



# FY17 Vermont Better Roads Grant Application

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

Town/Organization: Town of Richford Contact Person(s): John Nutting

Address: P.O. Box 236, Richford, VT  
Street Address Town Zip

Email: \_\_\_\_\_ Phone: (800) 848 - 7751

DUNS #: 032165383 Fiscal Year End Month (MM): 12

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: Town of Richford

Project Name: North Branch Road Slope Stabilization Project

Road Name: North Branch Road TH #: 11 Structure # (if applicable): \_\_\_\_\_

Road Type: Paved Uncurbed

Class 2

Watershed: Missisquoi Watershed

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

The banks of the North Branch of the Missisquoi River are actively eroding and approaching the North Branch Road embankment. More than 5 feet of bank was eroded during Irene and each year, the river moves a foot or two closer to the roadway. While the area is vegetated, there are few trees with root adequate to prevent additional erosion and without stabilizing the bank, it would be difficult to establish an effective buffer.

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):

The project will stabilize 450' of the stream bank with a bulk-toe rock revetment. The revetment will use Type IV stone fill (see project sketch for dimensions). An existing 18" CMP culvert will be extended 20' to prevent additional erosion.

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

Once completed, the project will stabilize the bank and prevent significant amounts of sediment from eroding into the North Branch. The Town will coordinate with the Missisquoi River Basin Association or other watershed groups to see if establishing a woody buffer would enhance this project.



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

Progress to Date:  
None.

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Is there an emergency reason this project must be completed quickly? If yes, please explain:  
No.

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: Identified through a Category A Inventory and Capital Budget       No

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

- Smith Technical Services prepared the preliminary project design and budget.
- Met with Chris Brunelle, VT ANR Rivers Engineer and incorporated his comments into design.
- Worked with the Northwest Regional Planning Commission.

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

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



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

How do you plan to meet the required 20% match on this grant?:  
The 20% match will be met through town labor and equipment.

Requested Grant Amount (\$20,000 max Category B, \$40,000 max Categories C & D): \$ 40,000.00  
 Estimated Total Project Cost (including 20% local match): \$ 50,386.54  
 Estimated Completion Date: 09/15/2017

