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New Hampshire DOT
Department of Transportation

THE STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION

FEB 12 11:

Victoria F. Sheehan
Commissioner

William Cass, P.E.
Assistant Commissioner

His Excellency, Governor Christopher T. Sununu
and the Honorable Council
State House
Concord, New Hampshire 03301

Bureau of Bridge Design
October 17, 2018

REQUESTED ACTION

Pursuant to RSA 228:39, authorize the Department of Transportation to enter into an Interstate Bridge Agreement with the State of Vermont to allow the Department to bill Vermont for costs associated with bridge preservation work on the Ledyard Bridge (NH Br. No. 026/059) carrying NH Route 10A (Wheelock Street) over the Connecticut River between Hanover, New Hampshire, and Norwich, Vermont, effective upon Governor and Council approval, and continuing through engineering design, construction, inspection, and final acceptance of the completed project, in accordance with the Department's 10-Year Transportation Improvement Plan. (Project costs will be shared 69% by NH and 31% by VT).

EXPLANATION

The Department is required by RSA 228:39 to enter into an Agreement with an adjoining State, with the approval of Governor and Executive Council, before undertaking a joint project with that State. This project proposes to preserve the above referenced bridge and includes preliminary design, final design, and construction activities. This project (Hanover, NH – Norwich, VT - 42278) is planned in FY 2020 with an estimated construction cost of $1,900,000.00. Constructed in 1998, this steel girder concrete deck structure is in need of deck preservation to extend its life cycle and minimize the overall life cycle cost to maintain this crossing.

The Agreement, after approval by Governor and Council, allows New Hampshire to bill Vermont for Vermont's share of costs for engineering design and applicable construction work incurred by New Hampshire. The division of costs between New Hampshire and Vermont for this project is 69% by New Hampshire and 31% by Vermont, as stated in the Agreement. This cost sharing is based on the location of the State Line and the portions of the bridge located in each state.

The Agreement has been approved by the Attorney General as to form and execution. This Agreement does not involve commitment of funds. Copies of the fully-executed Agreement are on file at the Secretary of State's Office and the Department of Administrative Services and subsequent to Governor and Council approval will be on file at the Department of Transportation.

It is respectfully requested that authority be given for this Interstate Agreement, as outlined above.

Sincerely,

Victoria F. Sheehan
Commissioner

Attachments

INTERSTATE AGREEMENT

STATE OF NEW HAMPSHIRE AND STATE OF VERMONT

HANOVER, NH – NORWICH, VT

CONNECTICUT RIVER BRIDGES NOS. 13 - NH BR. NOS. 026/059

NH FEDERAL PROJECT NO. X-A004(800) - NH STATE PROJECT NO. 42278

DESIGN AND CONSTRUCTION PHASES

THIS AGREEMENT is made this 4th day of February, 2019 by and between the State of New Hampshire, represented by its Department of Transportation, hereinafter referred to as the NHDOT, and the State of Vermont, represented by its Agency of Transportation, hereinafter referred to as VTrans, as follows:

1. The NHDOT will prepare and administer the design and construction of a project to rehabilitate the deck surface and replace the expansion joint of the existing bridge carrying NH Route 10A over the Connecticut River (NH Br. No. 026/059 and Connecticut River Br. No 13) between the Town of Hanover, NH, and the Town of Norwich, VT. The work includes preservation of this bridge and all associated highway approach work. Whereas funding for the project is currently in NH's Ten-Year Plan for construction in federal fiscal year 2020. NH and VT agree to jointly develop a design schedule that is mutually agreeable.

