



# TOWN COUNCIL – AGENDA REQUEST FORM

THIS FORM WILL BECOME PART OF THE BACKGROUND INFORMATION USED BY THE COUNCIL AND PUBLIC

Please submit Agenda Request Form, **including back up information**, 8 days prior to the requested meeting date. **Public Hearing requests must be submitted 20**

**days prior to the requested meeting date to meet publication deadlines** (exceptions may be authorized by the Town Manager, Chairman/Vice Chair).

## MEETING INFORMATION

Date Submitted: 3/16/21

Date of Meeting: 3/25/21

Submitted by: Kyle Fox

Time Required: 20 Minutes

Department: Public Works

Background Info. Supplied: Yes  No

Speakers: Kyle Fox

## CATEGORY OF BUSINESS (PLEASE PLACE AN "X" IN THE APPROPRIATE BOX)

Appointment:	<input type="checkbox"/>	Recognition/Resignation/Retirement:	<input type="checkbox"/>
<b>Public Hearing:</b>	<input type="checkbox"/>	Old Business:	<input type="checkbox"/>
New Business:	<input checked="" type="checkbox"/>	Consent Agenda:	<input type="checkbox"/>
Nonpublic:	<input type="checkbox"/>	Other:	<input type="checkbox"/>

## TITLE OF ITEM

**Request to expend up to \$60,000 from the Highway Infrastructure Capital Reserve Fund to support a FEMA Benefit Cost Analysis submittal with respect to the replacement of the US 3 bridge over Baboosic Brook.**

## DESCRIPTION OF ITEM

State funding for the scheduled replacement of the US 3 over Baboosic Brook bridge is short of what is required for the project. In an attempt to secure an alternative funding source, Public Works is working toward a federal FEMA Building Resilient Infrastructure and Communities (BRIC) program grant that would cover 75% of the total cost of the project, which would result in a reduction in Merrimack's local cost contribution toward the project, estimated to result in a savings of more than \$800,000.

## REFERENCE (IF KNOWN)

RSA:	Warrant Article:
Charter Article:	Town Meeting:
Other:	N/A:

## EQUIPMENT REQUIRED (PLEASE PLACE AN "X" IN THE APPROPRIATE BOX)

Projector:	<input type="checkbox"/>	Grant Requirements:	<input type="checkbox"/>
Easel:	<input type="checkbox"/>	Joint Meeting:	<input type="checkbox"/>
Special Seating:	<input type="checkbox"/>	Other:	<input type="checkbox"/>
Laptop:	<input type="checkbox"/>	None:	<input checked="" type="checkbox"/>

## CONTACT INFORMATION

Name:	<b>Kyle Fox</b>	Address:	<b>6 Baboosic Lake Road</b>
Phone Number:	<b>424-5137</b>	Email Address:	<b>kfox@merrimacknh.gov</b>



## TOWN OF MERRIMACK INTER-DEPARTMENT COMMUNICATION

**DATE:** March 16, 2021

**AT (OFFICE):** Department of Public Works

**FROM:** Kyle Fox *KF*  
Public Works Director

**SUBJECT:** FEMA BRIC Funding Opportunity – US 3 over Baboosic Brook Bridge

**TO:** Eileen Cabanel  
Town Manager

The Public Works Department (MPW), through our Consultant (Quantum Construction Consultants, QCC), submitted the Feasibility Study for the US 3 over Baboosic Brook Bridge to NHDOT in August, 2020 with hopes of moving forward to final design and right of way acquisition. To date, NHDOT has not allowed us to proceed on final design due to a difference in the funding allotted to the project in the Ten Year Plan and the projected project costs illustrated in the Feasibility Study. At this point, we do not have a viable solution to fund the delta in cost that would allow NHDOT to give us the notice to proceed to final design and with NHDOT funding shortfalls in the State Bridge Aid program (SBA), there is no timeframe for when a solution might be available.

In an effort to bridge the gap in funding, QCC reached out to the New Hampshire Homeland Security and Emergency Management group (HSEM) to inquire about the Building Resilient Infrastructure and Communities (BRIC) program through FEMA. On March 3, MPW and QCC participated in a virtual meeting with HSEM to discuss our project and the potential fit within the BRIC program. HSEM indicated that the project was a viable candidate for the program and that, though competitive nationwide, other NH communities have been successful in acquiring funds through the BRIC program. HSEM stressed the importance of a detailed Benefit Cost Analysis (BCA) as the project is considered for the program.