**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: \_\_\_\_\_



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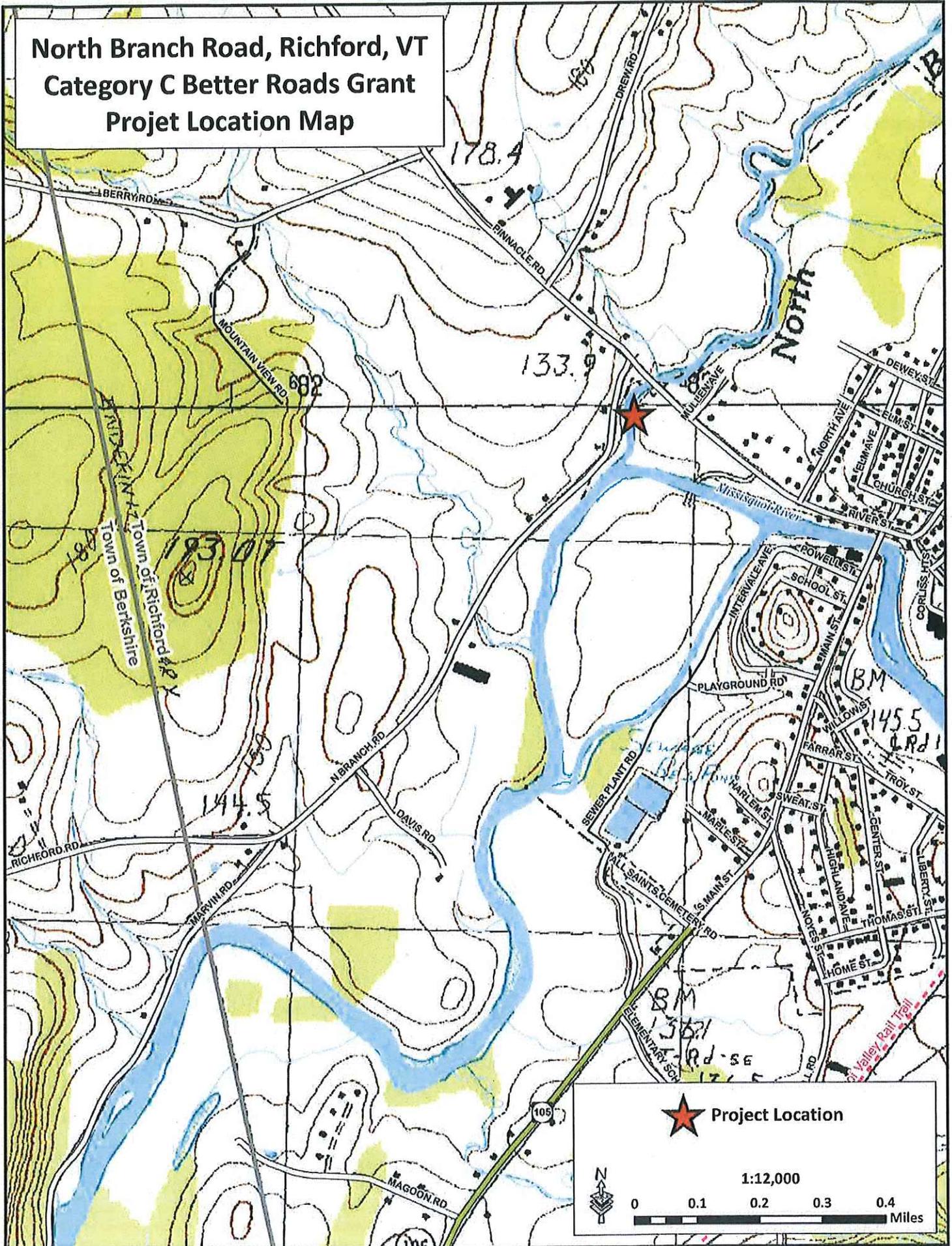
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**SIGNATURE OF APPLICANT: (Must be Town Administrator/Manager or Select Board Chair)**

Name: [Signature]

Title: [Signature]

