STATE OF VERMONT
AGENCY OF TRANSPORTATION

Scoping Report

FOR

Morristown BF 0239(4)

Town Highway 2 - FAS Route 0239, Bridge 8 over The Lamoille River

July 8, 2025

Table of Contents

I. Site Information

Bridge 8 is a locally owned truss bridge located on Cady's Falls Rd (Town Highway 2/FAS 0239) over the Lamoille River approximately 1.7 miles from the intersection with VT Route 100. The existing conditions were gathered from a combination of a Site Visit, the Inspection Report, and the existing Survey. See correspondence in the Appendix for more detailed information.

Roadway Classification	Rural Major Collector (Class 2)
Bridge Type	Pratt Steel Thru Truss
Bridge Length	121 feet
Year Built	1928, reconstructed in 2016
Ownership	Town of Morristown

Need

Bridge 8 carries Cady's Falls Rd across the Lamoille River. The following is a list of deficiencies of Bridge 8 and Cady's Falls Rd:

1. The structure has heavy section loss and pitting throughout the steel below the bridge deck.
2. The deck has cracking, and the curb is breaking up in places
3. The steel paint has begun to peel off of the steel.
4. Bridge 8 is rated with a 5 ton weight limit, which was reduced in 2017, after a rehabilitation project in 2016.

Traffic

A traffic study of this site was performed by the Vermont Agency of Transportation. The traffic volumes are projected for the years 2029 and 2049.

TRAFFIC DATA	2029	2049
AADT	3,379	3,652
DHV	573	619
ADTT	176	270
%T	7.9%	11.2%
%D	61%	61%

Design Criteria

The design standards for this bridge project are the Vermont State Standards, dated October 22, 1997. Minimum standards are based on an ADT of 3650 and a design speed of 25 mph for a Major Collector.

Design Criteria	Source	Existing Condition	Minimum Standard	Comment
Approach Lane and Shoulder Widths	VSS Table 5.3	11'/1' (24')	11'/3' (28')	Substandard
Bridge Lane and Shoulder Widths	VSS Section 5.6	9'/1' (20')	11'/3' (28')	Substandard
Clear Zone Distance	VSS Table 5.5	No Issues Noted	14' fill / 12' cut	
Banking	VSS Section 5.13	NC over bridge	8% (max)	
Speed		25 mph (posted)	25 mph (design)	
Horizontal Alignment	AASHTO Green Book Table 3-10b	$R = \infty$	R_{min} = 2,370' (NC)	
Vertical Grade	VSS Table 5.6	3.0% grade	10% for rolling terrain	
K Values for Vertical Curves	VSS Table 5.1	K_{sag} = 13	20 crest / 30 sag	Substandard
Vertical Clearance	VSS Section 5.8	15'-0" Min (Design)	14'-3"	
Headlight Sight Distance	VSS Table 5.1	100 ft (min)	150 ft	Substandard
Bicycle/Pedestrian Criteria	VSS Table 5.8	1' shoulder	3' Shoulder	Substandard
Bridge Railing	Structures Design Manual Section 13	Fascia mounted W-beam	TL-2	
Hydraulics	VTrans Hydraulics Section	• 6.5 feet of freeboard during 1% AEP • BFW set by ledge	• Pass 4% AEP with 1.0' of freeboard • Span the BFW	
Structural Capacity	VSS Table 5.4	5 Ton rating	Design Live Load: HS-15	Substandard

Inspection Report Summary

Deck Rating	7 Good
Superstructure Rating	5 Fair
Substructure Rating	6 Satisfactory
Channel Rating	8 Very Good

9/26/2024 – The superstructure has moderate section loss through out verticals/diagonals and floor beams. Bottom chord has many areas with perforations along stiffener plates. A large area of the bottom chords of each truss near abutment 2 have added steel plates for strength. Floor beams 3 has holes in the upstream end. Floor beam 4 has holes in both ends with section loss in flanges and web. Floor beam 6 has holes in both ends with heavy pitting and section loss.

09/23/2020 – Bridge has heavy section loss along the bottom cord and the verticals below the bridge deck. Load rating posted for 5 tons because of the section loss. JS/AC

9/24/2018 – Concrete deck has transverse cracking and asphalt curb is breaking up in places. Steel superstructure is still in needs of repairs where holes are present along chords, floorbeam and gusset connection. Repairs should be done sooner than later to preserve structure. Painting has small areas of blistering. MJK AC

04/07/2017 Structure is now posted at both ends with 5 ton weight limit and advance warning signs at 7/10 mile for posted bridge 5 tons ahead. JAS FRE

Hydraulics

TH-8 is a Local Road therefore the design storm flow is 4% AEP (Q25).

The bridge has an effective hydraulic clear span length of approximately 100', from the face of the south abutment to the ledge outcrop under the north abutment. The clear height is approximately 26', providing a waterway opening of approximately 2540 sq. ft.

The existing bridge meets the current hydraulic standards, with 8' of freeboard at the design flow. There is no roadway overtopping up to Q500. The abutments are founded on ledge, so scour is not a concern.

Superstructure repair or replacement on the existing abutments would be acceptable hydraulically, as the bridge meets the hydraulic standards and has no hydraulic issues. There is a Flood Insurance Study for this river so there should be no increase in water surface elevations. No material should be placed in front of the abutments that would reduce the waterway width to less than the existing conditions.

For additional information, see the preliminary hydraulics memo in Appendix E.

Geotechnical

The existing surface is postglacial fluvial deposits of Alluvium, with Carbonaceous phyllite bedrock underneath. The bedrock is visible in multiple locations around the bridge. Where bedrock is not visible, it is anticipated that the bedrock will be found at shallow depths.

If a subsurface investigation is deemed necessary, the VTrans Geotechnical section recommends at minimum a boring at either end of the structure to profile subsurface conditions including soil and bedrock. The existing abutments are supported directly on bedrock. Additional probes or geophysical methods can be utilized to determine the bedrock profile. If a temporary bridge is proposed during construction, borings should be completed in the location of those abutments.

Should new abutments be needed, spread footings on soil or rock, reinforced concrete abutments supported on piles/micropiles are recommended depending on depth to bedrock.

Utilities

The existing utilities are shown on the Existing Conditions Layout Sheet, and are as follows:

Aerial:
- Morrisville Water & Light – Three phase Power, Transmission lines and service lines
- Consolidated Communications
- Comcast – North side of the bridge only

Underground:
- Morrisville Water & Light – Transmission Power going to Sub-Station on South Side

Municipal:
- Water facilities exist within the highway ROW on the north side of the bridge.

Right-Of-Way

A 3-rod Right-of-Way has been assumed for all Town highways in the project area. All parts of the structure are located within the existing Right-of-Way. The acquisition of additional Right-of-Way may be needed depending on the proposed design and temporary space needed for construction.

Resources

The environmental resources present at this project are shown on the Existing Conditions Layout Sheet, and are as follows:

Biological:

Wetlands/Watercourses

No wetlands were mapped in the project vicinity.

Agricultural Soils

No agricultural soils were mapped in the project vicinity.

Aquatic Organism Passage

In the project vicinity, no concerns were noted for aquatic organism passage for the Lamoille River. A set of falls is located upstream from the bridge.

Wildlife Habitat

The Lamoille River provides potential fish habitat. No fish were observed in the river at the time of the survey. Wildlife can utilize the banks on the south side of the bridge but are limited due to the steep slope on the north side. A decomposed mollusk shell was found on a gravel/sandbar located along the south bank of the Lamoille River. A manmade cave like structure was noted with water below the sand bank in the southwest quadrant of the bridge structure; it was impassable but believed to be related to an industrial structure located on the southeast quadrant of the bridge. A rock dove (Columba livia) was roosting in this structure. Racoon tracks were also noted on the sand bank. No other significant wildlife sign was observed.

Rare, Threatened and Endangered Species (R/T/E)

Based on the available VT ANR mapping and field review, there are no rare, threatened, or endangered species documented in the vicinity of the Project Survey Ares (PSA).

Federally listed species that have the potential to occur in the PSA include the northern long-eared bat (*Myotis septentrionalis*). The monarch butterfly (*Danaus plexippus*), currently a candidate species for listing under the Endangered Species Act (ESA) was also included.

Invasive Species

Vermont Class B Noxious Weeds documented in the PSA include goutweed (*Aegopodium podagraria*), Morrow's honeysuckle, and purple loosestrife (*Lythrum salicaria*).

One small patch of goutweed was located in the northwest corner of the PSA along the roadway. Morrow's honeysuckle was intermittently scattered along the roadway in the southwest corner of the PSA. Two individual purple loosestrife plants were located above a dry, non-jurisdictional drainage ditch 100 feet north of the northeast quadrant of the bridge.

Landscape Architecture

The recommendations from the Landscape Architect are:

Minimize tree clearing in this area, minimize disturbance in the riparian buffer, develop a riparian planting plan for any disturbed riparian areas on this project, and to protect the existing canopy trees during construction.

Involve the Town/Village government and community members in the vision & goals for the project area, and the existing bridge trusses contribute to the character of the place. If updates are needed, consider ones that match the character and vision of the Town.

Hazardous Waste/Contaminated Materials:

There were no documented DEC Hazardous Sites within the project area. The bridge location is not within an ANR Atlas mapped "Urban Soil Background Area." However, historic use of lead based paint on bridges, as well as other anthropogenic sources can pose soil contamination liability concerns that may exist within surface soils and/or at greater depths within historic fill. Coordination with the VTrans Project Contamination Engineer is recommended to determine if construction soil assessment and in-construction soil management controls should be implemented. If this project scope includes either bridge demolition and/or major rehabilitation requiring earth disturbance, an "Initial Site Assessment" will be performed during the NEPA request to provide further project planning guidance.

Historic:

On behalf of VTrans, WSP completed a historic architectural resource identification survey and assessment for bridge 8. WSP identified two historic resources/properties in the project area, including Bridge No. 8, and one property that is not considered historic.

The two historic resources in the project area in Morristown are:

1. Bridge No. 8,
2. The Cadys Falls Power Plant.

Archaeological:

The immediate project area is very steep and consists of former mill structures in the vicinity of the project. Most of the structural remains are located outside the APE with the exception of those in the SW quadrant. All areas of sensitivity are shown in the attached image in the Archaeological Memo in Appendix L. Any areas of historic arch sensitivity that cannot be avoided will require further review.

Located on rocks within the cliffs of the falls themselves either upstream or downstream there is a recorded petroglyph carved into a rock at Cady's Falls. This is an historic feature and is not Native American in origin.

There are no other recorded archaeological sites within or adjacent to the project. For additional information, see the Archaeology Memo in Appendix L.

