FY17 Vermont Better Roads Grant Application

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

Town/Organization: RIPTON Contact Person(s): ALISON JOSEPH

Address: PO BOX 114 1311 RTE 125 RIPTON 05766
Street Address *Town* *Zip*

Email: selectboard@riptonvt.org Phone: (802) 388 - 2266

DUNS #: 949847990 Fiscal Year End Month (MM): 06

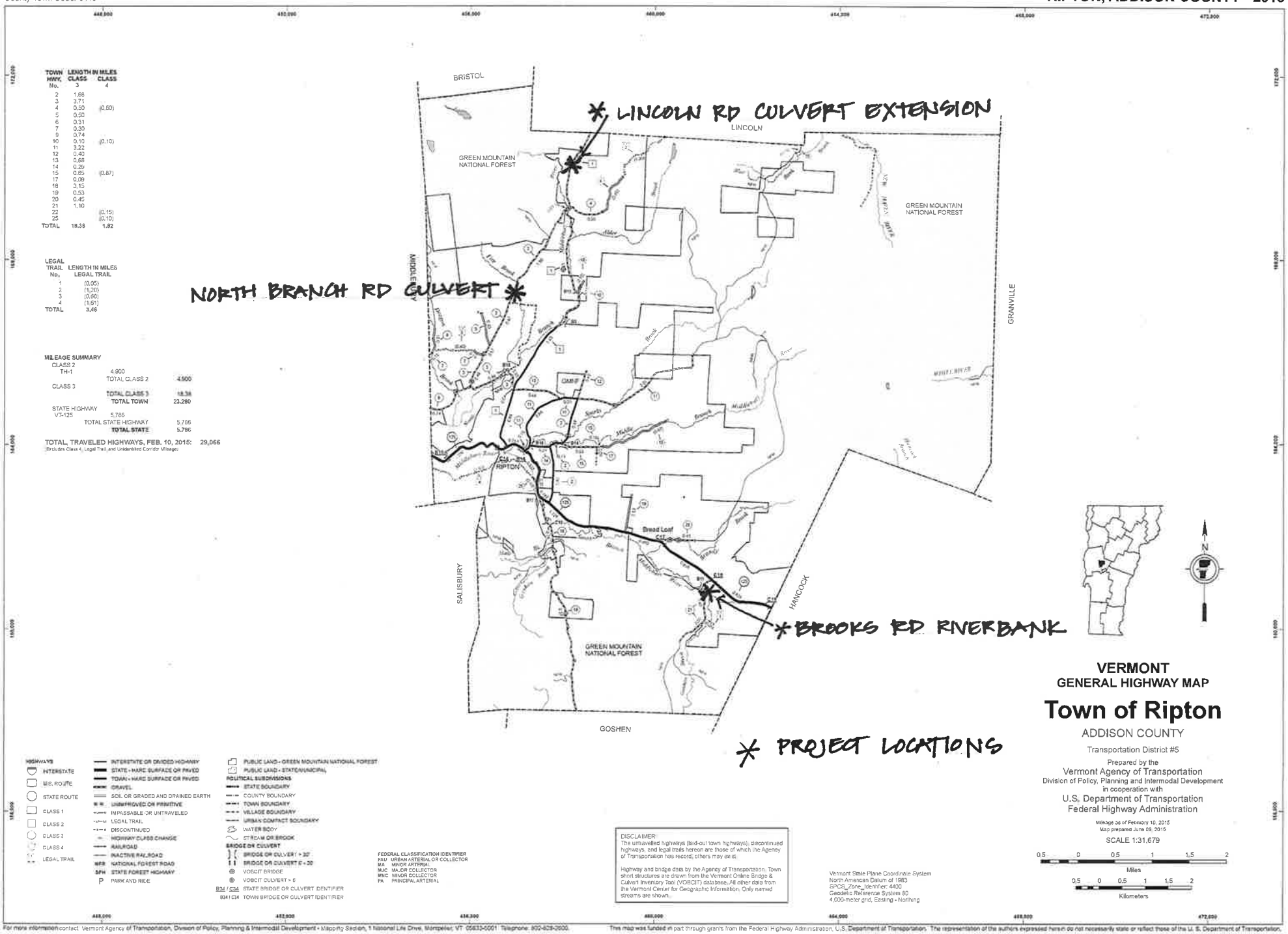
Accounting System: ☑ Automated ☐ Manual ☐ Combination

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

County-Town Code: 0116

RIPTON, ADDISON COUNTY - 2015



TOWN HWY. No.	LENGTH IN MILES CLASS 3	CLASS 4
2	1.68	
3	3.71	
4	0.50	(0.50)
5	0.50	
6	0.31	
7	0.30	
8	0.74	
10	0.10	(0.10)
11	3.22	
12	0.40	
13	0.68	
14	0.26	
15	0.85	(0.87)
17	0.09	
18	3.15	
19	0.53	
20	0.45	
21	1.10	
22		(0.15)
25		(0.10)
TOTAL	18.38	1.82