**North Branch Road, Richford, VT  
Category C Better Roads Grant  
Project Location Map**

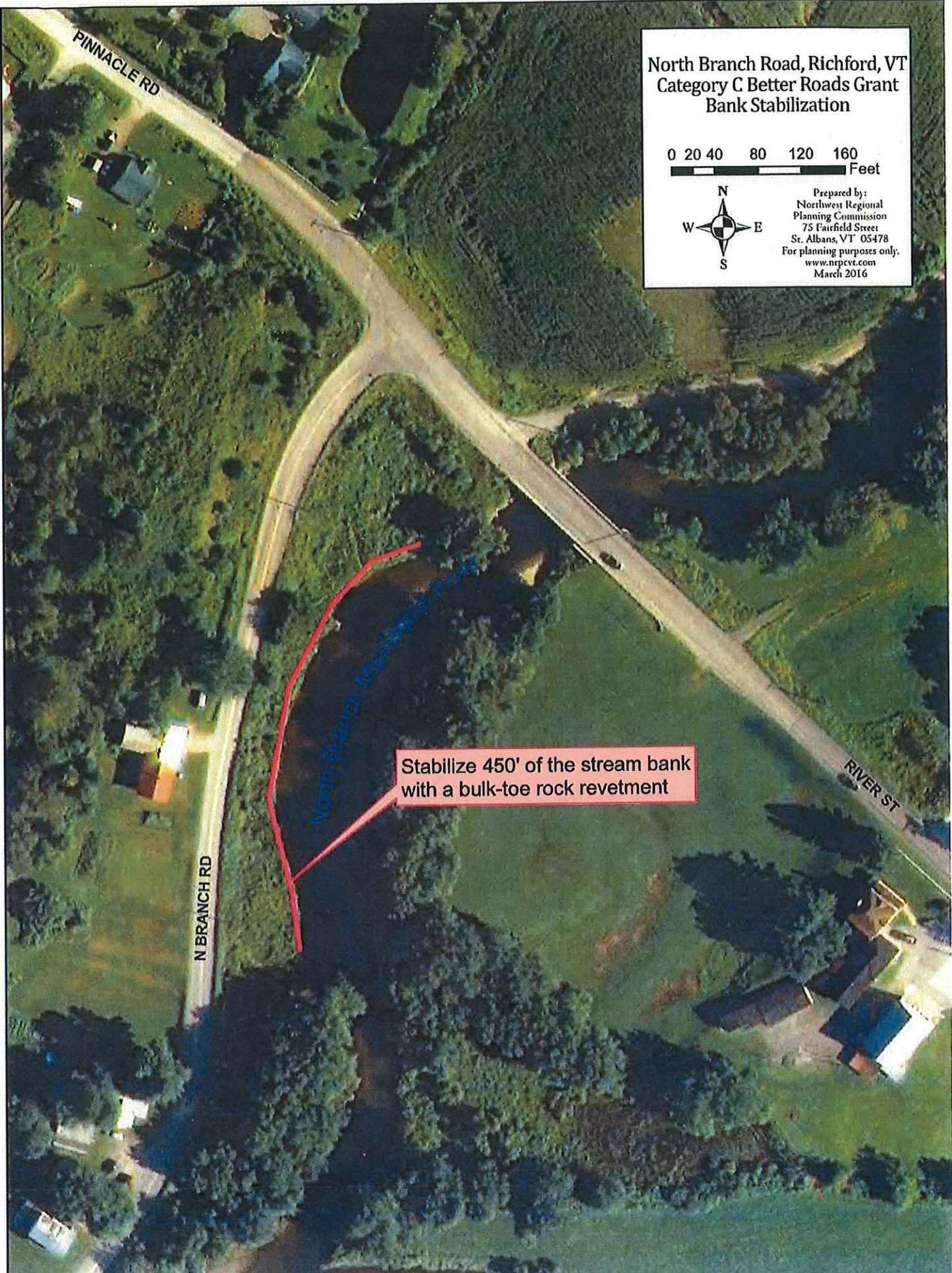


North Branch Road, Richford, VT  
Category C Better Roads Grant  
Bank Stabilization

0 20 40 80 120 160  
Feet



Prepared by:  
Northwest Regional  
Planning Commission  
75 Fairfield Street  
St. Albans, VT 05478  
For planning purposes only.  
www.nrpcvt.com  
March 2016