The BCA requires significant effort and analysis to complete and would require consultant assistance. I asked QCC to provide us with a proposal on a time and material basis for such assistance which they did and is included as an attachment to this memo. The estimated cost for their assistance is \$60,000 which I would request be funded through the Highway Infrastructure Capital Reserve fund. I will note that there is risk in this venture as the BRIC program is a nationwide competitive grant that we may or may not be selected for. The reward to the Town, should we be accepted into the program, is a reduction in our overall project costs of more than \$800,000. The savings results from the BRIC programs funding structure which is 75% federal,

25% local match – Merrimack would be responsible for 20% of the 25% match per the agreement with NHDOT for the SBA (NHDOT would be responsible for the remaining 80% of the 5% match). A breakdown of the comparative costs of the two programs is also attached to this memo, along with a detailed project cost matrix.

I look forward to discussing this proposal with you. Please let me know if you have any questions.

CC: Paul Micali, Finance Director/Assistant Town Manager  
Dawn Tuomala, Town Engineer





# QUANTUM CONSTRUCTION CONSULTANTS, LLC

27 LOCKE ROAD, CONCORD, NH 03301 WWW.QUANTUM-CC.COM TEL: (603) 224-0859

March 10, 2021

Via Email Only

Mr. Kyle Fox, PE  
Director of Public Works  
Town of Merrimack  
6 Baboosic Lake Road  
Merrimack, NH 03054

Dear Mr. Fox:

**SUBJECT: Merrimack, NHDOT Project No. 29171  
US Rte. 3 over Baboosic Brook – NHDOT Br. #118/135  
Proposal for FEMA BRIC Funding - Benefit Cost Analysis**

Quantum Construction Consultants, LLC (QCC) is pleased to offer this contract proposal to assist the Town of Merrimack, NH (Town) in undertaking the development of the Federal Emergency Management Agency's (FEMA) Benefit Cost Analysis (BCA) as required for determining the cost effectiveness of the proposed flood mitigation project for Baboosic Brook relating to the replacement of the US Rte. 3 bridge over Baboosic Brook. The preparation and submission of the BCA to New Hampshire Department of Safety (NHDOS), Homeland Security and Emergency Management (HSEM) is required prior to undertaking efforts for development and submission of a grant application for FEMA BRIC funding assistance.

## **BACKGROUND**

The existing US Rte. 3 crossing of Baboosic Brook is a 20-foot span concrete circular arch that induces a backwater effect for the riverine impacting infrastructure and properties for an extended reach up to and through the Wire Road crossing. The condition is identified on FEMA's 2009 Flood Insurance Study panels and profiles, and has been confirmed by QCC's independent Hydrology and Hydraulic (H&H) analyses for the bridge replacement crossings of McGaw Bridge Road Bridge, Bedford Road, Bean Road and Wire Road, and as recently confirmed for the proposed US Rte. 3 bridge replacement.

QCC'S Engineering Study for the project has identified that the preferred bridge alternative is for a 138-Foot Span Steel Girder with Exposed Concrete Deck and integral abutments to enable passage of the required  $Q_{100}$  flood elevation. This bridge alternative will reduce the backwater flood elevation for Baboosic Brook approximately 12.2 vertical feet (VF) immediately upstream of the crossing.

The bridge is currently scheduled to be funded by the New Hampshire Department of Transportation (NHDOT) State Bridge Aid (SBA) program. However, the latest project costs as developed by QCC for the Engineering Study have realized that the projections are in excess to

the current value programmed by NHDOT. The SBA bridge program funding is capped at approximately \$6.8 Million per year, and as such, the NHDOT has been attempting to derive the means and methodology required to fund this project. Currently the SBA program funds projects at 80% SAB funds with 20% Town match.

On behalf of the Town, QCC has reached out to NHDOS HSEM to inquire about the potential for funding the bridge replacement through the FEMA's Building Resilient Infrastructure and Communities (BRIC) program as a floodway mitigation program.

A scoping meeting undertaken on March 3, 2021 with representatives from NHDOS HSEM, the Town, and QCC identified that the project certainly appears to be a strong candidate for these federal funds, and NHDOS HSEM welcomes the opportunity to review the BCA for the proposed project.

The FEMA BRIC funding program provides for 75% federal funding for the project with 25% match required. Recent discussions with NHDOT representatives relative to the potential for BRIC funding for the project has shown that the SBA funds can be utilized for the required BRIC match based on the same 80/20 split, thereby reducing the Town match to 5%.

### **FEMA BCA REQUIREMENTS**

FEMA's BCA program is the key mechanism for evaluating hazard mitigation projects to determine eligibility for grant assistance by FEMA. The BCA must identify that the project is cost effective and will reduce future damages and losses from natural events, i.e. flooding in the case of this project.