Stormwater:

There are no existing stormwater permits within the project vicinity. Cadys Falls Road is listed as a hydrologically connected roadway, however the segment that includes the bridge has closed drainage and is considered to be in compliance with the Town's MRGP. There are no other regulatory considerations of note.

The bridge itself has curbing and the deck itself has inlet grates. The adjacent roadways within the project area are not curbed and runoff is generally able to drain overland in a distributed manner.

II. Safety

Crash Data:

During the five-year period from 2017 to 2022, there have been seven (7) recorded crashes on TH-2 in the vicinity of bridge 8, with an opposite direction sideswipe on the bridge.

Adjacent Projects:

There are other projects in the vicinity of Morristown TH-2, Bridge 8. These might alter the traffic pattern around the construction site, or any detour.

These projects are:

- HYDE PARK DEPOT ST. STP LVRT(18) Hyde Park Depot St. LVRT, Design and construction of an LVRT trailhead and sidewalk on Depot St.
  Estimated Construction Date: Summer 2026
- STP EH05(37) Hyde Park: Install ADA-Compliant sidewalks, crossings, and realign the Johnson Street extension/West Main Street intersection in Hyde Park.
  Estimated Construction Date: Summer 2026
- HYDE PARK Main St. & Johnson St. Ext. STP MM18(11) Hyde Park; The installation of a swirl separator, curbing, catch basins, and associated storm piping on Johnson Street Extension; restoration of the ravine receiving stormwater from Main St., Johnson St. Extension, Church St. and West Main St.; new stone lined ditches and associated drainage improvements along West Main St. Estimated Construction Date: 2025.

III. Local Concerns

A questionnaire was sent to the Town and Morristown's response can be found in Appendix O.

Notable responses include:

- Duhamel Road provides access to the Town gravel pit – This must remain open throughout construction.
- All nearby local roads have no height/weight restrictions, except for Needle Eye Road.
- The current level of bicycle use is Moderate, the Town considers Cady's Falls Road to be a popular bicycle route.
- The current shoulder widths are not currently adequate, and the community feels there is a need for a sidewalk or bike lane on the bridge.
- Ideally, the bridge would be made wider to accommodate bicycles and pedestrians.

- Yes, it is a historic bridge. However, the community would be open to hearing about alternatives for replacement.

IV. Maintenance of Traffic

The Vermont Agency of Transportation reviews each new project to determine suitability for the Accelerated Bridge Program, which focuses on faster delivery of construction plans, permitting, and Right of Way, as well as faster construction of projects in the field. One practice that will help in this endeavor is closing bridges for portions of the construction period, rather than providing temporary bridges. In addition to saving money, the intention is to minimize the closure period with faster construction techniques and incentives to contractors to complete projects sooner. The Agency will consider the closure option on most projects where rapid reconstruction or rehabilitation is feasible. The use of prefabricated elements in new bridges will also expedite construction schedules. This can apply to decks, superstructures, and substructures. Accelerated Construction should provide enhanced safety for the workers and the travelling public while maintaining project quality. The following options have been considered:

Option 1: Bridge Closure

This option would close the bridge, and place traffic on an off-site detour selected by the Town of Morristown. Note: During the project BF 0239(3), which made repairs to Bridge 8, an off-site detour was selected. The Town may wish to utilize the same detour for this project. The previous project utilized both a local detour and a truck detour. A map of these detours can be found in Appendix P. They are as follows:

Local Detour: From TH-2 (FAS 0239 Cady's Falls Road) onto TH-3 (FAS 0238, Bridge Street). This is a Class 2 paved roadway. The detour then turns northward onto VT 100 (Alternate Truck Route), then left onto VT Route 15/100. Next is a left turn onto Morristown TH-11 (Needles Eye Road), a Class 3 paved road, then returns to TH-2 (Cady's Falls Road).
End to End distance of 2.9 miles, adding 2.1 miles to the existing route.

Regional Truck Route*: Bridge Street to VT Route 100 to VT Route 15 to Church Street to Main Street and Depot Street in Hyde Park.
End to End distance of 3.5 miles, adding 1.3 miles to the existing route.

*The Village of Hyde Park does not allow trucks to use this route unless they are making local deliveries; these restrictions apply to the Church Street, Main Street, and Depot Street portions of the truck detour.

Advantages: By closing the road to traffic during construction, the local share is reduced by 50%. This option would eliminate the need for a temporary bridge for vehicles, which would significantly decrease cost and time of construction. This option would not require the need to obtain rights from adjacent property owners for a temporary vehicle bridge. Also, this option would have minimal impacts to natural resources located around the project area. This option reduces the time and cost of the project both at the development stage and construction. This is the safest traffic control option since the traveling public is removed from the construction site.

Disadvantages: Traffic flow would not be maintained through the project site during construction and would increase the traffic through the selected detour.

Option 2: Phased Construction

Phased construction is the maintenance of one-way alternating traffic on the existing bridge while building one lane at a time of the proposed structure. This allows keeping the road open during construction, while having minimal impacts to adjacent property owners and environmental resources.

Due to this structure being a non-redundant bridge type, this option is not being considered.

Option 3: Temporary Bridge

From a constructability standpoint, a temporary vehicular bridge could be placed close to the existing bridge. If the temporary bridge were to be placed on the upstream side, it would require the demolition of the historic Cadys Falls Power plant, which is currently unacceptable.
A temporary bridge placed on the downstream side can be placed to avoid the existing utilities but would impact archaeologically sensitive areas. Further archaeological investigations can be performed to determine how sensitive the area is, and protect any important findings, so a downstream temporary bridge is viable.

Placing a temporary vehicular bridge would require additional Right-of-Way to be acquired.

Significant additional costs would be incurred to use a temporary bridge, including the cost of the temporary bridge itself, installation and removal, archeological investigations, restoration of the disturbed area, and the time and money associated with the temporary Right-of -Way.

A one-way temporary bridge with traffic signals would be necessary based on the daily traffic volumes. A layout of proposed temporary bridges can be seen in the scoping plan set in Appendix Q.

Advantages: A temporary bridge will maintain traffic flow through the project corridor during construction.

Disadvantages: The costs to construct and signalize a temporary bridge would be high, including the need for purchasing temporary land rights, as well as time consuming. A temporary bridge could have impacts to potential bat roosting habitat.

Note: Due to the previous project (2016) at this bridge having been a detour. It is assumed that the same detour will be reused for this project.

V. Alternatives Discussion

No Action

This alternative is not recommended. The bridge has had its load rating downgraded once since the 2016 project, and still needs repair. If this alternative is chosen, the inspection frequency would have to be reduced from the current 24 month pattern to either a 12 or 6 month frequency. If the inspectors discover a need for downgrading the bridge further, the state would require the bridge be barricaded from all traffic, vehicle and pedestrian.

Truss Repair

A truss repair would start with a detailed survey of all steel members by a hired specialist company. This survey would detail the amount of section loss for each member, and recommend which members are in good condition, which members can be repaired, and which members need to be replaced.

The existing width of the original bridge has 9 foot lanes with 1 foot shoulders, with a total width of 20 feet rail-to-rail. The repaired truss would maintain the existing width. This does not meet the minimum standard of 11 foot lanes with 3 foot shoulders as set forth by the Vermont State Standards.

The existing abutments (substructure) are in Satisfactory condition, and it is reasonable to assume that with deck upkeep, along with needed truss repairs, the structure can safely carry anticipated traffic loads for an additional 40 years.

Advantages: This alternative would address the structural deficiencies of the existing bridge and extend the life of the existing structure an additional 40 years. The effects on adjacent properties, historic and archeological resources would be minimal.

Disadvantages: This option would not meet the width standards.

Maintenance of Traffic: Either a temporary bridge or a bridge closure could be utilized for traffic control at this site.

Full Bridge Replacement with a New Pratt Thru Truss

This alternative would replace the existing bridge with a new truss as well as a new substructure. The various considerations under this option include: the alignment, the bridge width and length, skew, superstructure type and substructure type.

a. Alignment

At this location, there are no alignment alternatives that are superior to the existing horizontal alignment and the Vertical alignment is satisfactory.

b. Bridge Width

The current rail-to-rail width of the original Pratt thru truss structure is 20’-0”. This does not meet the minimum standard of 28 feet. Since a new 75+ year bridge is being proposed, the bridge geometry should meet the minimum State standards, Town needs, and match the corridor width. A minimum 28 foot width (rail-to-rail) bridge will be proposed.

c. Bridge Length and Skew

The existing bridge has a length of 124 feet, a distance between the abutments of 121 feet, with the abutments having a perpendicular skew. The existing hydraulic clear span is approximately 100'. Putting a new truss bridge with a similar length and skew at this location would clear hydraulics, and a perpendicular skew is desired for truss structures.

d. Superstructure Type

This option would provide a new Pratt thru truss, similar to the existing truss to mitigate any adverse effect to the historic resource. The truss should be constructed with galvanized steel for long term durability, and follow the stipulations set forth by the Division for Historic Preservation. The truss would have higher upfront costs compared to a conventional steel beam bridge and would require periodic maintenance for the cleaning and painting of steel members.

e. Substructure Type

Record plans show the existing substructures to be spread footing abutments placed on either bedrock or the abutment from the previous bridge. Any new bridge would likely have spread footing abutments placed on bedrock, or on cut down, competent, sections of the existing abutments. The preliminary geotechnical report can be found in Appendix F.

f. Maintenance of Traffic:

Either a temporary bridge or a bridge closure could be utilized for traffic control at this site.

Full Bridge Replacement with a Conventional Steel Beam Bridge

This alternative would replace the existing bridge with a new non-truss superstructure as well as a new substructure at the existing location. This alternative would not require Right-of-Way acquisition. The various considerations under this option include: the alignment, the bridge width and length, skew, superstructure type and substructure type.

a. Alignment

At this location, there are no alignment alternatives that are superior to the existing horizontal alignment and the Vertical alignment is satisfactory.

b. Bridge Width

The current rail-to-rail width of the original Pratt thru truss structure is 20'-0". This does not meet the minimum standard of 28 feet. Since a new 75+ year bridge is being proposed, the bridge geometry should meet the minimum State standards, Town needs, and match the corridor width. A minimum 28 foot width (rail-to-rail) bridge will be proposed.

c. Bridge Length and Skew

The existing bridge has a length of 124 feet, a distance between the abutments of 121 feet, with the abutments having a perpendicular skew. The existing hydraulic clear span is approximately 100'. Putting a new bridge with a similar length and skew, provided the low beam elevation of the new

bridge is not more than 8’ lower than the existing low beam, at this location would clear hydraulics, and a perpendicular skew is desired.

d. Superstructure Type

The most economical 120’ span length bridge types that are most used in Vermont is a composite steel with a concrete deck superstructure (either cast-in-place or precast PBU’s) or precast deck panels. These types of superstructures would require very little long-term maintenance. A cast-in-place superstructure would have lower construction costs than a precast structure.

e. Substructure Type

Record plans show the existing substructures to be spread footing abutments placed on either bedrock or the abutment from the previous bridge. Any new bridge would likely have spread footing abutments placed on bedrock, or on cut down, competent, sections of the existing abutments. The preliminary geotechnical report can be found in Appendix F.

f. Maintenance of Traffic:

Either a temporary bridge or a bridge closure could be utilized for traffic control at this site.