Stabilize 450' of the stream bank  
with a bulk-toe rock revetment

PINNACLE RD

N BRANCH RD

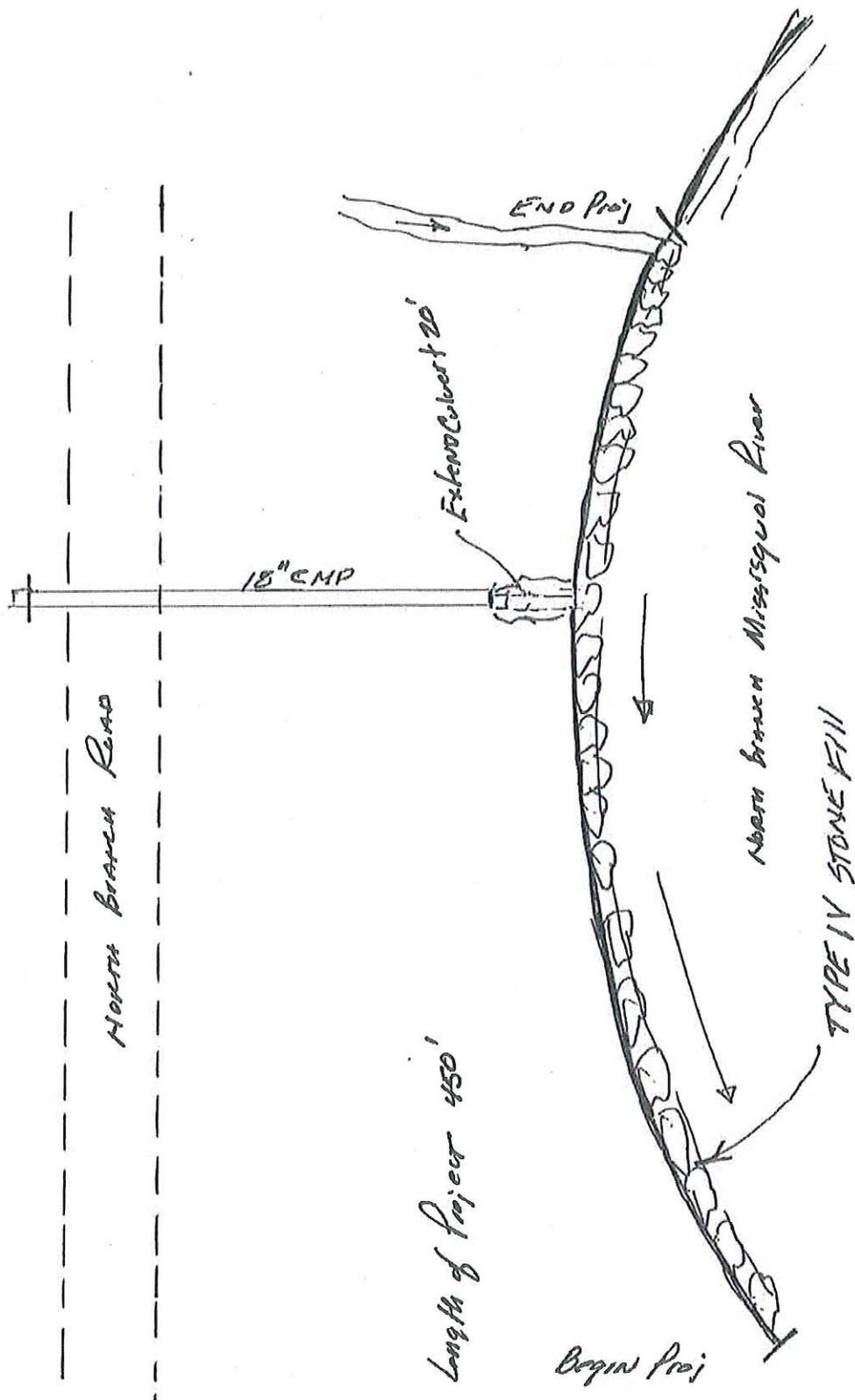
RIVER ST

North Branch, Massachusetts River

**COST ESTIMATE WORKSHEET**

TOWN & ROAD NAME: Richford - North Branch Rd. - TH 11 - Class 3 PROJECT NAME: North Branch Rd. BR Slope Stabilization Project