LEGAL TRAIL No.	LENGTH IN MILES LEGAL TRAIL
1	(0.05)
2	(1.20)
3	(0.60)
4	(1.61)
TOTAL	3.46

MILEAGE SUMMARY

CLASS 2		
TH-1	4.900	
	TOTAL CLASS 2	4.900
CLASS 3		
	TOTAL CLASS 3	18.38
	TOTAL TOWN	23.280
STATE HIGHWAY		
VT-125	5.786	
	TOTAL STATE HIGHWAY	5.786
	TOTAL STATE	5.786

TOTAL TRAVELED HIGHWAYS, FEB. 10, 2015: 29.066
(Includes Class 4, Legal Trail, and Unidentified Corridor Mileage)

HIGHWAYS
- INTERSTATE
- U.S. ROUTE
- STATE ROUTE
- CLASS 1
- CLASS 2
- CLASS 3
- CLASS 4
- LEGAL TRAIL

- INTERSTATE OR DIVIDED HIGHWAY
- STATE - MARC SURFACE OR PAVED
- TOWN - MARC SURFACE OR PAVED
- GRAVEL
- SOIL OR GRADED AND DRAINED EARTH
- UNIMPROVED OR PRIMITIVE
- IMPASSABLE OR UNTRAVELED
- LEGAL TRAIL
- DISCONTINUED
- HIGHWAY CLASS CHANGE
- RAILROAD
- INACTIVE RAILROAD
- NFR NATIONAL FOREST ROAD
- SFH STATE FOREST HIGHWAY
- P PARK AND RIDE

- PUBLIC LAND - GREEN MOUNTAIN NATIONAL FOREST
- PUBLIC LAND - STATE/MUNICIPAL

POLITICAL SUBDIVISIONS
- STATE BOUNDARY
- COUNTY BOUNDARY
- TOWN BOUNDARY
- VILLAGE BOUNDARY
- URBAN COMPACT BOUNDARY
- WATER BODY
- STREAM OR BROOK

BRIDGE OR CULVERT
- BRIDGE OR CULVERT > 20'
- BRIDGE OR CULVERT 6' - 20'
- VOBCIT BRIDGE
- VOBCIT CULVERT > 6'
- B34 / C34 STATE BRIDGE OR CULVERT IDENTIFIER
- B34 / C34 TOWN BRIDGE OR CULVERT IDENTIFIER

FEDERAL CLASSIFICATION IDENTIFIER
- FAU URBAN ARTERIAL OR COLLECTOR
- MA MINOR ARTERIAL
- MJC MAJOR COLLECTOR
- MNC MINOR COLLECTOR
- PA PRINCIPAL ARTERIAL

DISCLAIMER:
The unravelled highways (laid-out town highways), discontinued highways, and legal trails hereon are those of which the Agency of Transportation has record; others may exist.

Highway and bridge data by the Agency of Transportation. Town short structures are drawn from the Vermont Online Bridge & Culvert Inventory Tool (VOBCIT) database. All other data from the Vermont Center for Geographic Information. Only named streams are shown.

Vermont State Plane Coordinate System
North American Datum of 1983
SPCS_Zone_Identifier: 4400
Geodetic Reference System 80
4,000-meter grid, Easting - Northing

VERMONT
GENERAL HIGHWAY MAP

Town of Ripton

ADDISON COUNTY

Transportation District #5

Prepared by the
Vermont Agency of Transportation
Division of Policy, Planning and Intermodal Development
in cooperation with
U.S. Department of Transportation
Federal Highway Administration

Mileage as of February 10, 2015
Map prepared June 09, 2015

SCALE 1:31,679

0.5 0 0.5 1 1.5 2
Miles
0.5 0 0.5 1 1.5 2
Kilometers

For more information contact: Vermont Agency of Transportation, Division of Policy, Planning & Intermodal Development - Mapping Section, 1 National Life Drive, Montpelier, VT 05633-5001 Telephone: 802-828-2600.

This map was funded in part through grants from the Federal Highway Administration, U.S. Department of Transportation. The representations of the authors expressed herein do not necessarily state or reflect those of the U. S. Department of Transportation.