2. The division of all costs for this project will be as follows:
   a. Design Costs:
      - All design costs for the bridge portion of the project, as designed by the NHDOT and reviewed and approved by VTrans, shall be charged at 69% New Hampshire and 31% Vermont. This division of costs is computed on the basis of the location of the state line as recorded in the Connecticut River Bridge Records and shall apply to preliminary design, final design, and design overhead costs.
      - Costs incurred by VTrans in coordinating the design with NHDOT or in providing review of the NHDOT design shall be 100% the responsibility of VTrans.
   b. Environmental, Archaeological, and Cultural Resource Costs:
      - VTrans shall reimburse NHDOT 100% for the cost of any work regarding environmental, archaeological, and cultural resources located in or associated with Vermont but that is performed or administered by NHDOT.
      - NHDOT shall be responsible for 100% of the cost of any work regarding environmental, archaeological, and cultural resources located in or associated with New Hampshire.
   c. Right-of-Way Costs:
      - All Right-of-Way costs incurred for this project by each State shall be paid in their entirety by the State for which the costs were incurred and shall not be included in any shared costs.
   d. Construction Costs:
      - The NHDOT will pay all costs for all work performed by the NHDOT, other NH agencies, consultants, and contractors in the construction of this project, including construction engineering and overhead costs. VTrans shall reimburse the NHDOT for its proportional share including overhead, based on the following:
        - Costs for the superstructure of the shared bridge, any temporary bridge (if required), and Mobilization, shall be shared as described above in Paragraph 2(a) of this Agreement, i.e., 31% Vermont and 69% New Hampshire.
        - VTrans shall reimburse NHDOT for 100% of the costs for the Vermont roadway approaches, the Vermont substructure of the bridge, and all environmental work based on the cost of the actual work performed in Vermont.

- VTrans shall reimburse NHDOT for the costs for Field Offices, all Traffic Control items, and any other item not otherwise specified, at a ratio defined as the Vermont project length (State Line to end of project in Vermont) divided by the total project length, including the bridge and approaches.

3. Any funds received by the NHDOT from the Federal Highway Administration's (FHWA) Innovative Bridge Research and Deployment (IBRD) Program, or other such similar and program specific funds, shall be applied to the total project construction costs prior to determining the final cost distribution for each State.

4. VTrans will make progress payments, if requested, based upon bills rendered by the NHDOT. Any bills sent to VTrans for project payment shall show all previous payments made by VTrans for this project as a credit toward the amount owed to the NHDOT for each phase. Following completion, final inspection, and acceptance by VTrans of the portion of the project within the State of Vermont and the rendering of bills for that portion by the NHDOT to VTrans, VTrans will pay the NHDOT for the remainder of its portion of the audited final costs.

5. VTrans shall have the right at all reasonable times to inspect and review all plans, contracts, documents, books, vouchers and records pertaining to the bridge project contemplated by this Agreement, including, but not limited to, accounting and auditing records upon which the costs to VTrans are to be based.

6. VTrans will be responsible for acquiring any permits, utility agreements or other agreements, and any right-of-way acquisitions that relate solely to the Vermont portion of the project. Prior to advertisement for construction, VTrans shall provide copies to NHDOT of all permits, clearances, and agreements for which VTrans is responsible. All other permits, agreements, and acquisitions will be the responsibility of the NHDOT. All costs associated with obtaining the permits and agreements that are specifically for the bridge shall be shared as described above in Paragraph 2 of this Agreement.

7. The NHDOT will coordinate with VTrans relative to any Public Meetings. Further, the NHDOT will attend any such Public Meetings held in Vermont or New Hampshire to present the project and participate in discussions, as needed and as appropriate.

8. The NHDOT will submit preliminary plans to VTrans for review and comment. VTrans will respond in writing with their comments and approval prior to any substantive work being performed on the final design of the project by NHDOT. VTrans shall process its review and comment in a timely manner.

9. The NHDOT will send final contract documents to VTrans for review and comment. No portion of this project shall be advertised for construction until the review is complete and all comments resolved, at which time VTrans will approve in writing the advertisement of the project. VTrans shall process its review and comment in a timely manner.

10. The NHDOT will give VTrans the opportunity to review the contract bids. The construction contract will not be awarded until NHDOT receives a letter of concurrence from VTrans. VTrans shall process its review and comment in a timely manner.