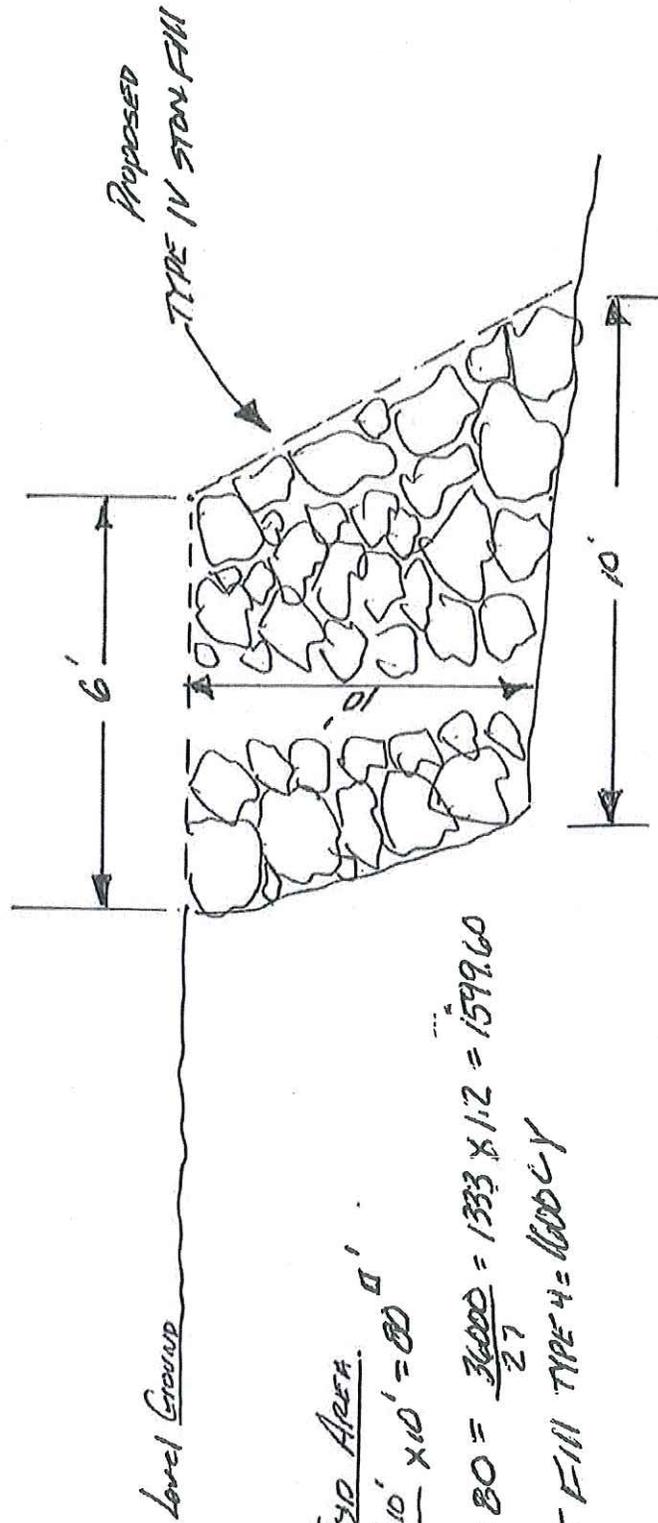
LABOR	RATE	Unit	# Units	TOTAL (Rate X Hours)
Foreman	\$ 35.00	Hrs.	40	\$ 1,400.00
Equipment Operator	\$ 30.00	Hrs.	40	\$ 1,200.00
Maintenance Worker	\$ 25.00	Hrs.	120	\$ 3,000.00
				\$ -
<b>TOTAL LABOR</b>				<b>\$ 5,600.00</b>
EQUIPMENT	RATE	Unit	# Units	TOTAL (Rate X Hours)
Pickup Truck	\$ 27.59	VTrans	10	\$ 275.90
Single Axle Truck	\$ 112.13	VTrans	8	\$ 897.04
Tandem Truck	\$ 128.55	VTrans	120	\$ 15,426.00
Excavator	\$ 56.03	VTrans	40	\$ 2,241.20
Wheeled Loader	\$ 52.72	VTrans	30	\$ 1,581.60
Wheeled Backhoe	\$ 35.32	VTrans	15	\$ 529.80
Grader	\$ 82.04	VTrans	0	\$ -
				\$ -
<b>TOTAL EQUIPMENT</b>				<b>\$ 20,951.54</b>
MATERIALS	RATE	Unit	# Units	TOTAL (Rate X Hours)
Culvert - 18" X 22" CMP/ w Collar	\$ 10.00	L.F.	22	\$ 220.00
Type 4 Stone Fill	\$ 14.00	C.Y.	1600	\$ 22,400.00
Seed	\$ 2.50	Lb.	50	\$ 125.00
Mulch	\$ 3.00	Balle	30	\$ 90.00
				\$ -
				\$ -
				\$ -
				\$ -
<b>TOTAL MATERIALS</b>				<b>\$ 22,835.00</b>
MISCELLANEOUS				
Traffic Control	\$ 500.00	L.S.	1	\$ 500.00
Layout - Inspection - etc.	\$ 500.00	L.S.	1	\$ 500.00
				\$ -
				\$ -
				\$ -
				\$ -
<b>TOTAL MISCELLANEOUS</b>				<b>\$ 1,000.00</b>
				\$ -
<b>GRAND TOTAL</b>				<b>\$ 50,386.54</b>
				\$ -
<b>MATCH</b>				<b>\$ 10,386.53</b>



Richford  
 North Branch Road  
 Eastern of River Bank

J. Smith  
 Smith Technical Services  
 9-2-2016

STREAM BANK EROSION



Exc. Area.

