

**AMENDMENT NO. 3A (ALTERNATIVE 5 – DAM REMOVAL)
AGREEMENT FOR PROFESSIONAL SERVICES
BETWEEN
VANASSE HANGEN BRUSTLIN, INC.
AND
THE TOWN OF DURHAM

VHB CONTRACT NO. 52633.01
SEPTEMBER 9, 2021**

This Agreement is composed of Part I and Part II. Part I includes this scope description containing the details of the services to be performed and compensation. Part II contains the Terms and Conditions of Agreement, which are the terms of the engagement between the Town of Durham, also called the “TOWN” or the “CLIENT,” and Vanasse Hangen Brustlin, Inc. (“VHB”) also called the “CONSULTANT” or “ENGINEER.” Specific tasks included in this agreement are described in the Scope of Work provided below.

A. PROJECT UNDERSTANDING

The Oyster River Dam, also known as the Mill Pond Dam, is located on the Oyster River as it flows through the Town of Durham prior to its discharge into Little Bay. Constructed in 1913, the dam is a concrete Ambursen-style dam consisting of a spillway, a set of gated outlets at the right abutment, and a fish ladder at the left abutment. It is approximately 140 feet long, with a maximum structural height of approximately 13 feet. Due to its age, engineering significance, and association with local history, the dam is listed on the NH Register of Historic Places. The dam impounds the Oyster River approximately 0.8 mile upstream of the dam, as well as portions of Hamel Brook extending as far as 0.4 miles upstream.

The NHDES Dam Bureau has identified several safety deficiencies associated with the current dam, including concerns with its overall structural integrity and stability. The dam does not meet current NHDES dam safety standards which require such “low-hazard” dams to pass a 50-year storm event with at least one foot of freeboard between the water surface and the top of the dam abutments. The Town was notified of these problems in multiple Letters of Deficiency (LOD), most recently in February 2018.

With the completion of the VHB Team’s November 2020 Feasibility Study and July 2021 Supplemental Analysis, the Town Council intends to develop engineering plans, to obtain the necessary environmental permits, and select a contractor to complete the dam project by way of a public bid process. At this time, no final decision has been made whether to select “Alternative 3 – Dam Stabilization” or “Alternative 5 – Dam Removal.” Therefore, at the request of the Town, VHB has prepared two separate work scopes for review, one which assumes the Town will proceed with Alternative 3 and a second which assumes that Town will proceed with Alternative 5.

This proposal assumes that the Town will select “Alternative 5 – Dam Removal.” The dam removal would involve the following elements:

- Remove the entire existing dam structure, including the fish ladder, while allowing the left and right abutments to remain in place.

- Reshape the river channel within the footprint of the existing dam and immediately upstream and downstream to ensure upstream fish passage through the restored reach.
- Reshape the river channel approximately 600 feet upstream of the location of the dam to stabilize the channel and remove approximately 3,000 cubic yards of sediment deposited in the center of the Mill Pond impoundment.
- Stabilize the river using bioengineered techniques, natural channel design, or traditional engineered approaches as appropriate.
- If needed, develop a design to stabilize retaining walls/foundation structures and embankments in the immediate vicinity of the dam, upstream of the NH 108 Bridge.
- Development of an Integrated Vegetation Management Plan to control the potential spread of invasive plant species.

The CONSULTANT's scope of work for this phase of the project includes the following main elements, which are described in greater detail in Section B of this document:

- Final surveys and design coordination, engineering design and environmental permitting of the dam removal project, including the elements listed above.
- Consultation and cultural resources studies pursuant to Section 106 of the National Historic Preservation Act.
- Assistance with bid documents for construction.
- Assistance with project coordination and management, including grant fundraising.

VHB intends to retain Pare Corporation to perform tasks related to dam structural engineering, Weston & Sampson to support hydraulic modeling, and Independent Archaeological Consulting to perform archaeological services.

B. SCOPE OF WORK

The following scope of work has been developed based on our understanding of the project through our work on the feasibility study. This initial list of tasks may need to be amended during the execution of the project to accommodate changed or new conditions or information.

TASK 1 – FINAL SURVEYS and PRE-DESIGN COORDINATION

Task 1.1 - Additional Topographic, Bathymetric, and Sediment Survey

VHB will collect additional survey within the study area to supplement data collected as part of the feasibility study. Data previously collected for the feasibility study includes bathymetric survey of the Mill Pond impoundment (2009), sediment sampling and analysis (2009, 2019, 2020), subsurface geotechnical borings including bedrock depths (2020), and field topographic survey of the dam and downstream channel (2020). VHB will use this existing data for design, supplemented by targeted additional field survey. Existing available geotechnical boring and sediment analysis data is assumed to be sufficient for design and no additional data collection is proposed.

Given the importance of accurate bathymetric and sediment depth data for plan quantities and cost estimates, VHB will conduct a supplemental bathymetric survey of the project area (up to 700 feet upstream of the dam) to develop a detailed pond bed surface for design and to identify changes to sediment deposition in the Mill Pond over the 12-year period since the previous bathymetric survey.