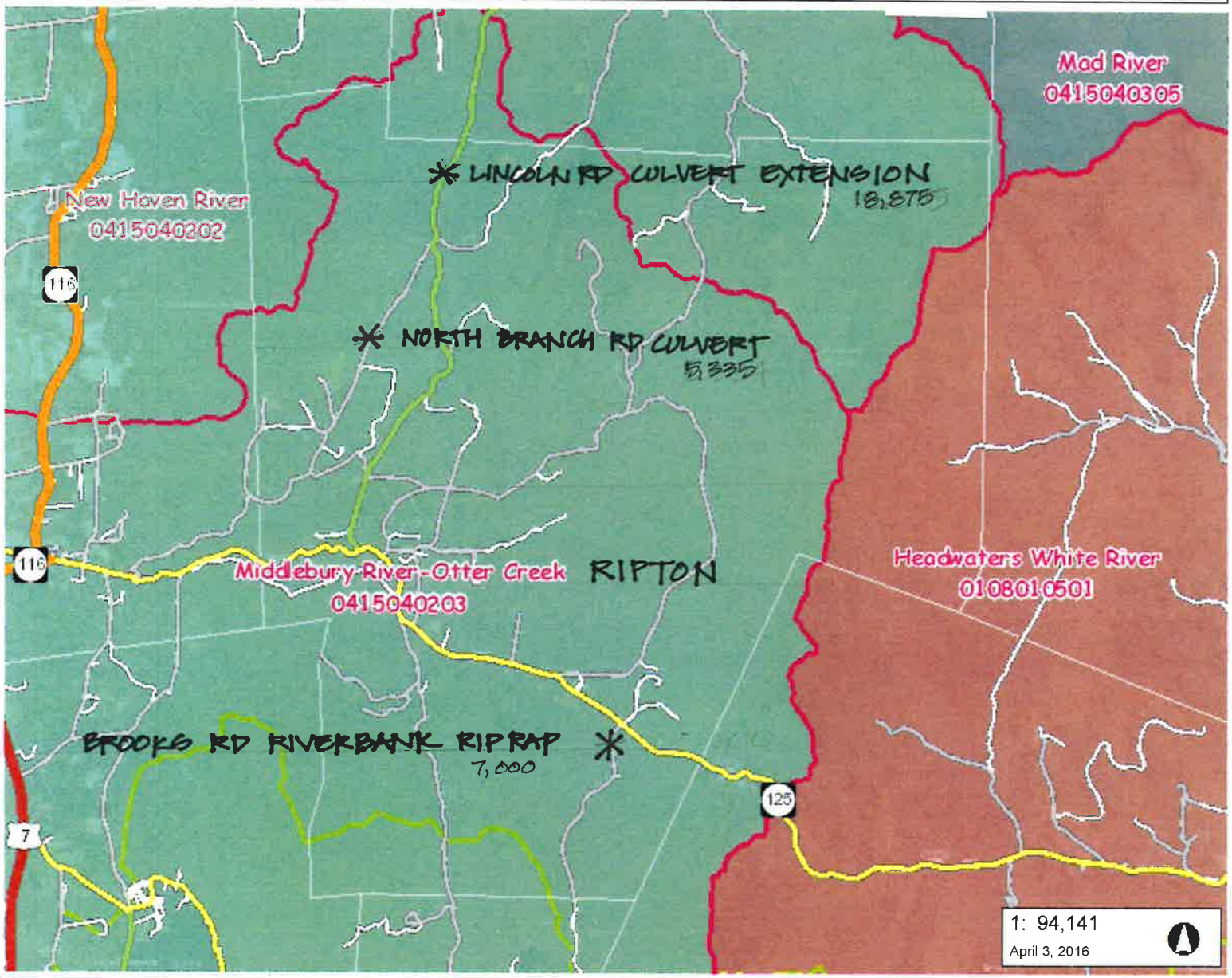
VERMONT

Natural Resources Atlas

Vermont Agency of Natural Resources

TOWN of RIPTON · WATERSHED & PROJECT LOCATIONS

vermont.gov



LEGEND

Roads

- Principal Arterial
- Minor Arterial
- Rural Major Collector
- Rural Minor Collector
- Urban Collector
- Local
- Not part of the Functional Classifica

Town Boundary

Watershed (HU10)

Subwatershed (HU12)

Sub-basin (HU8)

- Black-Ottauquechee
- Deerfield
- Passumpsic
- Upper Connecticut
- Middle Connecticut
- Upper Connecticut-Mascoma
- Waits
- West
- White
- Lake Champlain
- Lamoille River
- Mettawee River
- Missiquoi River
- Otter Creek
- Richelieu River

1: 94,141

April 3, 2016

NOTES

Map created using ANR's Natural Resources Atlas

4,782.0 0 2,391.00 4,782.0 Meters

WGS_1984_Web_Mercator_Auxiliary_Sphere

1" = 7845 Ft. 1cm = 941 Meters

THIS MAP IS NOT TO BE USED FOR NAVIGATION

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: RIPTON

Project Name: NORTH BRANCH RD CULVERT REPLACEMENT

Road Name: NORTH BRANCH RD TH #: 3 Structure # (if applicable): 3032

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

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

Watershed: MIDDLEBURY RIVER/OTTER CREEK

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

THE EXISTING CULVERT IS AN OLD METAL PIPE CULVERT THAT IS TOO SHORT AND DOES NOT MEET ROAD STANDARDS.

