

Town of Charleston

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W Charleston VT 05872
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charlestonadmin@comcast.net

April 12, 2016

Alan May
AOT Municipal Assistance Bureau
1 National Life Drive
Montpelier, VT 05633

Dear Alan:

The Town of Charleston appreciates the ongoing guidance and consultation of the various agencies collaborating in the Better Roads Grants program as we seek solutions to critical road erosion issues here in town. Please find attached the Town of Charleston's FY2017 applications to the Better Roads Grant Program.

For your reference, we are providing this list and brief comments about the relative priority of this year's proposed projects. All three roads have been identified on Charleston's Road Erosion Inventory & Capital Budget Plan, with Hudson Rd at the top of the list.

Hudson Rd Cement Culvert at Bowen Hill Road and Hudson Rd Multiple Culverts Upgrade are critical projects long overdue. Hudson is a key cross-town road with high traffic, and it has been the site of repeated closures due to washouts in recent federal disasters. As Hudson parallels the nearby Clyde River, erosion and culvert failure discharges sediment directly into the river. Both projects are included in a pending FEMA Hazard Mitigation Grant proposal first submitted in 2014, however, no award has been made and Charleston's eligibility is in question because the town does not participate in the NFIP. We have reason to believe that this will be resolved one way or the other before the award of Better Roads Grants, and we will update your office with any news. If Charleston is not awarded the FEMA grant, work must still proceed on Hudson Rd in 2016, and Better Roads funds will be essential.

East Echo Lake Rd Ditching and Crowning will remedy critical erosion issues at the site of the inlet leading from Seymour Lake to Echo Lake that compromise the road and discharge sediment and pollutants into Echo Lake. Working with the Echo Lake Protective Association, VT ANR, and Better Roads staff, this project is deemed high priority for 2016 with project outcomes expected to be highly effective.

Gratton Hill Rd Ditching and Culvert Upgrades Sites 1-3 (3 projects) cover a sizable segment of road that could be addressed one-by-one if needed. Ideally, completing all three projects in one year would enable the town to start at the top of the grade and also address critical ditch failures and bank erosion at the bottom of the road where ditches

feed into a brook leading directly to the Clyde River below. If the projects are not selected, Charleston will make spot repairs and reapply for assistance in FY2018.

Thank you for your time and consideration. Please don't hesitate to contact me or Colleen Kellogg in the Town Office if you have any questions or need additional information.

Sincerely,

A handwritten signature in cursive script that reads "Dean Bennett". The signature is written in black ink and is positioned above the typed name.

Dean Bennett, Chair
Charleston Selectboard



FY17 Vermont Better Roads Grant Application

Please complete this page ONCE and return with your Grant Category Application(s)

Town/Organization: _____ Contact Person(s): _____

Address: _____

Street Address

Town

Zip

Email: _____ Phone: () _____ - _____

DUNS #: _____ Fiscal Year End Month (MM): _____

Accounting System: Automated Manual Combination

Please use the suggested documentation checklist below to ensure that all of the relevant items regarding your application have been included.

- Grant application cover sheet (Only submit one)
- Grant application form (One per category/project)
- Itemized Cost estimate for labor, equipment, and materials (see enclosed Cost Estimate Worksheet). If applicable, please break down funding by source (i.e. different grant sources)
- Project Location Map (please show location of affected water)
- Sketch of proposed erosion control measures or other management practices, including distances in feet
 - Also show approximate location of town/other right-of-way and/or property lines
- Photo(s) of the project area
- Letters of Support (RPC, VTrans District Technical Staff, ANR Rivers and Streams Engineers, etc.)
- If Category C River/Road Conflict or Category D River/Stream Structure or Culvert, you must attach ANR/ACOE consultation



Vermont Better Roads Grant Program Application

Please complete one application per category and/or project you are applying for. You may make copies of the application for multiple applications per category and/or multiple categories.

