Vermont Better Roads Grant Program

Cover Sheet

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

Town/Organization: Town of Castleton

Primary Contact Person (Responsible for Signing Grant Agreement): Michael Jones

Title: Town Manager

Address: 263 Route 30N (*Street Address*) Bomoseen (*Town*) 05732 (*Zip*)

Primary Contact Person Email: manager@castletonvt.org Phone: ( ) 468 - 5319

SAM unique ID #: VLHBTNGH3YP1 Fiscal Year End Month (MM): JUNE

Town Clerk / Admin email: administration@castletonvt.org

Road Foreman Name: Jeff Davidson Road Foreman Email: dpwforeman@castletonvt.org

Vermont Better Roads Grant Program

CATEGORY B/C/D

Please complete one application per project you are applying for.

Please check the Category you are applying for:

- ☐ B. Correction of a Road Related Erosion Problem and/or Stormwater Mitigation
- ☐ C. Correction of a Stream Bank, Lake Shore or Slope Related Problem
- ☒ D. Structure/culvert 36" diameter or greater

Municipality: Town of Castleton

Road Name: Belgo Road TH #: 29 Structure # (if applicable): N/A

Road Type: Paved or Unpaved (select one) Road Class: 1 2 3 4 (select one)

Please provide a thorough description of the erosion/water quality problem (ex. Roadway has steep slope with no ditch which is causing severe roadway erosion, which outlets into the Lamoille River): ____THE The current culvert is undersized which is increasing erosion and sediment runoff into North Brenton Brook. This segment of Belgo Road has washed out twice since 2011. The first time was due to stormwater from Tropical Storm Irene and the second was due to stormwater from a storm in April 2019. According to FEMA, the damage did not qualify in April 2019 because it was not in the same location as it was in 2011. It was in the same segment but not in the same location. Despite the Town's best efforts, it will wash out again in a large storm.

Has the town completed an MRGP compliant road erosion inventory? ☒ Yes ☐ No ☐ In progress

Project Length (linear feet along roadway): _____ ft.

Number of structures/culverts replaced/repaired: 1

Average slope of roadway: ☒ 0-5% ☐ 5-10% ☐ >10%

Provide a VERY detailed map of project location showing start and end points: ☒ Included

Provide a sketch of project location showing distances and project details: ☒ Included

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Please provide the Road Segment ID (RSID) for your project. If several, please list all. In addition to the RSID please indicate what the resulting rating of each segment before construction as well as after construction in accordance with the MRGP.* (i.e., Fully Meets Standard, Partially Meets, Does Not Meet) For assistance, please contact Better Roads Staff (802)828-4585.

RSID	Hydrologically Connected?		**Pre-construction** MRGP Conformance			**Post-construction** MRGP Conformance		
	Yes	No	Fully Meets	Partially Meets	Does Not Meet	Fully Meets	Partially Meets	Does Not Meet
7354	X		X			X		

*In order to "Fully Meet" the standards the road segment must have proper crown, removal of shoulder berms, proper ditching, proper conveyance and no erosion present at culvert inlets and outlets.

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Environmental Concerns:
All projects require a review of potential impacts by our environmental team. To expedite the review process, please check the boxes below that describe existing structures/conditions to be replaced/maintained (if any) and the project description that applies (if any).

Existing Structures:	
☒ Steel/Plastic Culvert	☐ Concrete Box Culvert
☐ Stone Culvert – **Take pictures**	☐ Concrete Bridge
☒ Ditch	☐ Rolled Beam/Plate Girder Bridge
☐ Foundation remains, mill ruins, stone walls, other – **Take pictures**	☐ Stone abutments or piers – **Take pictures**
☐ Buildings within 300 feet of work - **Take pictures**	
Project Description:	
☐ New ditches will be established	☒ All work will be completed from the existing road or shoulder
☒ Reestablishing existing ditches only	☐ There will be excavation within 300 feet or a river or stream – **Take pictures**
☒ The structure is being replaced on existing location/alignment	☐ Road reclaiming, reconstruction, or widening
☐ Excavation within a floodplain – **Take pictures**	☐ Temporary off-road access is required
☐ Tree cutting/clearing – **Take pictures**	☐ The roadway will be realigned

Please describe the project and how it will create a positive water quality benefit (ex. Reshape 500' of ditch and line with 12 inch minus stone, to prevent sediment from entering the Lamoille River at the bottom of the hill):

Project will replace undersized culvert with another culvert that obtains an appropriate bank full width which will ensure full passage and help connect the fragmented habitat of current culvert design. The slope of the road is less than 10 degrees in this area but the amount of runoff from the watershed above the road is substantial.

