



# 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: Town of Thetford

Project Name: Vaughn Farms Road Drainage Improvements #2

Road Name: Vaughn Farms Road TH #: 45 Structure # (if applicable): \_\_\_\_\_

Road Type: Paved Uncurbed  
Class 3

Watershed: Connecticut River

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

Road has steep slope with an unlined improperly sized ditch which is causing roadway erosion. Sediment travels through ditch and eroded embankment and either settles out in a field adjacent to Route 5 or travels under Route 5 and through a culvert towards the Connecticut River. Both culverts upstream of erosion and downstream are undersized and need to be replaced. Ditching included separately as a Category B application.

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):

Replace 2-15" steel corrugated metal pipe culverts with an 18" culvert upstream of erosion and a 24" culvert downstream. HDPE culverts will be used where a minimum of 2' of cover can be maintained. Where there is insufficient cover CMP culverts will be used.

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

Erosion will be eliminated by placing stone ditch and sediment will no longer be deposited in field adjacent to Route 5. Runoff is from farmland currently used as a corn field. Project will reduce the amount of nitrogen that is discharged to the Connecticut River and ultimately the Long Island Sound.



Distance from end of project to nearest water (stream, lake, or stormwater system that outlets directly to water). 250'+

Progress to Date:

Site Visit by VTRANS, Bid from contractor, Town Project Manager assigned

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

There is no specific emergency other than that the extent of the erosion and resulting quantity of sediment traveling towards the Connecticut River is great.

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: Town Culvert Inventory

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.):  
VTRANS - Chris Bump

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

Both. The ditch along the roadway is within the right of way. The lower ditch at the outlet is located on private land owned by Vaughan Farms.

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

Some. A local contractor (see attached bid) will be used to replace the culverts. Town Personnel will assist with traffic control and material trucking. Bid is assuming that both Vaughan Farms Project #1 and #2 will be completed at the same time.



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

See attached.

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

The road crew will haul all material to the site and take out waste materials. The road crew will also perform traffic control.

Requested Grant Amount (\$20,000 max Category B, \$40,000 max Categories C & D): \$ 24,200.00

Estimated Total Project Cost (including 20% local match): \$ 6,000.00

Estimated Completion Date: 10/01/2016

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.