In terms of this project the anticipated work scope for the determination of future project costs for the BCA includes direct costs such as:

- Project Construction costs,
- Engineering costs,
- Utility relocation costs,
- Cadastral costs, and
- Management costs.

Additionally, the BCA includes the development of costs associated with the risk assessment and hazard mitigation, including, but not limited to:

- Local roadways closure and detour costs,
- F.E. Everett Turnpike closure and detour costs,
- Regional roadway network delay costs for detour traffic,
- Property site inventory of impacted properties due to flooding, including displacement costs, reconstruction / replacement values, identification of demolition thresholds, and
- Loss of public services including utilities.





The development of a FEMA BCA utilizes a specialized FEMA software program spreadsheet that requires population of cells utilizing FEMA's standard formulas with site specific data or modified for regional data. The completed BCA will include detailed supportive documentation as to the project scope of work, identification of the affected area, identification of H&H utilized, and derivation of costs.

NHDOS HSEM has identified the estimated timetable for seeking FEMA BCA funding for FY2021 as follows:

- BCA – initiate now and provide to HSEM for review,
- Notice of Funding Opportunity (NOFO) – August 2021,
- Subapplications due to HSEM at the end of November for review,
- Eligible projects submitted to FEMA in January 2022 for review.

### SCOPE OF SERVICES

QCC proposes the following scope of services relative to the development of the BCA for the project, coordination of the BCA with the Town and NHDOS HSEM, and final submission of the complete BCA to NHDOS HSEM.

#### I. SCOPE OF WORK

QCC will develop the detailed project Scope of Work relative to sponsor; proposed project; alternatives considered; reasons for selection of the preferred alternative; anticipated project timelines; project location; project relevance; and methodologies for project execution.

#### II. PROJECT SCHEDULE

QCC will develop the project schedule which will delineate the tasks required for project execution; identify task duration in 90-day intervals; tasks will include FEMA review periods; plan adoption; timelines for bidding assistance, construction, and project completion. The proposed timeline will not exceed the performance period which is typically 36 months from project grant award.

#### III. PROJECT COST ESTIMATE

QCC will undertake the preparation of the project cost estimate / budget which will outline all costs for the development of the overall project by itemized specific task, and provide backup for the derivation of all costs, including but not limited to costs for Engineering, Construction, Management, Cadastral, and Permitting Costs.



#### IV. BENEFITS ASSESSMENT

Similar to the Project Cost Estimate, QCC will undertake the assessment and qualification of probable impacts due to flooding without the proposed project. The assessment of probable impacts will include those risk assessments identified herein. Qualification of the impacts will be based on current FEMA allowable rates, and supplemental data as may be required.

#### V. BCA COORDINATION

QCC will routinely meet with the Town during the development of the Scope of Work, data acquisition processes, and development of the DRAFT BCA.

QCC anticipates that a minimum of three coordination submittals and virtual meetings will be conducted with NHDOS HSEM representatives during the development of the DRAFT BCA.

#### VI. FINAL BCA SUBMISSION

Upon input from the Town and NHDOS HSEM, QCC will finalize the BCA and supportive detailed documentation to NHDOS HSEM for project evaluation for application.

#### CLIENT RESPONSIBILITIES

- A. The Town will track municipal costs related to the development of the BCA for reporting of project costs.
- B. The Town will assist in property valuations as may be required for projection of flood damages.
- C. The Town will participate in coordination meetings with NHDOS HSEM representatives for review and comment on the DRAFT BCA.
- D. Assistance in preparing documentation and qualification of previous flood events.

#### FEE ESTIMATE

Our services for the project will be provided in accordance with the attached “**Standard Conditions for Engagement**” dated January 1, 2021.

We propose to invoice monthly on a **Time and Materials Basis** and a budget of \$59,235 has been established for the project based on the attached work hour and fee estimate for the development of the FEMA BCA.



This proposal is valid for a period of 45 days.

Additional work as may be required will be undertaken on a time and materials basis. A contract amendment will be provided to the Town for approval prior to initiating the additional work.

**SCHEDULE**

QCC is prepared to begin the development of the BCA upon Notice to Proceed from the Town and complete the BCA for submission to NHDOS HSEM prior to July 1, 2021.

**CONTRACT FORM**

Please sign and return one original as your acceptance of the above scope and terms, including noted attachments, and your authorization to proceed.

We appreciate the opportunity to present this proposal, and look forward to continuing to assist the Town of Merrimack with this project.