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 18" x 30' METAL CULVERT WITH A 24" x 40' HDP CULVERT; SLOPE THE BANK; ADD HEADWELL AT BOTH ENDS; REMOVE BERM THAT HINDERS LINE of SIGHT ON HILL AND CURVE; DITCH & LINE ROADSIDE TO MEET ROAD STANDARDS

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

A LONGER CULVERT & RIPRAP WILL REDUCE EROSION FROM THE INLET, OUTLET & ROAD, REDUCING SEDIMENTATION & IMPROVING WATER QUALITY.

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'+ to larger stream/river

Progress to Date:

PLANNING

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

THE CULVERT OVERTOPS DURING HIGH RAINFALL & ERODES THE ROAD.

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): THE ROAD COMMISSIONER HAS WANTED TO DO THIS PROJECT FOR YEARS & HAS KEPT IT ON THE PROJECT LIST. A GRANT APPLICATION WAS SUBMITTED IN a PRIOR YEAR. 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:

SEE ATTACHED BUDGET

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

VOTERS APPROVED FUNDS FOR GRANT MATCH REQUIREMENTS.

Requested Grant Amount ($20,000 max Category B, $40,000 max Categories C & D): 5,334

Estimated Total Project Cost (including 20% local match): 6,668

Estimated Completion Date: SEPT. 2016

REQUIRED ATTACHMENTS:

- [x] Itemized Cost Estimate (labor, equipment, materials)
  (For assistance, call Better Backroads at 802-828-4585)
- [x] Project Location Map
  (Please show location of affected water; 1:12,000 USGS map, if possible)
- [x] 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
- [x] 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.
- [x] 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: Jan Cox Title: Chair, Ripton Selectboard

Cost Estimate Worksheet

Town and Road Name: RIPTON · NORTH BRANCH RD **Project Name:** CULVERT REPLACEMENT

Labor	Rate	# Hours	Total (Rate x Hours)
ONE MAN LABOR	35	12	420
		Labor Total	420

Equipment	Rate	# Hours	Total (Rate x Hours)
CAT 311 EXCAVATOR with thumb	110	12	1,320
14 YD DUMP TRUCK	80	24	1,920
		Equipment Total	3,240