11. NHDOT will notify VTrans when construction of this project is complete, at which time VTrans will inspect the portion of work located in Vermont and will notify the NHDOT of either acceptance of the project or items needing correction. The NHDOT will not make the final billing to VTrans until the Vermont portion has been accepted in writing by VTrans.

12. This Agreement, and all obligations of the parties hereunder, shall become effective on the date of approval of this Agreement by the Governor and Executive Council of the State of New Hampshire.

This AGREEMENT executed on the day and date first above written.

STATE OF NEW HAMPSHIRE
Department of Transportation

By: _____

STATE OF VERMONT
Agency of Transportation

By: E-SIGNED by Joe Flynn on 2019-01-04 15:30:10 UTC

This AGREEMENT has been reviewed and is approved as to form and execution.

Date: Feb. 10, 2019

Emily C. Gary
Office of Attorney General
State of New Hampshire

Date: January 03, 2019

E-SIGNED by John Dunleavy on 2019-01-03 19:04:59 UTC
W.B.S.P.
Office of Attorney General
State of Vermont

This is to certify that the GOVERNOR AND COUNCIL of the State of New Hampshire on the _____ day of _____, 20____ approved this AGREEMENT as Item # _____.

Date: _____

ATTEST:

By: _____
Secretary of State of New Hampshire

FUSS & O'NEILL

October 5, 2018

Mr. David Scott
In-House Design Chief
Bureau of Bridge Design
NH Department of Transportation
7 Hazen Drive, P.O. Box 483
Concord, NH 03302-0484

Re: Statewide 41081 – Task No. 8
HANOVER 42278
NH 10A, Wheelock St over Connecticut River – Br. No. 026/056
Scope of Work, Hours, and Fee Proposal
Fuss & O'Neill Reference No. 20180990.A10

Dear Mr. Scott:

Enclosed please find our Scope of Work, Hours, and Fee proposal for the above referenced project. This scope and fee is for "Part A" and "Part B" and has been prepared based on discussions with you, review of project information provided by the Department and a cursory field inspection performed by Fuss & O'Neill.

This project involves the bridge preservation of the three span Ledyard Bridge, NH 10A over the Connecticut River. The bridge was constructed in 1998 and consists of steel girders with a composite concrete deck founded on concrete wall piers and abutments with a mix of spread footings, drilled shafts, and driven pile foundation. A large drainage pipe that outlets at the face of the abutment is located adjacent to the southeast wingwall.

PART A & B

The purpose of Part A is to evaluate and recommend bridge repairs and traffic control alternatives, and prepare preliminary engineering plans suitable for a Design Public Information Meeting. Part B consists of the final design, including development of the contract plans and estimate. The following is a more in-depth discussion of the scope of work:

540 No Commercial Street
Manchester, NH
03101
t 603.668.8223
800.286.2469
f 603.668.8802

www.fando.com

California
Connecticut
Maine
Massachusetts
New Hampshire
Rhode Island
Vermont

A. Data Collection and Review

The following will be provided by the Department:

1. Traffic counts, including truck turning movement onto River Road and Tuck Road, and accident data.
2. Pedestrian and bicyclist counts, preferably during school and non-school periods, since the construction may occur during either periods.
3. Electronic files of any available existing survey.
4. Aerial images to support development of TCP Plans.
5. Pavement design recommendations (if needed).
6. Existing plans and inspections reports (previously provided).

Fuss & O'Neill will develop base plans using any available existing survey, aerial images and existing plans. We will review all of the available files to ensure all identified items are given consideration during the design process.

B. Hydrologic, Hydraulic and Scour Analysis

As the intent of the project is bridge preservation, no hydrologic, hydraulic or scour analysis is needed at this time. Therefore, this work is not included in this scope.