Sincerely,  
QUANTUM CONSTRUCTION CONSULTANTS, LLC



James A. Bouchard  
Senior Project Manager

Attachments    Scope & Fee Estimate  
                         Standard Conditions for Engagement

Accepted by:  
**The Town of Merrimack, New Hampshire**

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Cc:    Rick Wolf, QCC  
       Anna Giraldi, QCC







QUANTUM CONSTRUCTION CONSULTANTS, LLC

27 LOCKE ROAD, CONCORD, NH 03301 TEL: 603-224-0859

TOWN OF MERRIMACK, NH  
 US RTE. 3 OVER BABOOSIC BROOK, NHDOT BR. # 118/135  
 NHDOT PROJECT NO. 29171  
 FEE ESTIMATE FOR FEMA BRIC GRANT ASSISTANCE -  
 PREPARATION OF BENEFIT COST ANALYSIS (BCA)  
 March 10, 2021

TASK DESCRIPTION	WORK HOURS						TOTAL HOURS
	Principal	Sr. PM/PE III	PM/PE II	PE I	Sr. Designer	TWP	
<b>BCA Preparation &amp; Submission</b>							
Project Coordination, Meetings with Town & Meeting Minutes	5	12	15				32
Project Coordination, Meetings with NHDOS HSEM	3	12	15				30
Development of Scope of Work		8	8			2	18
Assessment & Development of Direct Costs	3	11	11	17			42
Risk Assessment & Hazard Mitigation Costs -							0
Local Roadway Closure & Detour		3	5	7			15
F.E. Everett Closure & Detour		3	5	9			17
Regional Roadway Network Impacts		3	5	8			16
Property Site Inventory Assessments		3	6	12			21
Loss of Public Services		2	2	14			18
Additional RA & HM Costs		2	2	16			20
Preparation of Supportive Documentation -							0
Mapping, Plans, Profiles, Details		4	6	8	24		42
Revise H&H Study per FEMA			16	24			40
Assembly of Supportive Documentation including Tax Cards, Calculations, and Estimates		4	4	8		12	28
DRAFT BCA Preparation	2	6	16	32			56
Submission & Review of Draft BCA to Town & NHDOS HSEM ( 2 submissions)	1	4	8	12	4		29
Final BCA Preparation with Supportive Documentation for Formal Submission to NHDOS HSEM	1	3	11	32	4		51
<b>Total BCA Preparation &amp; Submission Work Hours</b>	<b>15</b>	<b>80</b>	<b>135</b>	<b>199</b>	<b>32</b>	<b>14</b>	<b>475</b>

Total hours listed above are for estimating purposes for development of total contract fee. Hours listed for each task are approximate with the anticipation that some task hours may be higher and some lower to provide an overall reasonable project fee.

**ESTIMATED FEMA BCA COSTS**

	Work Hours	Hourly Rate	Estimated Costs
Principal	15	\$ 175.00	\$ 2,625
Sr. Project Manager/Project Engineer III	80	\$ 170.00	\$ 13,600
Project Manager/Project Engineer II	135	\$ 120.00	\$ 16,200
Project Engineer I	199	\$ 100.00	\$ 19,900
Sr. Designer	32	\$ 100.00	\$ 3,200
Technical Word Processing	14	\$ 65.00	\$ 910
<b>475</b>		<b>Total Fully Burdened Labor</b>	<b>\$ 56,435</b>
		<b>Estimated Direct Costs (5%)</b>	<b>\$ 2,800</b>
		<b>QCC ESTIMATED FEE - FEMA BCA PREPARATION =</b>	<b>\$ 59,235</b>



### STANDARD CONDITIONS FOR ENGAGEMENT

The **CLIENT** and **QUANTUM CONSTRUCTION CONSULTANTS, LLC (QCC)** hereby agree as follows:

- 1. CONTRACT** - The Contract is the Proposal or Contract document that is signed and dated by QCC and the CLIENT and to which these Standard Conditions for Engagement are appended by reference.
- 2. COMPENSATION FOR SERVICES AND PAYMENT TERMS** - The CLIENT agrees to pay QCC in accordance with the payment terms provided in the Contract.

Invoices will be submitted monthly unless specifically detailed otherwise in the accompanying contract or signed proposal.

Invoices are due and payable upon their receipt. An interest charge of one and one-half percent (1-1/2%) of the invoice amount will be added automatically to each invoice if payment is not received within thirty (30) days after the date on the invoice. Thereafter, interest on the cumulative outstanding balance will be added at a rate of one and one-half percent (1-1/2%) per month. All payments received shall be applied to the oldest invoices first.

### **3. CLIENT RESPONSIBILITIES**

*Project Requirements:* The CLIENT shall provide to QCC all criteria and information as to requirements for the Project including objectives, constraints, performance requirements, expendability and budgetary limitations; and furnish copies of all design and construction standards which the CLIENT will require to be incorporated into the Project.