Please list any professionals or partners that assisted with planning this project (ANR River Management Engineer, Army Corps of Engineers, VTrans staff, Basin Planner, RPC staff, etc.):

Josh Carvajal, Jethro & Pete Doran (Taconic Excavating)

Is the project located in the town "Right of Way? (select one) ☒ Yes ☐ No ☐ Both
Please be aware, Municipalities are required to have an Agreement for Entry & Liability Release for any impacted properties (prior to the start of construction.)

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Budget:

Please attach a project budget and confirm below that is attached:

☐ Project budget IS attached

Are you applying to other grant programs to help fund this project? If so, what programs? Please note that Better Roads requires a 20% local match and Better Roads funding may not be used as match for other state or federally funded programs.

Requested Grant Amount:	$ 53,896.00
+	
Local Match:	$ 13474.00
=	
Total Project Cost:	$ 67,370.00

Requested Grant Amount Max:
$20,000 Category B
$40,000 Category C
$60,000 Category D

See page 6 for more information on calculating match

Estimated Completion Date: 11/01/2024

REQUIRED ATTACHMENTS:

Please use the documentation checklist below to ensure that all of the relevant items regarding your application have been included. It is preferred that your application is a single PDF file.

- ☒ Grant application cover sheet
- ☒ Grant application form, including chart with RSID and MRGP compliance before and after project completion
- ☒ 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).
- ☒ Detailed Project Location Map
- ☒ Sketch of proposed project and 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 and limits of work
- ☒ Photos must be color and clear to see.
  - Please make sure there are enough photos to get a good idea of the project area
- ☒ 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:

Name: Michael Jones Title: Town Manager

MUST BE TOWN ADMINISTRATOR/MANAGER OR SELECT BOARD CHAIR

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Vermont Better Roads Category B/C/D Grant Proposal Scoring Criteria

All applications will be scored on a sliding scale elected by the Better Roads Grant Selection Committee. Road BMP upgrades are considered the highest priority for grant funding when road segments are "hydrologically-connected," currently "not meeting" MRGP standards, and road slopes are greater than 10%

1. **Is the project using Best Management Practices (BMPs) that are proven and likely to maximize long term success, such as practices contained within the new VTrans Better Roads Manual and/or VT DEC MRGP Standards?? [maximum 20 points]**
   - The proposed project utilizes appropriate BMPs and has maximized the likelihood of long-term success (16-20 points)
   - The proposed project utilizes some appropriate BMPs but more could be done to increase the likelihood of success (11-15 points)
   - The proposed project does not utilize appropriate BMPs, or it is unclear whether the BMPs will be used appropriately and the likelihood of success is uncertain (0-10 points)

2. **What are the expected Water Quality Benefits within the watershed? [maximum 25 points]**
   - Project will lead to significant improvements to water quality (21-25 points)
   - Project will lead to moderate improvements to water quality (16-20 points)
   - Project will lead to small improvements to water quality (1-15 points)
   - Project will lead to no obvious improvements to water quality (0 points)

3. **Is the project in or does stormwater runoff from the project area drain into a hydrologically connected segment? [maximum 20 points]**
   - Yes; the entire project is in connected segment(s) (20 points)
   - Partially; part(s) of the project are in connected segments (5-19 points)
   - No; this project is not in a connected segment (0-5 points)

4. **Will the project result in full compliance of one or more segments in accordance with the Municipal Roads General Permit (MRGP)? [maximum 25 points]**
   - All segments within the project will be in full compliance (25 points)
   - One or more segments will be in full compliance, with all other segments in partial compliance (11 – 24 points)
   - One or more segments will be a minimum of partial compliance (1- 10 points)
   - Project does not meet compliance or not applicable (does not have hydrologically connected segments) (0 points)