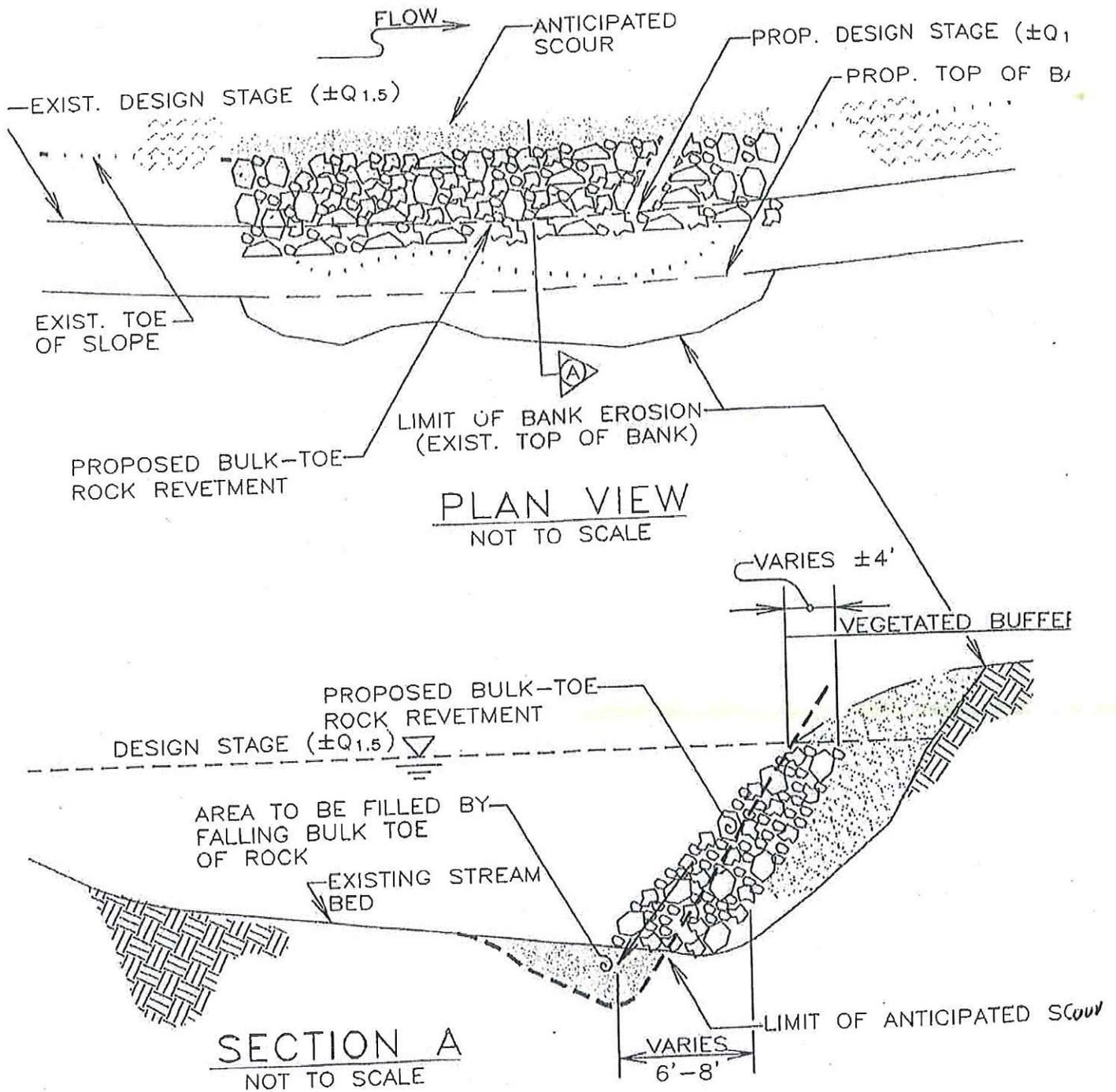
$$\frac{6' + 10'}{2} \times 10' = 80'$$

$$4.5 \times 80 = \frac{36000}{2.7} = 13333 \times 1.2 = 15999.60$$

STONE FILL TYPE 4 = 16000 C.Y.