*Client Representative:* The CLIENT shall designate in writing a person to act as the CLIENT'S representative with respect to the services to be rendered under this Agreement. Such person shall have complete authority to transmit instructions, receive information, interpret and define CLIENT'S policies and decisions with respect to QCC's services for the Project.

*Existing Information:* The CLIENT shall provide QCC with all information available to the CLIENT pertinent to QCC's work under this Agreement. The CLIENT shall furnish to QCC, as required for performance of QCC's Basic Services, the following:

- Environmental assessment and impact statements;
- Property, boundary, easement, right-of-way topographic and utility surveys;
- Property descriptions;
- Zoning, deed and other land use restriction;
- Data prepared by or services of others, including without limitation borings, probings and subsurface explorations, hydrographic surveys, laboratory tests and inspections of samples, materials and equipment and appropriate professional interpretations of all of the foregoing; and
- Other special data or consultations;

all of which QCC shall be entitled to use and rely upon with respect to the accuracy and completeness thereof, in performing services under this Agreement. The CLIENT shall assist QCC as necessary to obtain available pertinent information from Federal, State or local offices or from other engineers or others who have previously worked for the CLIENT on matters affecting this Project.

*Access:* The CLIENT shall acquire all necessary easements, rights of way, land takings and arrange for access to and make all provisions for QCC and its subconsultants to enter upon public and private property as required for QCC to perform its services.

*Review Documents:* The CLIENT shall examine all documents prepared for the Project by QCC; and at the CLIENT'S option, obtain advice from legal counsel, insurance counsel and other appropriate advisors, and advise QCC of any opinion or recommendations resulting from paid advice.

*Permits:* The CLIENT shall secure and maintain all necessary approvals and permits from all governmental authorities having jurisdiction over the Project and such approvals and consents from others as may be necessary for completion of the Project.



*Notice:* The CLIENT shall give prompt written notice to QCC whenever he observes or otherwise becomes aware of any development that affects the scope or timing of QCC's services.

*Additional Work:* The CLIENT shall furnish, or direct QCC to provide necessary Additional Services.

*Costs:* The CLIENT shall bear all costs incident to compliance with the requirements of this Section 3.

**4. DOCUMENTS** - All reports, design drawings, field data and notes, laboratory test data, calculations, estimates and other documents that QCC prepares as instruments of service shall remain QCC's property. The CLIENT agrees that QCC's services are on behalf of and for the exclusive use of the CLIENT and that all reports and other documents furnished to the CLIENT or his agents shall be utilized solely for this project. These documents are not intended or represented to be suitable for reuse by CLIENT or others in connection with (a) the completion of the Project if QCC's agreement has been terminated or QCC otherwise is not involved in the Project; (b) extensions of the Project; and/or (c) any other project. Any reuse without written verification or adaptation by QCC for the specific purpose intended will be at CLIENT's sole risk and without any liability or legal exposure to QCC or its consultants. The CLIENT shall indemnify and hold harmless QCC, and its consultants, from any and all claims, damages, losses and expenses including attorneys' fees arising out of or resulting therefrom. Any such verification or adaptation will entitle QCC to further compensation at rates to be agreed upon by CLIENT and QCC.

**5. RESTART** - If the Project is stopped for a period greater than 30 days, a restart fee will be required to compensate QCC for any necessary premium time, and for remobilization of staff and materials. Depending on the duration of the stoppage, an additional adjustment may be necessary to cover wage increases and general escalation.

Restart fee will be 10% of fee earned to date of stoppage, unless CLIENT and QCC agree on a different amount.

**6. CONSTRUCTION OBSERVATION SERVICES** - If QCC's construction observation services are included as part of the scope of services in the Contract, QCC will provide personnel to observe construction to determine that it is being performed, in general, in accordance with the plans and specifications.

QCC cannot provide its opinion on the suitability of any part of the work performed unless measurements and/or observations of that part of the construction are made by QCC personnel.

QCC's services do not make QCC a guarantor of the contractor's work and the contractor will continue to be responsible for the accuracy and adequacy of all construction or other activities performed by the contractor. The contractor will be solely responsible for the methods of construction; supervision of personnel and construction; control of machinery; falsework, scaffolding, or other temporary construction aids; safety in, on, or about the job site; and compliance with OSHA regulations.