C. Roadway Design and Traffic Control

1. No permanent changes will be made to the roadway alignment, profile, or cross section. The project limits will be defined based on the needs of traffic control.
2. Construction will be completed utilizing phased traffic control. One lane of traffic will be maintained in each direction. Pedestrian access will be maintained during all phases of construction. Bicyclists may have to share the travel lane with vehicles during certain construction phases depending on the work area at the time.
3. Traffic volumes and pedestrian/bicyclist counts will be evaluated with school in and out of session.
4. Truck turning movements at Tuck Drive and River Road will be evaluated for each phase of construction.
5. Evaluate potential changes in lane use at each intersection during the various construction phases, including the use of a temporary signal for the left turn onto Tuck Drive.
6. Maintain the traffic signal at River Road during construction, although it may be necessary to use the eastbound left turn lane into River Road for through traffic during certain phases of construction.
7. All work will be completed within the right-of-way.
8. Ultimate typical sections and pavement markings will be developed for areas disturbed by construction. This includes a discussion and evaluation of the replacement of the raised median island with a painted island after construction.

D. Bridge Design

1. Bridge Preservation work will include:
    a. Replacement of the pavement and membrane
    b. Replacement of the expansion joint and the additional of an asphaltic plug joint at the fixed end
    c. Concrete repairs to the abutments and piers
    d. Partial depth and full depth concrete deck repairs
    e. Reconstruction of the stone fill in the southeast quadrant
    f. Repairs to the drainage pipe stone masonry headwall
    g. Reconstruction or removal of the median island
    h. Application of waterproofing to exposed concrete surfaces

2. A field evaluation of the bridge will be completed to determine the extents of the bridge repairs. Hammer sounding will be completed on exposed concrete substructure components within reach. Full hammer sounding of each substructure component is not included. Previous underwater inspections will be reviewed, no additional underwater inspections are included. Evaluation findings and recommended work will be summarized in a Rehabilitation Report submitted to the Department.

3. No material testing of the concrete deck has been included since the deck reinforcing steel is epoxy coated. The area of the deck that require concrete repairs will be estimated as a percentage of the total deck area.

4. All cost estimates will be developed using itemized quantities.

5. Bridge construction phasing sections will be developed for the Preliminary Plans.

6. The concrete median on the bridge will be removed or reconstructed. Separate tasks and hours have been included for each option.

7. Bridge repair details will be prepared for the PS&E submission.

E. Environmental Coordination and Document

Environmental coordination and document development will be performed by our subconsultant, Normandeau Associates, Inc. Please refer to their attached scope and fee proposal.

In support of this work, Fuss & O'Neill will attend and present at two Environmental Resource meeting. Fuss & O'Neill will prepare descriptions of the project for inclusion in the meeting agenda as well as plans and exhibits for the meeting.

Hours are included for Fuss & O'Neill to review, add project specific information as needed, and prepare pertinent plans as part of the environmental document and wetlands permit.

F. Historical Coordination

Fuss & O'Neill will prepare and submit a Request for Project Review (RPR) to NHDHR. Additional historic evaluation is not anticipated due to the age of the bridge, therefore no hours beyond the RPR have been included.

Attendance at a Cultural Resource Meeting is not anticipated.

G. Public Participation

Fuss & O'Neill will assist the Department with two (2) public meetings. The Department will perform the presentation. Fuss & O'Neill will:

1. Prepare plans and exhibits including one colored aerial photograph (24"x36") and one colored plan and profile on roll plan (1" = 20').
2. Preparation of a PowerPoint presentation for each meeting.
3. Meeting minutes will be prepared by Fuss & O'Neill.
4. Meetings will be attended by the Fuss & O'Neill project manager and one additional staff member.

Fuss & O'Neill will attend up to three (3) coordination meetings with the Towns of Hanover, NH and Norwich, VT and the Department.

H. Utilities

No utility relocations are anticipated for this project. Any required utility coordination will be completed by the Department.

I. Geotechnical

1. No geotechnical investigations are necessary at this time as the project consists of bridge preservation. If it becomes necessary, the Department will perform all subsurface explorations, geotechnical analysis and provide geotechnical recommendations.

2. Pavement design including subbase recommendations (if needed) shall be provided by the Department.

J. Contract Documents

1. Fuss & O'Neill will prepare the project prosecution of work for inclusion in the contract documents.

2. A list of items requiring a special provision will be provided, if needed, to the Department. Time has been included for review of the special provisions.

