Sigma	14.14	
Scour Hole Dimensions		
Length	65.201	ft
Width	40.555	ft
Depth	6.184	ft

Hydraulic Analysis Report

Project Title: Dalton Rix Brook culvert outlet

Designer: C. Carucci
Project Date: September 15, 2021
Project Units: U.S. Customary Units
Notes: FHWA Hydraulic Toolbox v4.4

Channel Lining Analysis: Channel Lining Design Analysis

Notes: This analysis is for lining the perimeter and/or bottom of the outlet area if necessary and for protection of the culvert and wing wall foundations at the outlet.

D50 of 1.79' is intended to model Class B Stone Fill (Item 585.2).

Lining Input Parameters

Channel Lining Type: Riprap, Cobble, or Gravel

D50: 1.79 ft

Riprap Specific Weight: 165 lb/ft³

Water Specific Weight: 62.4 lb/ft³

Riprap Shape is Angular

Safety Factor: 1

Calculated Safety Factor: 1.31379

Lining Results

Angle of Repose: 42.1 degrees

Relative Flow Depth: 1.93963 ft

Manning's n method: Blodgett

Manning's n: 0.0858645

Channel Bottom Shear Results

V*: 0.954306

Reynold's Number: 140362

Shield's Parameter: 0.111608

shear stress on channel bottom: 1.76483 lb/ft²

Permissible shear stress for channel bottom: 20.4973 lb/ft²

Channel bottom is stable

Channel Side Shear Results

K1: 1

K2: 0.969469

Kb: 0

shear stress on side of channel: 1.76483 lb/ft²

Permissible shear stress for side of channel: 19.8715 lb/ft²

Side of channel is stable

Channel Lining Stability Results

The channel is stable

Channel Summary

Input Parameters

Channel Type: Trapezoidal

Side Slope 1 (Z1): 6.0000 ft/ft

Side Slope 2 (Z2): 6.0000 ft/ft

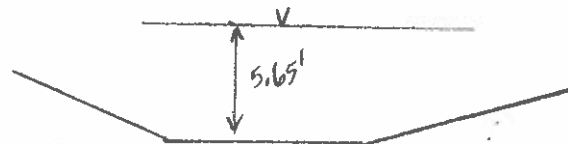
Channel Width: 20.0000 ft

Longitudinal Slope: 0.0050 ft/ft

Manning's n: 0.0859

Lining Type: User Defined

Depth: 5.6565 ft



Result Parameters

Flow: 850.0717 cfs

Area of Flow: 305.1073 ft²

Wetted Perimeter: 88.8145 ft

Hydraulic Radius: 3.4353 ft

Average Velocity: 2.7861 ft/s

Top Width: 87.8782 ft

Froude Number: 0.2635

Critical Depth: 2.8724 ft

Critical Velocity: 7.9481 ft/s

Critical Slope: 0.0868 ft/ft

Critical Top Width: 54.47 ft

Calculated Max Shear Stress: 1.7648 lb/ft²

Calculated Avg Shear Stress: 1.0718 lb/ft²



The State of New Hampshire
DEPARTMENT OF ENVIRONMENTAL SERVICES



Thomas S. Burack, Commissioner

WETLANDS AND NON-SITE SPECIFIC PERMIT 2006-01640

Permittee: NH Dept of Transportation, PO Box 483, Concord, NH 03301
Project Location: NH Rte 135, Dalton
Dalton Tax Map/Lot No.
Waterbody: Connecticut River

Page 1 of 2

**NOTE--
CONDITIONS**

APPROVAL DATE: 07/16/2008

EXPIRATION DATE: 07/16/2013

Based upon review of the above referenced application, in accordance with RSA 482-A and RSA 485-A:17, a Wetlands Permit and Non-Site Specific Permit was issued. This permit shall not be considered valid unless signed as specified below.

PERMIT DESCRIPTION: Replace a 60 in. x 64 ft. culvert with an 8 ft. x 6 ft. x 70 ft. box culvert embedded 12 in. impacting 4,125 sq. ft. of bank and stream. NHDOT project #99003W.

THIS APPROVAL IS SUBJECT TO THE FOLLOWING PROJECT SPECIFIC CONDITIONS:

1. All work shall be in accordance with the amended plans by NHDOT Maintenance District 1 dated 6/27/08, as received by the Department on July 3, 2008.
2. Dredged material shall be placed out of the DES Wetlands Bureau jurisdiction unless utilized as substrate in the embedded culvert or as restoration of the embankment.
3. Appropriate siltation/erosion/turbidity controls shall be in place prior to construction, shall be maintained during construction, and shall remain until the area is stabilized.
4. Construction equipment shall not be located within surface waters.
5. Within three days of final grading in an area that is in or adjacent to wetlands or surface waters, all exposed soil areas shall be stabilized by seeding and mulching during the growing season, or if not within the growing season, by mulching with tack or netting and pinning on slopes steeper than 3:1.
6. The contractor responsible for completion of the work shall utilize techniques described in the DES Best Management Practices for Urban Stormwater Runoff Manual (January, 1996) and the Stormwater Management and Erosion and Sediment Control Handbook for Urban and Developing Areas in New Hampshire (August, 1992).
7. Extreme precautions to be taken within riparian areas to limit unnecessary removal of vegetation during road construction and areas cleared of vegetation to be revegetated as quickly as possible.
8. There shall be no further alteration to wetlands or surface waters without amendment of this permit.
9. Proper headwalls shall be constructed within seven days of culvert installation.
10. Work shall be done during low flow.
11. Sediment removal is limited to 60 feet upstream of the culvert and is allowed for use in repairing the south westerly embankment.
12. The applicant shall continue to work with the NH Fish and Game on the baffle and substrate design.
13. The applicant shall salvage and replant shrubs wherever practicable.

RECEIVED
JUL 31 2008
District One

GENERAL CONDITIONS THAT APPLY TO ALL DES WETLANDS PERMITS:

1. A copy of this permit shall be posted on site during construction in a prominent location visible to inspecting personnel;
2. This permit does not convey a property right, nor authorize any injury to property of others, nor invasion of rights of others;
3. The Wetlands Bureau shall be notified upon completion of work;
4. This permit does not relieve the applicant from the obligation to obtain other local, state or federal permits that may be required (see attached form for status of federal wetlands permit);
5. Transfer of this permit to a new owner shall require notification to and approval by the Department;
6. This permit shall not be extended beyond the current expiration date.
7. This project has been screened for potential impacts to known occurrences of rare species and exemplary natural communities in the immediate area. Since many areas have never been surveyed, or have received only cursory inventories, unidentified sensitive species or communities may be present. This permit does not absolve the permittee from due diligence in regard to state, local or federal laws regarding such communities or species.
8. The permittee shall coordinate with the NH Division of Historic Resources to assess and mitigate the project's effect on historic resources.

APPROVED: *Lou L. Sommer*
for Gino Infascelli

DES Wetlands Bureau

BY SIGNING BELOW I HEREBY CERTIFY THAT I HAVE FULLY READ THIS PERMIT AND AGREE TO ABIDE BY ALL PERMIT CONDITIONS.

[Signature]
OWNER'S SIGNATURE (required)

CONTRACTOR'S SIGNATURE (required)

REPLACE 60" CMP WITH 8' W X 6' H X 70' L PRECAST CONC. BOX UNIT, SAME LOCATION.

CONSTRUCT STONE PROTECTION ALONG OUTLET EMBANKMENT & LOWER SLOPE AREA.

CONSTRUCT SLOPE DRAIN, PIPE AND PERM. SEDIMENT BASIN.

CONSTRUCT STONE PROTECTION ALONG INLET & LOWER SLOPE C/INLET AREA

DREDGE DEPOSITS

41303

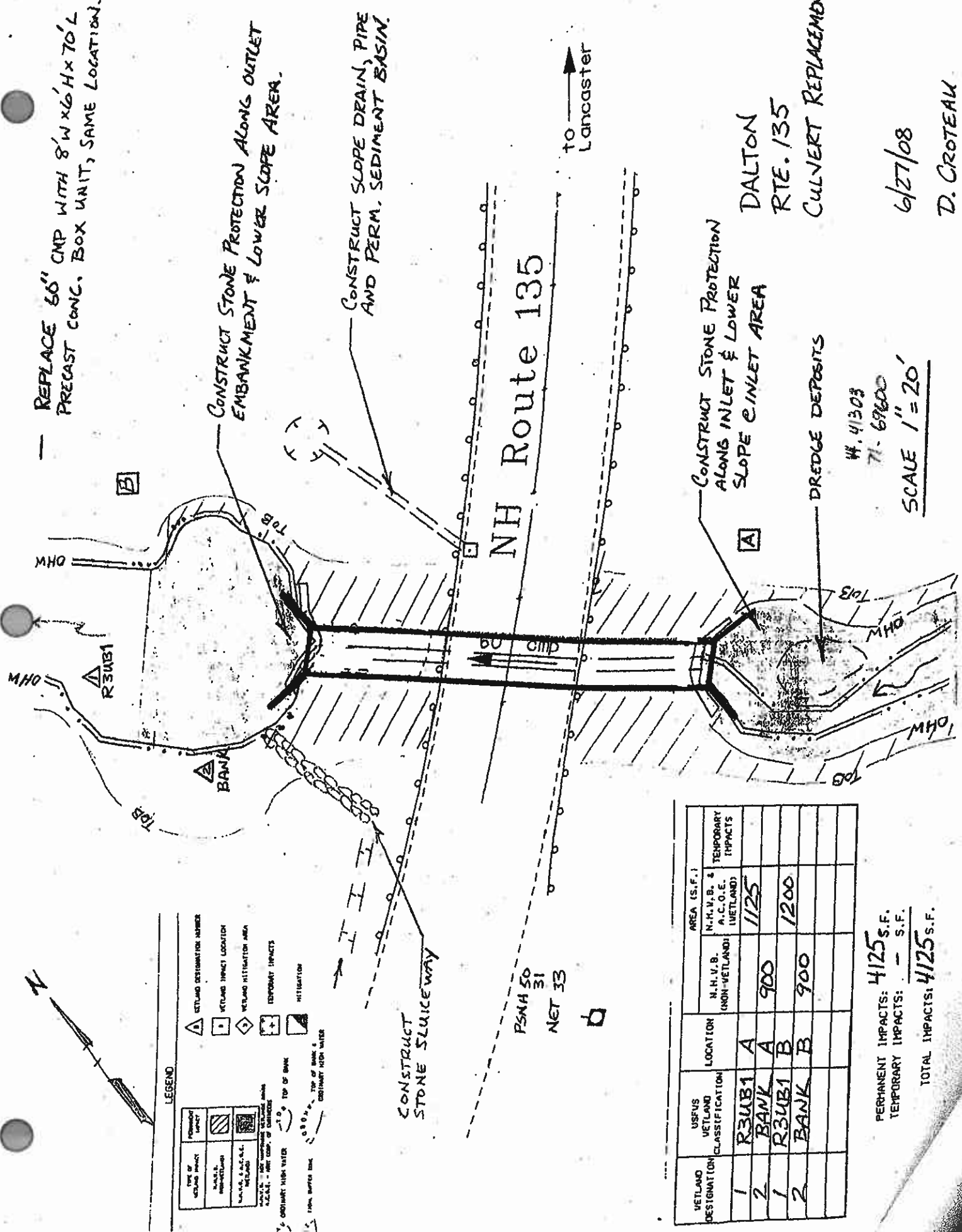
71-69600

SCALE 1" = 20'

DALTON
RTE. 135
CULVERT REPLACEMENT

6/27/08

D. CROTEAU



LEGEND

WETLAND DESIGNATION NUMBER	WETLAND IMPACT LOCATION	WETLAND RESTORATION AREA	TEMPORARY IMPACTS	MITIGATION
▲	□	▨	+	■

WETLAND CLASSIFICATION: R3UB1, BANK, MHO
 MHO - MUD FLAT, MUD FLAT, MUD FLAT
 R3UB1 - R3UB1, R3UB1, R3UB1
 BANK - BANK, BANK, BANK
 TOP OF BANK
 TOP OF BANK & ORDINARY HIGH WATER
 1:5 SLOPE
 1:5 SLOPE BANK

WETLAND DESIGNATION	USFWS WETLAND CLASSIFICATION	LOCATION	AREA (S.F.)	
			N.H.V.B. (NON-WETLAND)	TEMPORARY IMPACTS (WETLAND)
1	R3UB1	A	1125	
2	BANK	A	900	
1	R3UB1	B	1200	
2	BANK	B	900	

PERMANENT IMPACTS: 4125 S.F.
 TEMPORARY IMPACTS: - S.F.
 TOTAL IMPACTS: 4125 S.F.