5. **Is the project cost effective? [maximum 10 points]**
   - The cost of the project is low and the expected benefits are high (8-10 points)
   - The cost of the project is average and the expected benefits are average (5-7 points)
   - The cost of the project is high and the expected benefits are low (0-4 points)

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Cost Estimate Worksheet

Town and Road Name: **Project Name:**

Labor	Rate	# Hours	Total (Rate x Hours)
LABOR-MAN HOURS	$50.000/HOUR	240	$12,000
		Labor Total	$12,000

Equipment	Rate	# Hours	Total (Rate x Hours)
EXCAVATOR WITH HAMMER	$150.00/HOUR	40	$6,000.00
EXCAVATOR WITH BUCKET	$150.00/HOUR	80	$12,000
DUMP TRUCK 1 (Single Axle)	$80.00/HOUR	50	$4,000
DUMP TRUCK 2(Tandem)	$80.00/HOUR	50	$4,000
		Equipment Total	$26,000.00

Materials	Rate	Amount	Total (Rate x Amount)
CULVERT	$191.25 PER LINEAR FT	40	$7,650
HEADWALL	$10,000	1	$10,000
ENDWALL	$10,000	1	$10,000
6-12 STONE	$15.00/YARD	100	$1,500
GRASS SEED	$100/BAG	1	$100.00
STRAW BALES	$12.00/ BALE	10	$120.00
		Materials Total	$29,370.00

Miscellaneous	Rate	Amount	Total (Rate x Hours)
		Miscellaneous Total	

Grand Total $67,370.00

Match $13,474.00

RUTLAND REGIONAL PLANNING COMMISSION

December 14, 2023

Mr. Alan May & Mr. Ross Gouin
Vermont Agency of Transportation
1 National Life Drive, Montpelier, VT 05633

Dear Mr. May & Mr. Gouin,

The Rutland Regional Planning Commission (RRPC) is pleased to offer its support for the Town of Castleton's Better Roads Category D Grant for culvert replacement on Belgo Rd.

The proposed work on Belgo Rd will replace the existing undersized corrugated steel culvert with a new structure that meets current design standards and has an appropriate bankfull width. Additionally, the current perched culvert is not suitable for aquatic organism passage. The proposed culvert will ensure full passage and help reconnect the fragmented habitat severed by the current culvert design. The culvert replacement is vitally needed for Castleton to improve water quality by reducing erosion and sediment runoff into North Breton Brook, a tributary of Castleton River. The proposed project has been developed with consultation between the town, the RRPC and DEC River Management Engineer Josh Carvajal.

The RRPC fully supports the Town and strongly encourages VTrans to fund the Belgo Road Project. Thank you for the consideration and supporting our community partners.

Thank You,

Ethan Pepin
Transportation Planner

Vermont Better Roads Grant Program

River Management Engineer Support Letter

I am providing this letter of support to the Town/~~City/Village~~ of Castleton for their Better Roads grant application on Belgo Road, which will have an impact on

Mile Marker, Road Name/TH Number

Tributary to North Brenton Brook .

Name of River/Stream

Stream Alteration Permit Required for this project: ☑ Yes ☐ No

Upon review of the site, I have determined that the proposed project is eligible for a Stream Alteration Permit. Additionally, if this project is constructed according to the recommendations described below (see Comments), the following stream equilibrium and connectivity benefits will be achieved:

- ☐ Restores or enhances floodplain/access to floodplain
- ☑ Restores or enhances natural channel dimensions
- ☐ Establishes tree/shrub buffer
- ☐ Restores habitat (including aquatic organism passage)
- ☐ No additional benefits
- ☐ Further restricts or impacts the stream

Thank you for your consideration,

Signature Josh Carvajal, RME

Comments:

Culvert was flood damaged in 2019, sizing based on bankfull dimensions and Q25 design flow. Outlet to ledge then waterfalls, no embedment for Aquatic Organism Passage (AOP) required.