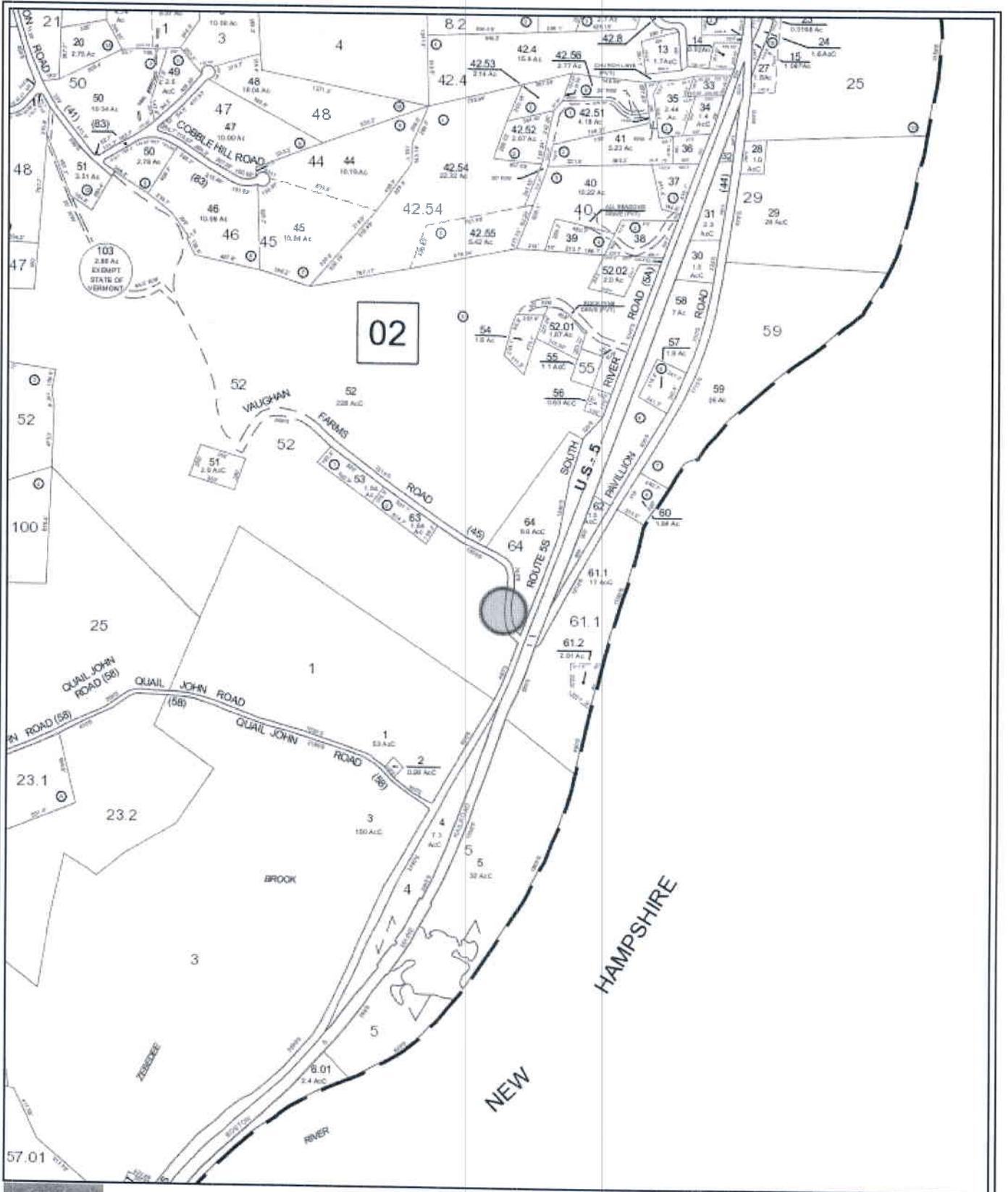
By signing this application I certify that all the information provided is accurate to the best of my knowledge. We will comply with all the requirements of the grant including making our books available for audit if required.