NH Route 135

to Lancaster

PSMA 50
NET 33

CONSTRUCT STONE SLUICeway

60" CMP

A

B

TOP

MHO

MHO

TOP

B

TOP

R3UB1

BANK

TOP

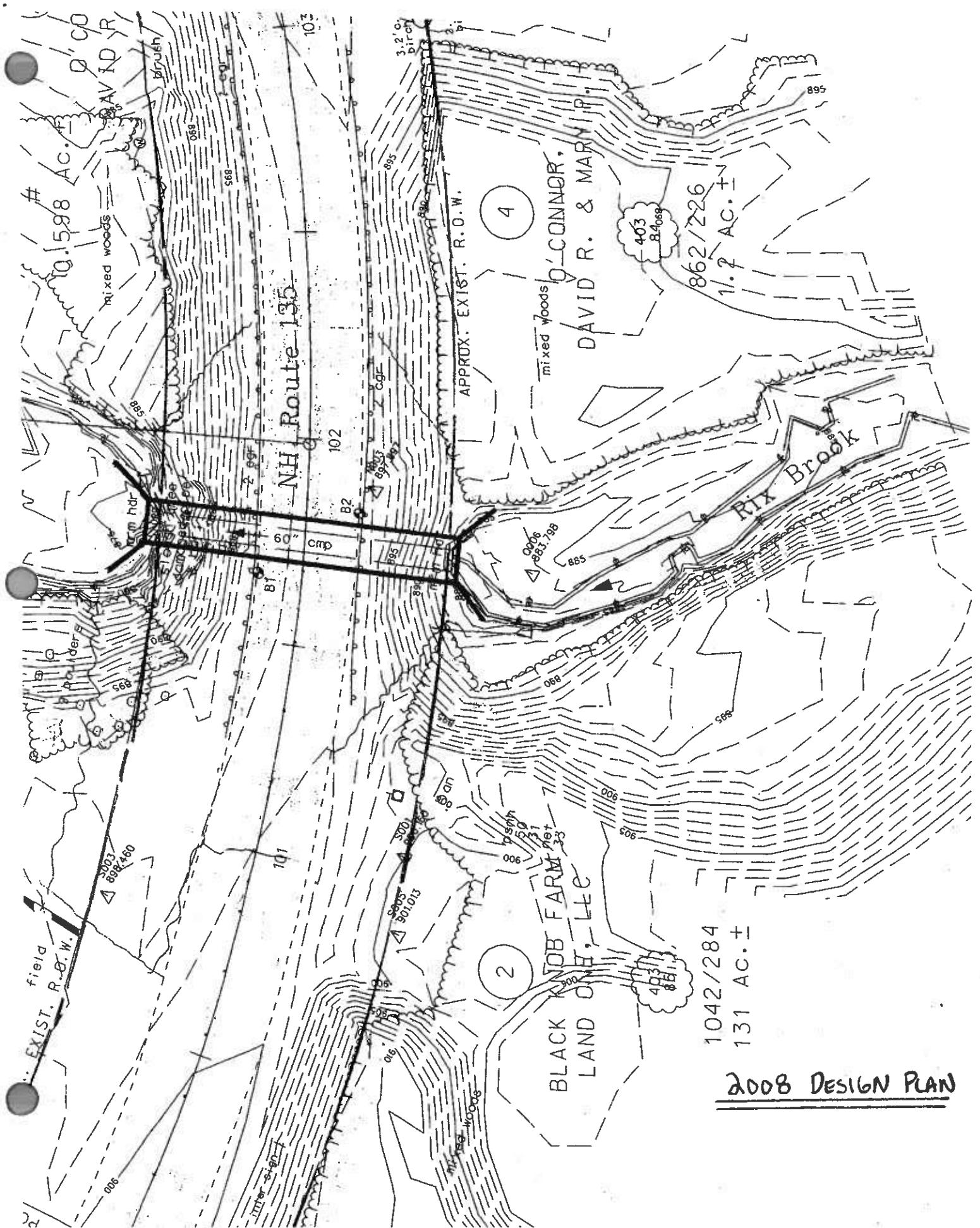
MHO

MHO

TOP







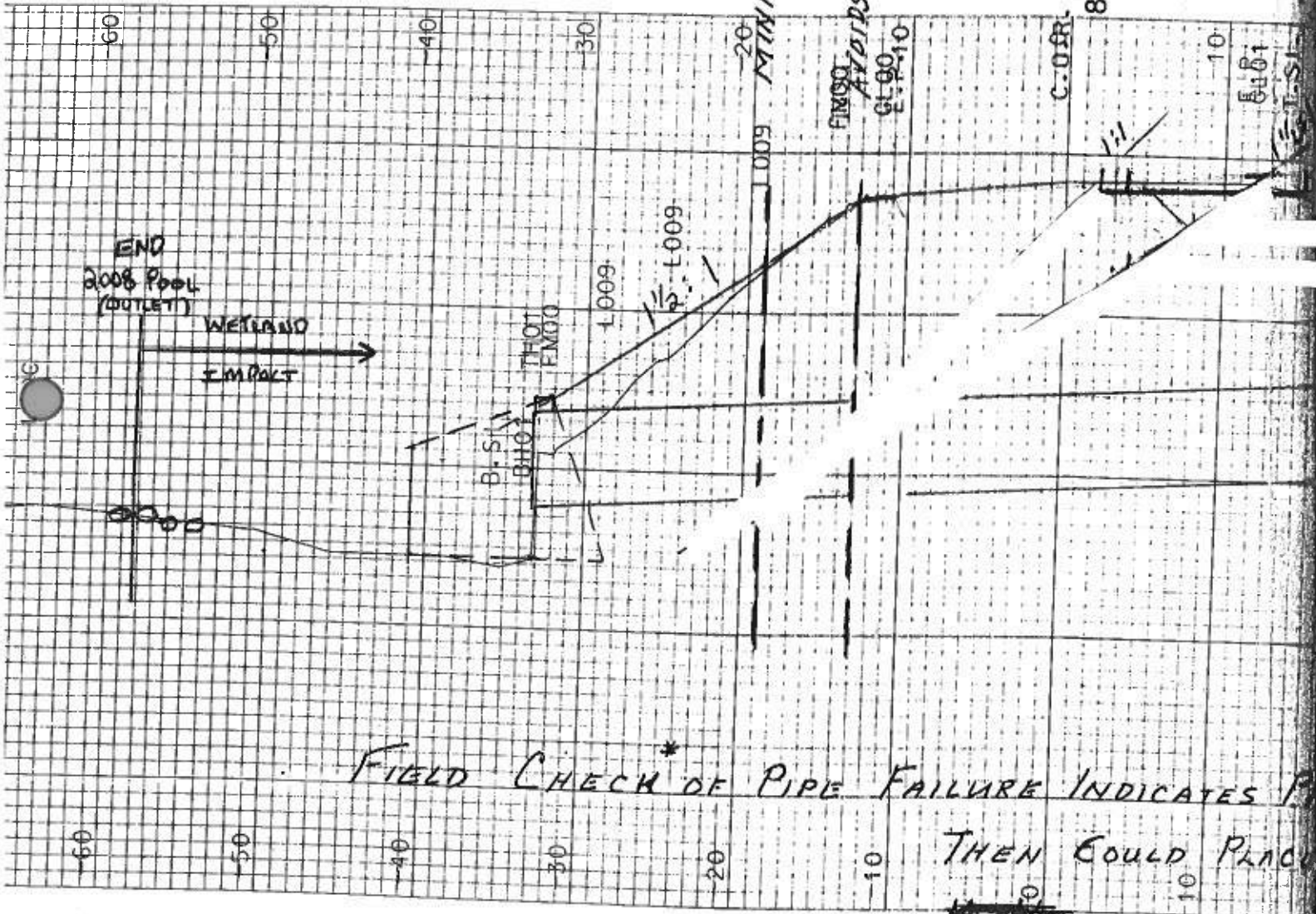
2008 DESIGN PLAN

DALTON - 14638

60" CMP

MINIMUM OFFSET OF SHEETS
10-12' REPAIR
APPROX GUARDRAIL - NO DISRUPTION
TO TRAFFIC DURING
REPAIRS

8988.23



FIELD CHECK OF PIPE FAILURE INDICATES P... THEN COULD PLACE...

STREAM PROFILE AT OUTLET 101+75 NEB

* 30 NOV 11 AM B. SCHUTT & S. MULLINS

2008 DESIGN PLAN

Table 2 - Culvert Summary Table: 6x8 Box Embedded 12"

Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth (ft)	Outlet Control Depth (ft)	Flow Type	Normal Depth (ft)	Critical Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (ft/s)	Tailwater Velocity (ft/s)
0.00	0.00	100.00	0.000	0.000	0-NF	0.000	0.000	0.000	0.000	0.000	0.000
85.00	85.00	102.44	2.439	0.000	1-S2n	1.334	1.504	1.348	0.000	7.881	0.000
170.00	170.00	103.89	3.891	0.000	1-S2n	2.108	2.411	2.110	0.000	10.072	0.000
255.00	255.00	105.15	5.152	0.000	1-S2n	2.709	3.155	2.715	0.000	11.742	0.000
340.00	340.00	106.55	6.546	0.000	5-S2n	3.224	3.823	3.232	0.000	13.152	0.000
425.00	425.00	108.17	8.169	0.000	5-S2n	3.692	4.437	3.696	0.000	14.373	0.000
510.00	510.00	110.00	9.997	0.000	5-S2n	4.120	4.800	4.120	0.000	15.473	0.000
595.00	595.00	112.22	12.218	0.000	5-S2n	4.516	4.800	4.520	0.000	16.465	0.000
680.00	680.00	114.82	14.821	12.004	2-M2c	6.000	4.800	4.800	0.000	17.708	0.000
765.00	764.91	116.82	17.760	13.902	2-M2c	6.000	4.800	4.800	0.000	19.820	0.000
850.00	765.00	117.68	17.762	13.905	2-M2c	6.000	4.800	4.800	0.000	19.922	0.000

.....
 Inlet Elevation (invert): 99.00 ft, Outlet Elevation (invert): 94.10 ft
 Culvert Length: 70.17 ft, Culvert Slope: 0.0700

Site Data - 6x8 Box Embedded 12"

Site Data Option: Culvert Invert Data

Inlet Station: 0.00 ft

Inlet Elevation: 99.00 ft

Outlet Station: 70.00 ft

Outlet Elevation: 94.10 ft

Number of Barrels: 1

Culvert Data Summary - 6x8 Box Embedded 12"

Barrel Shape: Concrete Box

Barrel Span: 8.00 ft

Barrel Rise: 6.00 ft

Barrel Material: Concrete

Embedment: 12.00 in

Barrel Manning's n: 0.0120 (top and sides)

Manning's n: 0.05 (gravel bottom)

Inlet Type:

Inlet Edge Condition: Square Edge with Headwall

Inlet Depression: None

Brian Schutt

From: Christopher Carucci
Sent: Friday, May 30, 2008 1:00 PM
To: Brian Schutt
Cc: Wayne Clifford
Subject: Dalton - Proposed Box Culvert under NH 135

The attached report is based on the following:

6' high x 8' wide x 70' long precast concrete box culvert
Embedded 12" below streambed (5' x 8' clear opening)
Gravel bottom - manning's n = 0.05
Square edge header on inlet side
Assumed elevation 100.0 at streambed on inlet side
Culvert slope 7%
Roadway E.P. 17' above streambed on inlet side
Free outfall on outlet side

Results:

Culvert flows in inlet control
For Q50 = 850 cfs Headwater is about 8" above E.P.
Q 50 outlet velocity is about 20 ft/s

At 10' of headwater, culvert can pass about 510 cfs (about double the existing capacity)



Dalton 6x8 Box
Embedded.doc

-----Original Message-----

From: Christopher Carucci
Sent: Thursday, April 06, 2006 4:47 PM
To: Brian Schutt
Cc: Michael Fudala; Greg Placy
Subject: Dalton - Culvert under NH 135

I have completed the culvert calculations as requested. Results are summarized below.
I will forward documentation by mail.

