

Town of Barnard
c/o TRORC

Barnard Town Garage

October 23, 2014

Prepared by: Mark Bannon, PE, CFM

Prepared for: Lance Webster
Pete Fellows



www.bannonengineering.com

Introduction

Bannon Engineering is a full-service licensed Professional Engineering firm based in Randolph, Vermont. We specialize in civil and environmental engineering including river and floodplain planning and fluvial geomorphic modeling. Bannon Engineering brings the following to the project:

- **Experience** –Prior to entering the private sector, firm Principal Mark Bannon, PE, tenured as the VTrans Hydraulics Engineer sizing culverts, bridges and designing stream bank stabilization and stormwater collection systems for Vermont's roads.
- **Expertise** – Bannon Engineering utilizes the latest engineering technology including Autodesk Civil3d providing a capability to develop plans three-dimensionally which vastly improves the accuracy of material take-offs and material estimating. We also have in-house survey capabilities including a Top Con robotic total station, static survey grade GPS, and Carlson RTK sub-centimeter survey grade GPS. We have expertise in HEC-Ras river modeling and HydroCad software along with a subscription to VTrans' Bid Estimating software.
- **Qualifications** - Principal Engineer Mark Bannon will be performing the work for this project. Mark's qualifications include:
 - Licensed Professional Engineer in VT, NH, NY, MA, ME, and RI;
 - Certified Flood Plain Manager;
 - Certified Professional in Erosion and Sediment Control;
 - Certified Safety Professional; and
 - AICP certified professional planner
- **Flexibility** – We believe solid relationships are the foundation of any successful business. Keeping that in mind, we strive to be easy to do business with and response to client needs. We're a phone call or email away to answer questions and assist in making your project a success.
- **Local Knowledge** – Bannon Engineering is a local firm with experience with local regulators such as Stream Alteration Engineer Pat Ross and Michael Adams at the US Army Corp of Engineers. We have recently completed a HEC-Ras river modeling project on Locust Creek for Stuart and Jane Hull located roughly a 1/2-mile upstream from your project site.

We look forward to working with the Town of Barnard and the Two Rivers-Ottawaquechee Regional Commission for an economical and successful project.

Project Understanding

We understand that the Town of Barnard is accepting quotations for design and construction management services to repair a Tropical Storm Irene slide across from the Town Garage on Chateauguay Road on the Locust Creek in Barnard, Vermont. Designs and specifications for rip rap and bank stabilization are needed as well as construction management/resident engineer services.

Firms shall provide designs and permitting, as well as preparation of bid docs for the labor, material and equipment necessary to repair the bank slide in accordance with town and state regulations. The town will provide construction services with the exception of trucking (and specialized equipment, if necessary).



The firm, working with Lance Webster, Town of Barnard, Road Foreman, will need to provide basic designs and construction specifications, resident engineer services during construction, and Davis-Bacon wage certification of contractors. The designs and bid specifications should not be unduly complex and should reflect the small to moderate size of this construction project.

This project will be funded by a federal HUD CDBG-DR grant. TRORC and the Town of Barnard are currently developing an application. TRORC will handle grant management and payments with the Town should the project be awarded. The grant should be awarded by late

2014 allowing for design in early 2015 and construction during the 2015 field season. If selected, firm will be asked to develop a preliminary design and cost estimate for final grant application before the end of 2014.

Site Observations

In preparation of this proposal, project engineer Mark Bannon visited the site and made the following observations:

- Project area involves approximately 115+/- linear feet of Locust Creek across from the Town Garage.
- Embankment is destabilized by Locust Creek flowing along the bottom of buttressed slide. Proposed project is to install roughly 600 to 900-cy of rip rap to armor the shore to prevent further erosion.
- There is a large tree across the lower extent of project area creating a beneficial river grade control.
- Grade control is important in this stretch because the river bed is dropping vertically. The vertical drop is destabilizing the hill slide and likely source of erosion and slump.
- Project should consider installing stone grade control for additional grade control as a cost savings benefit. Discuss with Pat Ross.



Based on the project scope defined in the Request for Quotation and our site visit observations, we are recommending the following Scope of Work:

Scope of Work

1. Inspect the bank slide and perform survey

\$900

Inspect the bank slide and perform total station instrument survey of the project area to supplement cross sections and profile provided in RFQ.

2. Develop preliminary design and cost estimate for grant

\$1,800

Develop a preliminary design and cost estimate or final grant application. Cost estimates will be prepared using VTrans Estimating software. The VTrans Estimating software utilizes actual bid history of the projects by county. The result is a cost estimate that is reflective of similar projects in your area. Deliverable: Cost estimate report .pdf

3.a. Develop a final design and detailed cost estimate and construction specifications

\$2,480

Develop final design plans, detailed cost estimate, construction specifications.

Deliverable: Plan set consisting of title sheet, quantities sheet, general notes sheet, existing conditions sheet, proposed conditions sheet, cross section sheet, profile sheet, and (2) detail sheets.

Plan set will be legible on 11x17 plots for ease of use by field personnel.

3.b. Project coordination meeting to determine extent of town crew and equipment involvement

\$300

Meet with Lance and Pete on site to review plans and determine work items to be provided by the Town of Barnard road crew and equipment needs. An outline of construction schedule will be developed at this meeting.

4. Obtain the necessary permits and authorizations \$620.00

Prepare and process regulatory applications for VT DEC Stream Alteration and US ACOE permits. Review conditions and plans in the field with Stream Alteration Engineer, as necessary. Prepare town flood plain permit submittal for Preston.

5. Secure trucking contractor and any additional contractors needed to complete the work beyond the town's services through simplified bid process \$1,240

Prepare bid docs for a simplified scaled down procurement for a municipal project of this size. We will place bid on the VT Department of Commerce Bid Registration service which most contractors in the area subscribe to for free.

6. Work with town, trucking, other contractors and complete site visits before, during and after construction \$2170

Provide construction inspections for the project.

It is anticipated that the project will have roughly a 7-day duration requiring (1) pre-construction meeting, (5) inspections during construction, and (1) final inspection. Seven (7) site inspections in total.

We anticipate being on site for spot checks and to provide general guidance for an hour or two each day during construction.

7. Complete Davis-Bacon wage certifications \$2,440

Project management and administration throughout project including complete Davis Bacon Certification.

Total Fixed Fee **\$11,950**

Additional work is not anticipated. However, if required or desired, work will be provided per the following fee schedule:

- Professional Engineer at \$620/half-day rate.
- Additional meetings on-site: \$310/mtg

Project Timeline

If Town of Barnard hires Bannon Engineering to assist with this project, our timeline would proceed as follows:

Phase	Activities	Completion
Preliminary Plans Cost Estimate	Perform field work and develop concept plan and cost estimate for grant application	Roughly two-weeks after receiving authorization to proceed.
Final Plans	Develop final plans and bid documents	3/15/2014
Construction	Construction Services	per VT DEC Stream Alt permit so say May/June 2015

Next Steps

If this proposal/quotation appears to meet your needs, the next steps in the process could be:

- Accept our proposal "as-is" or
- call Mark Bannon to discuss any modifications as needed.

We will schedule work upon receipt of your authorization to proceed.

Thank you for considering Bannon Engineering to assist you with your project.

Contact Information

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