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

Name: \_\_\_\_\_

Title: SHREBBERS CHAIR





**Bank Stabilization, Swale Improvements and Culvert Upgrade  
Vaughn Farms Road Improvements**

1 Inch = 1000 Feet  
April 11, 2016



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Local ID: 649

X-coordinate (or lat): 524503.188

Y-coordinate (or lng): 144259.889

Inventory date: 5/29/2008

Culvert type: Round

Culvert material: Steel Corrugated

Height: 15 in

Width: 15 in

Length: 26 ft

Overall: Poor

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Local ID: 650

X-coordinate (or lat): 524604.406

Y-coordinate (or lng): 144328.602

Inventory date: 5/29/2008

Culvert type: Round

Culvert material: Steel Corrugated

Height: 15 in

Width: 15 in

Length: 38 ft

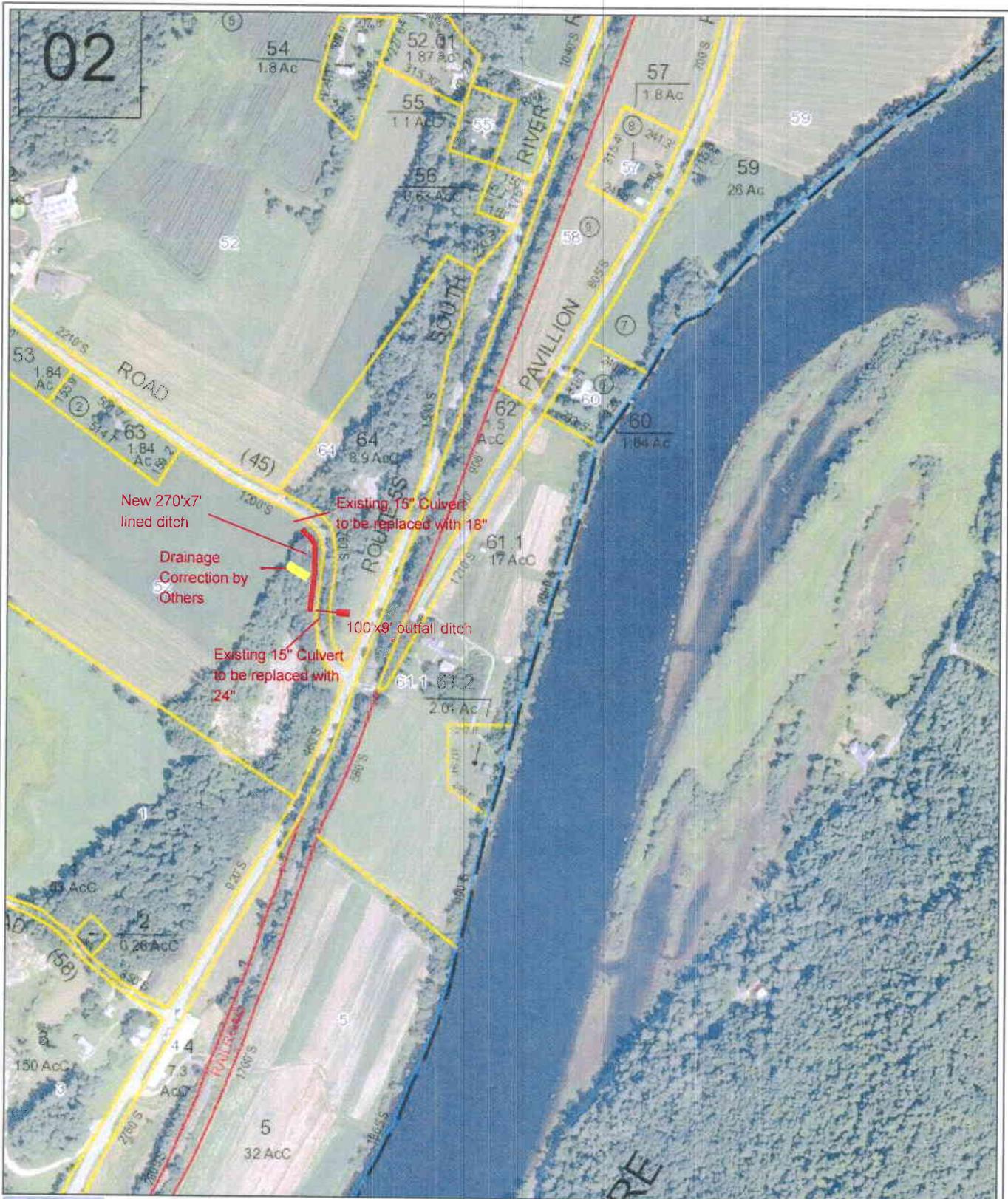
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02



### Vaughan Farms Road Drainage Improvements

Thetford, VT

1 Inch = 500 Feet

April 15, 2016



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[www.cai-tech.com](http://www.cai-tech.com)