Location - NH 135, approximately 1100' south of Blakelee Rd

Data - Existing 60" diameter metal pipe
Stone inlet header
Inlet side under approx. 20' of fill at 1:1 slope
Outlet side under approx. 25' of fill at 1:1 slope
Typical springtime headwater depth approx. 10'
Culvert length approx. 85'
Culvert slope approx. 4%
No tailwater

Hydrology - Watershed area = 1848 acres = 2.89 sq. miles
No significant pond or swamps in watershed
Area is mostly wooded, with frequent logging

N.E.H.L Method - Rainfall Index P = 1.68
Storage Index K < 4.5
Q10 = 460 cfs, Q50 = 820 cfs

Table 1 - Summary of Culvert Flows at Crossing: DALTON

Headwater Elevation (ft)	Total Discharge (cfs)	6x8 Box Embedded 12" Discharge (cfs)	Roadway Discharge (cfs)	Iterations
100.00	0.00	0.00	0.00	1
102.44	85.00	85.00	0.00	1
103.89	170.00	170.00	0.00	1
105.15	255.00	255.00	0.00	1
106.55	340.00	340.00	0.00	1
108.17	425.00	425.00	0.00	1
110.00	510.00	510.00	0.00	1
112.22	595.00	595.00	0.00	1
114.82	680.00	680.00	0.00	1
116.82	765.00	764.91	0.00	4
117.68	850.00	765.00	84.79	9
117.00	765.00	765.00	0.00	Overtopping

New Hampshire Natural Heritage Bureau NHB DataCheck Results Letter

To: Kerry Ryan
7 Hazen Drive
Concord, NH 03301

From: NH Natural Heritage Bureau

Date: 4/20/2023 (This letter is valid through 4/20/2024)

Re: Review by NH Natural Heritage Bureau of request dated 4/20/2023

Permit Type: Wetland Standard Dredge & Fill - Major

NHB ID: NHB23-1211

Applicant: Kerry Ryan

Location: Dalton
Tax Map: NA, Tax Lot: NA
Address: NH Route 135

Proj. Description: The proposed project is a NHDOT District 1 Maintenance project located on NH Route 135 in the Town of Dalton. The existing structure is an 8' x 6' box culvert which carries Rix Brook under NH Route 135. The purpose of this project is to stabilize the outlet box section in order to prevent further erosion and destabilization.

The NH Natural Heritage database has been checked for records of rare species and exemplary natural communities near the area mapped below. The species considered include those listed as Threatened or Endangered by either the state of New Hampshire or the federal government. We currently have no recorded occurrences for sensitive species near this project area.

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.

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

New Hampshire Natural Heritage Bureau
NHB DataCheck Results Letter

MAP OF PROJECT BOUNDARIES FOR: NHB23-1211





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: 2022-0088818
Project Name: Dalton 2021-M-111-1

April 20, 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 ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested by returning to an existing project's page in IPaC.

Endangered Species Act Project Review

Please visit the “**New England Field Office Endangered Species Project Review and Consultation**” website for step-by-step instructions on how to consider effects on listed

species and prepare and submit a project review package if necessary:

<https://www.fws.gov/office/new-england-ecological-services/endangered-species-project-review>

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

Northern Long-eared Bat - (Updated 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: 2022-0088818

Project Name: Dalton 2021-M-111-1

Project Type: Culvert Repair/Replacement/Maintenance

Project Description: The proposed project is a District 1 maintenance project located on NH Route 135 in the Town of Dalton. The existing structure is a 8' x 6' box culvert which carries Rix Brook under NH Route 135. The purpose of this project is stabilize the outlet box section in order to prevent further erosion and destabilization. All proposed work is within the State right-of-way.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@44.4129621,-71.69585831263822,14z>



Counties: Coos County, New Hampshire

ENDANGERED SPECIES ACT SPECIES

There is a total of 4 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 Fisheries¹, 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 <i>Lynx canadensis</i> 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 <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered

CLAMS

NAME	STATUS
Dwarf Wedgemussel <i>Alasmidonta heterodon</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/784	Endangered

INSECTS

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> 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.

IPAC USER CONTACT INFORMATION

Agency: New Hampshire Department of Transportation

Name: Kerry Ryan

Address: 7 Hazen Drive

City: Concord

State: NH

Zip: 03301

Email: kerry.ryan@dot.nh.gov

Phone: 6032713717



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: 2022-0088818
Project Name: Dalton 2021-M-111-1

April 24, 2023

Subject: Consistency letter for the 'Dalton 2021-M-111-1' 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 April 24, 2023 to verify that the **Dalton 2021-M-111-1** (Proposed Action) may rely on 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 will have no effect on the endangered Indiana bat (*Myotis sodalis*) or the endangered northern long-eared bat (*Myotis septentrionalis*). If the Proposed Action is not modified, **no consultation is required for these two species**. 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 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 designated critical habitat, additional consultation between the lead Federal action agency and this Service Office is required. If the proposed action has the potential to take bald or golden eagles, additional coordination with the Service under the Bald and Golden Eagle Protection Act may also be required. In either of these circumstances, please advise the lead Federal action agency accordingly.

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

- Canada Lynx *Lynx canadensis* Threatened
 - Dwarf Wedgemussel *Alasmodonta heterodon* Endangered
 - 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

Dalton 2021-M-111-1

DESCRIPTION

The proposed project is a District 1 maintenance project located on NH Route 135 in the Town of Dalton. The existing structure is a 8' x 6' box culvert which carries Rix Brook under NH Route 135. The purpose of this project is stabilize the outlet box section in order to prevent further erosion and destabilization. All proposed work is within the State right-of-way.

DETERMINATION KEY RESULT

Based on the information you provided, you have determined that the Proposed Action will have no effect on the endangered Indiana bat and/or the endangered northern long-eared bat.

Therefore, no 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 for these two species.

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. [Semantic] Does your proposed action intersect an area where Indiana bats and northern long-eared bats are not likely to occur?

Automatically answered

Yes

DETERMINATION KEY DESCRIPTION: FHWA, FRA, FTA PROGRAMMATIC CONSULTATION FOR TRANSPORTATION PROJECTS AFFECTING NLEB OR INDIANA BAT

This key was last updated in IPaC on April 13, 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 [February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion for Transportation Projects](#). The programmatic biological opinion covers limited transportation activities that may affect either bat species, and addresses situations that are both likely and not likely to adversely affect either bat species. This decision key will assist in identifying the effect of a specific project/activity and applicability of the programmatic consultation. The programmatic biological opinion is not intended to cover all types of transportation actions. Activities outside the scope of the programmatic biological opinion, or that may affect ESA-listed species other than the Indiana bat or NLEB, or any designated critical habitat, may require additional ESA Section 7 consultation.

IPAC USER CONTACT INFORMATION

Agency: New Hampshire Department of Transportation

Name: Kerry Ryan

Address: 7 Hazen Drive

City: Concord

State: NH

Zip: 03301

Email: kerry.ryan@dot.nh.gov

Phone: 6032713717

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Army Corps of Engineers

**STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENVIRONMENT**

NOTE TO FILE

Date: May 4, 2023

From: Kerry Ryan
Environmental Manager
Bureau of Environment

Project: Dalton
M2021-M111-1

RE: Canada lynx and dwarf wedgemussel evaluation

The subject project is a state funded culvert maintenance project located on NH Route 135 in the Town of Dalton. The existing structure is an 8' x 6' box culvert which carries NH Route 135 over Rix Brook. The purpose of this project is stabilize the outlet box section in order to prevent further erosion and destabilization. A NH Department of Environmental Service's Standard Dredge and Fill wetland permit will be obtained prior to the commencement of work.

A species list was obtained from the US Fish & Wildlife Service (Project Code 2022-0088818) on April 20, 2023 using the online Information for Planning and Consultation (IPaC) project review website. The northern long-eared bat, Canada lynx, and dwarf wedgemussel is listed as having potential to be in the project area and monarch butterfly is listed as a candidate species.

The project utilized the 'Endangered Species Consultation, Consultations with Federal Agencies (Section 7) procedure as detailed on the US Fish and Wildlife Service New England Field Office website to review the project for the presence of federally-listed, proposed, and/or candidate species.

Preferred habitat of the Canada lynx includes landscapes with high snowshoe hare densities, associated with boreal spruce-fir forest. Based on a field review no suitable habitat occurs within the project area for the Canada lynx or its primary food source. The project area is primarily a disturbed roadway shoulder. The project will address scour issues by placing flat stones along the streambed, fill in the voids with existing stream bed material, and add rip rap along the banks. The proposed project is a maintenance project at a box culvert which was replaced in 2008 and is limited to stream and bank impacts. Based on this review the project was determined to have no effect on Canada lynx.

Preferred habitat of the dwarf wedgemussel includes hydrologically stable streams or rivers with a moderate current and areas with a variety of substrates including gravel and coarse sands, fine sands, and clay. Pebble counts did show gravel and sand in the substrate, however, dwarf wedgemussel was not present on the NH Natural Heritage Bureau (NHB) report and Rix Brook crossing is more than 1000' from the Connecticut River. The project will utilize Best Management Practice's (BMP's) in order to prevent sedimentation from entering Rix Brook. The project was sent to USFWS via email for comment and followed by a phone conversation with Maria Tur, on September 28, 2021. With assistance of the USFWS, a no effect determination was made for the dwarf wedgemussel.

No further coordination with the USFWS is required.

Ryan, Kerry

From: Martin, Rebecca
Sent: Friday, April 02, 2021 10:18 AM
To: Crickard, Ronald; Laurin, Marc; Dube, Melilotus; Ryan, Kerry; Mills, Arin
Cc: Urban, Matt; Large, Sarah; OSullivan, Andrew
Subject: Connecticut River EFH FW: EFH Atlantic Salmon - NH PGP's NAE-2016-02415

Hello,

Just FYI- no changes to process for EFH for the Connecticut River. The river is EFH, but no EFH assessment or consultation with NOAA is needed.

Best,
Rebecca

From: Mike R Johnson - NOAA Federal <mike.r.johnson@noaa.gov>
Sent: Friday, April 2, 2021 8:18 AM
To: Martin, Rebecca <Rebecca.A.Martin@dot.nh.gov>
Subject: Re: EFH Atlantic Salmon - NH PGP's NAE-2016-02415

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

Rebecca,

There have been no changes to the status of the consultations on the CT River, so if the project is in VT or NH waters a consultation with us is not necessary. However, as I indicated previously, the CT River is still EFH for Atlantic salmon, so if adverse effects to EFH may occur the federal action agency is still responsible for minimizing those effects to the maximum extent practicable.

Thanks,
Mike

On Thu, Apr 1, 2021 at 7:21 PM Martin, Rebecca <Rebecca.A.Martin@dot.nh.gov> wrote:

Hi Mike,

I hope that this message finds you well.

I had checked in with you back in August 2019 about the attached letter indicating EFH reviews were not needed for the CT River (at that time) and at that time you indicated that it was still valid. I am reviewing another project with potential impacts to the Connecticut, and am writing to check if there have been any updates or changes that you are aware of?

Thank you,

Rebecca

Rebecca Martin

Senior Environmental Manager

NH DOT Bureau of Environment

7 Hazen Drive

Concord, NH 03302

(603)271-6781

Rebecca.A.Martin@dot.nh.gov

From: Martin, Rebecca
Sent: Wednesday, August 21, 2019 2:49 PM
To: 'Mike R Johnson - NOAA Federal' <mike.r.johnson@noaa.gov>
Subject: FW: EFH Atlantic Salmon - NH PGP's NAE-2016-02415

Hi Mike,

One of our consultants had shared the information below and attached. I was wondering if this is still current? I reviewed the Atlantic Salmon EFH that is linked to the EFH mapper and the Connecticut is included (see below). This document was updated December 8, 2016, which is prior to the attached letter from June 2017. However, your email below indicates that this is a temporary suspension.

Thank you for your assistance,

Rebecca Martin

Senior Environmental Manager

NH DOT Bureau of Environment

7 Hazen Drive

Concord, NH 03302

(603)271-6781

Rebecca.Martin@dot.nh.gov

(Spatial data for **Atlantic salmon EFH and HAPC** are temporarily unavailable. The EFH map and text descriptions can be viewed [here](#).)

<https://www.habitat.noaa.gov/application/efhmapper/atlanticSalmonEFH.pdf>

From: Mike R Johnson - NOAA Federal [<mailto:mike.r.johnson@noaa.gov>]

Sent: Friday, September 15, 2017 8:40 AM

To: Vicki Chase

Cc: ruth.m.ladd@usace.army.mil; Laurin, Marc

Subject: Re: EFH Atlantic Salmon - NH PGPs NAE-2016-02415

Vicki,

The CT River is still identified as EFH by the NMFS and New England Fisheries Management Council. However, a few months ago, NMFS Habitat Conservation Division made the determination that we are temporarily suspending consultations in the CT River watershed in NH and VT because Atlantic salmon are no longer extant in those areas. I've attached a letter our Habitat division chief sent to the Corps regulatory branch.

Let me know if you have any questions.