VERMONT

Vermont Department of Environmental Conservation
Watershed Management Division
Rutland Regional Office
88 Merchants Row, Suite 430 Asa Bloomer Building
Rutland, VT 05701-5903

Agency of Natural Resources

[cell] 802-490-6163
[fax] 802-786-5915
http://dec.vermont.gov/watershed

AUTHORIZATION TO CONDUCT NEXT FLOOD PROTECTIVE MEASURES

Pursuant to Section F of the Vermont Stream Alteration General Permit (SAGP)

Project Number: **NFM-07-069-2019**	Lat/Lon: **43.64174 N, 73.13185 W**
Applicant Name: **Town of Castleton**	Contact Phone: **(802) 468-2459**
Mailing Address **263 Rte 30N Bomoseen, VT 05732**	Email: dpwforeman@castletonvt.org
Project Location: **Belgo Road below #310**	Watercourse: **Tributary to North Breton Brook**

The Secretary of the Vermont Agency of Natural Resources (VT ANR) has determined that:

1. This project authorizes **the removal of sediment from the culvert inlet and adjacent stream channel to restore capacity and reduce flooding; Replacement structure to be sized based on design flow and a modified bankfull width due to influence of ledge in the channel; See attached table - structure to be arch culvert based on the available road cover; Headwall at outlet should be cast-in-place concrete pinned to ledge to anchor new pipe.**
2. The proposed activity is eligible for coverage under the VT ANR SAGP – Next Flood Protective Measures.
3. The proposed activity will meet the terms and conditions of Section F of the General Permit provided:
   a) The project will be completed and approved as **discussed during a site visit on 05/21/2019, as amended during the construction activities** and as approved by the Vermont ANR River Management Engineer.
   b) The project is proportional to the threat and conditioned to cease when the threat to life or to improved property has ended; The project, as authorized, will not result in a threat to life, public health or safety.
   c) The project will meet the standards detailed in subsection E.2.1 and E.2.2 of the General Permit.
   d) The project will meet Stream Alteration Standards to the greatest extent possible.
   e) A pre-construction meeting will be held at site with the contractor and RME to discuss the plan of work.
   f) The River Management Engineer (RME) to be notified by phone or email when construction begins, updates to be provided to RME while contractor is actively working in the stream and until the project is completed.

If there are any changes in the project plan or deviation in construction from the approved plan, the Permittee must notify the River Management Engineer immediately via phone (802) 490-6163 or email joshua.carvajal@vermont.gov.

If the project is constructed as described, as shown on the above referenced approved plans and according to the above conditions, there is no reason to expect any violation of Vermont Water Quality Standards.