Concurrent with this bathymetric survey, VHB staff (one engineer and one surveyor) will conduct a sediment depth survey of the project area using hand push-probes or jet probes. Sediment probes will be collected from a small rowboat, and bathymetric survey will be collected using a small remote-controlled hydrone. Bathymetric survey and sediment depth measurements will be limited to center section of the pond where water depths are deep enough to allow hydrone/boat access (approximately 100 feet). VHB will collect supplemental topographic survey to set benchmarks and control points for the bathymetric survey and sediment probes. In addition, VHB will supplement gaps in the previously-collected topographic survey to delineate property lines within the vicinity of the project area. Field data collection will be limited to three (3) days for field bathymetry and sediment collection, and up to four (4) days for topographic survey, control, post-processing, and CAD drafting. VHB assumes that prior to the bathymetric survey, the Durham DPW will maintain the impoundment at full depth to provide maximum draft for boats in the Mill Pond.

Topographic and bathymetric survey will be incorporated into the existing conditions plan sheet to be included in the Task 2 planset.

Task 1.2 Wetland Delineation & Functional Evaluation

VHB will complete a wetland delineation within the project limits beginning at the NH 108 bridge and extending approximately 800-900 ft upstream, including the limits of Mill Pond to Mill Pond Road. The delineation will be conducted using the technical criteria contained in the 2012 USACE Northeast Regional Delineation Supplement to the 1987 Corps Wetland Delineation Manual. A VHB NH Certified Wetland Scientist (“NHCWS”) will oversee delineations. The top of bank of streams and surface waters will be delineated in accordance with the definitions in NH Administrative Rule Env-Wt 101.07. For intermittent tributaries less than 4 feet in width, only channel centerline will be located. Wetland cover types will be classified using the methods of Cowardin et al. (1979) at a scale of approximately 1-2 acres. Cover typing will be based on interpretation of aerial photography with field verification. VHB will note unusual features such as uncommon wetland types such as potential vernal pools or disturbed areas. VHB will flag wetland boundaries in the immediate vicinity of the dam and the wetland flags will be located by survey; boundaries outside of the dam site will be located using sub-meter GPS and it is understood that flagging will not be placed on private property. A brief narrative report will be developed to document the delineation. For budgetary purposes, it is assumed that up to 100 wetland flags will be required to fully delineate the wetlands/top of bank within the project area.

In addition to the wetland delineation, VHB will perform a functional assessment in accordance with Env-Wt 311.10. For non-tidal wetlands and watercourses, this functional assessment shall be performed by a NH Certified Wetland Scientist and will use the US Army Corps of Engineers (“Corps”) Highway Methodology Workbook, dated 1993, together with the Corps New England District Highway Method Workbook Supplement, dated 1999.

Task 1.3 – Rare Species Coordination

Under this task, VHB will determine whether federally-listed species are present within the project area using the US Fish & Wildlife Service’s (USFWS) Information, Planning, and Conservation System (IPaC) and the NHHNB Online Data Check Tool. If any such species are identified, VHB will coordinate with the USFWS to minimize or eliminate impacts. Rare species coordination would include consultation on the potential effects on the northern long-eared bat (NLEB). VHB will document this consultation by completing a draft Project Submittal Form (PSF) for review by the Town. Following review of the draft PSF by the project team, VHB would compile a final version for submittal to USFWS as needed. Based on the lack of hibernacula in the project vicinity, the suburban/residential character of the project area, and

the expectation that the project would not require extensive clearing, it is anticipated that this assessment would result in a finding of Not Likely to Adversely Affect. Assuming that USFWS concurs with the determination, VHB would document this finding via the USFWS IPaC system. Also see Task 3.1 below for further description of rare species coordination for state-listed species.

Task 1.4 – Archaeological Surveys

To support the Section 106 consultation (see Task 4), VHB will sub consult with IAC to perform a Phase IB archaeological surveys within the project Area of Potential Effect. This work will consist of hand excavation of up to 70 shovel test pits (STPs) distributed across two spatially distinct impact areas. Archaeologists will excavate up to 15 STPs within a proposed access area situated at the dam on the northern riverbank. Up to an additional 55 STPs will be located at upstream riverside landforms that could be subject to erosion associated with the dam's removal. IAC's previous Phase IA survey identified the riverside landforms as sensitive for both Pre-Contact Native American and Post-Contact Euroamerican archaeological resources, and the Phase IB work will confirm the presence or absence of such resources within the project's impact areas. Under this task, the subconsultant will deliver a technical report summarizing the result of all findings and recommendations about whether further archaeological survey is advised (Phase II Determination of Eligibility). If a site is discovered, the scope includes the preparation of a site form to be submitted to the New Hampshire Division of Historical Resources. Phase II surveys are not included at this time and would be subject to an amendment if a site is identified and likely to be impacted. Also note that an additional archaeological monitoring plan may be needed upstream in the impoundment. A work plan for this monitoring program would be developed if the Section 106 MOA stipulates that such monitoring must be conducted. If required, VHB will develop a scope amendment and fee to cover this additional effort.