Mike

On Wed, Sep 13, 2017 at 12:54 PM, Vicki Chase <VChase@normandeau.com> wrote:

Hello,

I am preparing NEPA documentation for two projects in the Connecticut River watershed. I was checking the NHPGP because it includes the EFH river list for Atlantic Salmon. The recently issued permit does not include the Connecticut River or tributaries. Has there been a change in EFH status for the Connecticut? I couldn't find anything on the NMFS website about it.

NH PGP – does not include the CT River (Pages 55 & 56)

<http://www.nae.usace.army.mil/portals/74/docs/regulatory/StateGeneralPermits/NH/NH%20General%20Permit%2018August2017.pdf>

Atlantic Salmon EFH description (habitat maps all include the Connecticut River)

<https://www.greateratlantic.fisheries.noaa.gov/hcd/salmon.pdf>

Thanks for your help.

VICKI CHASE, CWS

Principal Regulatory Specialist

NORMANDEAU ASSOCIATES, INC.

25 Nashua Road, Bedford, NH 03110

[603-637-1111](tel:603-637-1111)(direct) | [603-731-7653](tel:603-731-7653) (cell)

vchase@normandeau.com www.normandeau.com

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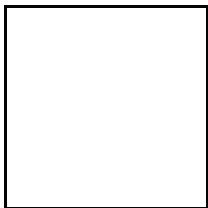
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Michael R. Johnson

U.S. Department of Commerce
NOAA Fisheries
Greater Atlantic Regional Fisheries Office
(formerly, Northeast Regional Office)
Habitat Conservation Division
55 Great Republic Drive
Gloucester, MA 01930
978-281-9130

mike.r.johnson@noaa.gov

<http://www.greateratlantic.fisheries.noaa.gov/>



Web www.nmfs.noaa.gov
Facebook www.facebook.com/usnoaafisheriesgov
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mike.r.johnson@noaa.gov
<https://www.fisheries.noaa.gov/region/new-england-mid-atlantic>

Ryan, Kerry

From: McMahon III, James
Sent: Thursday, December 23, 2021 12:51 PM
To: OSullivan, Andrew
Cc: Ryan, Kerry; Urban, Matt; Beaulieu, Philip
Subject: M111-1 DALTON Rix Brook Supporting Information
Attachments: Section 5.pdf; _Table of Contents.pdf; Section 1.pdf; Section 2.pdf; Section 3.pdf; Section 4.pdf

Hi Andy,

Attached is the information to supplement the SDF application for Rix Brook outlet protection.

After the meeting on 12/10/21, District met with Biologist John Magee and Andy Schafermeyer 12/20/21 and discussed the proposed project. They noted quite a bit of sediment (<2") accumulated in the old scour pool, suggesting that the outlet was still adjusting to the larger pipe and slower velocities than the much smaller pipe that existed prior to 2008 construction of the 8'x6' box . They were supportive of our proposal to armor the outlet of the culvert, provided we were able to keep the pool and maintain fish passage/not block entrance to box culvert. They were also supportive to fixing/restoring the right bank (looking downstream). Basically, restoring/defining the channel geometry keeping flows to the center channel.

Our next step is abutter property outreach for signing entry agreements to access the lower portion to complete the restoration. What else do you need for your review?

Thanks, - Jim

James F. McMahon III, P.E.
NH Department of Transportation
Highway Maintenance – District 1
Assistant District Engineer
641 Main Street
Lancaster, NH 03584
Tel: (603) 788-4641
Fax: (603) 788-4260

Appendix B Certification – Activities with Minimal Potential to Cause Effects

Date Reviewed: 9/30/2021
(Desktop or Field Review Date)

This Project uses only State funding; however project activities listed below comply with the PA.

Project Name: Dalton

State Number: 2021-M111-1

FHWA Number: NA

Environmental Contact: Kerry Ryan

DOT

Email Address: Kerry.ryan@dot.nh.gov

Project Manager: Jim McMahon

Project Description: The proposed project is a state funded, District 1 culvert maintenance project located on NH Route 135 in the Town of Dalton. The existing structure, installed in 2008, is an 8' x 6' box culvert which carries NH Route over Rix Brook. Material has partially filled in the channel in front of the culvert since it was installed. The purpose of the project is to stabilize the outlet box section in order to prevent further erosion and destabilization. The project will include removing the material that has filled in the channel, line with larger stones for stabilization, and replacing/installation along the banks to prevent future scour.

Please select the applicable activity/activities:

Highway and Roadway Improvements	
<input type="checkbox"/>	1. Modernization and general highway maintenance that may require additional highway right-of-way or easement , including: Choose an item. Choose an item.
<input type="checkbox"/>	2. Installation of rumble strips or rumble stripes
<input type="checkbox"/>	3. Installation or replacement of pole-mounted signs
<input type="checkbox"/>	4. Guardrail replacement, provided any extension does not connect to a bridge older than 50 years old (unless it does already), and there is no change in access associated with the extension
Bridge and Culvert Improvements	
<input type="checkbox"/>	5. Culvert replacement (excluding stone box culverts), when the culvert is less than 60" in diameter and excavation for replacement is limited to previously disturbed areas
<input type="checkbox"/>	6. Bridge deck preservation and replacement, as long as no character defining features are impacted
<input type="checkbox"/>	7. Non-historic bridge and culvert maintenance, renovation, or total replacement, that may require minor additional right-of-way or easement , including: Choose an item. Choose an item.
<input type="checkbox"/>	8. Historic bridge maintenance activities within the limits of existing right-of-way, including: Choose an item. Choose an item.
<input checked="" type="checkbox"/>	9. Stream and/or slope stabilization and restoration activities (including removal of debris or sediment obstructing the natural waterway, or any non-invasive action to restore natural conditions)
Bicycle and Pedestrian Improvements	
<input type="checkbox"/>	10. Construction of pedestrian walkways, sidewalks, sidewalk tip-downs, small passenger shelters, and alterations to facilities or vehicles in order to make them accessible for elderly and handicapped persons
<input type="checkbox"/>	11. Installation of bicycle racks
<input type="checkbox"/>	12. Recreational trail construction
<input type="checkbox"/>	13. Recreational trail maintenance when done on existing alignment

Section 106 Programmatic Agreement – Cultural Resources Review Effect Finding

Appendix B Certification – Activities with Minimal Potential to Cause Effects

<input type="checkbox"/>	14. Construction of bicycle lanes and shared use paths and facilities within the existing right-of-way
Railroad Improvements	
<input type="checkbox"/>	15. Modernization, maintenance, and safety improvements of railroad facilities within the existing railroad or highway right-of-way, provided no historic railroad features are impacted , including, but not limited to: Choose an item. Choose an item.
<input type="checkbox"/>	16. In-kind replacement of modern railroad features (i.e. those features that are less than 50 years old)
<input type="checkbox"/>	17. Modernization/modification of railroad/roadway crossings provided that all work is undertaken within the limits of the roadway structure (edge of roadway fill to edge of roadway fill) and no associated character defining features are impacted
Other Improvements	
<input type="checkbox"/>	18. Installation of Intelligent Transportation Systems
<input type="checkbox"/>	19. Acquisition or renewal of scenic, conservation, habitat, or other land preservation easements where no construction will occur
<input type="checkbox"/>	20. Rehabilitation or replacement of existing storm drains.
<input type="checkbox"/>	21. Maintenance of stormwater treatment features and related infrastructure

Please describe how this project is applicable under Appendix B of the Programmatic Agreement.

The proposed project is applicable under Appendix B of the Programmatic Agreement as the proposed project proposes to restore the outlet channel by removing the material that has filled in the channel in front of the outlet, stabilize the stream bed with larger stone than those used in the original construction and stabilize the banks with rip rap. This work is consistent with ‘Stream and/or slope stabilization and restoration activities (including removal of debris or sediment obstructing the natural waterway, or any non-invasive action to restore natural conditions)’ of allowed activities under Section 106, Appendix B.

Please submit this Certification Form along with the Transportation RPR, including photographs, USGS maps, design plans and as-built plans, if available, for review. Note: The RPR can be waived for in-house projects, please consult Cultural Resources Program Staff.

Coordination Efforts:

Has an RPR been submitted to NHDOT for this project?	No	NHDHR R&C # assigned?	<u>NA</u>
Please identify public outreach effort contacts; method of outreach and date:	Initial contact letters were sent to the chairs of the Conservation Commission, Historical Society, Planning Board, and Selectmen via mail on June 16, 2021. the Land and Water Conservation Fund Program, Conservation Land Stewardship Program, the and Land & Community Heritage Investment Program were contacted 7/15/21 via email.		

Finding: (To be filled out by NHDOT Cultural Resources Staff)

<input checked="" type="checkbox"/>	No Potential to Cause Effects	<input type="checkbox"/>	No Historic Properties Affected
This finding serves as the Section 106 Memorandum of Effect. No further coordination is necessary.			
<input type="checkbox"/>	This project does not comply with Appendix B. Review will continue under Stipulation VII of the Programmatic Agreement. Please contact NHDOT Cultural Resources Staff to determine next steps.		
NHDOT comments: <i>Sheila Charles</i>		9/30/2021	

Section 106 Programmatic Agreement – Cultural Resources Review Effect Finding

Appendix B Certification – Activities with Minimal Potential to Cause Effects

NHDOT Cultural Resources Staff

Date

Coordination of the Section 106 process should begin as early as possible in the planning phase of the project (undertaking) so as not to cause a delay.

Project sponsors should not predetermine a Section 106 finding under the assumption a project is limited to the activities listed in Appendix B until this form is signed by the NHDOT Bureau of Environment Cultural Resources Program staff.

Every project shall be coordinated with, and reviewed by the NHDOT-BOE Cultural Resources Program in accordance with the *Programmatic Agreement Among the Federal Highway Administration, the New Hampshire State Historic Preservation Office, the Army Corps of Engineers, New England District, the Advisory Council on Historic Preservation, and the New Hampshire Department of Transportation Regarding the Federal Aid Highway Program in New Hampshire*. In accordance with the Advisory Council's regulations, we will continue to consult, as appropriate, as this project proceeds.

NHDOT and the State Historic Preservation Office may use provisions of the Programmatic Agreement to address the applicable requirements of NH RSA 227-C:9 in the location, identification, evaluation and management of historic resources, for projects funded by State funds.

If any portion of the project is not entirely limited to any one or a combination of the activities specified in Appendix B (with, or without the inclusion of any activities listed in Appendix A), please continue discussions with NHDOT Cultural Resources staff.

This No Potential to Cause Effect or No Historic Properties Affected project determination is your Section 106 finding, as defined in the Programmatic Agreement.

Should project plans change, please inform the NHDOT Cultural Resources staff in accordance with Stipulation VII of the Programmatic Agreement.



**US Army Corps
of Engineers**®
New England District

**Appendix B
New Hampshire General Permits
Required Information and USACE Section 404 Checklist**

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?	NA	
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?	unknown	
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: <ul style="list-style-type: none"> • 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?		
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?		
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: <ul style="list-style-type: none"> • 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. 	NA	
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.