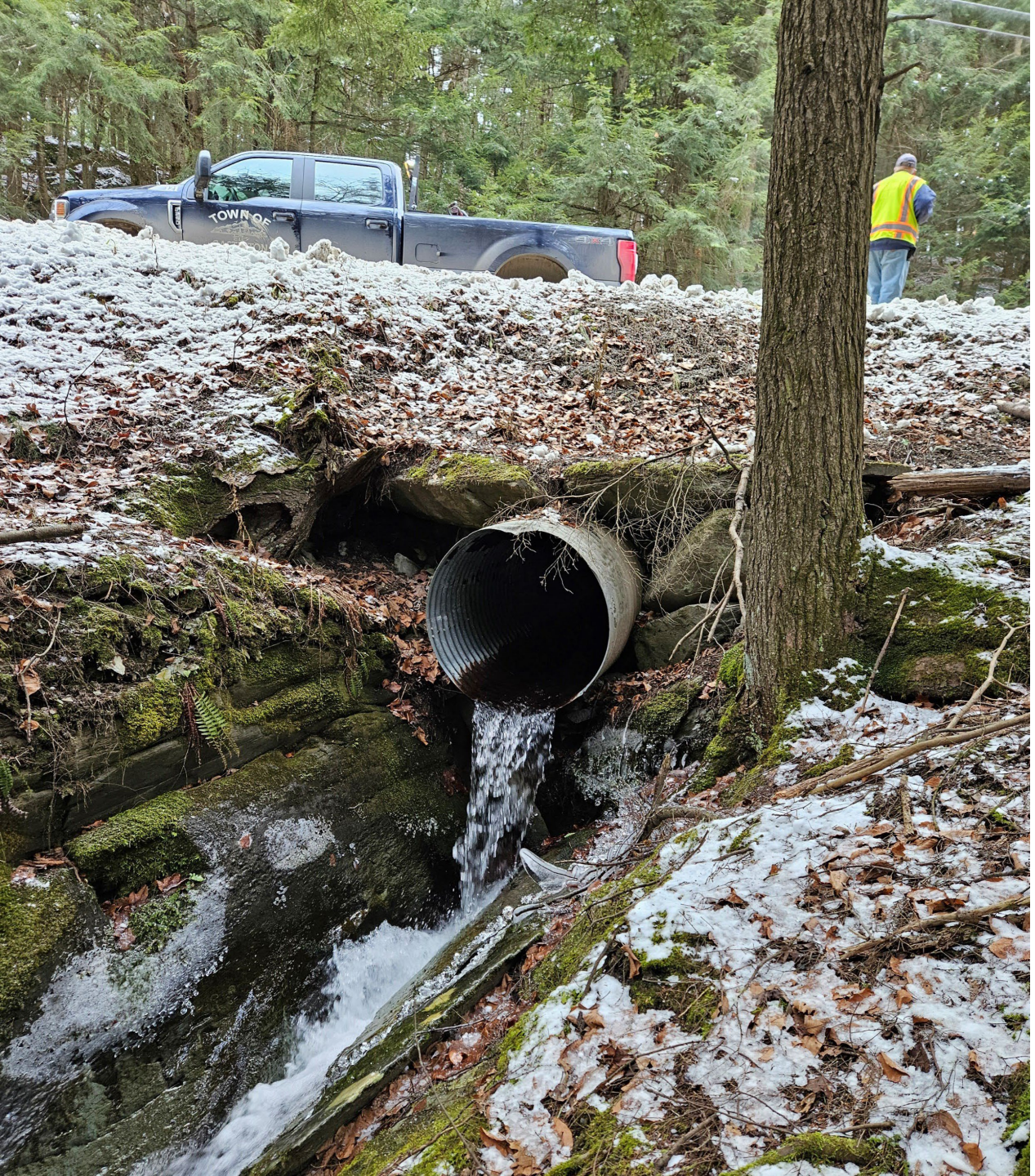
Signed this 9th day of July 2019

This NFM permit expires December 31, 2020