VI. Alternatives Summary

Based on the existing site conditions, bridge condition, and recommendations from resource units, there are several viable alternatives:

Alternative 1: Truss Repairs with Traffic Maintained on a Detour
Alternative 2: Truss Bridge Replacement with Traffic Maintained on a Detour
Alternative 3: Concrete Bridge Replacement with Traffic Maintained on a Detour

VII. Cost Matrix[1]

Morristown BF 0239(4)		Do Nothing	Alternative 1	Alternative 2	Alternative 3
			Truss Rehabilitation	Full Bridge Replacement with New Thru Truss	Full Bridge Replacement with New Bridge
			Off Site Detour		
COST	Bridge Cost	$0	$1,735,400	$3,694,700	$2,929,400
	Removal of Structure	$0	$260,400	$338,520	$338,520
	Roadway	$0	$87,000	$243,000	$254,000
	Maintenance of Traffic	$0	$107,800	$17,800	$17,800
	Construction Costs	$0	$2,190,600	$4,294,020	$3,539,720
	Construction Engineering & Contingencies	$0	$547,650	$729,983	$601,752
	Accelerated Premium	$0	$0	$0	$0
	Total Construction Costs w CEC	$0	$2,738,250	$5,024,003	$4,141,472
	Preliminary Engineering	$0	$547,650	$644,103	$530,958
	Right of Way	$0	$0	$2,500	$2,500
	Total Project Costs	$0	$3,285,900	$5,670,606	$4,674,930
	Annualized Costs	$0	$82,148	$75,608	$62,332
TOWN SHARE		$0	$82,147	$283,530	$233,746
TOWN %		0%	2.5%	5%	5%
SCHEDULEING	Project Development Duration	N/A	4 years	4 years	4 years
	Construction Duration	N/A	6 months	6 months	6 months
	Closure Duration	N/A	4 months	4 months	4 months
ENGINEERING	Typical Section - Roadway (feet)	1’-11’-11’-1’ (24’)	1’-11’-11’-1’ (24’)	3’-11’-11’-3’ (28’)	3’-11’-11’-3’ (28’)
	Typical Section - Bridge (feet)	1’-9’-9’-1’ (20’)	1’-9’-9’-1’ (20’)	3’-11’-11’-3’ (28’)	3’-11’-11’-3’ (28’)
	Geometric Design Criteria	Substandard Width	Substandard Width	Meets Minimum Standard	Meets Minimum Standard
	Traffic Safety	No Change	No Change	Improved	Improved
	Alignment Change	No Change	No Change	No Change	No Change
	Bicycle Access	No Change	No Change	Improved	Improved
	Pedestrian Access	No Change	No Change	Improved	Improved
	Hydraulics	Meets Minimum Standard	Meets Minimum Standard	Meets Minimum Standard	Meets Minimum Standard
	Utilities	No Change	No Change	Utility Relocation	Utility Relocation
OTHER	ROW Acquisition	No Change	No	Yes	Yes
	Road Closure	No Change	Yes	Yes	Yes
	Design Life (years)	<20	40	75	75

[1] Costs are estimates only, used for comparison purposes.

VIII. Conclusion

After a thorough evaluation of Bridge 8's condition and the Town of Morristown's goals, **Alternative 2** is recommended: the full replacement of the bridge with a new Pratt Thru Truss. The existing bridge presents safety concerns due to its substandard width, with only 9-foot lanes and inadequate shoulder space for bicycles and pedestrians. This width fails to meet current Vermont State Standards, which require a minimum of 11-foot lanes and 3-foot shoulders. Additionally, the Town of Morristown has expressed a clear desire to provide safer accommodation for non-motorized users, including bicycles and pedestrians.

Replacing the bridge with a new truss will address these safety concerns by increasing the bridge's width to at least 28 feet, providing the necessary shoulder space for pedestrians and cyclists while ensuring the structure meets modern safety standards. This solution not only enhances safety but also preserves the historical character of the bridge, maintaining its aesthetic appeal while meeting the community's evolving needs. Therefore, replacing the bridge with a new truss offers a comprehensive and sustainable solution for both transportation and public safety.

Traffic Maintenance:

The recommended method of traffic control is to close the bridge for a construction season and install a temporary detour similar to the one used in the 2016 project. This will add approximately 2.1 miles to the travel distance, a proven and effective solution in past projects.

IX. Appendices

Appendix A: Site Pictures
Appendix B: Town Map
Appendix C: Traffic Memo
Appendix D: Bridge Inspection Report
Appendix E: Preliminary Hydraulics Report
Appendix F: Preliminary Geotechnical Information
Appendix G: Existing Utility Investigation
Appendix H: Natural Resources Completion Memo
Appendix I: Natural Resources ID
Appendix J: Hazardous Waste Map
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Appendix L: Archaeology Memo
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Appendix N: Crash Data
Appendix O: Community Questionnaires
Appendix P: Proposed Detour
Appendix Q: Plans