***Project complies with Section 106 Programmatic Agreement, Appendix B Certification



1. NH Route 135 looking easterly



2. NH Route 135 looking westerly



3. Downstream side looking at the outlet (2021)



4. Looking downstream from the outlet (2021)



5. Upstream side looking towards the inlet (2021)



6. Upstream side looking upstream (2021)



7. Existing rip rap, outlet side bank left (2021)



8. Existing rip rap, outlet side bank right (2021)



9. 2021-outlet side looking downstream (2021)



10. 2019 outlet (for comparison)



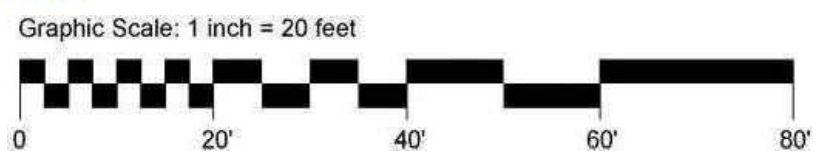
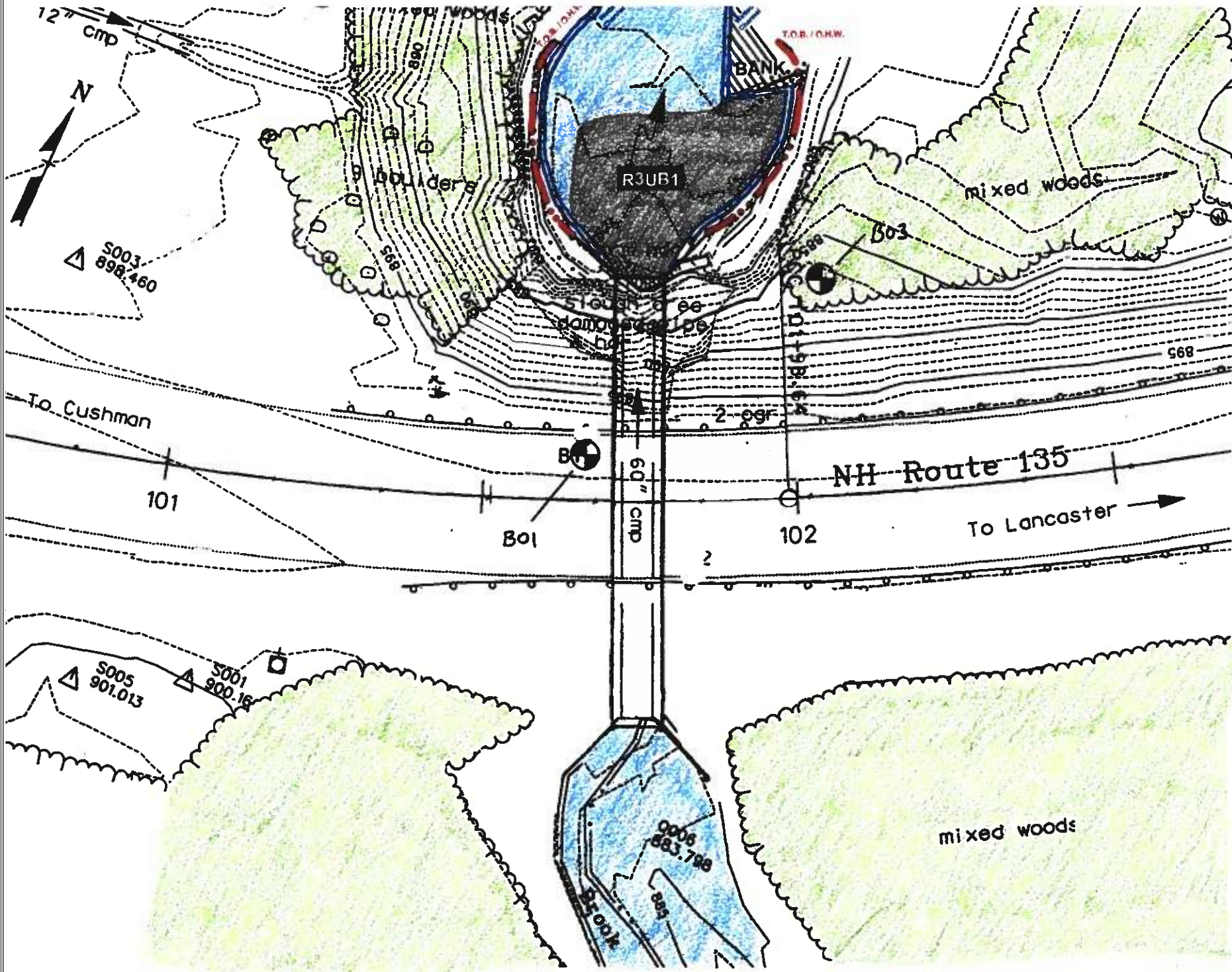
11. 2008-taken during construction at the outlet side looking downstream (for comparison)



12. 2008-showing stone used during original construction

Construction Sequence
for
Rix Brook Culvert Outlet Channel Stabilization & Stream Bank Restoration

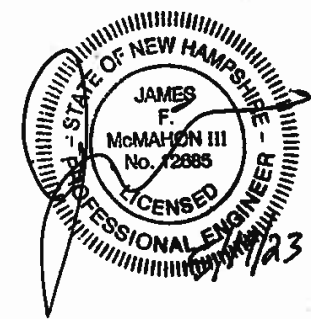
1. Notify abutting landowners and NH Fish & Game (John Magee at 603-271.2744 & Andy Schafermeyer at 603-788-3164) at least one week in advance of start of work. Work shall be completed prior to September 1, 2023 so that vegetation can be established prior to winter.
2. Mobilize NHDOT District One crew and equipment, stake out earth disturbance limits shown on the NH DES approved restoration plan, select and stockpile large stones for grade control blanket at nearby gravel pit or staging area and install temporary sedimentation basin.
3. Install clean water bypass pipe (15" min) to divert Rix Brook by gravity around the work area. Use sandbags within the culvert and sandbags and silt fence at the downstream edge. Adjust location of clean water bypass pipe as needed to complete work. Provide a large centrifugal pump (3" min) as backup to pump clean water around the work area and the bypass pipe if necessary.
4. After fish counts/electroshocking by NH Fish & Game staff (Andy Schafermeyer, or his designee), dewater old scour pool with pump.
5. Remove sandy gravel stream sediment within stream channel and set aside for reuse as wet channel infill/stream simulation material. Pump any sediment laden water into the temporary sedimentation basin.
6. Install grade control boulders starting furthest from the outlet. Stones should be aligned in an arch shape, with the curvature pointing upstream and with the end rocks embedded in the banks. The top of the stones should be at least 12" higher than the culvert outlet invert, so that low flow only goes through the notches between a few of the stones. The upstream face of the weir should be chinked / filled with stream simulation material (excavated sediment) so that flow does not bypass under or between stones below. The target bank full width within the grade control blanket is 20 feet wide and 1.65' feet deep. Bank full channel width at the end of the grade control blanket should match existing bank full width and depth.
7. Install wetted channel infill/stream simulation material. Blend excavated sediment with larger 6-12" river/bank run screened gravel if additional material is needed.
8. Restore right bank with NHDOT Class B stone fill and provide 12" loamy cap for establishing vegetation. Grade bank/slope to keep water flowing within the center of the uniform channel. Any exposed stones should be placed flat side up within the stream bank.
9. Install sediment logs, hydroseed and provide matting within disturbed areas.
10. Final stone placement within the wetted channel shall be approved by NH Fish & Game (John Magee) prior to demobilization of NHDOT District forces.
11. Prior to winter, inspect work area for permanent pool/continuity of flow within wetted channel and 85% establishment of vegetation within the restored stream banks and disturbed areas. NH Fish & Game and NHDOT Bureau of Environment staff should be invited to this meeting.



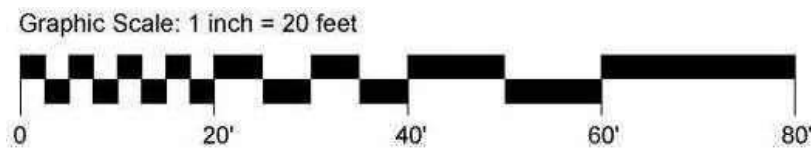
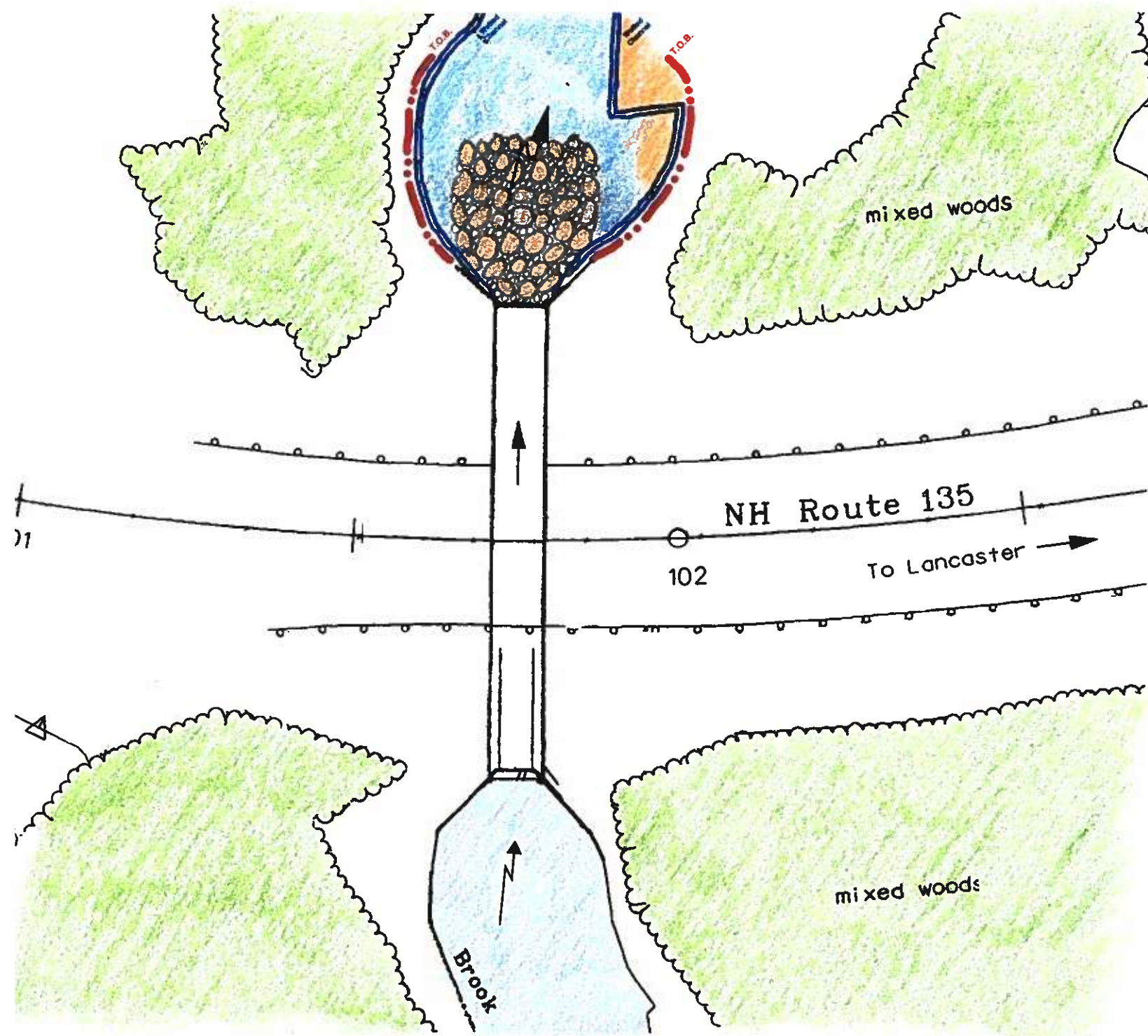
LEGEND

TYPE OF WETLAND IMPACT	PERMANENT IMPACT	#	WETLAND DESIGNATION NUMBER
N.H.W.B. (NON-WETLAND)		#	WETLAND IMPACT LOCATION
N.H.W.B. & A.C.O.E. (WETLAND)		#	WETLAND MITIGATION AREA
N.H.W.B. - New Hampshire Wetlands Bureau A.C.O.E. - Army Corp. of Engineers			TEMPORARY IMPACTS
			MITIGATION
ORDINARY HIGH WATER		TOP OF BANK	
TIDAL BUFFER ZONE		TOP OF BANK & ORDINARY HIGH WATER	

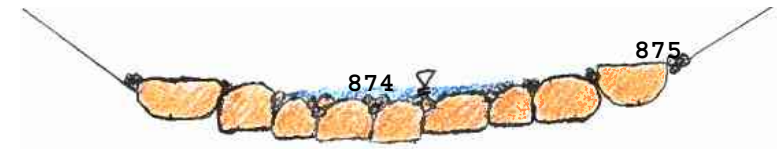
WETLAND DESIGNATION	USFWS WETLAND CLASS.	LOCATION	N.H.W.B. (NON-WETLAND)		N.H.W.B. & A.C.O.E. (WETLAND)		TEMPORARY IMPACTS	
			AREA (SF)	LENGTH (LF)	AREA (SF)	LENGTH (LF)	AREA (SF)	LENGTH (LF)
1	R3UB1	A			600	90		
2	BANK	A	100	20				
Totals			100	20	600	90		