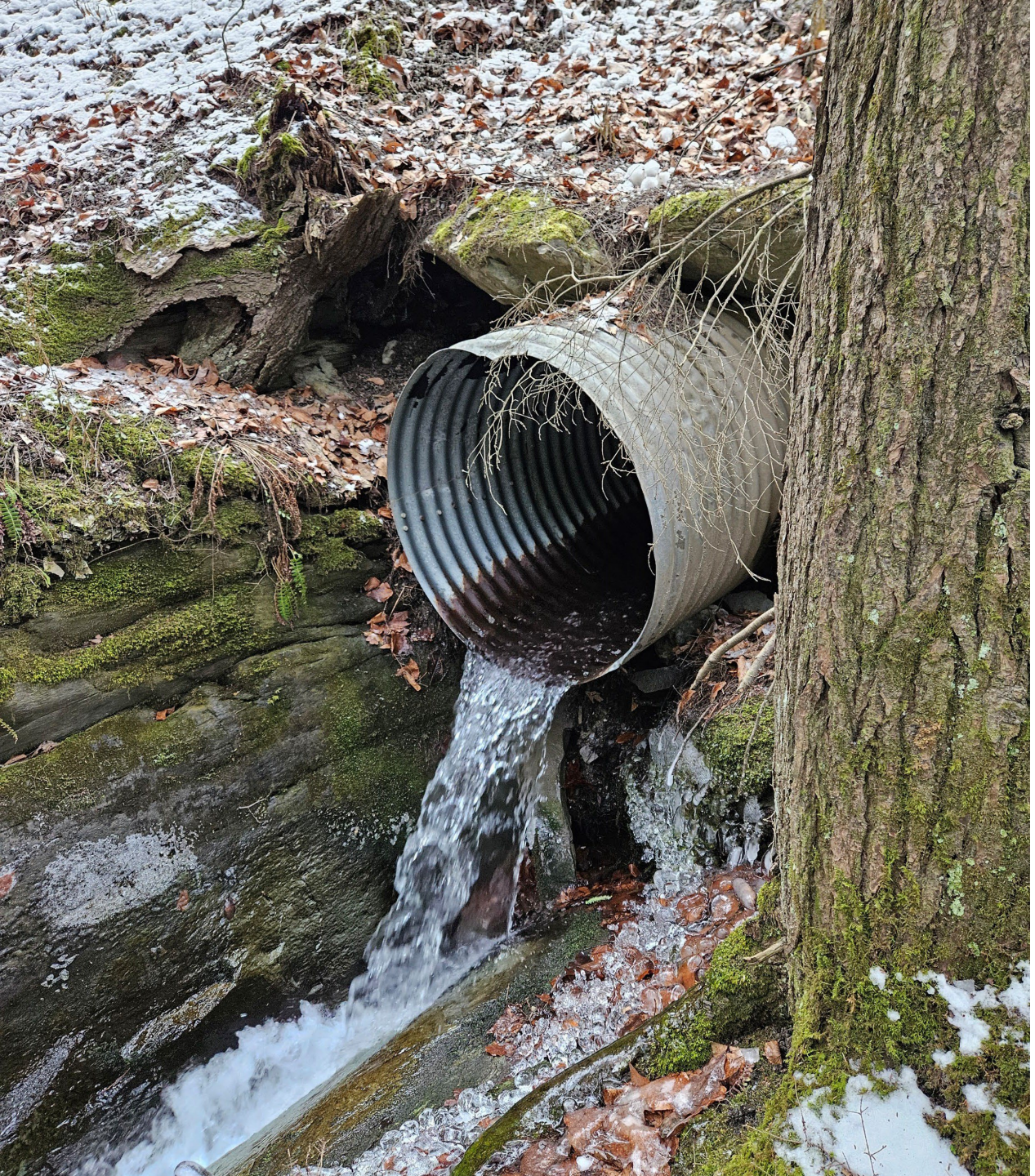
Permit extended to 12/31/2023 per
Josh Carvajal, RME on 12/9/2022