Vaughan Farms Road Improvements Project #2				
Item	Unit	Cost/Unit	# Units	Total Cost
<b>Mobilization</b>	LS	\$1,000.00	1	\$1,000.00
<b>Traffic Control</b>				
2 Flaggers	hrs	\$90.00	16	\$1,440.00
<b>Replace Existing 15" Culvert with 18" and 24" culverts</b>				
Excavator	hrs	\$185.00	20	\$3,700.00
Supervisor and Labor	hrs	\$160.00	20	\$3,200.00
Culverts	lf	\$20.00	120	\$2,400.00
Paving	LS	\$3,200.00	1	\$3,200.00
Rock debris HW	LS	\$1,600.00	1	\$1,600.00
Cleanup	LS	\$2,000.00	1	\$2,000.00
				<b>\$16,100.00</b>
<b>Materials</b>				
Fabric	SY	\$0.70	125	\$87.50
Type 1 Stone	T	\$14.00	25	\$350.00
sand	T	\$8.00	50	\$400.00
3" Stone	T	\$12.00	60	\$720.00
Bankrun gravel	T	\$11.00	20	\$220.00
Crushed gravel	T	\$11.00	15	\$165.00
Seed and Mulch	LS	\$750.00	1	\$750.00
Pavement	sy	\$15.00	100	\$1,500.00
				<b>\$4,192.50</b>
Trucking - 1 Dumptrucks	hrs	\$150.00	9.5	\$1,425.00
			<b>Total</b>	<b>\$24,157.50</b>
		\$6,015.00	Tasks by Town, other tasks by Contractor	



Vaughan Farms Road Improvements Projects #1 and #2 Photos

Photo #1 – Corn Field above new lined ditch, upper field needs a diversion swale and the farm should correct the slope erosion notes as “by others” on our site map.



Photo #2 – Erosion caused by upper field to be fixed by others (Vaughan Farm)



Photo #3 and #4 – Upper undersized culvert – considered in poor condition on our 2008 culvert inventory, is undersized and full of sediment



**Photo #5 and #6**

**Existing ditch that will be improved with a 7' wide by 270' long Type 1 stone lined ditch.**



**Photo #7 – 15" culvert to be replaced with 24", undersized and doesn't meet minimum standard of 18"**



**Photo #8-#10, outfall of existing culvert where a 9'x100' stone ditch will be built after damage repaired.**





**northwoods**  
**EXCAVATING INC.**  
289 Ulman Road  
Thetford Center, VT 05075

4/12/2016

Town Of Thetford

**Ref: Vaughan Farm Road**

**Scope of work:**

- Mobilization
- Clearing
- Outfall ditch 100 lf with fabric and stone
- Build 2 headwalls for 24" pipe
- Two 24" x 60' HDPE culverts
- Ditching 270' with stone and fabric
- Pave culvert crossings
- Cleanup seeding and mulching
- Trucking and Materials

**Price: \$ 47,957.39**

Any work above and beyond our scope will be tracked as an extra and billed accordingly. If any ledge is encountered during this project and has to be removed, it will be billed on a time and material basis with the owner's approval. Payment terms are 25% down, final payment upon completion.

If you have any questions, please do not hesitate to contact me. If you would like Northwoods to do this project, please sign, date and return a copy of this letter to the above address and this project will be scheduled.

Sincerely yours,

Zebulon Jenks,  
Superintendent  
Northwoods Excavating Inc.



Chris Bump  
Vermont Agency of Transportation  
221 Beswick Drive  
White River Junction, Vermont 05001

April 13, 2016

Alan May  
Vermont Better Roads Program  
One National Life Drive  
Montpelier, VT 05633-5001

Dear Alan:

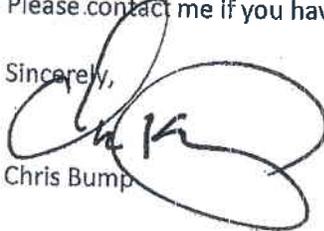
I am writing this letter of support for Thetford for their Better Roads Grant application projects. On April 6<sup>th</sup>, Michael Blakslee and I met with the Town Road Foreman, Chad Martin, and the Town Project Manager, Mary Ellen Parkman to view the proposed improvements.

We visited sites where roadway erosion was occurring on Gove Hill Road, Sawnee Bean Road, Miller Pond Road, Vaughn Farms Road and Latham Road.

At each site we discussed the existing problem and potential repairs. I support each of these sites as priority sites for the Town and feel comfortable that the Town has partnered with a qualified contractor who will assist the Town in meeting the recommendations in accordance with the Vermont Better Backroads manual to eliminate soil erosion and improve water quality at each of these locations.

Please contact me if you have any questions or need additional information.

Sincerely,

  
Chris Bump