K. Submissions

1. Rehabilitation Report: This report will include discussion of the bridge condition evaluation and the recommended repairs and preservation measures. Plans of the substructure components with locations of concrete deterioration will be included. An electronic (pdf) copy and one (1) hardcopy will be submitted.

2. Preliminary Plans: Bridge and Roadway plans will be included in one set. One (1) full size hardcopy, one (1) half-size hardcopy, and an electronic (pdf) copy of the plans will be submitted. A preliminary cost estimate will be included. The plans will include:

    a. Title sheet
    b. Roadway Typical Section and Details

c. General Plan
d. Preliminary TCP Narrative and Typical Section
e. Preliminary Traffic Control Plans
f. Temporary Traffic Signal Control Plans
g. Bridge Phasing Sections
h. Typical Bridge Section
i. Substructure Elevations with Deterioration

Assuming the comments on the Preliminary Plans are relatively minor, they will be addressed by incorporating them into the PS&E Submission. No extra time is included for revisions to the Preliminary Plans.

3. PS&E: Fully developed bridge and roadway plans. One (1) full size hardcopy, one (1) half-size hardcopy, and an electronic (pdf) copy of the plans will be submitted. The plans will include:

a. Title sheet
b. Index of Sheets and General Notes
c. Standard symbols
d. Roadway Typical Section
e. Summary of Quantities
f. Miscellaneous Details
g. General Plans
h. Traffic Control Narrative and Typical Section
i. Traffic Control Plans
j. Temporary Traffic Signal Control Plans
k. Signing and Pavement Marking Plans
l. Bridge Quantities and Project Notes
m. Substructure Elevations with Deterioration
n. Substructure Repairs Details
o. Bridge Construction Phasing Sections
p. Typical Bridge Section
q. Concrete Median Reconstruction Details
r. Expansion Joint Details
s. Reinforcing Schedule
t. Stone Masonry Headwall and Stone Slope Repair Details

4. Contract Plans: The PS&E plans will be revised to incorporate comments received from the Department.

L. Meetings

Meetings will be attended by the Fuss & O'Neill project manager and one other staff member. The following meetings are included:

1. Project kick-off
2. Rehabilitation Report comment review
3. Preliminary Plan comment review
4. PS&E Plan comment review
5. Coordination meetings with Towns (3)

M. Project Administration

1. Project status reports and invoices
2. Schedules
3. Coordination with the Department and sub consultants

If you have any questions or comments about the scope tasks and assumption herein, please do not hesitate to contact me.

Sincerely,

Jaime French

Jaime French, PE
Bridge Team Lead | Project Manager

Enclosures

NORMANDEAU ASSOCIATES
ENVIRONMENTAL CONSULTANTS

October 4, 2018

Jaime French, PE
Fuss and O'Neill, Inc.
540 Commercial St.
Manchester, NH 03101

Re: Ledyard Bridge (Hanover, NH - Norwich, VT 42278)

Dear Jaime:

Normandeau Associates (Normandeau) is pleased to provide a scope of work for environmental services associated with preservation of Ledyard Bridge which carries Route 10A across the Connecticut River between Hanover NH, and Norwich, VT. This project is assigned to Fuss and O'Neill under your New Hampshire Department of Transportation's (NHDOT's) on-call bridge services contract. Normandeau's proposed fee and contract terms and conditions will be provided under separate cover. This scope of work reflects the preparation of a Programmatic Categorical Exclusion (CE), as we assume the anticipated impacts are consistent with the Programmatic CE requirements.

Environmental Scope of Work

Based on communication with you, the project consists of bridge preservation/maintenance work, which is primarily on the bridge deck. However, some work will be done along the river including repair of an eroded area around a pipe and abutment on the bridge's Hanover side, and potentially some minor concrete repairs to the piers and abutments on both the New Hampshire and Vermont sides of the bridge. Per your request, this Environmental Scope consists of the six tasks you outlined to us in in a September 26 e-mail, plus an initial desktop review of the natural resources present to verify no other tasks are required to meet environmental permitting requirements.