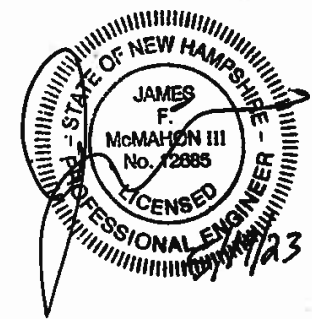
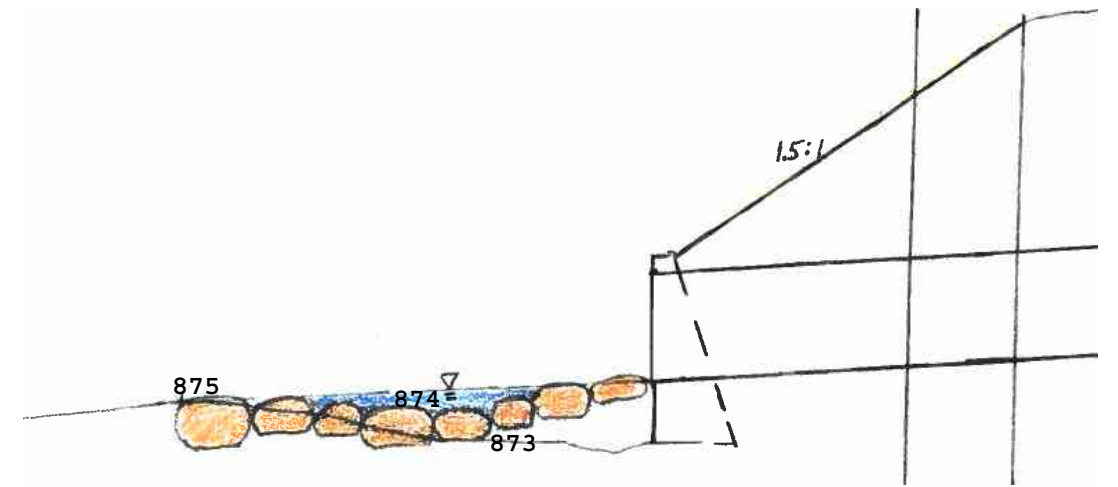
STATE OF NEW HAMPSHIRE						
DEPARTMENT OF TRANSPORTATION - HIGHWAY MAINTENANCE - DISTRICT ONE						
TOWN: DALTON	DISTRICT PROJECT: 14638			Date: 7/13/2021		
LOCATION: NH-135 OVER RIX BROOK		Delineated By: Kerry Ryan				
WETLANDS IMPACTS						
REVISIONS AFTER PROPOSAL			BY	DATE	BY	DATE
DESIGNED					CHECKED	
DRAWN					CHECKED	
FISCAL YEAR		SHEET NO.		TOTAL SHEETS		
2022		1		4		



Proposed Channel Cross Section

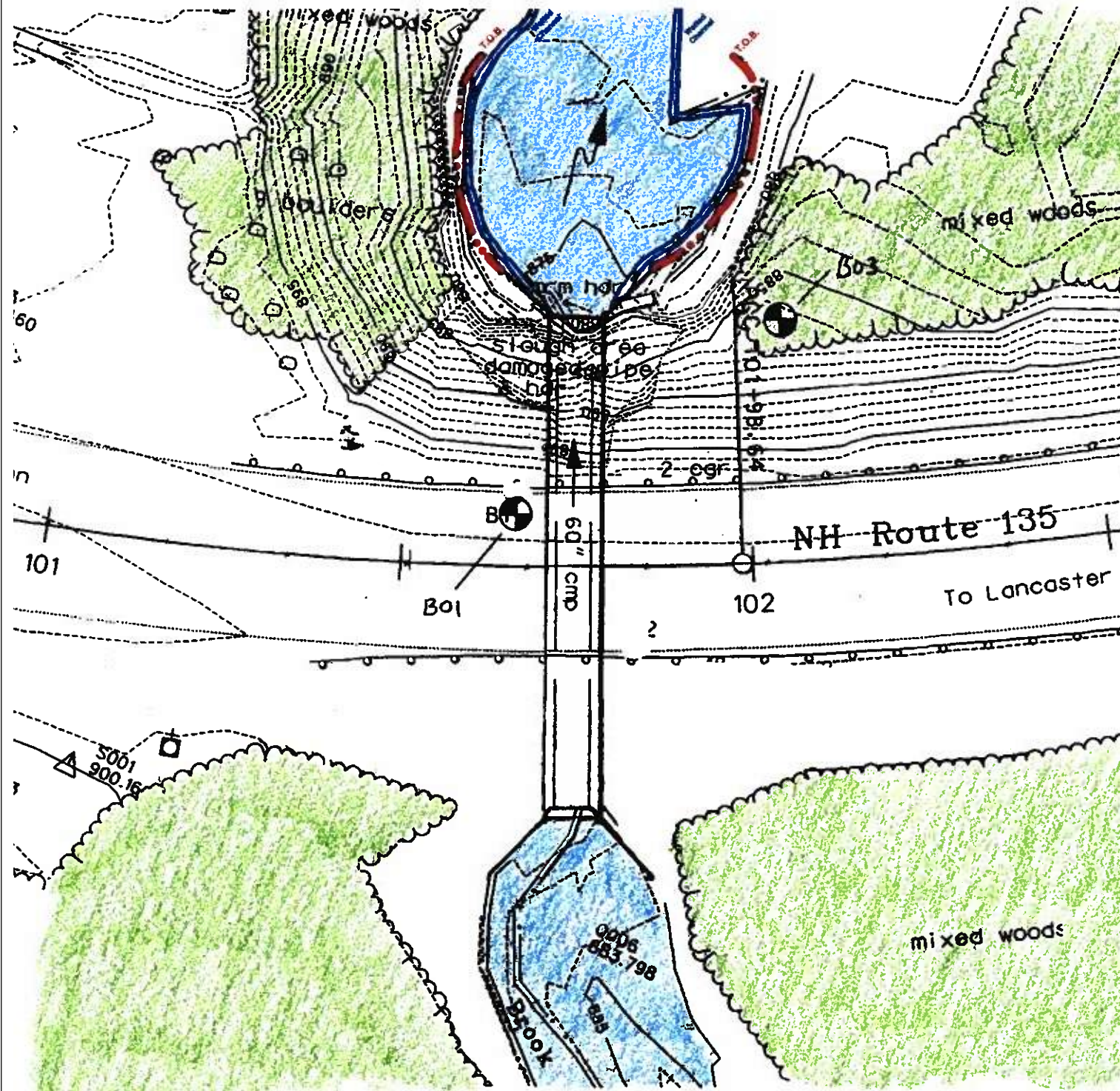


Proposed Channel Profile

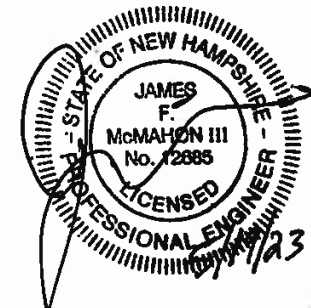
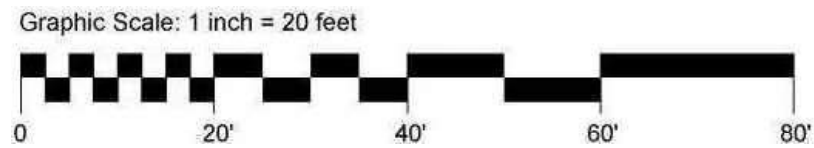
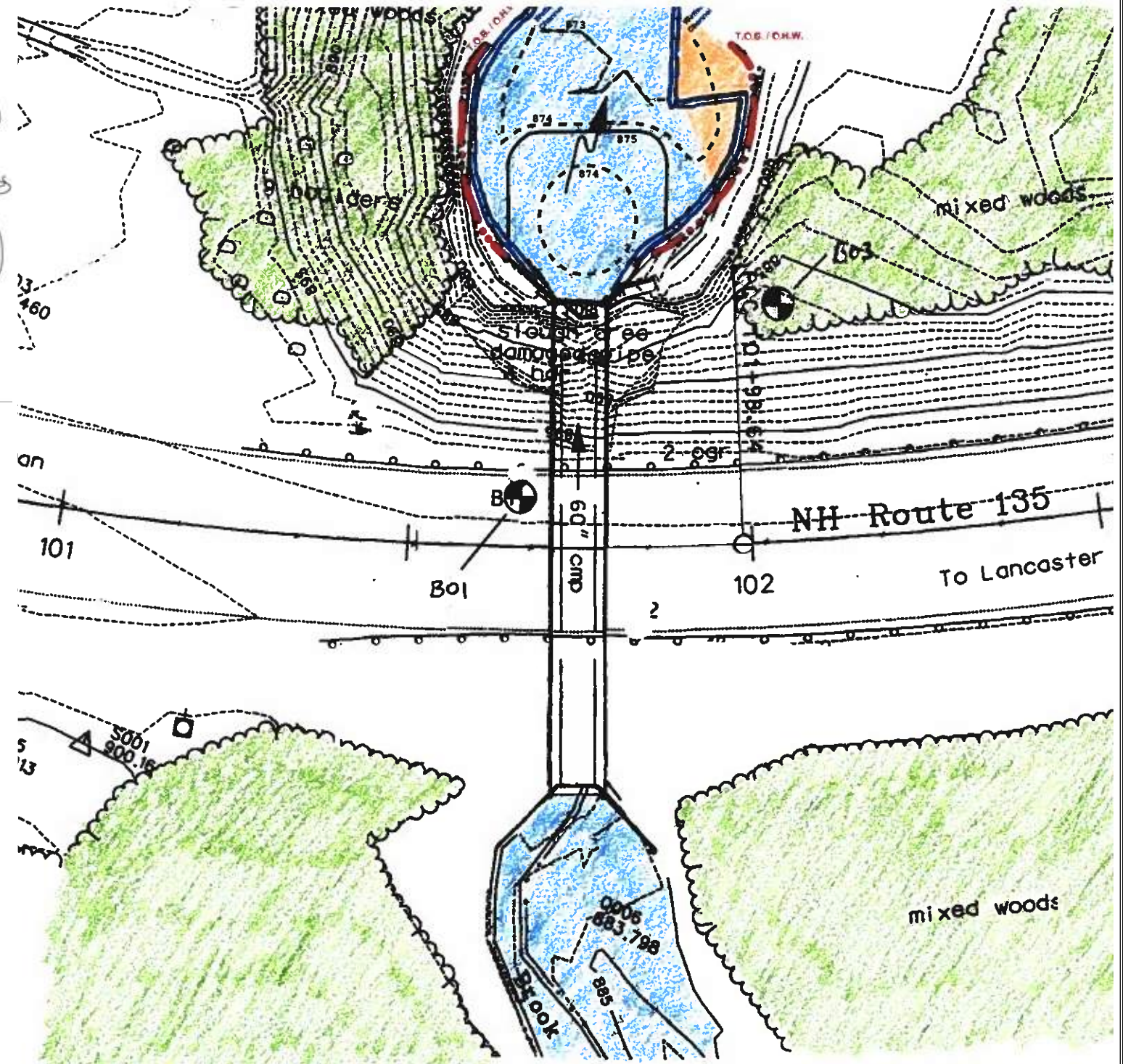


STATE OF NEW HAMPSHIRE					
DEPARTMENT OF TRANSPORTATION - HIGHWAY MAINTENANCE - DISTRICT ONE					
TOWN: DALTON		DISTRICT PROJECT: 14638			
LOCATION: NH-135 OVER RIX BROOK					
STONE PLACEMENT PLAN					
REVISIONS AFTER PROPOSAL	DESIGNED	BY	DATE	CHECKED	BY
	DRAWN			CHECKED	
	FISCAL YEAR		SHEET NO.		TOTAL SHEETS
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Approximate Existing Conditions