Please check the Category you are applying for:

- B. Correction of a Road Related Erosion Problem and/or Stormwater Mitigation Retrofit for both gravel and paved roads
- C. Correction of a Stream Bank or Slope Related Problem
- D. Structure/culvert upgrades

Town/Organization: _____

Project Name: _____

Road Name: _____ TH #: _____ Structure # (if applicable): _____

Road Type: Paved or Unpaved (circle one) Curbed or Uncurbed (circle one)

Class 1 Class 2 Class 3 Class 4 (circle one)

Watershed: _____

Please provide a thorough description of the problem (ex. Roadway has steep slope with no ditch which is causing roadway erosion):

Description of Project and how you plan to complete the work (ex. Stone line 500' of ditch by reshaping ditch and stone lining, working from the top of the project down to the bottom):

Expected Effects (+ & -) on water quality (ex. Erosion will be eliminated by placing the stone ditch):



Distance from end of project to nearest water (stream, lake, or stormwater system that outlets directly to water). Please circle one: 0-50' 50-250' 250'+

Progress to Date:

Is there an emergency reason this project must be completed quickly? If yes, please explain:

Has this project been identified through a municipal road inventory, capital budget plan, tactical basin plan, culvert inventory, or other management plan? If yes, please list which.

Yes: _____

No