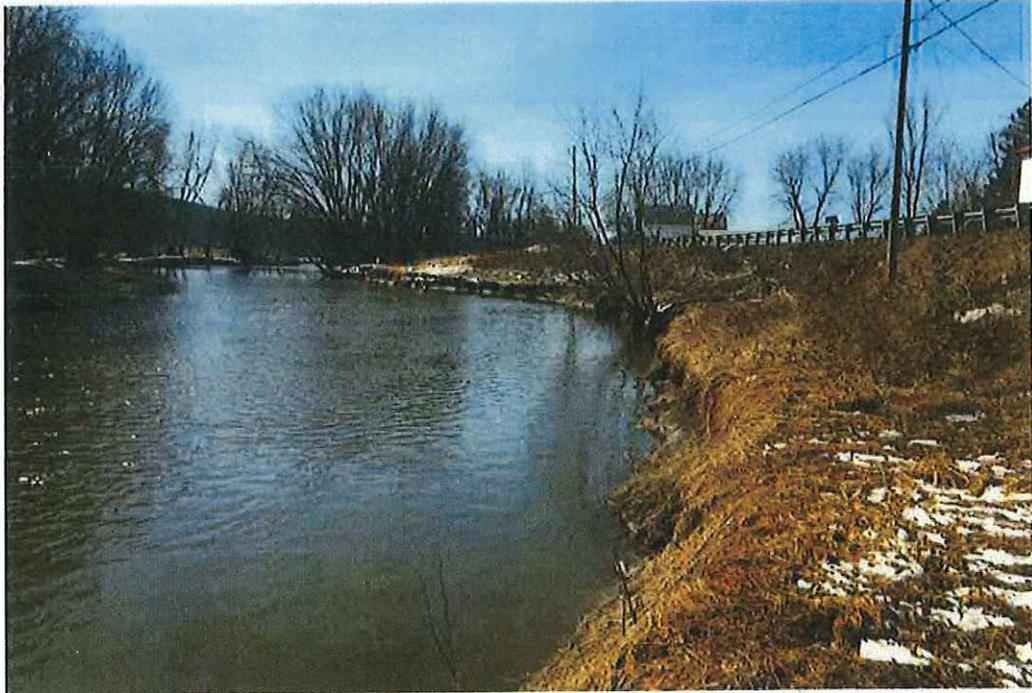
J. SMITH - 4/4/2016  
SMITH TECHNICAL SERVICES