Appendix A: Site Pictures

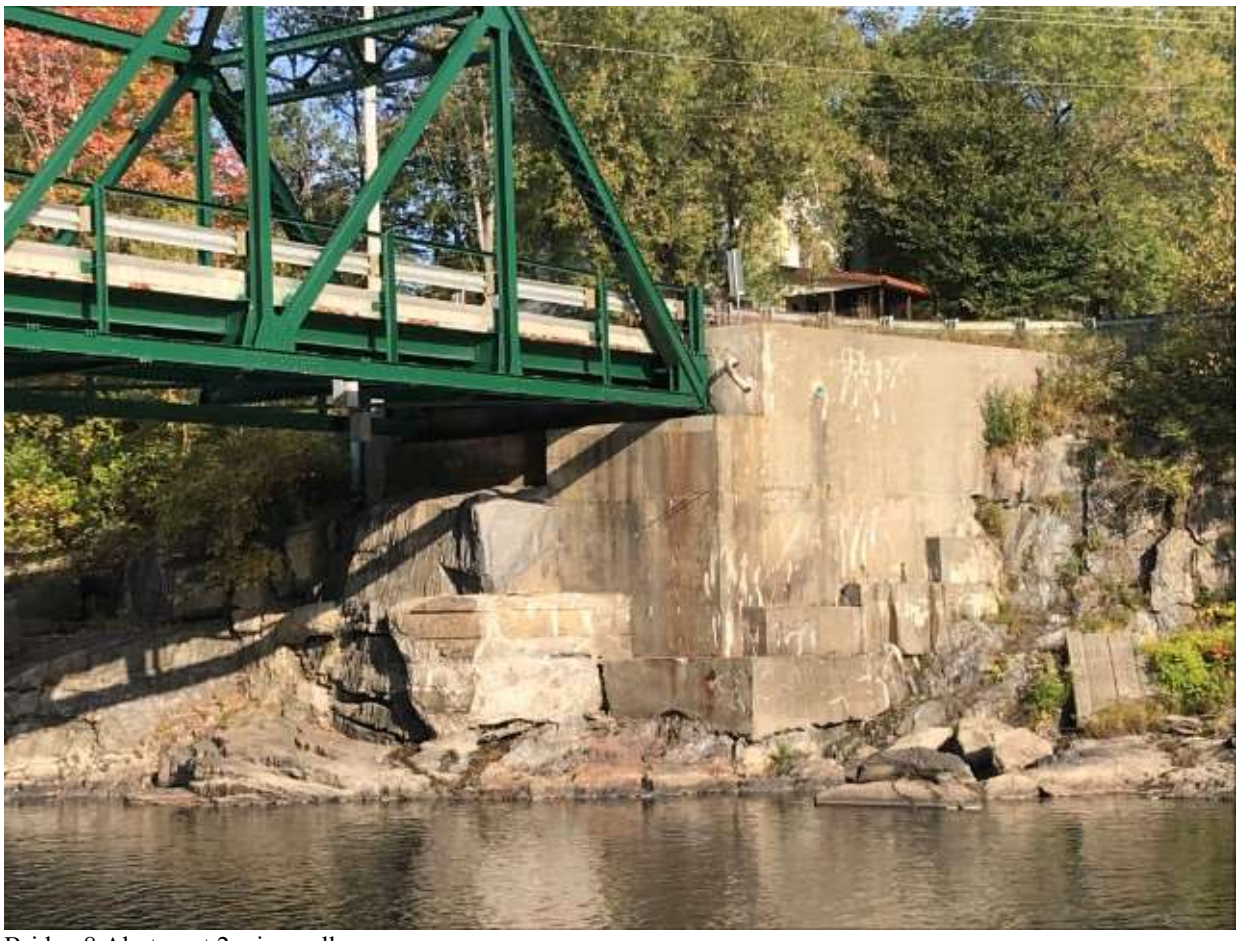
Looking north over Bridge 8

Looking south over Bridge 8

Bridge 8 From downstream

Bridge 8 Abutment 1

Bridge 8 Abutment 2



Bridge 8 Abutment 2 wingwall

Rocker bearing

Girder damage

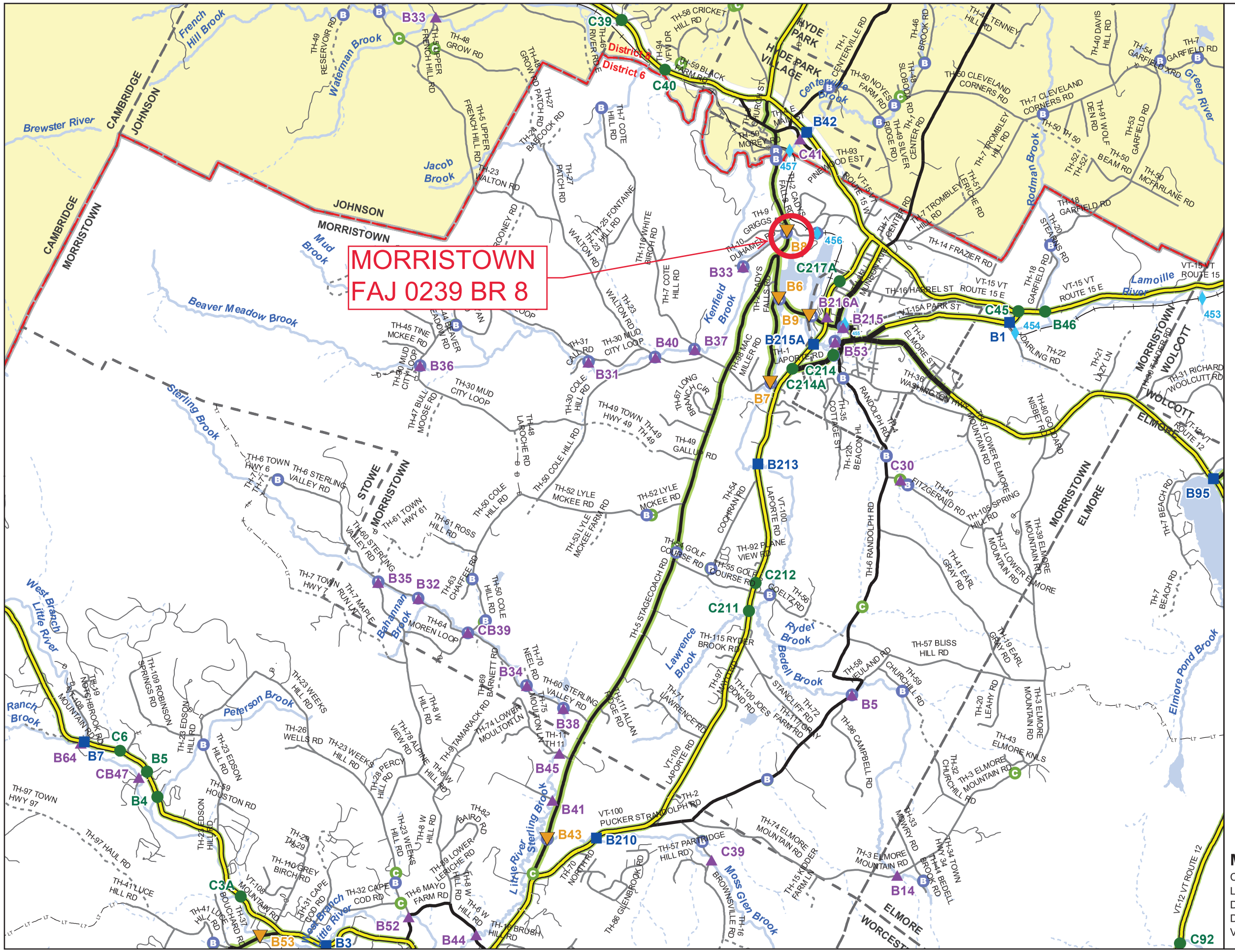
Stringer Rust

2014 sample

2018 sample


2020 sample.

Appendix B: Town Map



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

Appendix C: Traffic Data

AGENCY OF TRANSPORTATION **OFFICE MEMORANDUM**

OPERATIONS & SAFETY BUREAU DATA MANAGEMENT UNIT

TO: Daniel Beard

FROM: Becca Mitchell, AOT Data Analyst

DATE: September 8, 2023

RE: MORRISTOWN BF 0239(4) 22J399
Maj-0239 Morristown to Maj-0239 Morristown
Length: 0.0000 Begin Mile Marker: 1.7100 End Mile Marker: 1.7100

Please find below the requested traffic data for the above referenced 2029 project. The data consists of the AADTs and DHVs for 2029 and 2049, as well as the 20-year (2029 ~ 2049) and 40-year (2029 ~ 2069) flexible ESALs.

If you have any questions, please call me at (802) 279-0502 or email me at becca.mitchell@vermont.gov.

AADT = Annual Average Daily Traffic
DHV = Design Hour Volume
%T = Percentage of Trucks during Peak Hour
%D = Highest Directional Percentage during Peak Hour
ADTT = Average Daily Truck Traffic
ESALs = (Flexible) Equivalent Single Axle Loads

CC: Data Analysis Files

Section	AADT		DHV		%T		%D		ADTT		ESALs	
	2029	2049	2029	2049	2029	2049	2029	2049	2029	2049	(2029~2049)	(2029~2069)
1	3379	3652	573	619	7.9%	11.2%	61%	61%	176	270	725500	1676000

Appendix D: Bridge Inspection Report

VERMONT
AGENCY OF TRANSPORTATION

Route FAS 0239 /
Structure #00008 / (Routine, Fracture Critical)
TR 02 FAS 239 over LAMOILLE RIVER
Team Lead: Mark Cappetta, **Inspection Date:** 09/26/2024

Town: 141 - MORRISTOWN

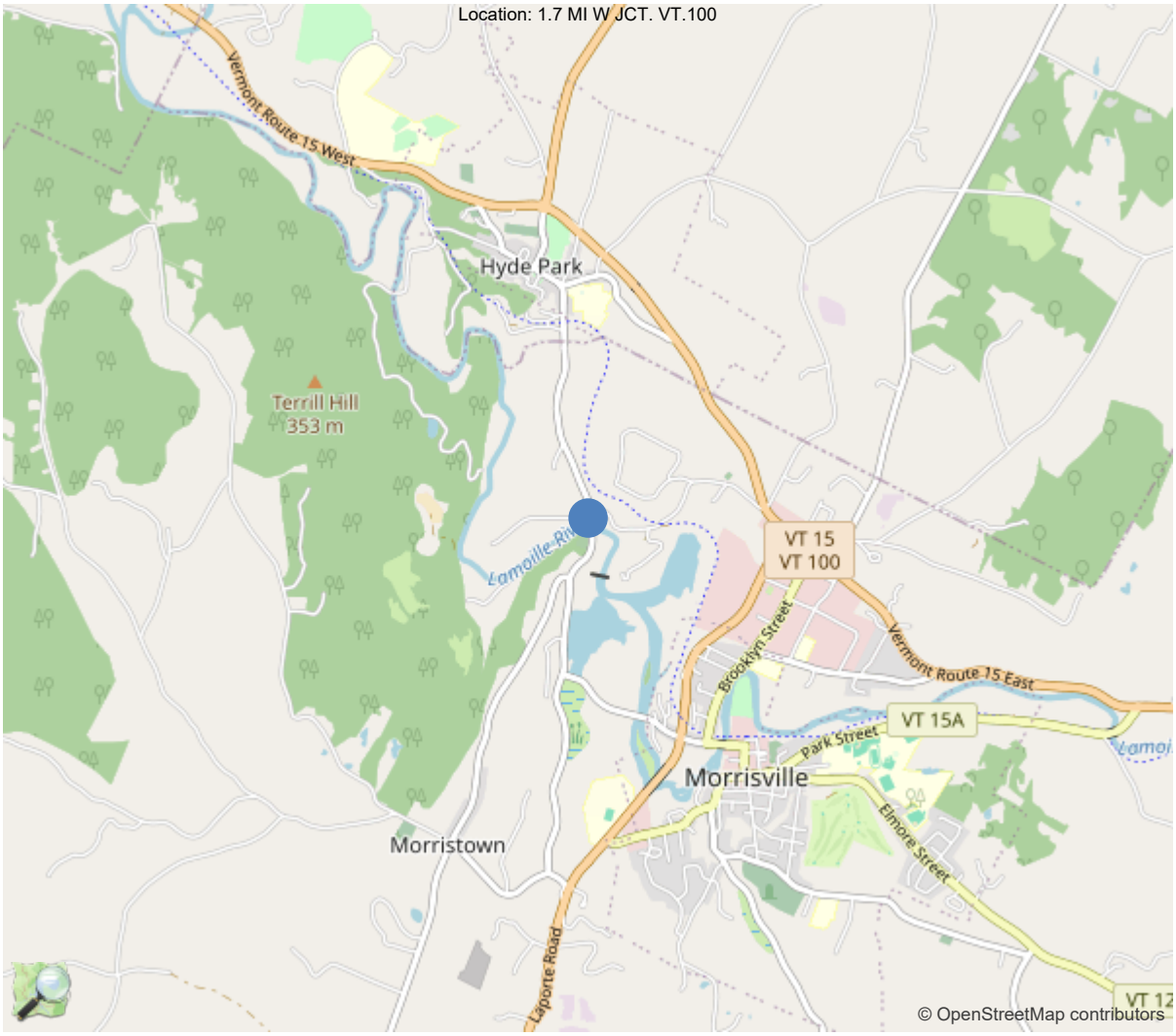
District 6, 15 - LAMOILLE County

Owner: 3 - Town or Township Highway Agency

Maintenance Responsibility: 3 - Town or Township Highway Agency

VERMONT
AGENCY OF TRANSPORTATION

Route FAS 0239 /
Structure #00008 / (Routine, Fracture Critical)
TR 02 FAS 239 over LAMOILLE RIVER
Team Lead: Mark Cappetta, **Inspection Date:** 09/26/2024



44.57768, -72.61207

VERMONT
AGENCY OF TRANSPORTATION

Route FAS 0239 /
Structure #00008 / (Routine, Fracture Critical)
TR 02 FAS 239 over LAMOILLE RIVER
Team Lead: Mark Cappetta, **Inspection Date:** 09/26/2024

IDENTIFICATION	
(1) State Names	50 - Vermont
(8) Structure Number	200239000808072
(5) Inventory Route	1
(2) Highway Agency District	6 - District 6
(3) County Code	15 - LAMOILLE
(4) Place Code	46675
(6) Features Intersected	LAMOILLE RIVER
(7) Facility Carried	TR 02 FAS 239
(9) Location	1.7 MI W JCT. VT.100
(11) Mile Point	0 mi
(12) Base Highway Network	No
(13) LRS Inventory Rte & Subrte	
(16) Latitude	44.5776833333333
(17) Longitude	-72.6120666666667
(98) Border Bridge State Code	
(99) Border Bridge Structure No.	
STRUCTURE TYPE AND MATERIAL	
(43) Main Structure Type	310
Material	3 - Steel
Type	10 - Truss - Thru
(44) Approach Structure Type	00
Material	0 - Other
Type	0 - Other
(45) No. of Spans in Main Unit	1
(46) No. of Approach Spans	0
(107) Deck Structure Type	1 - Concrete Cast-in-Place
(108) Wearing Surface/Protective System	
Type of Wearing Surface	0 - None (no additional concrete thickne
Type of Membrane	0 - None
Type of Deck Protection	1 - Epoxy Coated Reinforcing
AGE AND SERVICE	
(27) Year Built	1928
(106) Year Reconstructed	2012
(42) Type of Service	15
On	1 - Highway
Under	5 - Waterway
(28) Lane	
On	2
Under	0
(29) Average Daily Traffic	1700
(30) Year of ADT	2017
(109) Truck ADT	6 %
(19) Bypass, Detour Length	3 mi
GEOMETRIC DATA	
(48) Length of Maximum Span	121 ft
(49) Structure Length	124 ft
(50) Curb or Sidewalk Width	
Left	0.4 ft
Right	0.4 ft
(51) Bridge Roadway Width Curb to Curb	19.8 ft
(52) Deck Width Out to Out	21.5 ft
(32) Approach Roadway Width (W/Shoulders)	23 ft
(33) Bridge Median	0 - No median
(34) Skew	0 Deg
(35) Structure Flared	0 - No flare
(10) Inventory Route Min Vert Clear	14.67 ft
(47) Inventory Route Total Horiz Clear	19.8 ft
(53) Min Vert Clear Over Bridge Rdwy	14.67 ft
(54) Min Vert Underclear	0 ft
Ref:	
(55) Min Lat Underclear RT	0 ft
Ref:	
(56) Min Lat Underclear LT	0 ft
NAVIGATION DATA	
(38) Navigation Control	0 - No navigation control on w
(111) Pier Protection	
(39) Navigation Vertical Clearance	0 ft
(116) Vert-Lift Bridge Nav Min Vert Clear	0 ft
(40) Navigation Horizontal Clearance	0 ft