Please list any professionals you may have contacted for assistance with this project (ANR River Management Engineer, Army Corps of Engineers, VTrans District Technical staff, Basin Planner etc.):

Is the project located in the town "Right of Way?" Yes, No, Both (if "Both" please explain further).

Will the town road crew complete this work? Yes, No, Some (if "some" please explain further).



Describe how the grant funds will be spent and/or attach a project budget:

How do you plan to meet the required 20% match on this grant?:

Requested Grant Amount (\$20,000 max Category B, \$40,000 max Categories C & D): _____

Estimated Total Project Cost (including 20% local match): _____

Estimated Completion Date: _____

REQUIRED ATTACHMENTS:

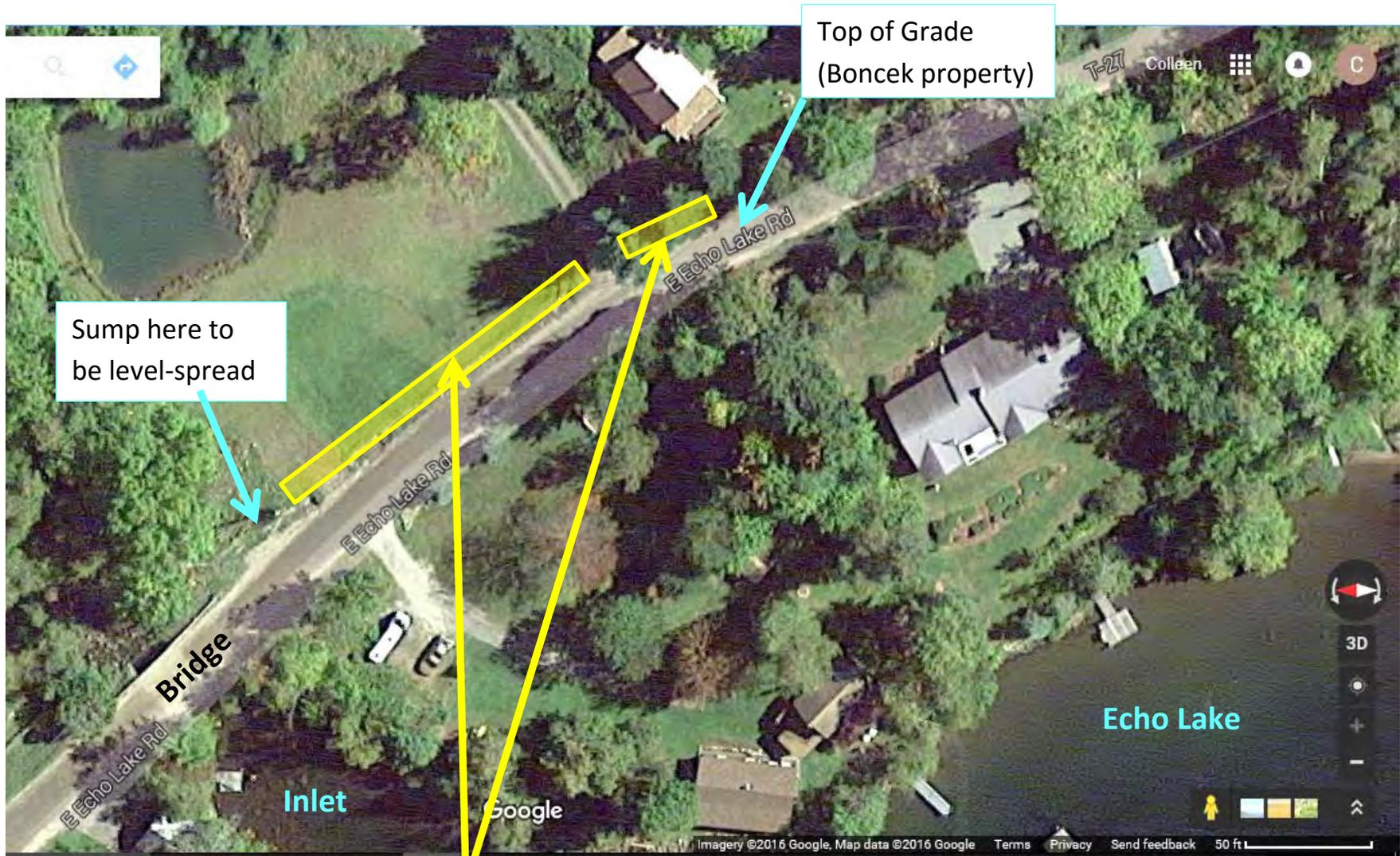
- Itemized Cost Estimate (labor, equipment, materials)
(For assistance, call Better Backroads at 802-828-4585)
- Project Location Map
(Please show location of affected water; 1:12,000 USGS map, if possible)
- Sketch of proposed erosion control measures, including:
 - Distances (ft.)
 - Estimate of waste & borrow quantities
 - Approx. location of town/other right-of-way and/or property lines
- Photo(s) of the project area.
- Agreement for Entry and/or Deed of Easement (if project is outside Town ROW).
- If project involves stream or river/road conflict, include documentation of consultation with a River Management Engineer.
- Other appropriate supporting documents.