TASK 2 – ENGINEERING DESIGN

The anticipated design will include removal of the Mill Pond Dam and the fish ladder and reconfiguration of the river channel to ensure long term stability and fish passage. VHB will develop a basis of design memo, design plans, quantities and construction cost estimate, and technical specifications for the removal of the Mill Pond Dam, including work associated with stabilizing or retrofitting adjacent structures as discussed herein. We assume that the design and associated plans will be developed over the course of up to four (4) submittals: 10% Design, 50% Design (Permitting), 90% Design (Final), and 100% Design (Construction). Plans will be completed in AutoCAD and would be developed at 22 inch by 34 inch format (i.e., ANSI D Sheet).

Task 2.1 - 10% Design Plans

VHB will prepare preliminary plans and supporting calculations/modeling analysis for CLIENT review of the initial design. This submittal will include the following:

Modeling: Based on evaluation of existing hydrologic analysis from the Feasibility Study, VHB will develop revised fish passage, bankfull, extreme flood event, and construction water management design flows. VHB will revise and update the existing HEC-RAS model to incorporate the updated hydrology and supplemental topographic and bathymetric data from the above survey. Concurrently with development of the design plans, VHB will create a proposed conditions HEC-RAS model to match the proposed design to refine estimates on shear stresses and velocities.

Plans: VHB will prepare 10% design plans, which include the following estimate of plan sheets:

1. **Cover Sheet.**
2. **General Notes.**
3. **Existing Conditions Plan.** Updates will be made to the existing conditions plan developed during the feasibility phase to incorporate supplemental survey completed under Task 1.
4. **Demolition and Channel Grading Plan.** This plan will show existing and proposed elevations of the streambed. The plans are intended to show the proposed river planform, profile, and dimension/cross sectional shape, and identify and quantify structures to be removed/demolished as well as preserved in place.
5. **Staging and Construction Sequence.** These elements will identify access/egress to the dam and stream channel, temporary stockpile areas, outline the sequence of work in the stream, and water management. This plan will include details for one potential dewatering and diversion strategy.
6. **Opinion of Probable Construction Cost.** This opinion will identify the anticipated total costs of construction based on the 10% design.

Task 2.2 - 50% Design (Permitting) Plans and Report:

Once receiving feedback from the CLIENT on the 10% plans, VHB will prepare plans to use for permitting applications and review of the initial design. This submittal will include the following:

Modeling: VHB will continue to refine the project HEC-RAS model to address comments and changes to the design.

Plans: VHB will prepare 50% design/permitting plans, expected to consist of twelve to fifteen sheets, which include the following estimate of plan sheets:

1. **Cover Sheet.**
2. **General Notes.**
3. **Existing Conditions Plan.** The wetland delineation information captured in Task 1 will be added to the plan.
4. **Structure Demolition Plan.** This plan will identify and quantify structures to be removed/demolished as well as those that will be preserved in place. This plan will include proposed treatment details at exposed structural faces or the junctions of demolished structures where they touch adjacent walls/structures.
5. **River Channel Grading Plan.** This plan will show existing and proposed elevations of the streambed. The plans are intended to show the proposed river planform, profile, and dimension/cross sectional shape. The plan will also include:
 - **Channel Profile** to identify the alignment and vertical profile of the proposed reconstructed stream thalweg through the project area.
 - **Channel Form** to identify the channel dimensions, pattern and profile in accordance with the bankfull discharge, stream type, and project site constraints.
 - **Habitat Measures** to incorporate design features intended to ensure long term stability, upstream fish passage and enhance habitat.
 - **Stabilization Measures** will identify bank stabilization techniques based on shear stress and/or velocity criteria will be utilized to facilitate the selection of bank stabilization techniques, in the vicinity of the dam removal, and along the banks upstream of the dam. Stabilization techniques may include soil bioengineering measures such as live stakes, dormant cuttings, coir rolls with rooted plugs, fascines, and brush mattresses, as deemed

appropriate. Species selection will be based upon establishing a native plant community while achieving project objectives for maintenance and ecosystem establishment.

6. **Jurisdictional Impacts Plan.** The impacts plan will identify areas within NHDES and Army Corps jurisdiction that will be impacted by the removal/restoration, including the limits of ordinary high water and top of bank. The plans will be developed and depicted in a way such that the final plans will be appropriate for incorporation into permit applications (see Task 3 below).
7. **Planting/Restoration Plan.** This plan will show proposed plantings in the project area, including plantings needed to restore upland which will be temporarily disturbed by activities associated with the dam removal and river restoration. VHB will develop plan components (plan view and notes) to outline required restoration, including upland erosion control and plantings. More specific plantings will be identified in the 90% plan submittal.
8. **Sediment and Erosion Control Plan.** This plan will provide information on construction phase sediment management measures such as the timing and method of drawdown, vegetation of exposed streambed and banks (including invasive species control methods if applicable), and installation of a sediment curtain or other measures that would be employed to control sediment migration.
9. **Staging and Construction Sequence Plan.** This plan will identify access/egress to the dam, stream channel work area, and temporary stockpile areas; and outline the sequence of work in the stream including timing and river diversion. These elements will be designed to the degree needed to ensure that construction happens without undue temporary/permanent impacts, while allowing the contractor as much flexibility as possible to complete work at the lowest possible cost. Temporary fill/dewatering/stream diversion may be required to complete the proposed removal and restoration/stabilization, and these measures will be included in the project plans as needed.
10. **Details.** This sheet(s) will include information on items such as turbidity/erosion control structures, cross-vane and habitat features, planting details, etc.