Additionally, your October 1 e-mail indicated that tasks associated with the pipe on the bridge's Hanover side should be identified, as the Town of Hanover may be responsible for funding that portion of the project. Tasks that contain effort directly associated with the Hanover pipe repair are designated with an asterisk (*). The proportion of the application fees directly related to pipe repairs can be called out in the memo summarizing the environmental findings, and the Project team could divide those task costs based on that proportion.

1. Desktop Review - Resource Identification

Normandeau will review existing natural resource information available for the Project Area, including aerial photographs, soil maps, tax maps, and other New Hampshire and Vermont state-wide natural resource mapping and publically available data. We will request a search of the New

Hampshire Natural Heritage Bureau (NHNHB) database and the Vermont Natural Heritage Inventory (VNHI) for information regarding known rare, threatened or endangered species or exemplary natural communities in or near the Project area. If necessary, we will consult further with NHNHB, New Hampshire Fish and Game, or the Vermont Fish and Wildlife Department regarding potential rare species impacts associated with the Project. Normandeau will also use the U.S. Fish and Wildlife Service (USFWS) Information, Planning, and Consultation System (IPAC System) to review for federally listed species and/or habitat within the Project Area. At this time, the only resources we anticipate will require assessment are those listed as part of this scope. If this desktop review reveals any additional resources that must be addressed to permit the project, these actions can be addressed under a separate scope.

2.0 Wetland Delineation*

A Normandeau New Hampshire Certified Wetland Scientist will delineate wetland boundaries in accordance with the US Army Corps of Engineers (USACE) three-parameter approach outlined in the USACE Wetland Delineation Manual (1987) and the Regional Supplement to the Corps of Engineers Wetlands Manual: Northcentral and Northeast Region (2012). We will flag Wetland, Top of Bank, and Ordinary High Water boundaries with labeled surveyor's flagging and located these features using a Trimble® global positioning system (GPS) capable of sub-meter accuracy under ideal conditions. If preferred, Normandeau will coordinate the delineation with a project-specific survey effort conducted by licensed surveyors collecting base map and existing condition/topographic data, and provide a sketch of flag locations.

If vegetated wetlands are present in the study area, Normandeau will establish one paired upland and wetland data plot in a representative wetland type based on the dominant vegetation present within the wetland. Wetland plot flagging will be GPS located. We will conduct a brief wetland functional assessment based on the USACE Highway Methodology Workbook Supplement (1999) for all wetlands, as well as an assessment of functions and values in accordance with the Vermont Wetland Rules (VWR) for wetlands identified within the Vermont portions of the Project area. Additionally, a Normandeau scientist will photograph and record habitat information and photographs within the 250-ft Protected Shoreland of the Connecticut River within the NH Project area, to support NH Shoreland Water Quality Protection Act (SWQPA) permitting (permit by notification, or PBN), which is likely to be required in conjunction with the pipe and abutment repair. Normandeau will provide the natural resource data in a digital format for the Project team for use on Project plans, including applicable local wetland buffers, as needed. A brief memo describing the wetlands and other natural resource findings will be submitted to the Project team.

3.0 Invasive Species Assessment*

In conjunction with wetland delineation effort, invasive species in the Project area will be identified, and their locations mapped with the GPS. The wetlands/natural resources memo will include a description of the invasive species mapped, and a digital file of their location(s) will be generated and provided to the Project team.

4.0 Northern Long-eared Bat Assessment

Normandeau will assess the bridge structure for its suitability to provide roosting habitat for the northern long-eared bat. The assessment will assess the features specified on the FHWA's bridge assessment form. Because of the size of the bridge, the under-deck area that can be inspected from shore extends only from the shore to the pier, on either side of the river. To assess the suitability of the center span for bat roosting, Normandeau will rely on existing inspection reports and/or photographs of the underside of the span. If direct inspection of the span is requested by NHDOT, Normandeau is prepared to conduct a boat-based survey, as an add-on to this scope. The results of the assessment will be summarized in the wetlands/natural resources memo.