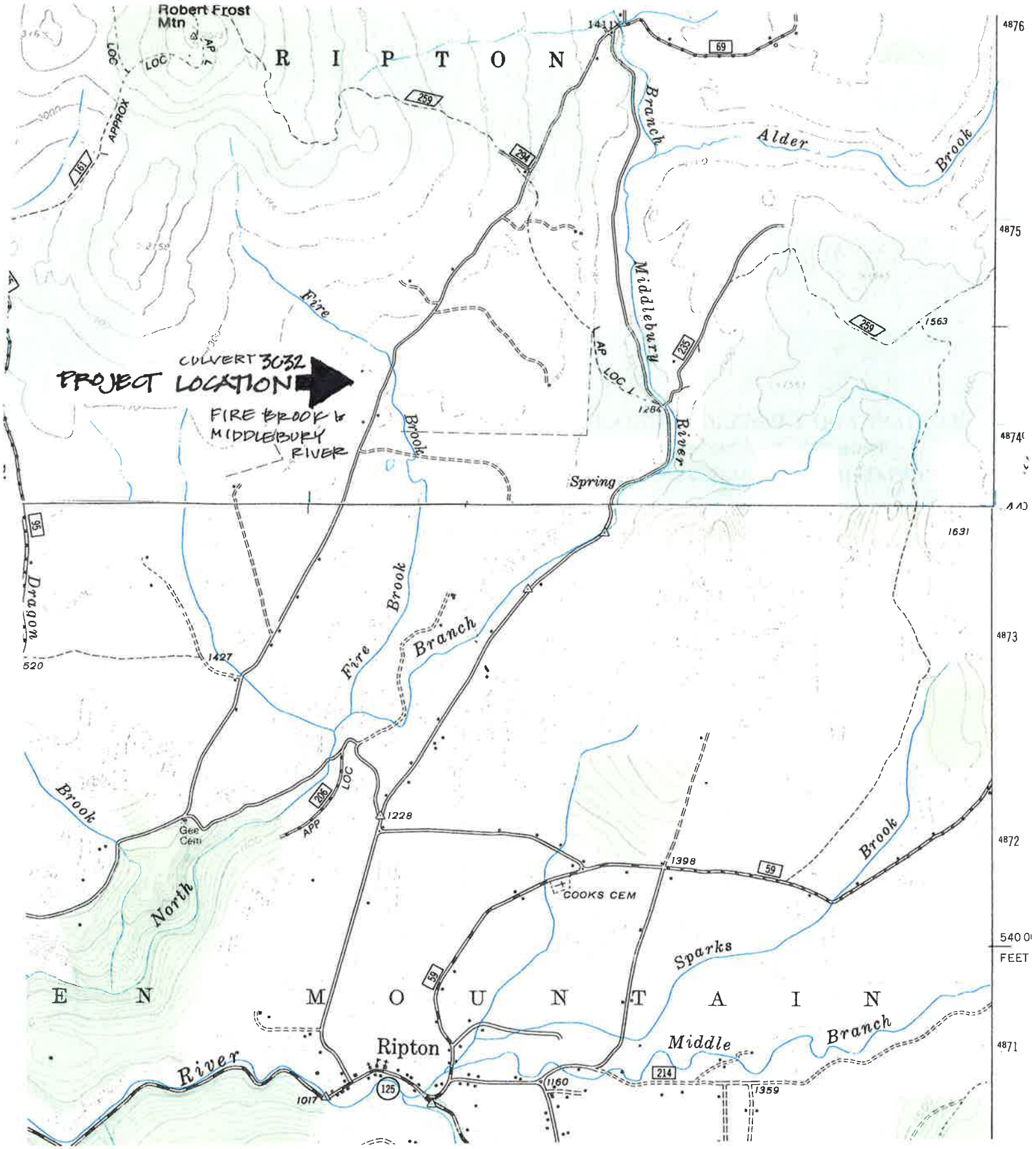
Materials	Rate	Amount	Total (Rate x Amount)
CULVERT · 40' X 2'	28.50 per ft.	40'	1,140
CONCRETE BLOCKS 2'X2'X6'	65	10	650
GRAVEL · 3/4" CRUSHED	9 ton	68 tons	612
RIPRAP · 6"-8"	9 ton	37 tons	333