CLASSIFICATION	
(112) NBIS Bridge Length	Y
(104) Highway System	0
(26) Functional Class	7 - Rural Major Collector
(100) Defense Highway	0 - The inventory route is not
(101) Parallel Structure	N - No parallel structure exis
(102) Direction of Traffic	2 - way traffic
(103) Temporary Structure	
(105) Federal Lands Highways	0 - N/A
(110) Designated National Network	0 - The inventory route is not
(20) Toll	3 - On free road. The structu
(21) Maintain	3 - Town or Township Highway A
(22) Owner	3 - Town or Township Highway A
(37) Historical Significance	3 - Bridge is possibly eligibl
CONDITION	
(58) Deck	7
(59) Superstructure	5
(60) Substructure	6
(61) Channel & Channel Protection	8
(62) Culverts	N
LOAD RATING AND POSTING	
(31) Design Load	1 - M9 / H10
(63) Operating Rating Method	2
(64) Operating Rating	
Type	2 - Allowable Stress(AS)
Rating	41
(65) Inventory Rating Method	2 - Allowable Stress(AS)
(66) Inventory Rating	
Type	
Rating	24
(70) Bridge Posting	5 - Equal to or above legal loads
(41) Structure Open/Posted/Closed	P - Posted for load (may inclu
APPRAISAL	
(67) Structural Evaluation	5
(68) Deck Geometry	2
(69) Clearances, Vertical/Horizontal	N
(71) Waterway Adequacy	8
(72) Approach Roadway Alignment	8
(36A) Bridge Railings	0 - Inspected feature does not meet
(36B) Transitions	1 - Inspected feature meets current
(36C) Approach Guardrail	1 - Inspected feature meets current
(36D) Approach Guardrail Ends	1 - Inspected feature meets current
(113) Scour Critical Bridges	8 - Bridge foundations determined t
PROPOSED IMPROVEMENTS	
(75) Type of Work	35 - Bridge rehabilitation bec
(76) Length of Structure Improvement	124 ft
(94) Bridge Improvement Cost (Multiply value by 1000)	$ 933
(95) Roadway Improvement Cost (Multiply value by 1000)	$ 50
(96) Total Project Cost (Multiply value by 1000)	$ 983
(97) Year of Improvement Cost Estimate	2020
(114) Future ADT	1785
(115) Year of Future ADT	2027

INSPECTIONS *			
(90) Inspection Date			09/26/2024
(91) Frequency			24
(92) Critical Feature Inspection	Done	Freq. (Mon)	Date
A: Fracture Critical Detail	Yes	24	09/26/2024
B: Underwater Inspection	No		
C: Other Special Inspection			

* The inspection date and frequency information in this box contains the current NBI date and frequency information. Please refer to the report header for the date this inspection was conducted.

VERMONT
AGENCY OF TRANSPORTATION

Route FAS 0239 /
Structure #00008 / (Routine, Fracture Critical)
TR 02 FAS 239 over LAMOILLE RIVER
Team Lead: Mark Cappetta, **Inspection Date:** 09/26/2024

Deck

ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
30	Steel Deck Corrugated/Orthotropic/Etc.	SF	2666	2666	0	0	0
330	Metal Bridge Railing	LF	248	248	0	0	0

58 - Deck (7 - GOOD CONDITION - some minor problems.)
Stay in place forms have some rust staining and pitting scattered through out.

200 - Existing Wearing Surface Depth (0)

A21 - Deck Wearing Surface Condition (Good)
Some cracking

A24 - Deck Curb Condition (Good)
Asphalt curb has some minor scrapes

A38 - Deck Drain Condition (Very Good)

A39 - Deck Fascia Condition (Satisfactory)
Rusting of the SIP forms

B.C.05 Bridge Railing Condition Rating (SATISFACTORY - Widespread minor or isolated moderate defects.)
some flattening of rail through out.

B.C.08 Bridge Joints Condition Rating (NOT APPLICABLE - Bridge does not have deck joints.)

APPROACH

72 - Approach Roadway Alignment (8 - Equal to present desirable criteria)

A13 - Approach Rail Condition (Satisfactory)
Minor rusting with little damage

A16 - Approach Post Condition (Good)

A18 - Approach Erosion/Settlement (Minor)

B.C.06 Bridge Railing Transitions Condition Rating (SATISFACTORY - Widespread minor or isolated moderate defects.)
Flattening with scrapes and rust staining along scrapes.

VERMONT
AGENCY OF TRANSPORTATION

Route FAS 0239 /
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TR 02 FAS 239 over LAMOILLE RIVER
Team Lead: Mark Cappetta, **Inspection Date:** 09/26/2024

Superstructure

ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
113	Steel Stringer	LF	496	496	0	0	0
120	Steel Truss	LF	248	148	0	100	0
1000	Corrosion	LF	100	0	0	100	0
152	Steel Floor Beam	LF	150	75	50	25	0
1000	Corrosion	LF	75	0	50	25	0
162	Steel Gusset Plate	EA	10	7	0	3	0
1000	Corrosion	EA	3	0	0	3	0
311	Movable Bearing	EA	2	0	0	2	0
2210	Movement	EA	2	0	0	2	0
313	Fixed Bearing	EA	2	2	0	0	0

59 - Superstructure (5 - FAIR CONDITION - all primary structural elements are sound but may have minor section loss, cracking, spalling or scour.)

A50 - Super Verticals/Diagonals Condition (Fair)
Section loss along the flanges below the rail. The webs have some section loss with couple holes at the bottom cord

A51 - Top Chords Condition (Satisfactory)
Section loss at the ends only

A52 - Bot. Chords Condition (Fair)
Several areas of section loss and holes. Few areas of heavy section loss has been patched in the past. Section loss has been accounted for in load rating with a reduced capacity. The bottom cords have added plates at the ends because of the holes and section loss in those locations

A53 - Gusset Condition (Fair)
Heavy section loss with few holes. Abutment 1 upstream corner has a plate added due to the amount of section loss

A55 - Lateral Bracing Condition (Poor)
Most of the connection plates are rusted with compromised connections or rusted off.

A56 - Floor Beams Condition (Satisfactory)
Floor beam at abutment 2 has holes on each end, beam 3 has hole on the upstream side and beam 4 has holes on both ends with large angle iron added for strength. Others have section loss with deep pitting

A58 - Stringer Condition (Satisfactory)
Minor section loss on the ends

B.C.07 Bridge Bearings Condition Rating (SATISFACTORY - Widespread minor or isolated moderate defects.)
Heavy pitting with some rust staining in bearing,

B.C.14 NSTM Inspection Condition (FAIR - Some moderate defects; strength and performance of the component are not affected.)
Moderate section loss through out verticals/diagonals and floor beams. Bottom chord has many areas with perforations along stiffener plates. A large area of the bottom chords of each truss near abutment 2 have added steel plates for strength. Floor beams 3 has holes in the upstream end. Floor beam 4 has holes in both ends with section loss in flanges and web. Floor beam 6 has holes in both ends with heavy pitting and section loss.

VERMONT
AGENCY OF TRANSPORTATION

Route FAS 0239 /
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TR 02 FAS 239 over LAMOILLE RIVER
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Substructure

ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
215	Reinforced Concrete Abutment	LF	43	23	0	20	0
1130	Cracking (RC and Other)	LF	20	0	0	20	0
220	Reinforced Concrete Pile Cap/Footing	LF	6	0	6	0	0
1130	Cracking (RC and Other)	LF	5	0	5	0	0
1190	Abrasion/Wear (PSC/RC)	LF	1	0	1	0	0
800	Reinforced Concrete Wing/Retaining Wall	EA	4	2	2	0	0
1130	Cracking (RC and Other)	EA	2	0	2	0	0

60 - Substructure (6 - SATISFACTORY CONDITION - structural elements show some minor deterioration.)
Some cracking and rust staining

A71 - Abutment End Walls Condition (Satisfactory)
Few vertical cracks with some efflorescence leakage

A77 - Retaining/Wingwall Condition (Satisfactory)
Cracking with efflorescence. The end of abutment 2 downstream wing wall is laid rock and has some voids through out.