**7. REVIEW OF SHOP DRAWINGS** - If QCC's contract with the CLIENT so requires, QCC shall review (or take other appropriate action in respect of) Shop Drawings, samples and other data which Contractor(s) is (are) required to submit, but only for conformance with the design concept of the Project and compliance with the information given in the Contract Documents. Such review or other actions shall not extend to means, methods, techniques, sequences or procedures of manufacture (including the design of manufactured products) or construction, or to safety precautions and programs incident thereto. QCC's review or other actions, as described above, shall not constitute approval of an assembly or product of which an item is a component, nor shall it relieve the Contractor(s) of (a) its (their) obligations regarding review and approval of any such submittals; and (b) its (their) exclusive responsibility for the means, methods, sequences, techniques and procedures of construction, including safety of construction.

**8. CONTRACTOR PERFORMANCE** - It is the CLIENT's responsibility to hire the Contractor, and it is the Contractor's responsibility to install and complete fully operable systems. The CLIENT agrees to pay QCC 2.5 times Direct Personnel Expense for all its troubleshooting work due to Contractor's inability to achieve satisfactory operation.

CLIENT shall hold harmless, defend and indemnify QCC, its officers, agents, employees and consultants, from any and all liabilities, claims, damages and suits arising out of the negligence of the CLIENT or its agents, or liability due to the negligence of any Contractor(s) performing any portion of the work and supplying any materials, or any other parties, except for any liability of QCC or its consultants due to the sole negligence of QCC, or its consultants.

**9. COST ESTIMATES** - Any estimates or opinions of project or construction costs are provided by QCC on the basis of QCC's experience and qualifications as an architect/engineer and represent its best judgment as an experienced and qualified architect/engineer familiar with the construction industry. Since QCC has no control over the cost of labor, materials, equipment or services furnished by others or over competitive bidding or market conditions, it cannot guarantee that proposals, bids or actual Project costs or construction costs will not vary from any estimates or opinions of costs prepared by QCC. Similarly, since QCC has no control over building operation and/or maintenance costs, QCC cannot and does not guarantee that the actual building or system operating or maintenance costs will not vary from any estimates given by QCC. No fixed limit of construction cost is established as a part of this Agreement.

**10. STANDARD OF CARE** - QCC's services will be performed in accordance with generally accepted practices of the Architects/Engineers providing similar services at the same time, in the same locale, and under like circumstances. CLIENT agrees that QCC's services provided will be rendered without any warranty, express or implied.

**11. SUSPENSION OF WORK** - The CLIENT may, at any time, by ten (10) day written notice, suspend further work by QCC. The CLIENT shall remain fully liable for and shall promptly pay QCC the full amount for all services rendered by QCC to the date of suspension of services plus suspension charges. Suspension charges shall include the cost of putting documents and analyses in order, personnel and equipment rescheduling or reassignment adjustments, and all other related costs and charges directly attributable to suspension.

If payment of invoices by the CLIENT is not maintained on a thirty (30) day current basis, QCC may, by providing a ten (10) day written notice to the CLIENT, suspend further work until payments are restored to a current basis. In the event QCC engages counsel to enforce overdue payments, the CLIENT shall reimburse QCC for all reasonable attorney's fees and court costs related to enforcement of overdue payments. The CLIENT shall indemnify and save harmless QCC from any claim or liability resulting from suspension of the work due to non-current payments.

**12. INSURANCES** - QCC is protected by Worker's Compensation Insurance and Employer's Liability Insurance. QCC will furnish certification upon written request. The CLIENT agrees that QCC will not be liable or responsible to the CLIENT for any loss, damage, or liability beyond the amounts, limits, exclusions, and conditions of such insurance.

**13. PROFESSIONAL LIABILITY** - The CLIENT agrees that QCC's liability to Client and to Client's general or other contractors and subsequent owners of the property for damages attributable to QCC's negligent acts, errors, or omissions shall be limited to the sum of \$50,000 or to the total fee for services rendered by QCC, whichever is greater.

The CLIENT shall advise its general and other contractors of this limitation to QCC's liability, shall obtain their agreement to be bound by this limitation, and shall indemnify, defend, and hold QCC free and harmless from, (1) all damages, costs, and expenses, including attorneys' fees, in excess of this limitation, and (2) all damages, costs, and expenses, including attorneys' fees, attributable to allegations of defects or deficiencies in the project not shown to have been caused by QCC's fault or neglect.

**14. INDEMNIFICATION** - QCC and Client each agree to indemnify each other from liability for losses, damages, or expenses (including reasonable costs and attorney's fees) to the extent they are caused by each party's respective negligent acts, errors, or omissions relating to this Agreement. In the event the losses, damages, or expenses are caused by the joint or concurrent negligence of QCC or Client, they shall be borne by each party in proportion to its own negligence. In no event shall the indemnification obligation extend beyond the date when the institution of legal or equitable proceedings for professional negligence would be barred by any applicable law.