By signing this application I certify that all the information provided is accurate to the best of my knowledge. We will comply with all the requirements of the grant including making our books available for audit if required.

SIGNATURE OF APPLICANT: (Must be Town Administrator/Manager or Select Board Chair)

Name: _____ Dean Bennett _____ Title: _____ Selectboard Chair _____

Project: East Echo Lake Rd Ditching & Crowning – Site 1: Top of Grade to Inlet Bridge
Charleston FY2017 Better Roads Application



This section: Over this 371ft segment on the upslope side, reshape ditch and install 1' fill of 8" minus stone and 2 check dams. Average overall ditch width = 4-5'. Open work site will be mulched and/or haybales staked as needed to protect against sediment in this site so close to the lake and inlet.

Project: East Echo Lake Rd Ditching & Crowning – Site 1
Charleston FY2017 Better Roads Application



Inlet Bridge



Site 1
Full upslope ditches at project start point (top of grade).
Road slopes to Echo Lake Inlet (toe).

Project: East Echo Lake Rd Ditching & Crowning – Site 2: Inlet Bridge to ~200ft beyond Barneys Pebble Rd (@ Hurlburt Property)
Charleston FY2017 Better Roads Application

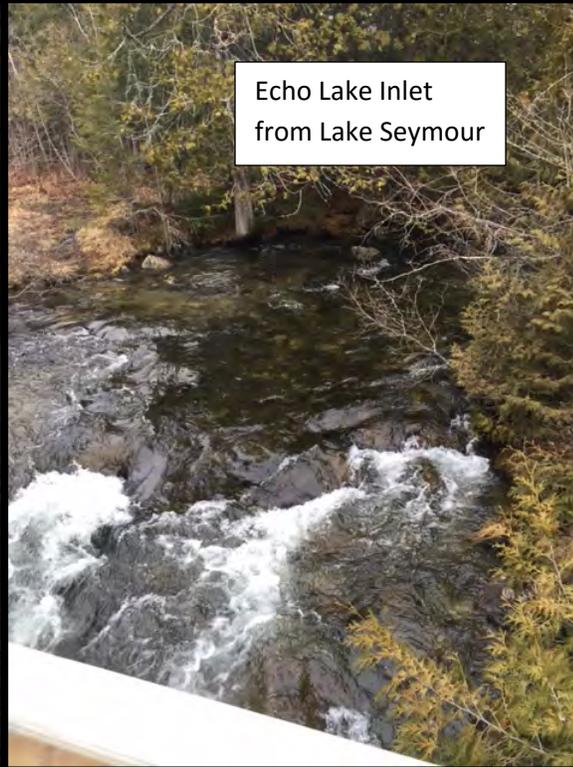


Bridge
at Inlet

This section: Over this 972ft segment on the upslope side, reshape ditch and install 1' fill of 8" minus stone w/ check dams. Average overall ditch width = 4-5'. Open work site will be mulched and/or haybales staked as needed to protect against sediment in this site so close to the lake and inlet.

Upslope from project: Winape Hills Development and Barneys Pebble & Campe Winape private roads with no turnouts identified as major overland drainage sources. Within the ROW, will reshape bottom of pvt road to divert water to ditch. ELPA (lake assoc) will reach out to Winape Hills to encourage additional turnouts.

Project: East Echo Lake Rd Ditching & Crowning – Site 1
Charleston FY2017 Better Roads Application



Project: East Echo Lake Rd Ditching & Crowning – Site 2
Charleston FY2017 Better Roads Application



**Project: East Echo Lake Rd Ditching & Crowning – Site 2
Charleston FY2017 Better Roads Application**



At left, install ditch with erosion stone, check dam, and level-spreader before discharge to inlet. Grade to remove roadside berm and correct lake-ward slope, diverting water from road to ditch.

Project: East Echo Lake Rd Ditching & Crowning – Site 3: From ~200 ft past Barney's Pebble (~Whitcomb Lane) to Beulah's Way Charleston FY2017 Better Roads Application



This section: Over this 1471ft segment on the upslope side, clean and reshape ditch and crown the road to divert water, also removing shoulder berms. With steep, wooded bank on upslope side of ditch, ditches will be less than ideal width and ditch bank will require jute mat and hydroseeding to restore vegetation in this area where nothing wants to grow.

**Project: East Echo Lake Rd Ditching & Crowning – Site 3
Charleston FY2017 Better Roads Application**

This section, crown road and clean shoulders to divert trapped water, especially on lake side (on right in photo at right)



On upslope side, install ditches and line steep bank with jute mat and hydroseed to establish vegetation and reduce erosion

Project: East Echo Lake Rd Ditching & Crowning – Site 4: Beulah’s Way to guardrails
Charleston FY2017 Better Roads Application