A78 - Abutment Footings Condition (Satisfactory)
Cracking and scaling

CHANNEL

61 - Channel Condition (8 - Banks are protected or well vegetated. River control devices such as spur dikes and embankment protection are not required or are in a stable condition.)
Ledge with dam upstream to control the flow

B.C.10 Channel Protection Condition Rating (VERY GOOD - Some inherent defects.)
Ledge

B.C.11 Scour Condition Rating (Some minor scour.)
Ledge channel

GENERAL OBSERVATION

VERMONT
AGENCY OF TRANSPORTATION

Route FAS 0239 /
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TR 02 FAS 239 over LAMOILLE RIVER
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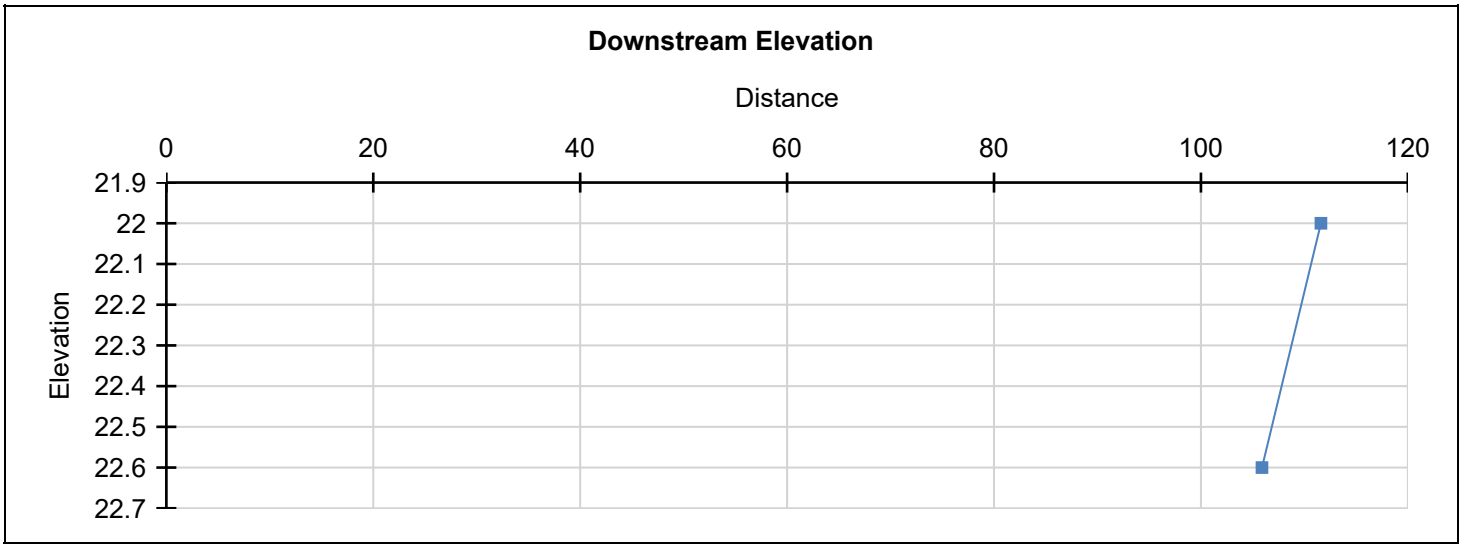
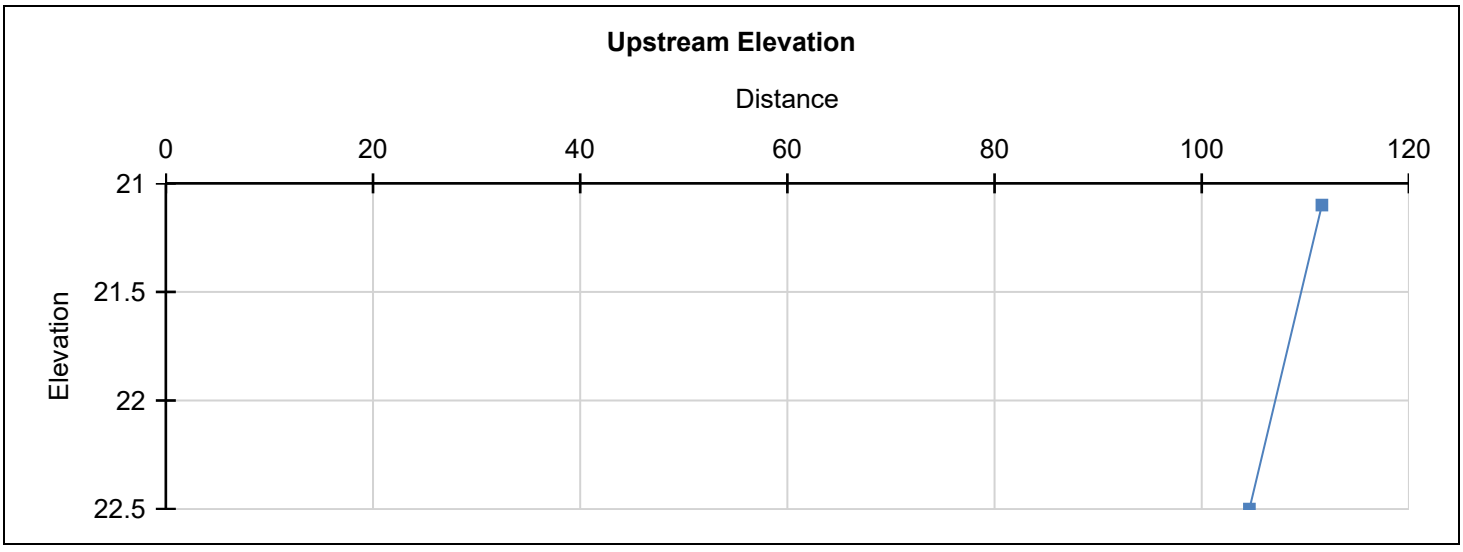
Channel Profile

Waterway Flow:	Left to right	Top of Water:	
Origin:	Bottom of fascia	Bottom of Beam:	

Station	Distance	Downstream	Upstream
Abutment 1	0		
Eow	104.6		22.5
Eow	105.9	22.6	
Abutment 2	111.6	22	21.1





VERMONT
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Abutment 2 approach

Upstream

Downstream

Abutment 1 approach

VERMONT
AGENCY OF TRANSPORTATION

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TR 02 FAS 239 over LAMOILLE RIVER
Team Lead: Mark Cappetta, **Inspection Date:** 09/26/2024

Superstructure deck

Abutment 1

Abutment 2

Upstream elevation

Downstream elevation

Bottom chord abutment 1 truss 2

Bottom chord abutment 1 truss 2

Bottom chord near rail post 1 truss 2

VERMONT
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Heavy pitting in gusset plate 1 in truss 2 and perforations and section loss in stiffener plate

Diagonal 1 at interior gusset plate 1 of truss 2

Floor beam 4 truss 1

Diagonal 5 truss 1

VERMONT
AGENCY OF TRANSPORTATION

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TR 02 FAS 239 over LAMOILLE RIVER
Team Lead: Mark Cappetta, **Inspection Date:** 09/26/2024

Floor beam 6 truss 1 side

Bottom chord added steel plates and section loss truss 1 near abutment 2

Bottom chord added steel plates and section loss truss 1 near abutment 2

Interior bottom chord near abutment 2

Perforations bottom chord between floor beam 4 and 5

Section loss in exterior bottom chord at abutment 2

Section loss in interior bottom chord at abutment 2

Diagonal 6 in truss 2 perforations

VERMONT
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TR 02 FAS 239 over LAMOILLE RIVER
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Distortion in bottom chord near abutment 2 truss 2

Distortion in bottom chord near abutment 2 truss 2

Distortion in bottom chord near abutment 2 truss 2

Perforation in exterior bottom chord near floor beam 5

VERMONT
AGENCY OF TRANSPORTATION

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Holes in floor beam 4 truss 2

Hole in interior bottom chord of truss 2 between floor beam 4 and 5

Section loss in diagonal

Hole in exterior bottom chord near floor beam 5

VERMONT
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TR 02 FAS 239 over LAMOILLE RIVER
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Hole in interior bottom chord near floor beam 5

Holes in exterior bottom chord near rail post 6 truss 2

Distortion in bottom chord near abutment 2 truss 2

Previous pitting typical through out diagonals

VERMONT
AGENCY OF TRANSPORTATION

Route FAS 0239 /
Structure #00008 / (Routine, Fracture Critical)
TR 02 FAS 239 over LAMOILLE RIVER
Team Lead: Mark Cappetta, **Inspection Date:** 09/26/2024

Floor beam 1

Section loss in diagonal truss 2

Hole in diagonal web truss 2

Interior gusset plate 2 hole truss 2

Interior gusset plate 2 hole truss 2

Section loss in floor beam 1 bottom flange

Previous pitting and section loss vertical 1 truss 2

Perforation in flange of vertical 3 in truss 2

Floor beam 3 hole truss 2

Floor beam 2 truss 2

Floor beam 1 truss 2

Hole in bottom chord with stiffener in place at abutment 2 gusset plate 7

Typical section loss and heavy pitting along exterior bottom chords and rail post connections

Bottom chord section loss near abutment 2 upstream end

Appendix E: Preliminary Hydraulics Memo

VT AGENCY OF TRANSPORTATION PROGRAM DEVELOPMENT DIVISION

HYDRAULICS UNIT

TO: Chris Williams, Structures Project Manager

FROM: David Willey, Hydraulics Project Supervisor

DATE: September 2, 2014

SUBJECT: Morristown BF 0239(3), TH 2 (FAS 239) BR 8 over the Lamoille River

---

We have completed our preliminary hydraulic study for the above referenced site, and offer the following information for your use:

Existing Conditions

The existing structure was rebuilt in 1928 and rehabilitated in 1970, 1980 and 2012. It is a single span steel through truss bridge with a concrete deck. The bridge abutments are concrete and are founded on ledge. They are skewed 90 degrees to the road and are aligned with the channel. The bridge has an effective hydraulic clear span length of about 100', from the face of the south abutment to the ledge outcrop under the north abutment. Clear height is about 26', providing a waterway opening of about 2540 sq. ft.

The channel bottom and banks are mostly ledge. There is a building just upstream of the bridge on the southern end. The southern abutment connects into the foundation of that building.

The existing bridge meets the current hydraulic standards. The Q50 headwater elevation is 550.3' and the average bottom of truss elevation is 558.3. So the bridge has 8' of freeboard at the design Q50. There is no roadway overtopping up to Q500. The abutments are founded on ledge, so scour is not a concern. Therefore, the bridge is adequate hydraulically.

Superstructure repair or replacement

Superstructure repair or replacement on the existing abutments would be acceptable hydraulically, as the bridge meets the hydraulic standards and has no hydraulic issues. There is a Flood Insurance Study for this river so there should be no increase in water surface elevations. No material should be placed in front of the abutments that would reduce the waterway width. The bottom of beams should be no lower than the Q100 water surface elevation of 551.7' to meet the FEMA regulations. Ideally the bottom of beams should be kept above the Q500 elevation of 555.6', if practical.

Complete Bridge Replacement

A new bridge should be at least as long as the existing bridge, to span the channel and not increase upstream water surface elevations. The abutments could be moved back a little, but with the ledge outcrop on the north end and a building on the south end, site conditions will control the maximum waterway opening. Bottom of beams should be no lower than the Q100 WSE of 551.7', to meet all standards and FEMA regulations. However, it would be preferable to keep beams above the Q500 WSE of 556.6'. Abutments should be founded on sound ledge. No material should be placed in front of the abutments that would reduce the waterway width to less than the existing conditions.

Please contact us if you have any questions or if we may be of further assistance.