5.0 Environmental Documentation - Programmatic CE

Normandeau will complete the NHDOT Categorical Exclusion Programmatic Determination Checklist. This task includes writing the brief narrative descriptions for the Detailed Discussion of Programmatic CE Criteria portion of the checklist form, to demonstrate how the Project qualifies for a Programmatic CE. Normandeau will also complete the Environmental Commitments portion of the form, as appropriate.

6.0 US Coast Guard Bridge Project Questionnaire

Normandeau will collect the information needed and complete the US Coast Guard Bridge Project Questionnaire. This task includes generating the abutters list requested on the form unless this information will be provided by NHDOT or Fuss and O'Neill.

7.0 Permitting

The type and scope of permitting required for this project depends on the scale and nature of proposed impacts within jurisdictional wetland, river or riverbank areas and/or buffers, on both sides of the river. The extent of jurisdictional wetlands is unknown until the delineation is conducted, and additional information from NHDOT is required to determine the extent and type of impacts. If impacts on the NH side of the river require permitting, the NH Department of Environmental Service (NH DES) wetland permitting process meets USACE requirements. If impacts on the VT side of the river require permitting, a USACE permit may be required in addition to the Vermont Agency of Natural Resources (VT ANR) permits. Normandeau will coordinate with NH DES, VT ANR, NHDOT, USACE, and Fuss and O'Neill to assess and streamline the permitting requirements across federal and state resource agencies.

7.1 NH DES Permitting*

Based on currently available information, Normandeau anticipates authorization from NH DES under the NH Wetland Rules will be required for work related to the Hanover abutment and pipe outlet. Depending on the need for work in the jurisdictional shoreland zone above the bank, a SWQPA PBN may also be required to support this project. Normandeau will coordinate with NH DES, NHDOT and Fuss and O'Neill, and attend up to two NHDOT Natural Resource Agency Coordination Meetings, to determine the type of permits required, then prepare and submit the permit applications. Additionally, as the Connecticut River is a Designated River under the NH Rivers Management and Protection Program, review of permit applications by the Upper Valley River

Subcommittee of the CT River Joint Commission will also be required, and Normandeau will coordinate this process.

7.2 VT ANR and U.S. Army Corps of Engineers Permitting

Based on currently available information, Normandeau anticipates authorization from VT ANR may be required for work related to the Norwich abutment and pier. Authorization under the VT Wetland Rules or the VT Stream Alteration Rule is the most likely requirement. Coordination with the U.S. Army Corps of Engineers would also likely be required under Section 404 of the Clean Water Act for any proposed discharge of fill within jurisdictional Waters of the US, including wetlands, streams and the Connecticut River. Additionally, note that if new fill is required within the Connecticut River, under either the NH DES or VTANR's jurisdiction, authorization under Section 10 of the Rivers and Harbors Act of 1899 (33 USC 403) may also be required.

Assumptions

- Project area limits in New Hampshire and Vermont will be provided prior to field assessments. The state boundary line for jurisdictional purposes will be provided to Normandeau.
- Wetland delineation can only occur when soils are not frozen and there is no snow cover present. The delineation can be accomplished in one field day.
- Rare species surveys or studies beyond the northern long-eared bat roost assessment, if needed, will be performed under a separate contract.
- Fuss and O'Neill will provide input as needed to support completion of the Programmatic CE form and other engineering-related information required to support other permits/documents required for the Project.
- Normandeau will document the findings of all tasks for the Project team in a single memo, by task.

Please contact me at 802-861-7038 or wmccloy@normandeau.com if you have questions or comments regarding this proposed scope of work.

Sincerely,

NORMANDEAU ASSOCIATES, INC.

William McCloy, NHCWS/PWS
Project Manager

COL (ret) Curtis L. Thalken, P.E.
Senior Vice President/COO