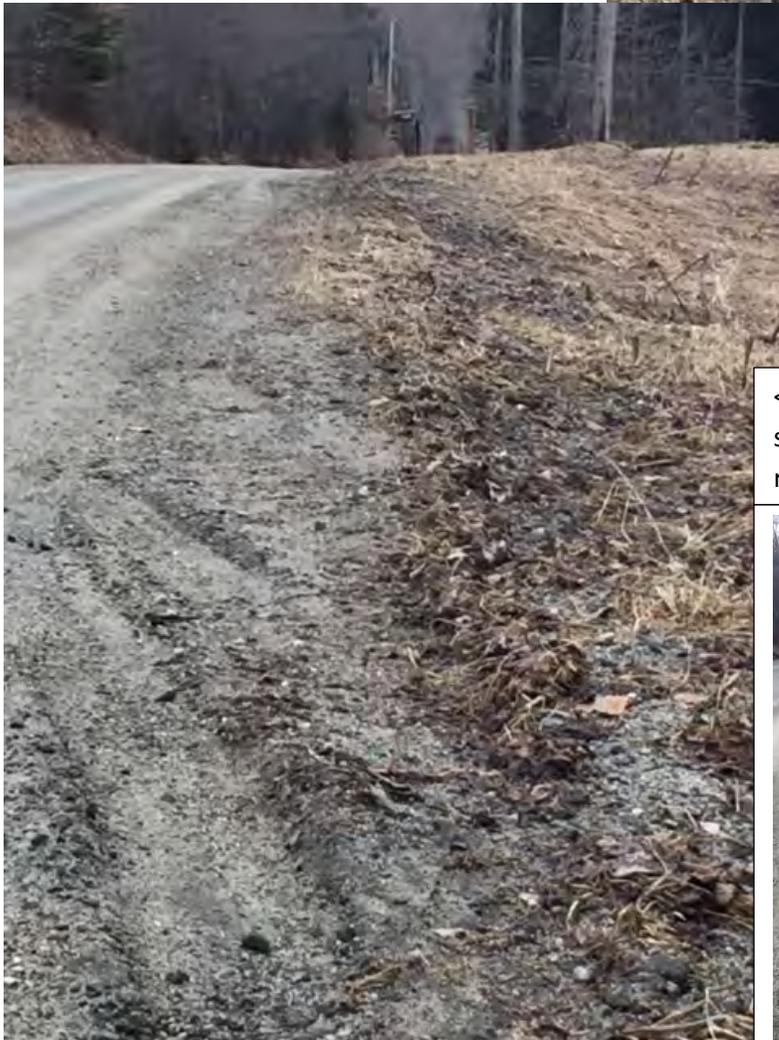


This section: Over this 1246ft segment on the upslope side, grade to clean shoulder and divert water, shape ditches and install erosion stone over 1049ft where slope exceeds 5%.

Project: East Echo Lake Rd Ditching & Crowning – Site 4
Charleston FY2017 Better Roads Application

This section clean and shape ditch, install erosion stone with check dams on 1049ft as required for greater than 5% slope.

Full ditches on upslope side



< To stop erosion on lake side, grading to clean shoulders of berms that currently traps water on road. Turnouts as needed to divert water.



Charleston Road Erosion Site Inventory May 2014 (Update)

Site: East Echo Lake Rd

Date of Update: 3/18/16	Name/Signature: Notes taken by Colleen Kellogg
Priority/Project Year	2016
Road Name	East Echo Lake Rd
TH#	
Location	Boncek (SE of inlet bridge) to Guardrails (Mills')
Nearest Body of Water	Echo Lake
Distance to Water Body	0-30ft at nearest
Current Condition	Landowners are concerred with sediment discharge to lake. Selectboard/Road Foreman have observed roadside berms on lakeside. In the segment from Boncek property to the guardrails at Mills' property, uncrowned road, berms, unvegetated upslope ditch bank, filled ditches with insufficient stone, and overland drainage source Barneys Pebble Rd all contribute to erosion and sedimentation.
Proposed Solution	Over first 1300' shape and stone-line ditches and install check dams. Next 1471' clean and reshape ditch with jute mat and hydroseed to vegetate. Last 1246' clean shoulder. Throughout, grading to removed berms and re-establish road crown. Echo Lake Protective Association (ELPA) will pursue landowner education and ANR assistance with lakeside rain gardens and other vegetation on adjacent private property, and contact Winape Hills to encourage turnouts to mitigate upslope drainage source.

Estimate Costs to Improve/Repair

Culvert, Ditch & Bank Stabilization			
Materials:		Cost:	
Total Culvert, Ditch & Bank Stabilization			
Crowning and Re-grading			
Materials		Cost:	
Materials		Cost:	
Equipment		Cost:	
Equipment		Cost:	
Equipment		Cost:	
Labor		Cost:	
Total Crowning and Regrading			
Total Estimate for this project			



Echo Lake Protective Association • PO Box 41 • East Charleston, VT 05833

March 25, 2016

Colleen Kellogg
Asst. Town Clerk & Treasurer
Town of Charleston, VT
5063 VT Route 105
W. Charleston, VT 05872

Dear Ms. Kellogg:

Echo Lake Protective Association (ELPA) was formed to promote the welfare of Echo Lake in Charleston, Vermont and the association works to maintain the quality of the lake. We have become concerned with the amount of silt and runoff entering the lake off East Echo Lake Road near the inlet and the intersections with Camp Winape Road & Barney's Pebble Road. We feel this issue should be high priority and should be corrected as soon as possible to avoid further damage to the lake.