DCW

cc: Hydraulics Project File via NJW
Hydraulics Chrono File

Appendix F: Preliminary Geotechnical Memo

Geotechnical Scoping Report Data Form

General Project Information

Project Name:	Morristown BF 0239(4)				
Project Pin:	22j399				
Requestor Name:	Laura Stone, P.E., Scoping Engineer				
Prepared By:	J. Tung, Construction Engineer				
Date:	1/18/2024				
Structure Information:	**Town**: Morristown	**Route**: MAJ-0239 (Cadys Falls Rd.)	**Mile Marker**: Approximately 1.7 miles west of VT Route 100		
Structure Type:	Bridge	**Structure ID #:**	8	**Conceptual Treatment Type:**	Rehab
Existing Structure Description:	On Morristown MAJ-0239 (Cadys Falls Rd.), Bridge 8 over the Lamoille River. Approximately 1.7 miles west of VT Route 100. Structures Section is considering a closure with a truss rehab.				

Geological Information

Surficial Map Description:	Postglacial fluvial deposit of Alluvium			
Bedrock Map Formation Name:	Ottauquechee Formation			
Bedrock Map Member Name:	Carbonaceous phyllite member			
Bedrock Map General Rock Type:	**Rock Type 1:**	Phyllite	**Rock Type 2:**	N/A
Bedrock Map Detailed Rock Description:	Predominantly dark-gray to black, carbonaceous to highly graphitic, fine-grained sulfidic biotite-muscovite-quartz phyllite having silicic laminae			

Record Plan Information

Are there Record Plans?	Yes ☒ No ☐
Record Plans ID #:	13j274
Record Plan Notes:	Most recent record plans from 1980. Bridge rehab. Not all pages legible, Hand sketch of bedrock profile and cross sections included.

Subsurface Information

Are there Historical Borings?	Yes ☐ No ☒

Historical Boring Information:

Project Name	Distance from Project (ft)	# of Borings	Depth of Bedrock (ft)	Top of Bedrock Elevation (ft)	Rock Type
Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.
Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.
Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.

Link to Historical Boring Information:	
Is there Well Data available near the project limits?	Yes ☒ No ☐

Well Data Information:

Well Report #	Bedrock Depth (ft)	Distance from Project (ft)
487	**6**	**502**
35883	**34**	**608**
391	**16**	**802**

Are Bedrock Outcrops Present at the Site?	Yes ☒ No ☐

Bedrock Depth General Comments:	From the inspection report, there is visible bedrock outcrop on the upstream of the channel. Ledge visible on downstream side when standing on structure.

General Site Conditions

Site Visit Conducted?	Yes ☐ No ☒
Date of Site Visit:	N/A
Are there Overhead Utilities at the Site?	Yes ☒ No ☐
Are Environmental Hazards Present at the Site?	Yes ☐ No ☒
Information regarding found Environmental Hazards:	No Hazardous Site, Hazardous Waste Generators, and Brownfields within 0.5 Mile Radius of the project.
Site Condition Notes:	
When heading towards Hyde Park, utilities are on the downstream side (left hand side) of the bridge. Shallow rock around project site. Should not affect drilling borings at abutments, but may affect size of crane depending on rehab operations. Small pipe on Northeast corner of project. Bedrock outcrop visible in middle of stream on upstream side. Building in close proximity to the project on the southeast side of the project.	

Note that representative site photos are provided in Appendix A.

Recommendations

Are Borings Needed in the Scoping Phase?	Yes ☐ No ☒
Subsurface Investigation Recommendations:	
If a subsurface investigation is deemed necessary, we recommend at minimum a boring at either end of the structure to profile subsurface conditions including soil and bedrock. The existing abutments are supported directly on bedrock. Additional probes or geophysical methods can be utilized to determine the bedrock profile. If a temporary bridge is proposed during construction, borings should be completed in the location of those abutments.	
Foundation & Structure Type Recommendations:	
Spread footings on soil or rock, reinforced concrete abutments supported on piles/micropiles are recommended depending on depth to bedrock.	

The information provided is utilized from the databases and references noted in the Reference Section below. This form has been completed to the best of staff and reviewer knowledge.

Please reach out to us if you have any questions or concerns.

Staff Name & Title: Eric.Denardo@vermont.gov (802) 595-4754

Julianne Tung, Construction Engineer	Julianne.Tung@vermont.gov (802) 595-4371

Reviewer Name & Title:

Eric Denardo, P.E., Geotechnical Engineer	Eric.Denardo@vermont.gov (802) 595-4754

References:

Doll, C. G., 1970, Surficial Geologic Map of Vermont, Vermont Geological Survey, Montpelier, VT.

Ratcliffe, N. M., Stanley, R. S., Gale, M. H., Thompson, P. J., Walsh, G. J., 2011, Bedrock Geologic Map of Vermont, Vermont Geological Survey, Montpelier, VT.

Vermont Agency of Natural Resources Department of Environmental Conservation, Natural Resources Atlas, www.anr.vermont.gov/maps/nr-atlas%20

APPENDIX A

Figure 1: Note overhead utilities present west side of bridge

Figure 2: Utilities across the roadway and building on South side of the bridge via Google Maps

Figure 3: Upstream Channel via Google Maps

Figure 4: Downstream Channel via Google Maps

Figure 5: Bedrock outcrop visible on the west side of the bridge via Google Maps

Figure 6: Abutment 1

Figure 7 : Abutment 2 on bedrock

Figure 8: Visible pipe on Northeast side of the bridge via Google Maps

Appendix G: Existing Utility Investigation

Morristown BF 0239(4)

Existing Utilities within Project Limits Report

Bridge #8, Cady's Falls Road, MM 1.710 Maj-0239 Morristown

AERIAL

- Morrisville Water & Light – Three phase Power, Transmission lines and service lines
- Consolidated Communications
- Comcast – North side of the bridge only

UNDERGROUND

-Morrisville Water & Light – Transmission Power going to Sub-Station on South Side

MUNICIPAL

-Water facilities exist within the highway ROW on the north side of the bridge.

Adjustments may need to be made to the existing utilities depending on the project scope of work.


Cadys Falls
Griggs Rd
Cadys Falls Rd
Cadys Falls Bridge
Cadys Falls Rd
1564
Duhamel Rd
1550

Appendix H: Resource ID Completion Memo

OFFICE MEMORANDUM

AOT - PDB - ENVIRONMENTAL SECTION

RESOURCE IDENTIFICATION COMPLETION MEMO

TO: Laura Stone, Project Manager
FROM: Julie Ann Held, Environmental Specialist
DATE: July 8, 2024
Project: Morristown BF 0239(4)

ENVIRONMENTAL RESOURCES:

Archaeological Resources:	X	Yes		No See Archaeological Resource ID Memo
Historic Resources:	X	Yes		No See Historic Resource ID Memo
Wetlands:		Yes	X	No See Natural Resource ID Memo
Aquatic Organism Passage:		Yes	X	No See Natural Resource ID Memo
Agricultural Soils:		Yes	X	No See Natural Resource ID Memo
Wildlife Habitat:	X	Yes		No See Natural Resource ID Memo
Endangered Species:	X	Yes		No See Natural Resource ID Memo
Stormwater Considerations:		Yes	X	No See Stormwater Resource ID Memo
Landscape Considerations:	X	Yes		No See Landscape Resource ID Memo
6(f) Properties:		Yes	X	No See Environmental Specialist Resource ID Memo
Hazardous Waste:		Yes	X	No See Environmental Specialist Resource ID Memo
Contaminated Soils:		Yes	X	No See Environmental Specialist Resource ID Memo
Wild Scenic Rivers:		Yes	X	No See Environmental Specialist Resource ID Memo
Act 250 Permits:		Yes	X	No See Environmental Specialist Resource ID Memo
FEMA Floodplains:	X	Yes		No See Environmental Specialist Resource ID Memo
Flood Hazard Area:	X	Yes		No See Environmental Specialist Resource ID Memo
River Corridor:	X	Yes		No See Environmental Specialist Resource ID Memo
Protected Lands:		Yes	X	No See Environmental Specialist Resource ID Memo
US Coast Guard:		Yes	X	No See Environmental Specialist Resource ID Memo
Lakes and Ponds:		Yes	X	No See Environmental Specialist Resoure ID Memo
Scenic Highway/ Byway:		Yes	X	No See Environmental Specialist Resource ID Memo
Environmental Justice:		Yes	X	No See Environmental Specialist Resource ID Memo
Other:		Yes	X	No See Environmental Specialist Resource ID Memo

cc:
Project File

VERMONT

State of Vermont
Highways-PDB-Environmental
219 N. Main Street
www.aot.state.vt.us

Agency of Transportation

Date: July 8, 2024
Environmental Specialist: Julie Ann Held
Project: Morristown BF 0239(4)

6(f) Properties:
There aren't any 6(f) Properties within the project area.

Hazardous Waste:
There aren't any Hazardous Wastes Sites identified within the project area.

Contaminated Soils:
There aren't any Contaminated Soils within the project area.

Wild Scenic Rivers:
There aren't any designated Wild Scenic Rivers within the project area.

Act 250 Permits:
There aren't any Act 250 Permits within the project area.

FEMA Floodplains:
There are FEMA Floodplains mapped within the project area and a Flood Hazard Area/ River Corridor Permit may be required if there are impacts.

River Corridor:
There are River Corridors mapped within the project area and a Flood Hazard Area/ River Corridor Permit may be required if there are impacts.

Protected Lands:
There aren't any Protected Lands within the project area.

US Coast Guard:
There aren't any US Coast Guard navigable waterways within the project area. The project is located over the Lamoille River, though a dam is located just south of the bridge, and multiple dams upstream of the location.

Lakes and Ponds:
There aren't any lakes or ponds within the project area. Though the Lamoille River flows into Lake Lamoille downstream of this location.

Scenic Highway/ Byway:
There aren't any Scenic Highway/ Byways within the project area.

Environmental Justice:
There aren't any EJ populations present within the study area, therefore there isn't any potential to have a disproportionately high and adverse effect.

Other:
There aren't any other resources within the project area.

Appendix I: Natural Resources ID

NATURAL RESOURCE IDENTIFICATION REPORT

MORRISTOWN BF 0239(4) – CADY FALLS ROAD OVER LAMOILLE RIVER
TOWN OF MORRISTOWN
LAMOILLE COUNTY, VERMONT

DECEMBER 2023

PREPARED FOR:

Vermont Agency of Transportation
219 North Main Street
Barre, VT 05641

PREPARED BY:

McFarland-Johnson, Inc.
426 Industrial Avenue, #164
Williston, VT 05495

Table of Contents

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List of Figures

Appendices

INTRODUCTION

On behalf of the Vermont Agency of Transportation (VTrans), McFarland-Johnson, Inc. (MJ), completed a Natural Resource Identification Review in support of the proposed VTrans Morristown BF 0239(4) project involving the Cady Falls Road Bridge (Bridge No. 8) over the Lamoille River in the Town of Morristown, Lamoille County, Vermont (**Figure 1**).