# BULK-TOE ROCK REVETMENT TYPICAL



## NOTES:

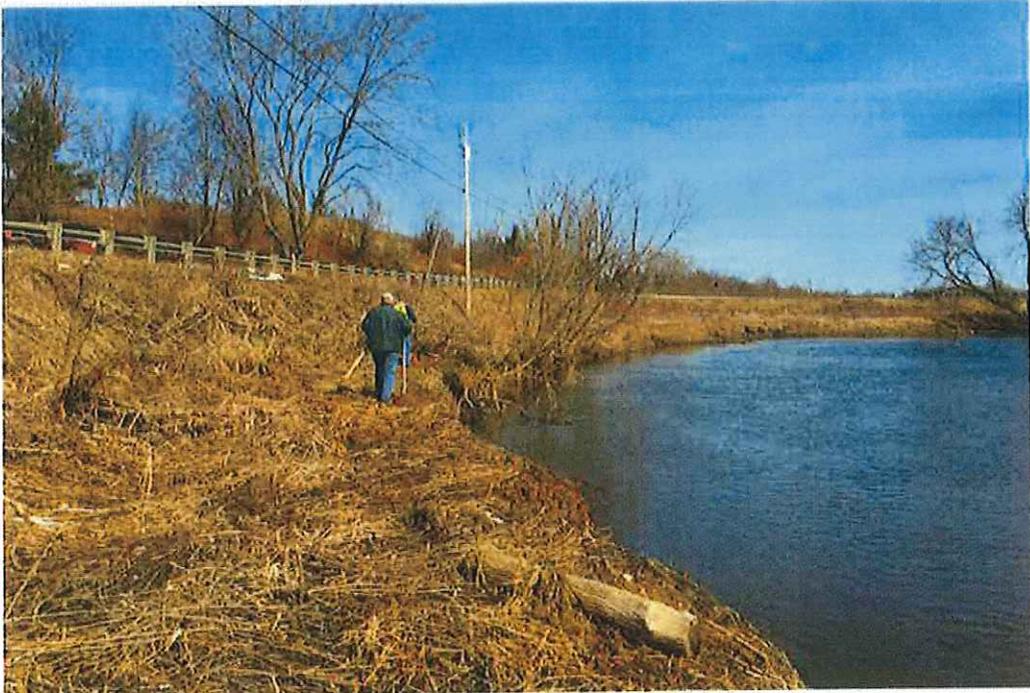
1. PROTECTION AGAINST FLANKING MAY BE REQUIRED IN UNSTABLE PLANFORMS
2. ROCK MATERIAL SPECIFICATION:
  - A. ROCK SHALL BE SIZED TO RESIST SHEAR STRESS EXERTED BY THE STREAM ON THE ROCK AT DESIGN DISCHARGE.
  - B. ROCK SHALL BE ANGULAR AND SHARP, BLASTED OR QUARRIED. LARGE 4' + FIELD STONE MAY BE ACCEPTABLE IN SOME CONDITIONS.



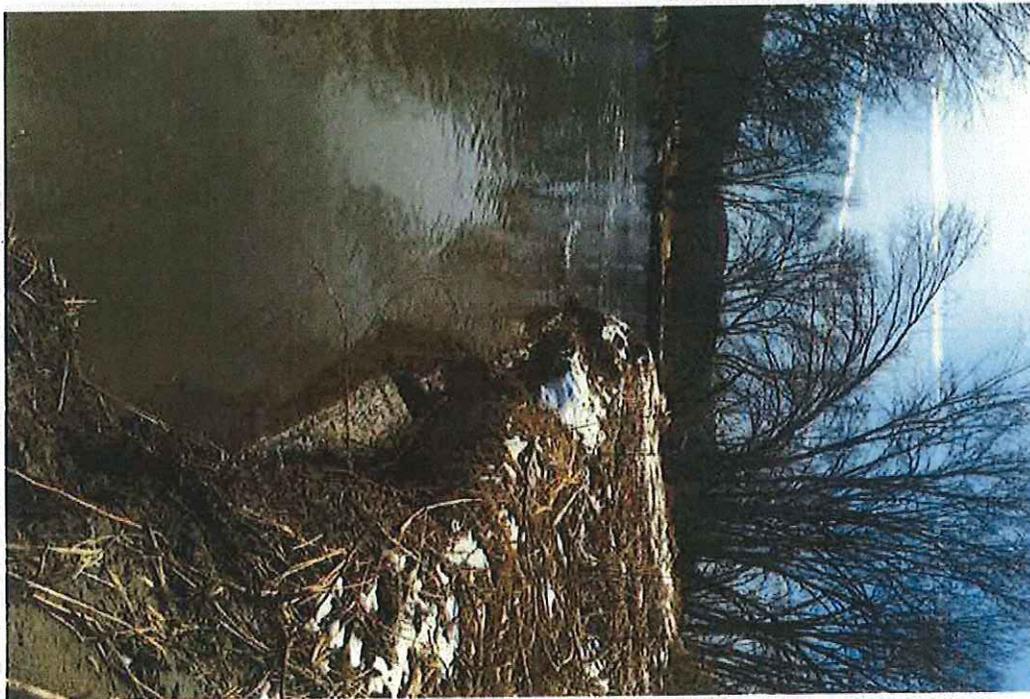
Downstream view of project site.



Star is at 5' mark from bottom of bank.



Upstream view of project site.



Eroding banks.



Culvert will be extended to stop gullyng.