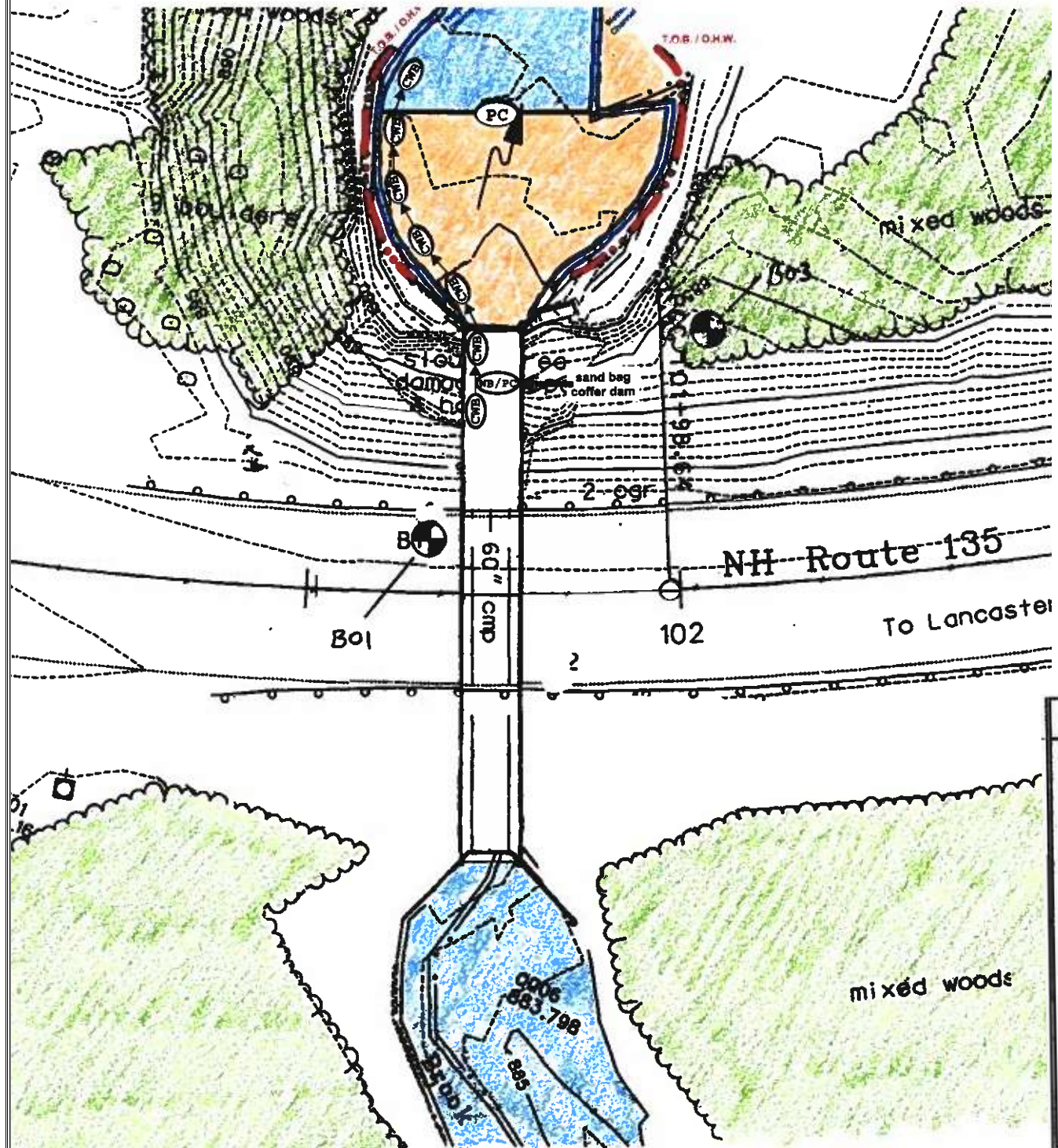


Proposed Conditions

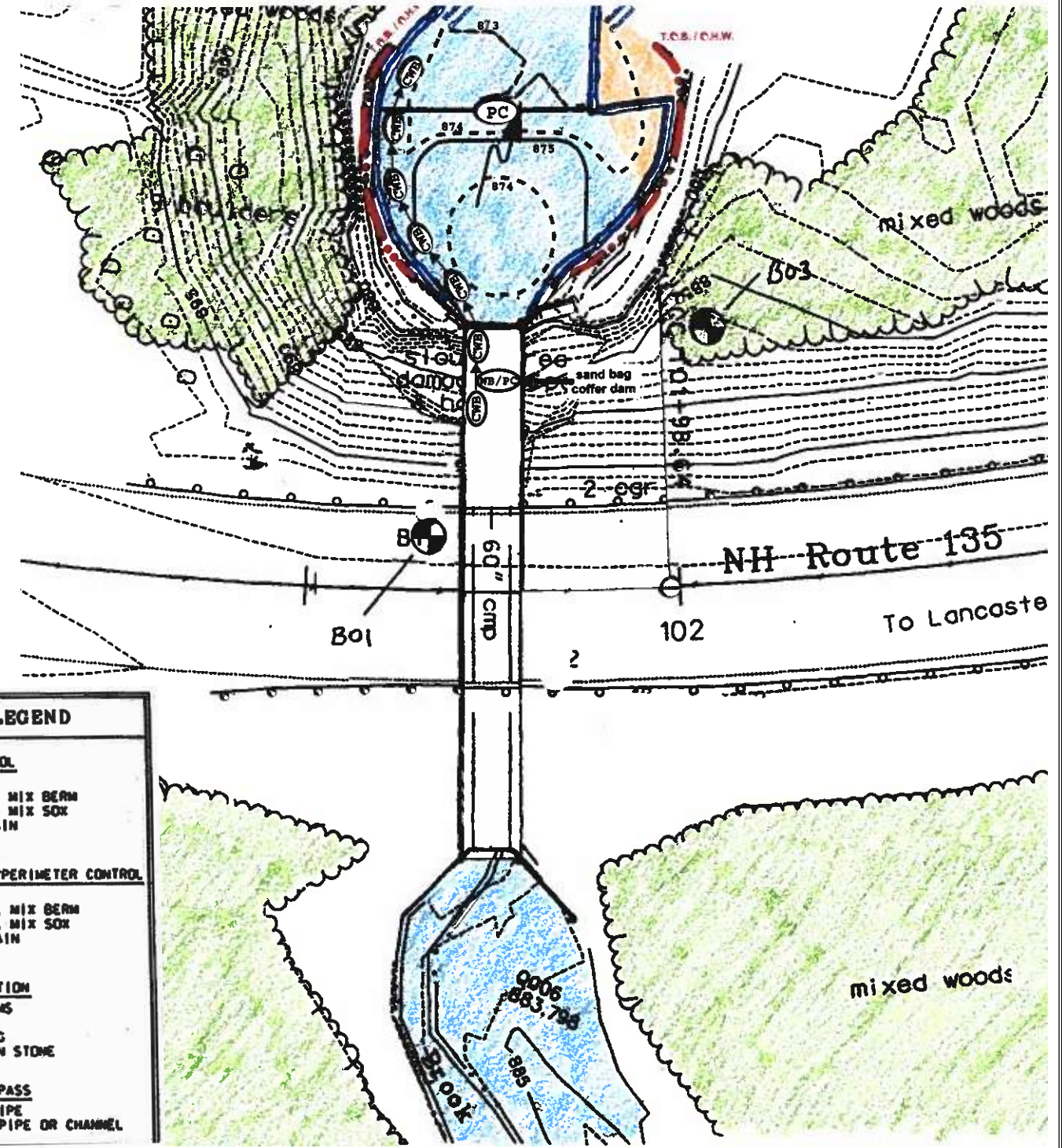


STATE OF NEW HAMPSHIRE					
DEPARTMENT OF TRANSPORTATION - HIGHWAY MAINTENANCE - DISTRICT ONE					
TOWN: DALTON			DISTRICT PROJECT: 14638		
LOCATION: NH-135 OVER RIX BROOK					
PROPOSED CONTOURS PLAN					
REVISIONS AFTER PROPOSAL		BY	DATE	BY	DATE
DESIGNED				CHECKED	
DRAWN				CHECKED	
FISCAL YEAR		SHEET NO.		TOTAL SHEETS	
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Approximate Existing Conditions



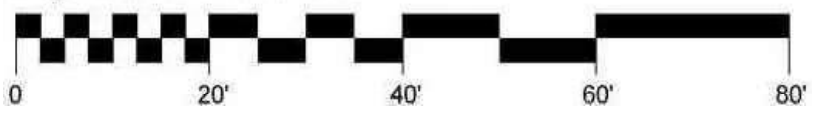
Proposed Conditions



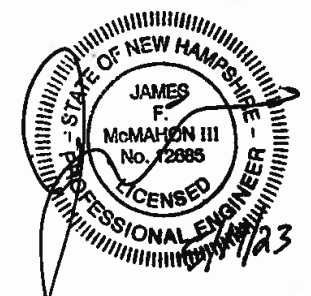
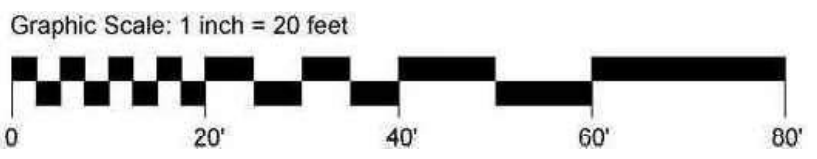
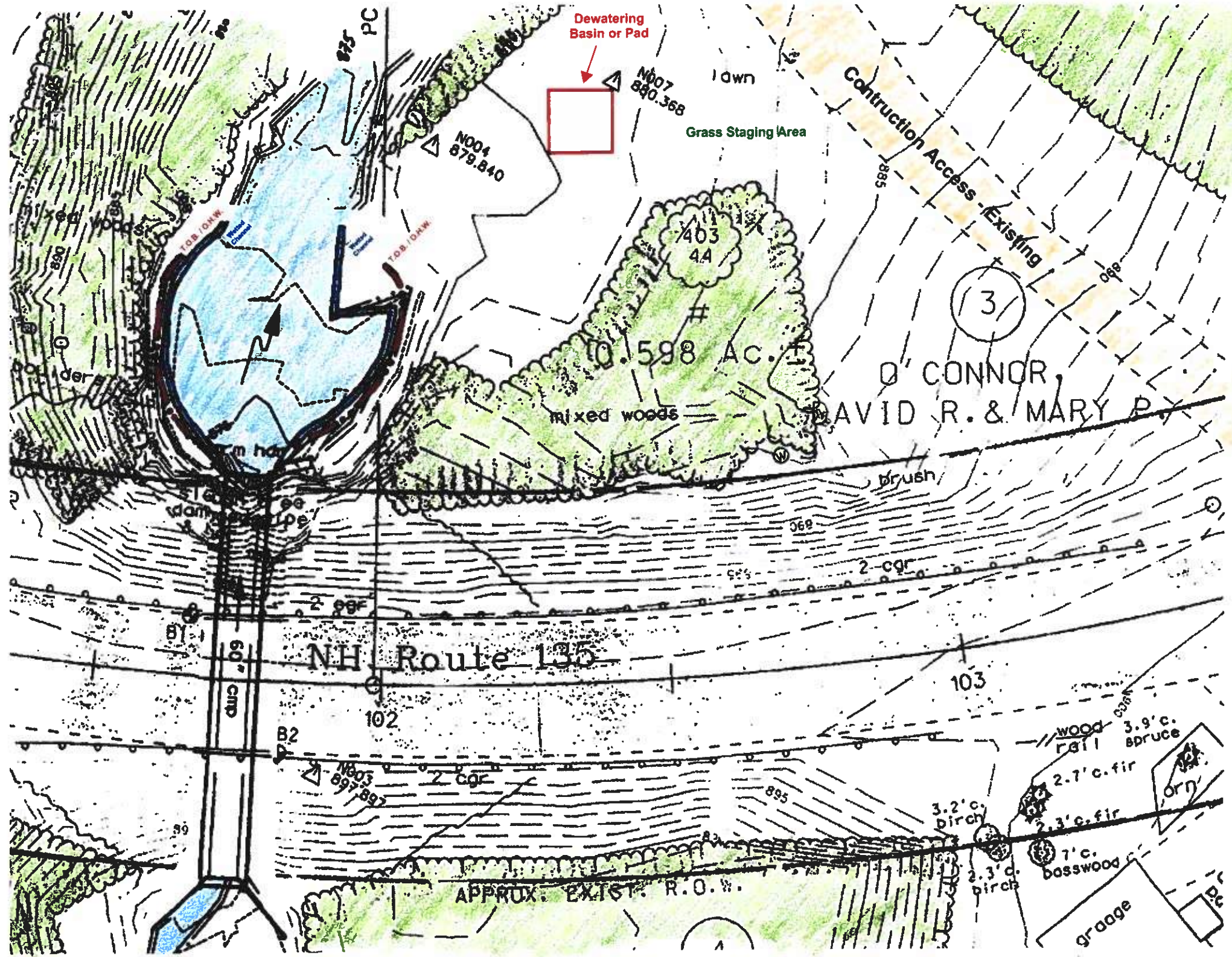
EROSION CONTROL PLAN LEGEND

	PERIMETER CONTROL SILT FENCE EROSION CONTROL MIX BERM EROSION CONTROL MIX SOX TURBIDITY CURTAIN SHEET PILE COFFER DAM
	NATURAL BUFFER/PERIMETER CONTROL SILT FENCE EROSION CONTROL MIX BERM EROSION CONTROL MIX SOX TURBIDITY CURTAIN SHEET PILE COFFER DAM
	CHANNEL PROTECTION STONE CHECK DAMS STRAW WATTLES CHANNEL MATTING CLASS D EROSION STONE CLASS C STONE
	CLEAN WATER BYPASS PUMP THROUGH PIPE DRAIN THROUGH PIPE OR CHANNEL

Graphic Scale: 1 inch = 20 feet



STATE OF NEW HAMPSHIRE					
DEPARTMENT OF TRANSPORTATION - HIGHWAY MAINTENANCE - DISTRICT ONE					
TOWN:	DALTON	DISTRICT PROJECT:			14638
LOCATION:	NH-135 OVER RIX BROOK				
Erosion Control Plan					
REVISIONS AFTER PROPOSAL					
	BY	DATE	BY	DATE	
DESIGNED			CHECKED		
DRAWN			CHECKED		
FISCAL YEAR	SHEET NO.		TOTAL SHEETS		
2022	2		4		



STATE OF NEW HAMPSHIRE						
DEPARTMENT OF TRANSPORTATION - HIGHWAY MAINTENANCE - DISTRICT ONE						
TOWN: DALTON			DISTRICT PROJECT: 14638			
LOCATION: NH-135 OVER RIX BROOK						
ACCESS, STAGING & DEWATERING PLAN						
	REVISIONS AFTER PROPOSAL		BY	DATE	BY	DATE
			DESIGNED		CHECKED	
			DRAWN		CHECKED	
			FISCAL YEAR	SHEET NO.	TOTAL SHEETS	
		2022	1	1		

U.S. Department of
Homeland Security

United States
Coast Guard



Commander
First Coast Guard District

One South Street
Battery Park Building
New York, NY 10004-1466
Staff Symbol: dpb
Phone: (347) 424-0194
Email: Dale.K.Lewis2@uscg.mil

July 19, 2021

NH Department of Transportation
Attn: Mr. Kerry Ryan
Environmental Manager
7 Hazen Drive
Concord, NH 03302

Via email: Kerry.A.Ryan@dot.nh.gov

Re: NV-1100: NH Route 113A over Mill Brook; NH Route 25/NH Route 118 over Atwell Brook; NH Route 135 over Rix Brook

Dear Mr. Ryan:

This is in response to your letter dated June 23, 2021 and corresponding information requesting whether the Coast Guard will require permits for the referenced bridge projects. We have examined the proposed project areas with regard to their status as navigable waterways of the United States for purpose of Coast Guard bridge jurisdiction.