Task 2.3 - 90% Design Plans (Final Design), Report and Specifications

Once comments are received from the CLIENT and permitting is completed, VHB will expand upon the 50% design/ permitting package as described below:

Modeling: VHB will continue to refine the project HEC-RAS model to address comments and changes to the design. VHB will use the results of this evaluation to provide a basis of design for bidders to prepare a dewatering and diversion plan for construction.

Plans: VHB will update the 50% design/ permitting plans to address comments received during permitting and to provide further detail of the design. The Planting/Restoration Plan will be revised to identify planting at the species level, with quantities developed.

Specifications: VHB will use standard NHDOT items and specifications (since most contractors in NH are already familiar with this system), as appropriate, but will develop additional specifications or modified items as needed for materials or specialized items of work by developing Special Provisions or entirely new specifications.

Quantities and Opinion of Probable Cost: VHB will quantify all bid items for use in bidding and managing the construction project based on the 90% design plans, including and updated Engineer's estimate of construction cost.

Design Report: VHB will develop a Basis of Design Technical Memorandum to summarize the basis for design, include a summary of calculations, hydraulic modeling, and assumptions made during the design, and an updated probable cost of construction estimate. The report will include computation for streambed configuration and other pertinent features and bank stabilization measure computations used to determine the height, size, extent, bedding, anchoring, or other features of such components. Stone will be sized using accepted engineering principles and empirical relationships.

Task 2.4 - 100% Design Plans (Construction), Report, Specification and Quantities

Following the 90% design submittal, VHB will address one round of comments from the CLIENT and develop a 100% design submittal. Upon completion of the design plans, VHB will distribute up to three full-size hard copies to the CLIENT and to the restoration partners if requested. The documents will also be provided in PDF format. The plans will include funding credits as required by any outside grants.

TASK 3 – ENVIRONMENTAL ANALYSIS AND PERMITTING

Task 3.1 – Rare Species Conservation Measures

Under Alternative 5, much of the habitat that is currently inundated would transition to a wet marsh habitat and emergent wetland system, and tidal conditions would increase salinity in the system. As such, certain populations of state-listed threatened or endangered species within the impoundment area may be affected by dam removal. Under this task, VHB will consult with the NH Natural Heritage Bureau to identify mitigation measures to avoid and minimize impacts to the following species:

- Beck's Water-Marigold (*Bidens beckii*)
- Lake Quillwort (*Isoetes lacustris*)
- Great Bur-reed (*Sparganium natans*)
- Ivy-Leaved Duckweed (*Lemna trisulca*)

This work will include up to two days of field work to attempt to locate these species within or adjacent to the impoundment. Specific plant rescue plans are not included at this time.

Additionally, under this task, VHB will consult with the NH Fish and Game Department to identify mitigation measures to minimize impacts to potential populations of Banded Sunfish (*Enneacanthus obesus*) and Swamp Darter (*Etheostoma fusiforme*). Field surveys are not anticipated. Rather, VHB will work with NHF&G staff to incorporate recommended conservation measures into the project plans.

Task 3.2 – Integrated Vegetation Management Plan

To minimize the threat of invasive species spread and to aid in the restoration and protection of native plant diversity, VHB will develop an Integrated Vegetation Management (IVM) Program to manage the invasive species surround Mill Pond and upstream. The IVM will outline a plan for mechanical, cultural, biological, and chemical methods over a 3- to 5-year period including actions before and after dam removal. VHB will consult with the NH Department of Agriculture in developing and finalizing this plan.

Task 3.3 – NHDES Wetlands Permit Application

VHB shall develop a permit application according to RSA 482-A and the administrative rules pursuant to this statute. A single permit application would address all components of the project, i.e., dam removal, stream restoration, and structure stabilization. Elements of the permit application shall be as follows:

- Application Form (assume Standard Dredge and Fill)

- Project Narrative including brief Alternatives Analysis
- USGS Location Map, including the approximate boundaries and size of the contributing watershed
- Narrative or forms addressing the Project-Specific Review Criteria
- National Heritage Bureau (NHB) review and Information for Planning and Consultation (IPaC) supporting correspondence
- NH Division of Historic Resources (NHDHR) Determination Memo/NHDOT Cultural Resource Review
- Color photos of impact areas, labeled and showing all impact areas
- Preliminary construction sequence, describing the sequence of construction including pre-construction through post construction activities and their relative timing and progression of work
- Wetland Permitting Plans, including:
 - Existing Conditions Plan
 - Proposed Condition Plans (i.e., General Plan)
 - Impact Sheet, showing temporary and permanent impacts and Best Management Practices (BMPs)
- Erosion Control Plans, including:
 - Existing and Proposed Contours (2 ft intervals)
 - Existing contours shown with a lighter line weight
 - Proposed contours shown with a heavier (bold) line weight
 - Perimeter Controls - Showing the outermost limit of work (including temporary phasing work)

Since the goal of the project is to restore the existing river, and since it will have an overall environmental benefit, we assume that no wetland mitigation plan will be required as has been the case for several previous dam removal projects in NH. VHB assumes the permit application fee once determined will be paid directly by the Town of Durham if it exceeds the \$400 minimum fee.