**15. INDEMNIFICATION FOR HAZARDOUS MATERIALS** - The CLIENT agrees that QCC has not contributed to the presence of hazardous wastes, oils, asbestos or other hazardous materials that may exist or be discovered in the future at the site and that QCC does not assume any liability for the known or unknown presence of such materials.

Therefore, the CLIENT shall defend, indemnify, and hold harmless QCC, its consultants, subcontractors, agents and employees from and against all claims, damages, losses, and expenses including defense costs and lawyer's fees that result from the failure to detect or from the actual, alleged, or threatened discharge, dispersal, release, or escape of any solid, liquid, gaseous or thermal irritant, asbestos in any form, or contaminants including smoke, vapor, soot, fumes, acids, alkalis, chemicals, waste, oil or other hazardous materials or pollutants. The CLIENT shall be liable under this paragraph for claims, damages, losses, and expenses including defense costs and attorney's fees, unless such claims, damages, losses and expenses are caused by QCC's sole negligence.



**16. WAIVER OF SUBROGATION** - The CLIENT and QCC waive all rights against each other and against the Contractors, consultants, agents and employees of the other for damages, but only to the extent covered by any property or other insurance. The CLIENT and QCC shall each require similar waivers from their contractors, consultants and agents.

**17. SUCCESSORS AND ASSIGNS** - The CLIENT and QCC each binds himself, his partners, successors, executors, administrators and assigns, to the other party of the Agreement and to the partners, successors, executors, administrators and assigns, for such other party to all covenants of this Agreement.

Except as above, neither the CLIENT or QCC shall assign, sublet or transfer his interest in this Agreement without the written consent of the other party hereto. Nothing in this paragraph shall prevent QCC from employing such independent consultants, associates, and subcontractors as he may deem appropriate to assist in the performance of the services of this Agreement.

**18. GOVERNING LAW** - This Agreement is to be governed by and construed in accordance with the law of the State of New Hampshire.

**19. DISPUTE RESOLUTION** - The CLIENT and QCC agree to submit all claims and disputes arising out of the Contract and these Standard Conditions to non-binding mediation prior to the initiation of legal proceedings. This provision shall survive completion or termination of the Contract and these Standard Conditions; however, neither party shall seek mediation of any claim or dispute arising out of the Contract and these Standard Conditions beyond the period of time that would bar the initiation of legal proceedings to litigate such claim or dispute under the applicable law.

**20. TERMINATION** - Either party may terminate this Agreement in whole or in part, in writing, if the other party substantially fails to fulfill its obligations under this Agreement through no fault of the terminating party. However, no such termination may be effected unless the other party is given 1) not less than ten (10) calendar days written notice (delivered by certified mail, return receipt requested) of intent to terminate and 2) an opportunity for consultation with the terminating party before termination.

Upon termination, the CLIENT shall pay QCC for all work completed prior to the effective date of the termination. If compensation within the Agreement is based on a lump sum, the amount due QCC at termination shall be computed as the percentage complete of the work times the lump sum. If compensation is based on billing rates or actual costs, the amount due at termination shall be computed based on hours charged to the Project at termination times the appropriate ratios.



# QUANTUM CONSTRUCTION CONSULTANTS, LLC

27 LOCKE ROAD, CONCORD, NH 03301 WWW.QUANTUM-CC.COM TEL: 603-224-0859

**TOWN OF MERRIMACK, NH  
US RTE 3 OVER BABOOSIC BROOK  
BRIDGE NO. 118/135, NHDOT Project No. 29174  
BRIDGE REPLACEMENT PROJECT**

