RUGGIANO
Engineering, inc.
Civil Engineers • Land Use Planners

September 25, 2013

Town of Lowell Select Board
Attn: Karen Clinger
2170 Vermont Route 100
Lowell, Vermont 05847

Re: Burgess Branch Culvert Replacement **Project #13062**
Mines Road, Lowell, Vermont

Dear Karen:

We appreciate the opportunity to work with the Town of Lowell on this project. Ruggiano Engineering, Inc. has conducted a topographic survey of the project site and completed the attached preliminary site plan for a replacement culvert along Mines Road at the Burgess Branch stream crossing. Also attached is an engineer's cost estimate of the anticipated construction costs, based on the preliminary site design. The design of the culvert is based on the hydraulic study by the Vermont Agency of Transportation (VTrans), attached, and direction of the Vermont Agency of Natural Resources (ANR) Streams Alteration Division.

Please be aware that the plans and cost estimate are preliminary at this time. The Site Plans will still need to be submitted to the Vermont ANR Stream Alterations Division for review and approval, as well as the Army Corps of Engineers (ACOE) for review under the Vermont General Permit. The intention of these preliminary plans and cost estimate are to provide support for the Town of Lowell to submit a Change of Scope request to the Federal Emergency Management Agency (FEMA) for funding of the project. It is our understanding that the Town is working with VTrans to complete this submittal; they have been copied on this transmittal.

Please review these documents and let us know if you need any additional information. We look forward to working with you toward a successful project. If you have any questions, please do not hesitate to contact meet at 802-888-9923.

Sincerely,
Ruggiano Engineering, Inc.

Tyler R. Mumley, P.E.

Encl: Engineer's Cost Estimate, Preliminary Site Plans, VTrans Hydraulic Study
Cc: Christine Emmons (District 7, Vermont Agency of Transportation)

5 Lake Street • St. Albans, VT 05478 • Ph. 802.524.9300 • Fax. 802.524.9700

Town of Lowell, Vermont
Mines Road Culvert Replacement (Burgess Branch)

Project 13062
September 25, 2013

ENGINEER'S CONSTRUCTION COST ESTIMATE

Item Description	Estimated Unit Quantity	Unit	Unit Price	Extended Amount
Mobilization, Survey & Layout, Site Prep	1	LS	$25,000	$25,000
Excavation and Disposal (includes existing culvert)	800	CY	$10	$8,000
Crushed Stone Under Culvert (12")	35	CY	$80	$2,800
Pre-cast Concrete Box Culvert & Headwalls (includes material and installation)	1	LS	$100,000	$100,000
Type II Rip-Rap	30	CY	$60	$1,800
Type III Rip-Rap	100	CY	$60	$6,000
Granular Backfill Over Culvert	400	CY	$20	$8,000
Roadway Sand Cushion (6")	35	CY	$30	$1,050
Roadway Gravel Subbase (18")	100	CY	$50	$5,000
Roadway Pavement (3")	30	TONS	$250	$7,500
Guardrail	150	LF	$35	$5,250
Topsoil (4"), Seed & Mulch	400	SY	$15	$6,000
Erosion Control	1	LS	$5,000	$5,000
Dewatering and Stream Control	1	LS	$5,000	$5,000
Traffic Control	1	LS	$5,000	$5,000
Contractor Bond	1	LS	$5,000	$5,000
Miscellaneous & Contingency	1	10%	$196,400	$19,640
			Total =	**$216,040**