Task 3.4 - Clean Water Act, Section 404

It is expected that the Army Corps will authorize the project via the Statewide Programmatic General Permit, i.e., the removal and restoration will not require an individual permit. VHB will verify this expectation by conducting a pre-application meeting with the Corps and NHDES early in the project schedule. (See Task 6.) VHB will prepare wetland project plans in the standard US Army Corps of Engineers format (8.5 in by 11 in) for the Corp's records and would complete the Corps' "Appendix B" document relative to indirect and cumulative impacts for submittal to the Corps.

Task 3.5 – NHDES Shoreland Protection Permit Application

The Oyster River is regulated under RSA 483-B, the Shoreland Water Quality Protection Act. Any new construction or construction that modifies the footprint, including tree clearing, of existing impervious surfaces or uses mechanized equipment to either excavate, remove, or form a cavity within the ground and filling any areas with rocks, soil, gravel, or sand within 250-feet from the Ordinary High Water Mark of the brook would require a Shoreland Impact Permit through the NHDES Shoreland Program. VHB will confirm the appropriate permit application type (PBN or standard application) prior to beginning work on this task. Assuming a standard application will be required, VHB will complete an application consisting of the following:

- Shoreland Permit Application Form signed by the Town;
- Shoreland Application Worksheet, calculating the impervious area within 250 feet of the reference line;
- Permit plans clearly and accurately depicting the work to be completed relative to the reference line;
- Stormwater management plan designed and certified by a professional engineer;
- A copy of the survey plan showing public right-of-way;
- A copy of the US Geological Survey map at a scale of 1:24,000 with the property and project located;
- A copy of the tax map or the Right-of-Way plan showing the location and lot number of the proposed project;
- Photographs of the area to be impacted;
- A copy of the NH Natural Heritage Bureau (NHB) Report for the subject property indicating that the project has been screened for species of concern; and
- Shoreland Waiver Request Form, if the project requires waiver(s) of the minimum standards of RSA 483-B:9, in accordance with RSA 483-B:9,V(i).

VHB assumes that NHDES will waive the requirement to demonstrate that each waterfront buffer grid segment at least meets the minimum required tree and sapling point score, and therefore no waterfront buffer survey is included at this time. A draft application package will be provided to the Town for review and signature prior to finalization and submittal.

Task 3.6 – Permitting Follow On Services

Following permit application submissions to regulatory agencies, follow-up and coordination effort is sometimes required to respond to specific comments and concerns raised. Work under this task might include:

- Preparation of documents to respond to agency comments;
- Minor plan revisions/additions; or
- Attendance at site inspections by the state or federal agencies.

Because the scope of this effort is unknown, for budgeting purposes, we assume up to 48 hours will be required to complete the post-application coordination. If required due to an agency request not anticipated, reallocation or an adjustment to the original Scope of Services and fee may be necessary if the follow-up services exceed this initial allocation.

TASK 4 – CULTURAL RESOURCES

Task 4.1 – Section 106 Consultation

Section 106 coordination for the dam removal feasibility study commenced with the preparation of a Request for Project Review form and a Phase IA report. As the Oyster River Dam is listed in the State Register of Historic Places and a contributing property to the National Register-listed Durham Historic District VHB will assist in developing the Section 106 Determination of Effects and a Memorandum of Agreement (MOA) if the effect is determined to be adverse. This task would involve additional consultation with the Town, the US Army Corps of Engineers (USACOE), and NHDHR. Specifically, VHB would:

- Assist in completing separate Determination of Effects Tables and memorandums, if needed, using the NHDHR format for the Oyster River Dam and Durham Historic District;
- Complete the Advisory Council on Historic Preservation (ACHP) adverse effects report for submission via e106. An initial draft of the report will be provided to the Town and USACOE. One round of review is anticipated. The final draft will be provided to the Town and USACOE for electronic submission;
- Assist in identifying mitigation measures, if needed;
- Prepare draft and final versions of an MOA that will summarize the historic significance and Determinations of Effect, and which will stipulate appropriate measures to mitigate adverse effects to Oyster River Dam and/or Durham Historic District. An initial draft of the MOA will be provided to the Town and USACOE for review and revisions prior to supplying the document to the NHDHR for review. VHB will finalize the MOA following NHDHR review.