STRAW MATTING	37 roll	4	148
SEED	4.50 lb	28 lbs	125
		Materials Total	3,008

Miscellaneous	Rate	Amount	Total (Rate x Hours)
		Miscellaneous Total	

Grand Total 6,668.

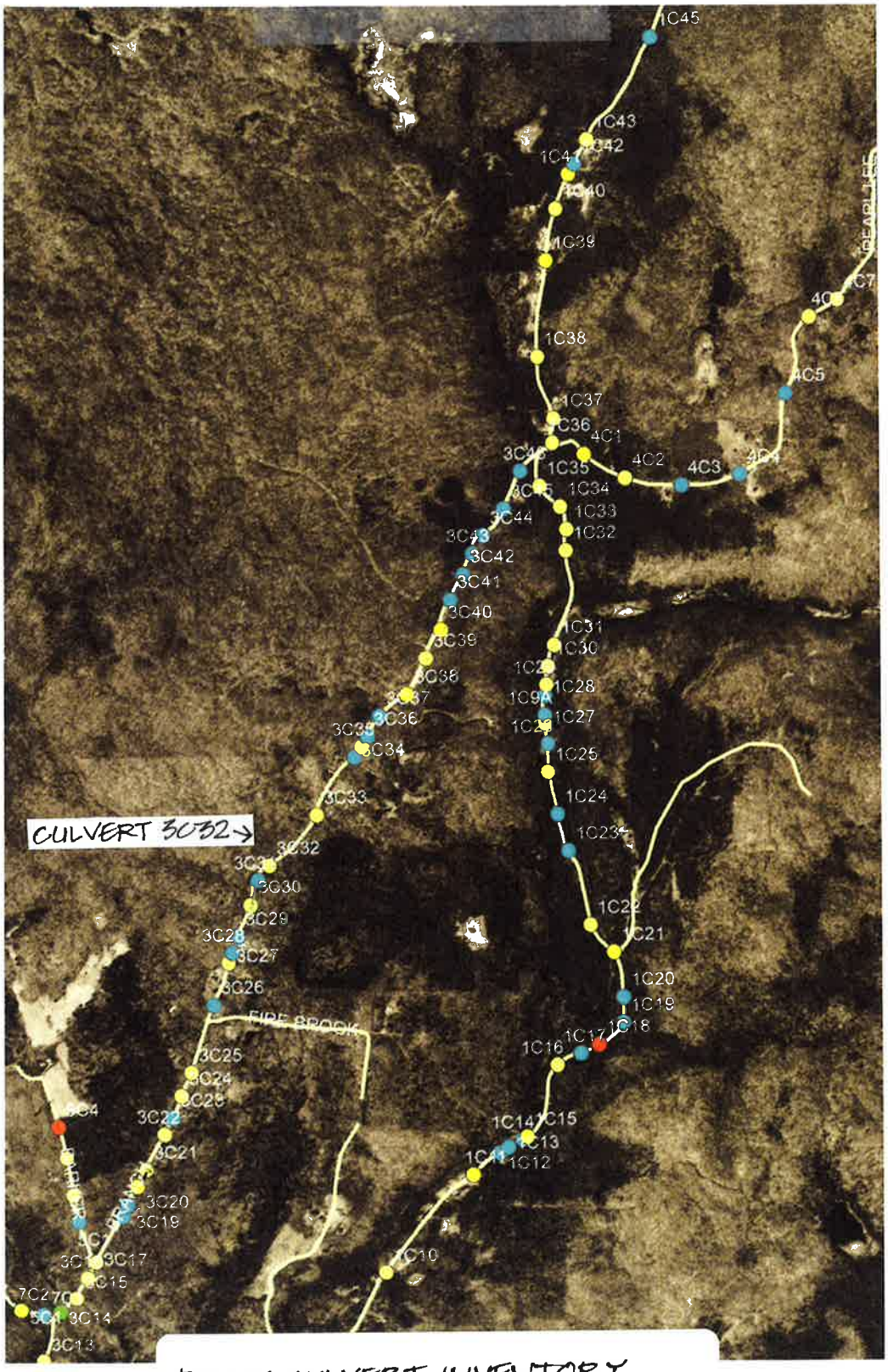
Match 1,334.