Alan May, Better Roads Coordinator, visited the site and made recommendations for improvements. We would like to see these improvements implemented as soon as possible and we support the Town's request for a grant to fund these improvements through Vermont Better Roads. The Vermont Better Roads Program was established to help with funding to support two road projects that improve water quality. This project would involve improvements to a town road and would have a direct impact on the water quality in Echo Lake.

We appreciate the Town's willingness to consider improvements along East Echo Lake Road to improve the drainage issues and help to maintain the quality of Echo Lake. If we can be of further assistance such as helping with landowner education and/or possible planting in this area please let us know.

Sincerely,

A handwritten signature in blue ink that reads 'Lawrence K. Martin'. The signature is written in a cursive style.

Lawrence K. Martin
Co- President
Echo Lake Protective Association

Town of Charleston
Better Roads Application FY2017
Project: East Echo Lake Rd Ditching & Crowning (Category B)
Construction Costs Estimate

Project

2392 LF of stone lined ditch w/ check dams
 1471 LF ditching with erosion mat and seed
 Grading over +/- 0.8 miles
 Cost based on 5 days (1 week) at 10 hrs/day

Labor

1 Worker @ \$20.42/hr including fringe benefits x 40 hrs	\$816.80
1 Worker @ \$23.09/hr including fringe benefits x 40 hrs	\$923.60
1 Worker @ \$27.78/hr including fringe benefits x 40 hrs	\$1,111.20
Total Reg Hours Cost	\$2,851.60

1 Worker @ \$28.76/hr including fringe benefits x 10 hrs	\$287.60
1 Worker @ \$32.54/hr including fringe benefits x 10 hrs	\$325.40
1 Worker @ \$39.14/hr including fringe benefits x 10 hrs	\$391.40
Total OT Cost	\$1,004.40

Total Labor \$3,856.00

Equipment

2 16yd Trucks @ \$80/hr x 30 hrs	\$4,800.00
Excavator @ \$50/hr x 20 hrs	\$1,000.00
Grader @ \$85/hr x 12 hrs	\$1,020.00
Total Equipment Cost	\$6,820.00

Materials

1471 LF erosion control mat	\$578.00
6"- Erosion Stone @ \$14/CY	
Ditch lining 2392' x 5' x 1' = 11,960ft ³ / 27 = 443 CY	
Check dams & Level Spreaders +/- 6 loads x 16 CY/load	
523CY x \$14/CY =	\$7,322.00

3/4" crushed gravel for road at \$10/yd	
0.67' x 22'w x 1500'l = 20,100ft ³ / 27 ft ³ / CY = 819	\$8,190.00
Seed Mix	\$80.00
Mulch Hay 6 bales @ 3.50/bale	\$21.00
Total Materials Cost	\$16,191.00

Total Project Estimate	\$26,867.00
Requested Grant Amount	\$20,000.00
Local Match	\$6,867.00

State of Vermont
Highway Division
Maintenance & Operations Bureau
District 9
4611 US Route 5
Newport, VT 05855
vtrans.vermont.gov

Agency of Transportation

[phone] 802-334-7934
[fax] 802-334-3337
[ttd] 800-253-0191

April 11, 2016

Letter of Recommendation

To Whom It May Concern,

The Town of Charleston has expressed concern over the condition of East Echo Lake Rd. The Town has been in close contact with the District 9 office and we have performed site visits to investigate and concur with their concern. In order to eliminate erosion resulting in sediment entering the lake, the town is proposing to do stone-line ditching, install check dams and swales where appropriate and to crown the roadway.

It is of our opinion, being the District Project Manager and Tech Team, that this project is a good fit for a Better Roads Grant. We have assisted the town to determine best practices and will continue to provide support and assistance throughout the project.

Thank You.

Sincerely,

Eric Pope
District 9 Technician