Task 4.2 – Cultural Resource Mitigation Measures Implementation

Given that the Section 106 consultation is likely to result in a finding of “Adverse Effects,” the MOA developed under Task 4.1 will stipulate a set of mitigation measures. These measures could include items such as the preparation of a NHDHR Historic Property Documentation report for the dam (including large format photography of the dam prior to and during its removal); an interpretive exhibit, archaeological monitoring, or other measures. Under this task, VHB will assist the Town and its partners define and implement the mitigation measures. For budgetary purposes, an allowance of up to 120 hours is included to assist with this effort. The final budget amount will depend on the scope of the mitigation measures, which cannot be defined prior to the execution of the MOA. If necessary the scope of this effort exceeds this allowance, VHB will provide a written work scope and fee proposal at that time.

TASK 5 – BID PACKAGE DEVELOPMENT & BID PHASE SUPPORT

Under this task, VHB shall prepare bid documents to include construction plans and specifications, bid package materials, and provide bid phase support for the CLIENT. It is assumed that the Town will use a Pre-Qualified Low Bid process, whereby the qualifications of prospective bidders to complete this specialized work will be assessed in a standardized way prior to the solicitation of bids. This task involves development of materials needed to complete the contractor selection process, including:

1. Development of minimum standards for contractor qualification and issuance of a draft and final Request for Qualifications, including a description of the proposed project.
2. Review of contractor qualification statements and recommendation to the CLIENT on the same.
3. Provide support for issuance of a draft and final Request for Proposals, including providing support for:
 - a. Final 100% construction plans and specifications, assumes bid package will be provided electronically (i.e. no paper copies); and
 - b. Documentation routinely required for bidding purposes such as bid/contract documents, bid forms, etc., assuming the Town has standard front end contract language.
4. Attendance at one pre-bid field conference with the CLIENT, project partners and potential bidders.
5. Address questions posed by bidders and provide clarification to bidders regarding construction plans and specifications.

6. Preparation of addenda as needed.
7. Review of bid submittals and a recommendation to the CLIENT and project partners on bid award.

It is assumed that the CLIENT will complete or assist with other work required by the administrative process for the bid such as accepting and distributing bidders' questions via email and telephone, receiving bid packages, etc., although the CONSULTANT can provide this service, if needed, by amendment of this agreement.

TASK 6 – PROJECT MANAGEMENT, COORDINATION, AND GRANT SUPPORT

VHB will provide regular communication by way of email and telephone. Additionally, the VHB project manager or principal will attend up to 18 meetings during development of the design and permit documents. A second project engineer or project technical specialist will attend up to 12 of these meetings. The following meetings are anticipated:

Internal Coordination

- Kick-off meeting to discuss project scope, schedule and regulatory/Section 106 coordination
- Meeting to review 10 percent design
- Meeting to review 50 percent design
- Meeting to review draft permit applications
- Meeting to review 90 percent design
- Meeting to review bid package
- Pre-bid conference
- Up to three (3) additional meetings as needed to discuss Section 106 or other regulatory tasks

Public Involvement

- Up to four (4) meetings with the Town Council, abutters, or other stakeholders to provide status updates during the project duration

Regulatory

- Up to two (2) meetings with USACE, NHDES, and their State and Federal Partners
- Up to two (2) meetings with NHDHR and any consulting parties

Grant Assistance

It is understood that the project will be funded with Town funds, but that the Town intends to purpose grant applications for possible state, federal and/or non-governmental grant resources. Under this task, VHB would also assist the Town of Durham with completing grant applications for possible funds to be used for the completion of the project. For budgetary purposes, we assume up to 24 hours to be used on two to three grant applications.

C. CLIENT-FURNISHED INFORMATION

The CLIENT shall provide VHB with the following:

- Landowner permission to enter private property to conduct inspections, field studies, etc.
- All plans related to infrastructure in the dam vicinity, including utilities

- Standard Construction Solicitation Document per Durham requirements

D. SERVICES NOT INCLUDED

The following services are not included in this initial proposal but can be provided by VHB under supplemental agreement:

- Development of landscaping plans such as improvements to Mill Pond Park associated with mitigation of community or recreational impacts
- NPDES Construction General Permit
- Construction phase services, including field construction layout or construction observation
- Development of water quality sampling or modeling
- Additional sediment sampling or analysis including laboratory services for sediment testing, hazardous waste, environmental site assessments
- 3-D Site renderings
- As-Built plans, easement plans, construction survey and/or certifications
- Design of new or replacement culverts, headwalls, bridges etc.
- Services to administer construction contract(s), site visits during construction for purposes of inspecting the construction activities and shop drawing reviews
- Development of a LOMR
- Alteration of Terrain (AoT) permit application it qualifies for a General Permit by Rule under Env-Wq 1503.03(f).

If work is required in these areas, or areas not previously described, VHB will prepare a proposal or amendment, at the client's request, that contains the Scope of Services, fee, and schedule required to complete the additional items.

E. COMPENSATION

VHB will complete the Scope of Services on a TIME AND MATERIALS BASIS with a not-to-exceed limit of **\$284,226** which is based on the task estimates listed below. Invoices will be provided monthly. In addition to the labor compensation, VHB shall be reimbursed for expenditures made specifically for the project such as: printing and reprographics; travel and subsistence; computer charges; telephone charges; shipping, postage, and courier service charges; purchase of maps and similar documents; etc. These direct expenses will be billed at cost. Subconsultants and subcontractors who are under contract to VHB will be invoiced at their actual cost.