Emily Boedecker, Commissioner
Department of Environmental Conservation

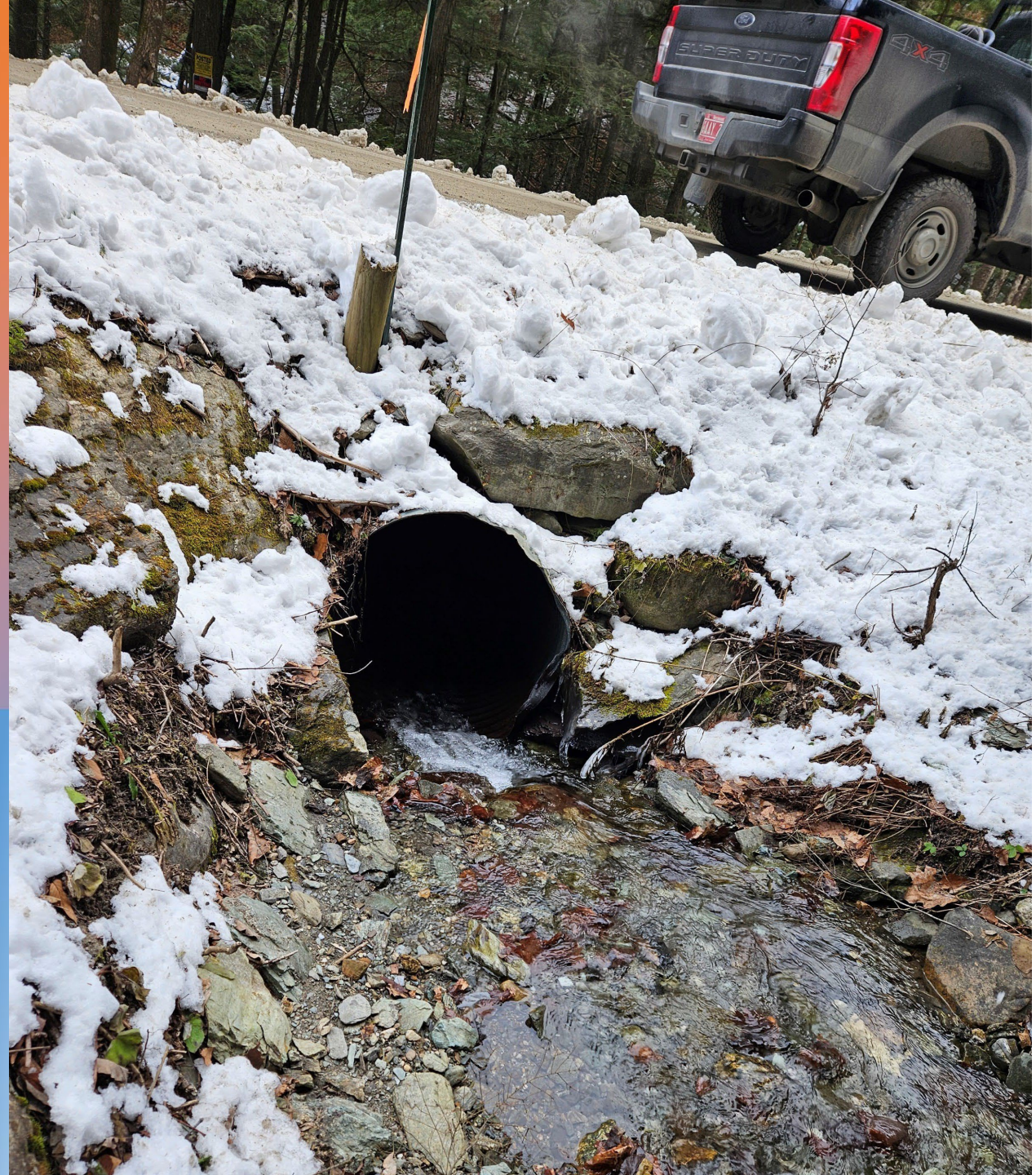
by: _____
Josh Carvajal, P.E., CFM, River Management Engineer



Belgo Road Culvert to be replaced with a new structure that meets current design standards and has appropriate bankfull width.



New structure is to be an arch culvert, size based on the available road cover.



Project will help to restore and/or enhance natural channel dimensions.