**Project Cash Flow Matrix  
September 28, 2020  
REVISED 12.23.2020**

Description	Recommended Alternative		Notes
	Bridge Replacement with Integral Abutment and Cast-in-Place Concrete Deck	Costs/Fees	
<b>Participating Work</b>			
Engineering Study	\$136,402		Cash outlay in 2018-2020
Final Design and Permitting (Upfront Cost to Town)	\$335,037		Cash outlay in 2020-2021
Estimated Municipal Expenses, Permit Fees, etc. (Upfront Cost to Town)	\$7,000		Cash outlay in 2020-2021
Estimated ROW Expenses (*Property Ease./ROW costs are unknown)	\$52,500 *		Cash outlay in 2020-2021
<b>Subtotal Design &amp; Town Upfront Costs</b>	<b>\$530,939</b>		2020 Dollars (NHDOT Prelim Eng Budget)
Estimated Construction Costs per Revised Estimate 11.17.2020	\$ 4,198,071		2020 Dollars (NHDOT Construction Budget)
Construction Engineering & Testing	\$392,518		2020 Dollars (NHDOT Construction Eng Budget)
Total Opinion of Construction Phase Costs w/o Contingency	\$ 4,590,589		
Project Cost Escalation 2020 to 2021 (3%/year)	\$138,000		CES & Construction
<b>Subtotal Construction Cost in 2023</b>	<b>\$4,728,589</b>		
Construction Phase Contingency (15%)	\$709,288		CES & Construction
<b>Total Opinion of Construction Phase Costs w/Escalation &amp; Contingency</b>	<b>\$5,437,877</b>		
<b>FUNDING INFORMATION</b>			
<b>Total Opinion of Project Cost w/Contingency&amp; Escalation</b>	<b>\$5,969,000</b>		(rounded to nearest \$1000)
2021 Warrant Article	\$0	\$0	2020 General Taxation
		\$0	Total Town Funds
<b>Total Opinion of Project Cost w/Contingency&amp; Escalation less NHDOT Reimbursement</b>	<b>\$5,969,000</b>		
	<b>(\$4,775,200)</b>		
<b>Total Town Funds</b>	<b>\$1,193,800</b>		
<b>CASH FLOW ESTIMATION FOR PLANNING PURPOSES</b>			
<b>Total Estimated Cash Outlay for Design &amp; Municipal Costs</b>	<b>\$530,939</b>		<b>Total Cash outlay in 2018-2021</b>
<b>Municipal Reimbursement at Completion of Bid Plans</b>			
Eng. Study, Design & Permitting @ 80% reimbursement	\$377,151		No Adverse Effect MOE from NHDHR
Archeologic & Historic Survey Contingency Budget	\$0		
Municipal Administrative & Legal Costs @ 80% reimbursement	\$5,600		
Municipal Cost - ROW@ 80% reimbursement	\$42,000		
<b>Initial NHDOT Municipal Reimbursement</b>		<b>\$424,751</b>	<b>Reimbursement @ completion of bid plans</b>
<b>Municipal Reimbursement at Construction Contract Signing</b>			
50% of Construction Costs @ 80% reimbursement	\$1,679,228		Reimbursement 2021
<b>NHDOT Municipal Reimbursement</b>		<b>\$1,679,228</b>	<b>or at construction contract signing (based on 2018 dollars)</b>
<b>Municipal Expenses for Construction</b>			
Construction Costs	\$4,198,071		
Construction Engineering & Testing	\$392,518		
Construction Phase Contingency	\$709,288		
	<b>\$5,299,877</b>		<b>Expended in 2021 or construction year</b>
<b>Municipal Disbursement for Const.</b>		<b>\$5,299,877</b>	
Less NHDOT Reimbursements		<b>(\$2,103,979)</b>	
<b>Municipal Construction Cash Outlay</b>		<b>\$3,195,898</b>	<b>Cash outlay in 2021 or construction year</b>
<b>Municipal Reimbursement at Construction Completion</b>			
Total Participating Project Costs w/Contingency & Escalation	\$5,969,000		
Total Project Reimbursement @ 80%		\$4,775,200	
Less initial NHDOT reimbursements		<b>(\$2,103,979)</b>	
<b>Final NHDOT Project Reimbursement</b>		<b>\$2,671,221</b>	<b>Final Reimbursement in 2022 or at completion of construction</b>
<b>Final Cost of Project to Town</b>		<b>\$1,193,800</b>	<b>2020 dollars w/project contingency &amp; escalation</b>





# QUANTUM CONSTRUCTION CONSULTANTS, LLC

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## US Rte. 3 over Baboosic Brook NHDOT Project # 29174, Br # 116/135 Bridge Replacement Project

### PROJECT FUNDING COMPARISON

#### NHDOT STATE AID BRIDGE ONLY – 12.23.2020 Project Funding Matrix

• Total Project Costs	\$5,969,000
• Less NHDOT 80% Project Costs	<u>(\$4,775,200)</u>
• Town Match (20%)	<b>\$1,193,800</b>

#### FEMA BRIC with NHDOT SAB Funding

• Total Project Costs (12.23.2020)	\$5,969,000
• BRIC & COVID Escalation (20%)	<u>\$1,193,800</u>
• REVISED Total Project Costs	\$7,162,800
• Less FEMA BRIC (75%)	<u>(\$5,372,100)</u>
• BRIC Match	\$1,790,700
• Less NHDOT SAB Funding (80%)	<u>(\$1,432,560 )</u>
• Town Match (20%)	<b>\$ 358,140</b>