F. SCHEDULE

VHB is prepared to begin work on this project within one week of receipt of a notice to proceed. We will coordinate a more detailed project schedule at that time, which will include an itemized schedule in Gantt format.

TASK 1 – FINAL SURVEYS & PRE-DESIGN COORDINATION	
1.1 – Additional Survey	\$14,433
1.2 – Wetland Delineation	\$5,315
1.3 – Rare Species Coordination	\$1,825
1.4 – Archaeological Surveys	\$1,755
TASK 2 – ENGINEERING DESIGN	
2.1 - 10% Design	\$15,227
2.2 - 50% Design	\$18,403
2.2 - 90% Design	\$20,106
2.3 - 100% Design	\$4,329
TASK 3 – ENVIRONMENTAL PERMITTING	
3.1 – Rare Species Conservation Measures	\$11,333
3.2 – Integrated Vegetation Management Plan	\$7,274
3.3 – NHDES Wetlands Application	\$20,211
3.4 – Clean Water Act, Section 404	\$2,109
3.5 – NHDES Shoreland Protection	\$9,892
3.6 – Regulatory Follow On Services	\$7,057
TASK 4 - CULTURAL RESOURCES	
4.1 - Section 106 Consultation	\$15,863
4.2 - Mitigation Allowance	\$15,863
TASK 5 - BID PHASE SUPPORT	\$10,104
TASK 6 - PM, COORDINATION & GRANT SUPPORT	\$40,729
Subtotal VHB Labor	\$221,826
VHB Expenses	\$6,655
Pare Labor & Expenses	\$20,725
W&S Labor & Expenses	\$13,000
IAC Labor & Expenses	\$22,020
TOTAL	\$284,226

VANASSE HANGEN BRUSTLIN, INC. AUTHORIZATION

By: Robin Bousa

Title: Managing Director

Date: October 8, 2021

CLIENT AUTHORIZATION

The Town of Durham agrees with the Scope of Services, Compensation, and Schedule. Upon execution, this agreement is subject to all terms, conditions and provisions herein.

By: 

Title: Todd I. Selig
Administrator
Town of Durham

Date: 9/14/21

PART II, TERMS AND CONDITIONS

The general terms and conditions presented below are incorporated, by reference, into the agreement (“Agreement”) between Vanasse Hangen Brustlin, Inc. and the Town of Durham dated September 9, 2021. In the event that any of the terms and conditions below contradict any statements in the Agreement, the terms stated in the Agreement shall rule with respect only to such contradicting statements.

Vanasse Hangen Brustlin, Inc. (VHB) and Town of Durham agree as follows:

1. The Scope of Services: will be performed in accordance with VHB’s proposal to the Municipality submitted the 9th day of September 2021 (herein referred to as the (“Project”) attached.
2. This AGREEMENT represents the full and complete agreement between the PARTIES. Terms and conditions may be changed, or additional terms added only by written amendment to this AGREEMENT signed by both PARTIES.
3. Time of Project: VHB will initiate work under this AGREEMENT following formal acceptance of this AGREEMENT by the Town of Durham. VHB agrees to provide services described herein in a timely manner and consistent with the timeline established in the scope of services, unless otherwise amended. The PARTIES recognize that the services being provided by VHB are subject to impact by weather, labor, fire, construction, and technological issues that may cause delays, however VHB agrees to use its best efforts to avoid delays.
4. Services: VHB shall provide client with the services outlined in the Agreement with respect to the project identified. Additional technical services beyond those specifically outlined will be rendered only following an amendment of the Agreement signed by both VHB and the Town of Durham.
5. Invoices and Payment: Client will pay VHB for services rendered in accordance with the rates and charges set forth in the Agreement and as described herein. Invoices will be submitted on a monthly basis. Payments to VHB will be due within thirty (30) calendar days of invoice date. Unpaid balances will be subject to a 1 ¼% per month late payment charge beginning on the invoice date.
6. Time and materials Provisions: Where the Agreement specifies that payment is to be due on a time and materials basis (i.e., hourly rates plus reimbursable expenses), fees shall be invoiced based on the hours actually expended plus reimbursable expenses. The minimum time segment for invoice purposes shall be one half hour for office time and two hours for field work and out-of-office meetings. Hourly charge shall not include time in transit.

Expenses properly chargeable to VHB which are reimbursable at cost plus five percent (5%) shall include: travel (including automobile mileage at the maximum current IRS rate) Lodging and meal expenses are not reimbursable under this contract. Project related drafting and clerical supplies: communication (including telephone), shipping, printing, and other reproduction costs:

CADD computer time: computer software if specially acquired (with Town of Durham's prior approval) for Client's project, and expendable materials and supplies purchased specifically for Client's project.

The services of professional and technical subconsultants shall be invoiced and payable at cost plus ten percent (10%) as a processing and administrative charge.