PROJECT NAME: **Ripton - North Branch Road culvert, headwall, rock-lined ditch**



PROJECT LOCATION MAP – Ripton TH3 **North Branch Road – culvert, headwall, rock-lined ditch**

PROJECT NAME: **Ripton - North Branch Road culvert, headwall, rock-lined ditch**



RIPTON CULVERT INVENTORY

PROJECT LOCATION MAP – Ripton, TH3 North Branch Road – culvert, headwall, rock-lined ditch

ERODING → SHOULDER

INLET

ROBERT FROST MOUNTAIN WATER FLOW to CULVERT & FIRE BROOK

TOWN of RIPTON. TH3. CULVERT 3C32 · NORTH BRANCH ROAD

INLET →

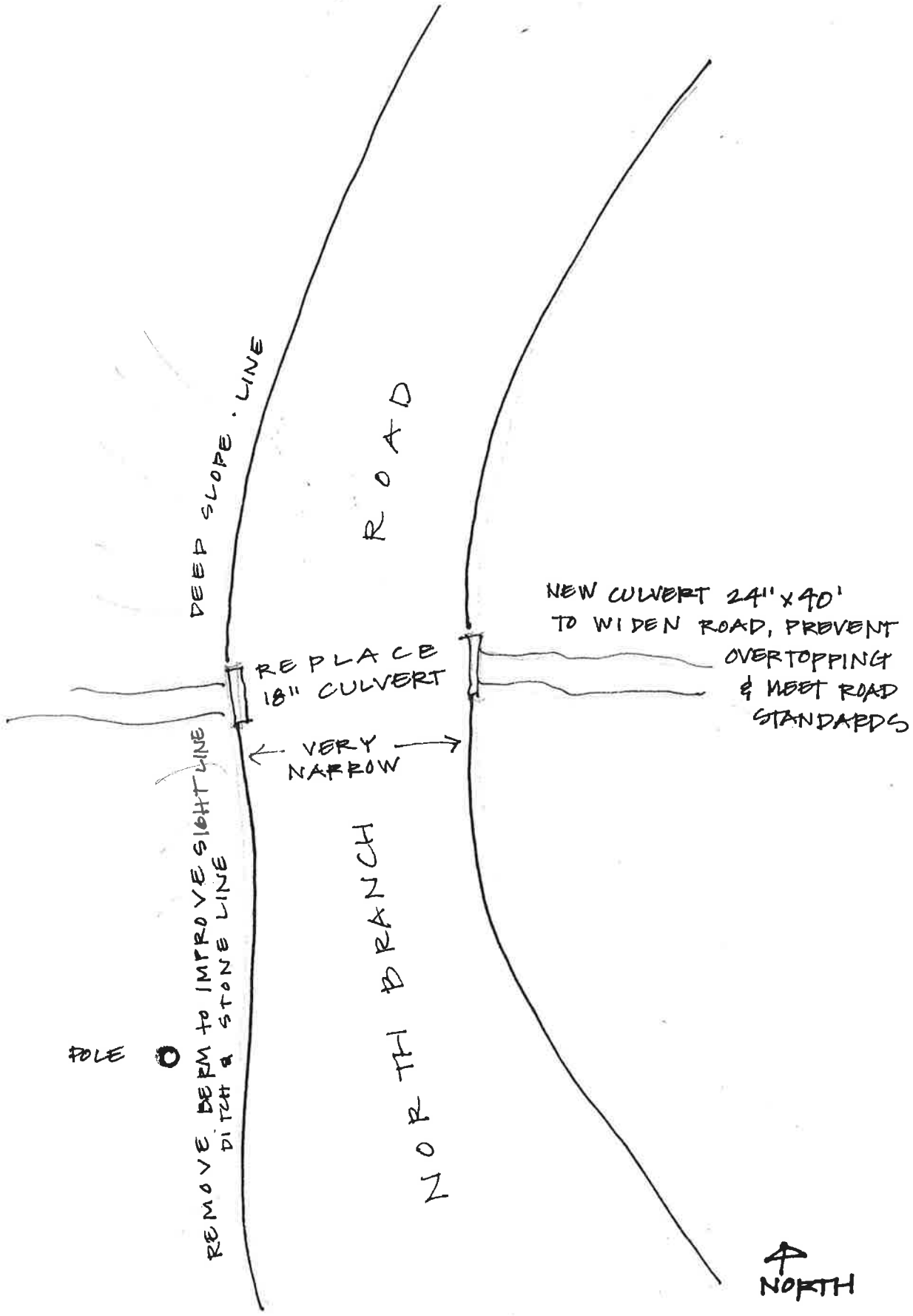
→ OUTLET

TH3 · NORTH BRANCH RD · LOOKING NORTHEAST

OUTLET

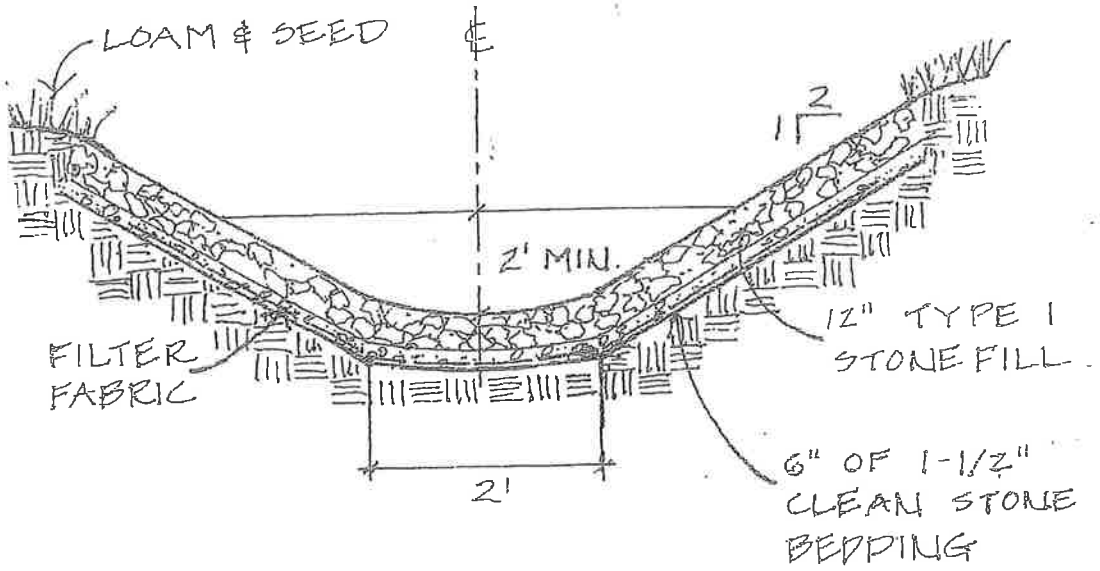
TOWN of RIPTON · TH3 · CULVERT 3C32 · NORTH BRANCH ROAD

PROJECT NAME: **Ripton - North Branch Road culvert, headwall, rock-lined ditch**



TOWN of RIPTON · TH 3 · CULVERT REPLACEMENT

- Size ditches so they are large enough to handle runoff from the drainage area.
- The preferred equipment for creating ditches is a rubber-tired excavator with an articulated bucket.
- Line ditches which have a less than 5% slope with grass in order to filter sediments. Use mulch or erosion control blankets to hold seed in place and allow it to become established.
- Line ditches which have a greater than 5% slope with riprap.
- Line ditches as soon as possible to prevent erosion and to maintain the ditch profile.
- Ditches should deposit water away from the road and prevent standing water, which can weaken the road.
- Outlet ditches into vegetated areas, where possible.
- Vegetated ditches installed after September 15th should be stabilized with either erosion control blankets or hydroseeding to provide adequate protection for winter.