Our examination indicates that there is no sufficient factual support for concluding that Mill Brook, Sandwich, NH, Atwell Brook, Wentworth, NH, and Rix Brook, Dalton, NH, at the project locations, have current or historic navigation occurring on these waters of the United States. Since this is the case, Coast Guard bridge permits or exemptions will not be required for the referenced bridge projects.

If you have any questions feel free to contact this office at the number above.

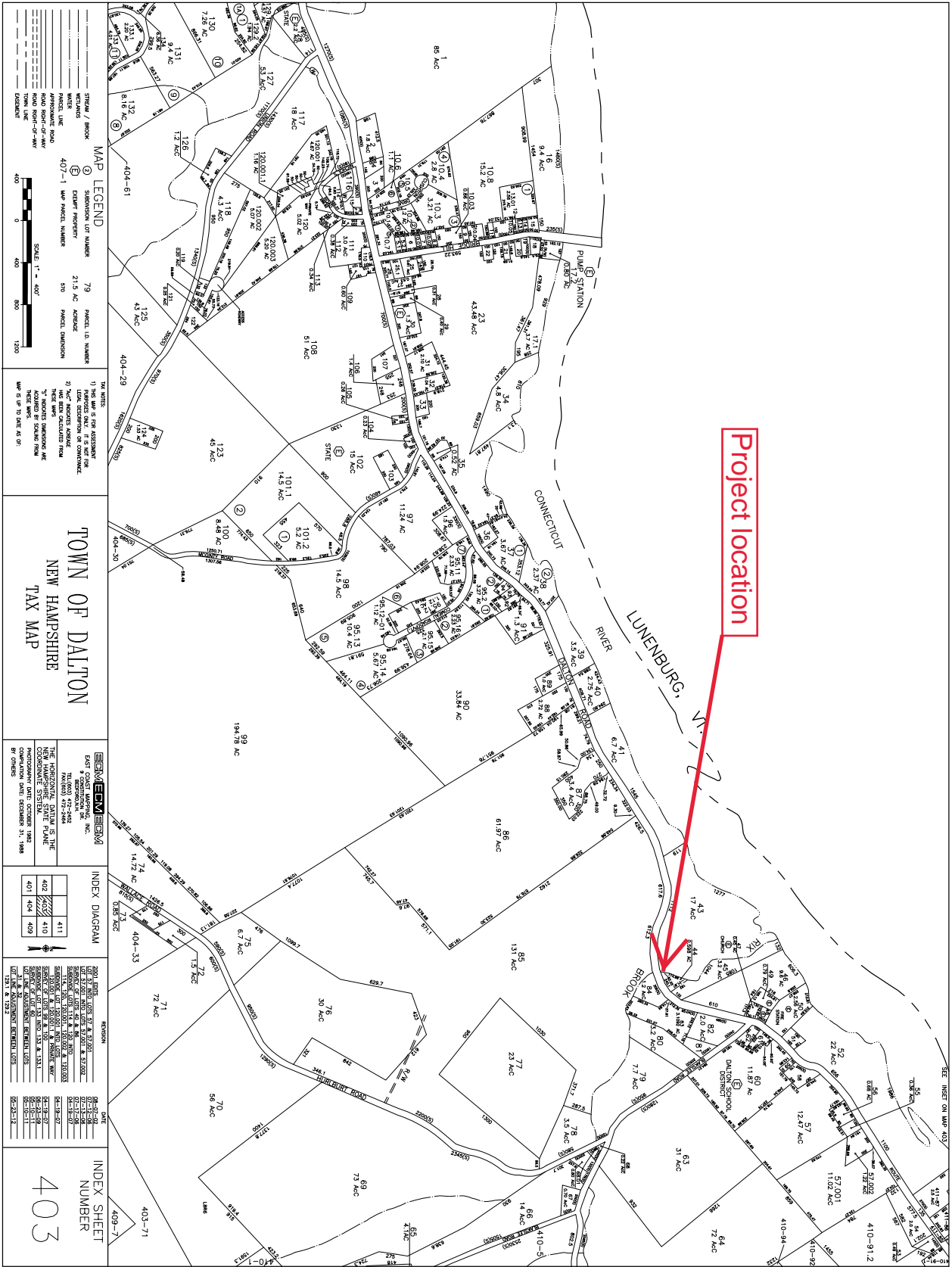
Sincerely,

FISHER.DONNA
.A.1063032430

Digitally signed by
FISHER.DONNA.A.1063032430
Date: 2021.07.19 11:40:34
-04'00'

D. A. Fisher
Bridge Program Manager
U.S. Coast Guard
By direction

E-Copy: 1) USCG Sector Northern New England, Waterways
2) USACE, New England Division, Navigation Section



Project location

MAP LEGEND

STREAM / BROOK	79	PARCELS ID. NUMBER
WETLANDS	②	OWNER PROPERTY
WATER USE	③	21.5 AC. ACREAGE
APPROXIMATE ROAD	407-1	MAP SHEET NUMBER
ROAD RIGHT-OF-WAY		535
ROAD RIGHT-OF-WAY		PARCELS DIMENSION
ENCUMBRANCE		

THE MAP IS FOR ASSISTANCE ONLY. THE TOWN ENGINEER'S OFFICE DOES NOT GUARANTEE THE ACCURACY OF THE INFORMATION OR DATA PROVIDED ON THIS MAP. THE TOWN ENGINEER'S OFFICE IS NOT RESPONSIBLE FOR ANY ERRORS OR OMISSIONS ON THIS MAP.

TOWN OF DALTON NEW HAMPSHIRE TAX MAP

INDEX MAP
DALTON, NEW HAMPSHIRE
TAX MAP
THE TOWN ENGINEER'S OFFICE IS THE AUTHORITY FOR THE TOWN OF DALTON, NEW HAMPSHIRE. THE TOWN ENGINEER'S OFFICE IS NOT RESPONSIBLE FOR ANY ERRORS OR OMISSIONS ON THIS MAP.

INDEX DIAGRAM

402	403	404
401	404	405

INDEX

LOT	ACREAGE	DATE
1	0.10	02-15-20
2	0.10	02-15-20
3	0.10	02-15-20
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99	0.10	02-15-20
100	0.10	02-15-20

INDEX SHEET NUMBER
403

National Flood Hazard Layer FIRMette

71°42'4"W 44°24'58"N



Legend

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

SPECIAL FLOOD HAZARD AREAS

- Without Base Flood Elevation (BFE)
Zone A, V, A99
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*

Future Conditions 1% Annual Chance Flood Hazard *Zone X*

Area with Reduced Flood Risk due to Levee, See Notes. *Zone X*

Area with Flood Risk due to Levee *Zone D*

OTHER AREAS OF FLOOD HAZARD

NO SCREEN *Zone X*

Area of Minimal Flood Hazard *Zone X*

Effective LOMRs *Zone D*

Area of Undetermined Flood Hazard *Zone D*

OTHER AREAS

GENERAL STRUCTURES

- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

20.2
17.5

Cross Sections with 1% Annual Chance Water Surface Elevation

- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

OTHER FEATURES

Digital Data Available

No Digital Data Available

Unmapped

MAP PANELS



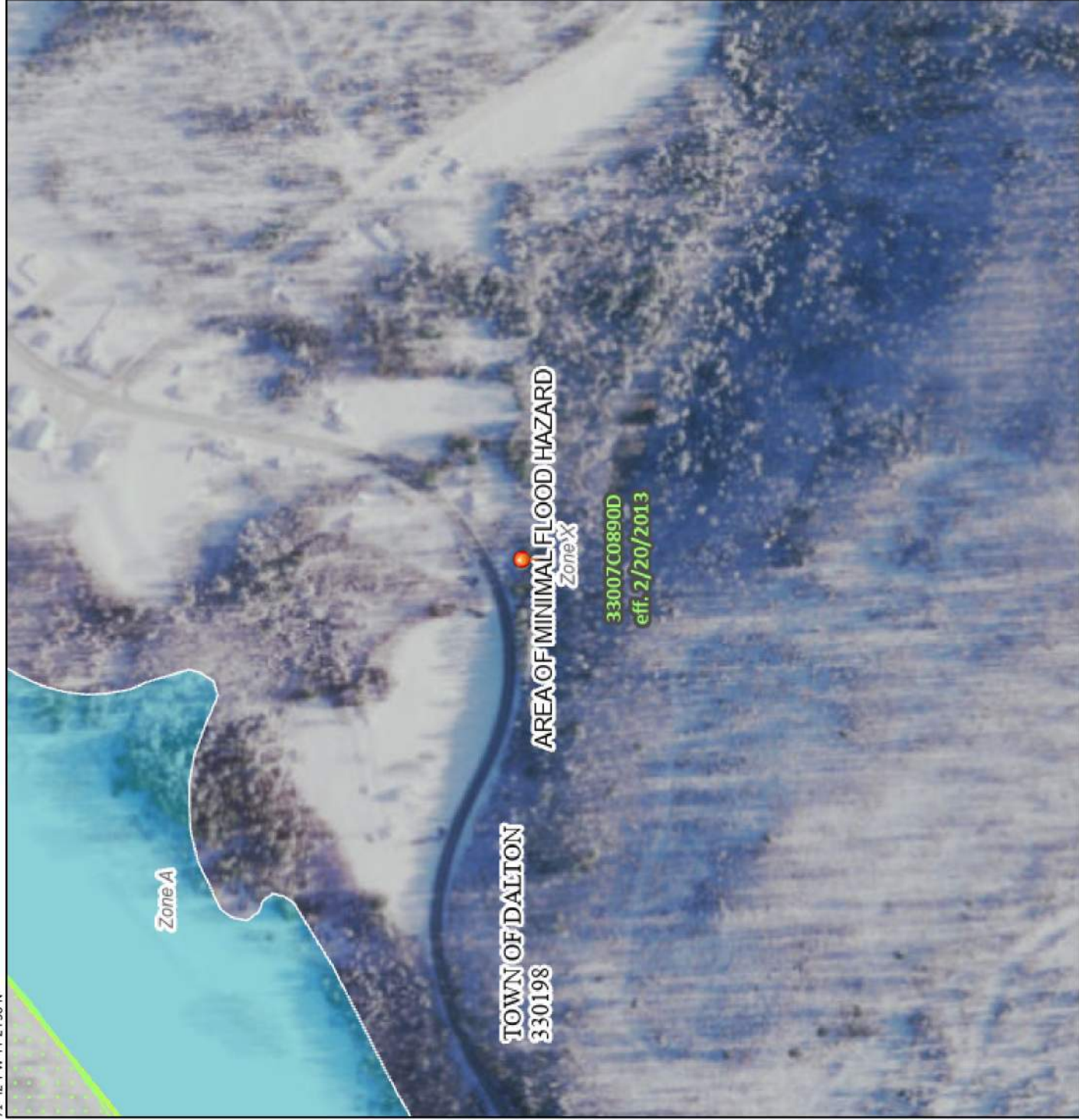
The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

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

Exhibit 6

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 6/15/2021 at 1:06 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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



0 250 500 1,000 1,500 2,000 Feet 1:6,000

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

71°41'26"W 44°24'33"N