7. Nature of Fee and Schedule Estimates: Unless otherwise specifically presented in the Agreement, the estimated total fees proposed represent VHB estimate of the level of effort required to perform the proposed services. It is understood by Town of Durham that the services provided by VHB at times involve conceptual engineering, preparing regulatory permit applications, meetings, negotiations, and other types of services all of which are not fully definable and involve services over which VHB does not have control over the amount of time (affecting both fees and project schedule) required to effectively accomplish Town of Durham objectives. As the project progresses, VHB will keep Town of Durham informed of factors beyond the control of VHB which may alter the project schedule as outlined in the Agreement and VHB will apprise Town of Durham in writing in the event that total fees required to perform the proposed services will be in excess of the fee estimates presented in the Agreement.

VHB shall not be liable for any delay or failure by VHB to perform any of its obligations under the Agreement, if such delay or failure arises from any cause beyond VHB's control (including Client's failure to comply with the provisions of Section 7 below).

8. Town of Durham Responsibilities: Town of Durham shall provide full information as to Town of Durham requirements for Project; designate a person to act with authority on Town of Durham behalf in respect of all aspects of the Project, examine and respond promptly to VHB and give prompt written notice to VHB whenever the Town of Durham observes or otherwise becomes aware of any defect in the work.
9. Standard of Professional Practice: Town of Durham acknowledges that VHB services require the application of engineering judgement and that decisions and recommendations are not always, or often, clear matters of engineering and science. Town of Durham acknowledges the inherent risks incurred by Town of Durham in undertaking the proposed project and, in accepting VHB's proposal, has selected VHB to assist in furthering Town of Durham stated objectives through applying such engineering judgement. VHB will perform its services in accordance with generally accepted professional practice, as existing at the time of providing such services, based upon VHB's experience, qualifications, and professional judgement. Town of Durham acknowledges that VHB's services will be rendered without any other warranty or guarantee, express or implied, beyond VHB observance of the above Standard of Professional Practice.
10. Insurance: VHB maintains, as its own expense, Worker's Compensation insurance, public liability and property damage insurance, errors and Omissions Insurance/ Engineer's Professional Liability Insurance. VHB will provide certificates of such insurance upon written request by the Town of Durham, with the Town named as additional insured where applicable. Town of Durham acknowledges that VHB will not be liable to Town of Durham for any loss, damage, cost or expense which, in the aggregate, exceed the amounts of VHB's insurance coverage limits,

inclusive of such exclusions and conditions of the insurance policies maintained, unless VHB is determined by a final judgement of a court of competent jurisdiction to have caused any loss, cost, damage, or expense solely by reason of VHB willful misconduct or gross negligence.

11. Ownership and Use of Documents: During the pendency of the PROJECT, the Town of Durham shall have access to VHB's work product from the PROJECT. Such work product is not intended or represented to be suitable for reuse by the Town of Durham or others on extensions of the PROJECT or on any other PROJECT. Any reuse or alteration without written verification or adaptation by VHB for the specific purpose intended shall be at the Town of Durham sole risk and without liability or legal exposure to VHB, and the Town of Durham shall indemnify and hold VHB harmless from all claims, damages, losses, and expenses, including reasonable attorney's fees arising out of or resulting therefrom. Any such verification or adaptation shall entitle VHB to further compensation at rates to be agreed upon by the Town of Durham and VHB.

Notwithstanding the Town of Durham ownership of the work documents, the parties agree that VHB retains the right to use and access the work documents.

12. Termination: The obligation to provide further services under this Agreement may be terminated by either party upon seven (7) days written notice in the event of substantial failure by the other party to perform in accordance with the terms hereof through no fault of the termination party. In the event of any termination, VHB will be paid for all services rendered to the date of termination and all Reimbursable Expenses.

13. Controlling Law: This Agreement is to be governed by the law of the State of New Hampshire.

14. Successors and Assigns: Town of Durham and VHB each is hereby bound, and the partners, successors, executors, and administrators and legal representatives of Town of Durham and VHB are hereby bound to the other party to this Agreement and to the partners, successors, executors, administrators, and legal representatives (and said assigns) of such other party. In respect of all covenants, agreements, and obligations of this Agreement.

Nothing under this Agreement shall be construed to give any rights or benefits in this Agreement to anyone other than Town of Durham and VHB, and all duties and responsibilities undertaken pursuant to this Agreement will be for the sole and exclusive benefit of the Town of Durham and VHB and not for the benefit of any other party.

15. Dispute Resolution: All questions in dispute under this Agreement shall be submitted to non-binding mediation as a condition precedent to the institution of legal proceedings. On the written notice of either party to the other of the election to submit any dispute under this Agreement to mediation, each party shall designate their representative and shall meet within ten (10) days after the service of the notice. The parties shall then attempt to resolve the dispute, within ten (10) days of meeting. Should the parties be unable to agree on a resolution of the dispute, then the parties shall proceed with mediation in accordance with the mediation rules of the American Arbitration Association. The cost of the mediation shall be borne equally

by both parties. This Agreement shall be governed and construed in accordance with the laws of the State of New Hampshire.

16. Severability: The provisions of these Terms and Conditions are severable. The invalidity of any part of these Terms and Conditions shall not invalidate the remainder of these Terms and Conditions nor the remainder of any portion hereof.