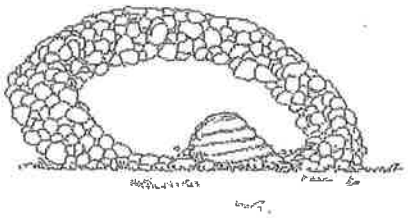


STONE LINED DITCH

Erosion Control measures per best management practices – Better Backroads Manual

PROJECT NAME: Ripton - North Branch Road culvert, headwall, rock-lined ditch

OUTLET STRUCTURES



Splash/Plunge Pool Capacity Requirements		
Distance Between Culverts (ft.)	Pool Capacity (cu. ft.)	
	Crowned road	Banked road
500	230	460
400	180	360
350	160	320
300	140	280
250	120	240
200	100	200

DITCHES

TABLE 1: DITCH LININGS		
Channel Slope	Lining	Thickness
0-5%	grass	
5-10%	R#3 (2 - 6 inch) diameter rock	7.5"
> 10%	R#4 (3-12 inch) diameter rock	12"

Cleaning & Maintenance:

- Clean ditches when they become clogged with sediments or debris to prevent overflows and washouts.
- Check ditches after major storm events as they may have obstructions, erosion, or collapsed banks.
- Regrade ditches only when absolutely necessary and line with vegetation or stone as soon as possible.
- Preventing erosion from uphill or on backslopes can lengthen the time needed between ditch cleanings.

Economic advantages of maintaining a properly constructed ditch estimated over a 20 year period are:

$36,000/mile/20 years for an improperly constructed ditch
$26,000/mile/20 years for a properly constructed ditch

$10,000/mile/20 years
SAVINGS FOR INSTALLING A PROPER DITCH

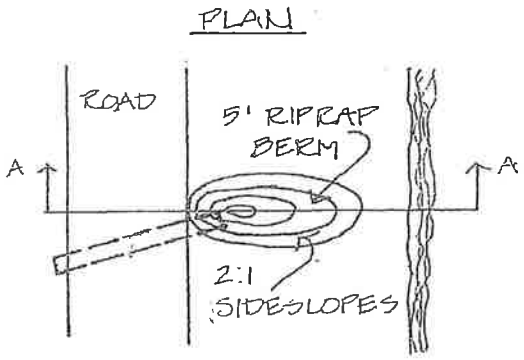
This amount can be increased by $5,000/mile/20 years if an excavator is used instead of a backhoe

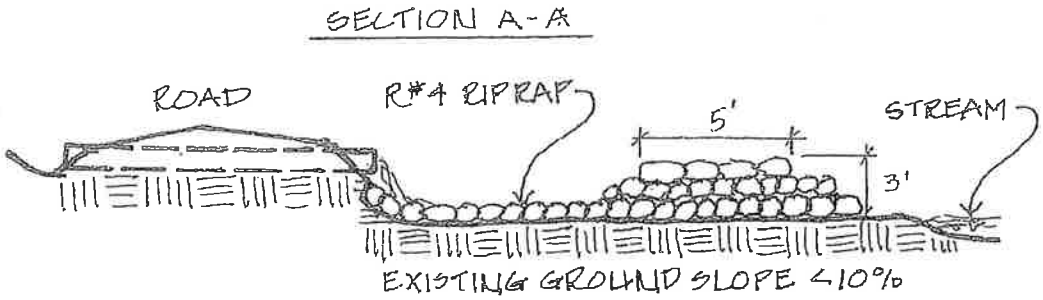
Everett Hammond
Director of Public Works
Rockingham, VT

Erosion Control measures per best management practices – Better Backroads Manual

Splash/Plunge Pools:
Riprap basin located at outlet of a culvert pipe.

- Used to remove sediments (by absorbing energy from flowing water and allowing sediments to settle out) from areas with concentrated flows and areas without adequate vegetative filter strips.
- Limited to areas with less than 10% slope.
- Consolidates sediment for easier removal.
- Reduces energy and velocity of flows by providing storage of runoff.
- Can allow for ground water recharge.
- Clean when pool area is one third filled with sediment.
- Locate the pool so that mechanized cleaning is possible.
- See pool capacity requirements chart on next page for sizing.





SPLASH/PLUNGE POOL

Town of Ripton
Planning Commission
PO Box 10
Ripton VT 05766

802-388-2266 phone
802-388-0012 fax

May 15, 2015

To: Better Backroads Program

The Ripton Planning Commission supports the town's Better Backroads Program application for a culvert replacement and ditching because the project proposes to reduce erosion and sedimentation and improve water quality, and conforms to the Town Plan.

We are forwarding the application to River Watch, whose volunteers test our waters regularly, and anticipate they too will endorse this project.

Ripton Planning Commission

Warren King, chair

WK/aj

SAME CULVERT