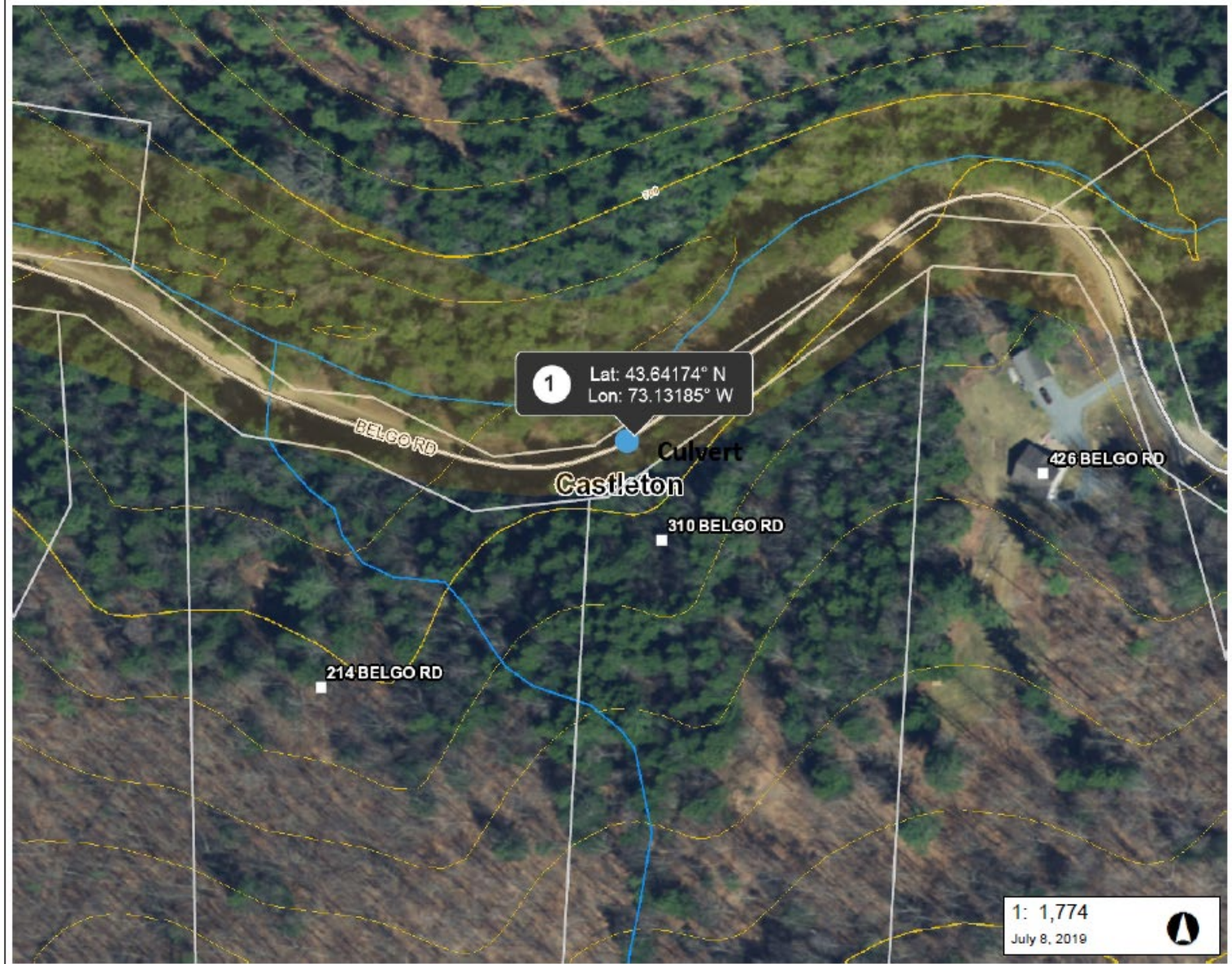
Larger culvert will improve the water quality entering .

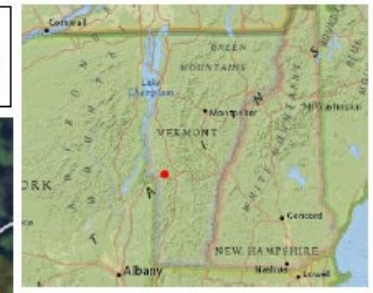
VERMONT

NFM_Castleton_Belgo Road_culvert

Vermont Agency of Natural Resources

vermont.gov





LEGEND

- Hazard Class
  - High Hazard Potential
  - Significant Hazard Potential
  - Low Hazard Potential
  - Undetermined Hazard Potential
- Historical Dam Location
- DFIRM Floodways
- Flood Hazard Areas (Only FEM
  - AE (1-percent annual chance floodp
  - A (1-percent annual chance floodpl
  - AO (1-percent annual chance zone feet)
  - 0.2-percent annual chance flood ha
- Parcels (standardized)
- Parcels (non-standardized)
- Buildings (E911)
- VTRANS State and Town Long
- VTRANS State Short Structure
- Town Bridge
- Town Culvert
- Railroads
- Roads
  - Interstate
  - Principal Arterial
  - Minor Arterial
  - Major Collector
  - Minor Collector
  - Local

NOTES

Map created using ANR's Natural Resources Atlas

90.0 0 45.00 90.0 Meters

WGS_1984_Web_Mercator_Auxiliary_Sphere 1" = 148 Ft. 1cm = 18 Meters

THIS MAP IS NOT TO BE USED FOR NAVIGATION