The purpose of the Natural Resource Identifiacation Review is to provide VTrans with documentation of wetlands, surface waters, rare, threatened, and endangered species, fish and wildlife habitat, invasive plant species, and other potential environmental/natural resources in the vicinity of the proposed project. Early identification of these resources during preliminary project phases can help identify potential environmental issues, constraints, required coordination, permitting requirements, and other potential implications on the proposed project.

The following report provides a summary of the methods and results of the Natural Resource Identification Review for the Morristown BF 0239(4) project.

METHODOLOGY

MJ completed a desktop review of the proposed Project Study Area (PSA) using available online databases, GIS data layers, and aerial imagery. MJ also completed a field review of the PSA that included a wetlands and surface waters delineation.

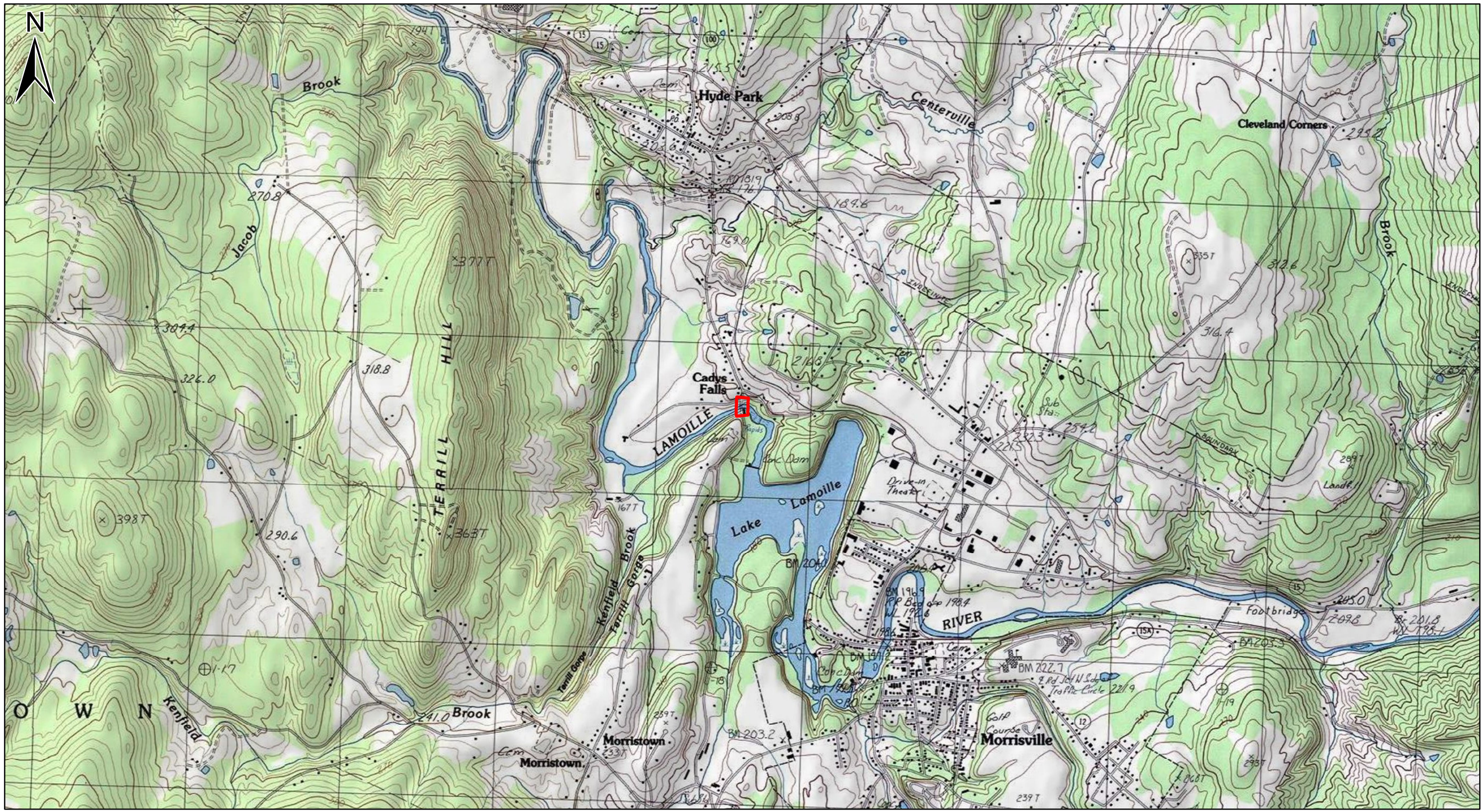
STUDY AREA

The PSA extends approximately 100 feet upstream and downstream from the existing structure, and approximately 100 feet along each roadway approach, extending approximately 100 feet from the edge of the existing roadway surface. The PSA for the Morristown BF 0239(4) project is approximately 2.22 acres in size and is depicted on **Figure 2**.

DESKTOP REVIEW

MJ completed the desktop review using the following publicly available GIS data layers:

- Vermont Significant Wetlands Inventory Wetlands Class Layer (VT Agency of Natural Resources)
- Vermont Significant Wetlands Inventory Advisory Layer (VT Agency of Natural Resources)
- National Wetlands Inventory (US Fish & Wildlife Service)
- National Hydrography Dataset (US Geological Survey)
- River Corridors (VT Agency of Natural Resources)
- Outstanding Resource Waters (VT Agency of Natural Resources)
- National Flood Hazard Layer (Federal Emergency Management Agency)
- VT Rare, Threatened and Endangered Species (VT Agency of Natural Resources)



Morristown BF 0239(4) Project Study Area

0 2,000 4,000
Feet

VERMONT AGENCY OF TRANSPORTATION

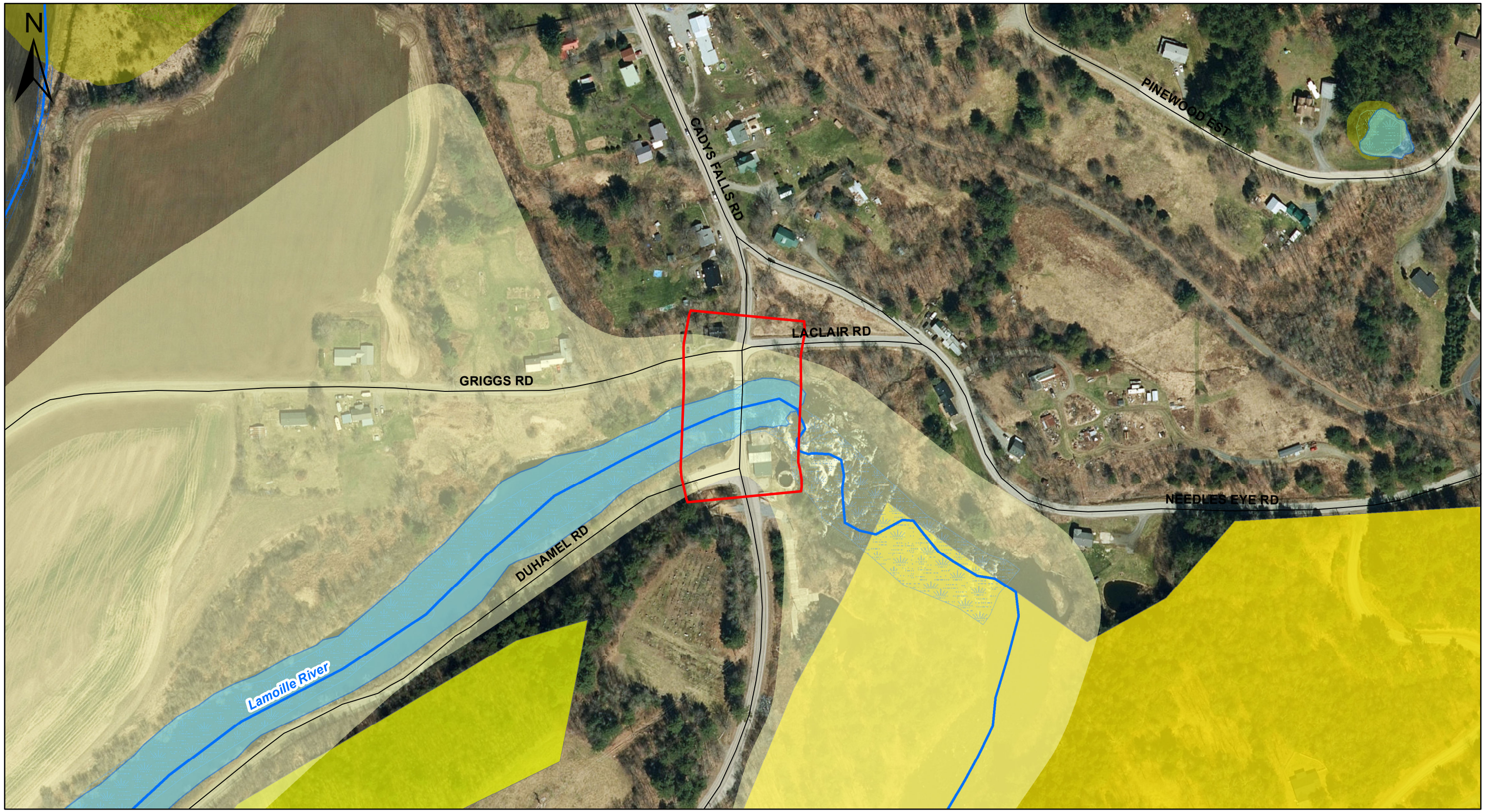
MORRISTOWN BF 0239(4) RESOURCE ID

USGS TOPOGRAPHIC MAP

SCALE :	DATE :	FIGURE :
1" = 2,000'	December 2023	1

McFarland Johnson

M:\19088.05 VTrans 6 Bridge Res ID\Draw\GIS\Morristown BF 0239(4)\VT 6 Bridges Resource ID Morristown Figure 1 USGS Topographic Location Map.mxd



Morristown BF 0239(4) Project Study Area
Roads
VT Protected Lands Database
Rivers & Streams (VT Hydrography Dataset)
Waterbodies (VT Hydrography Dataset)
River Corridors (Aug 27, 2019)

VSWI Wetlands Advisory Layer

VSWI Wetlands Class Layer
Class 1 Wetland
Class 2 Wetland

National Wetland Inventory
Freshwater Forested/Shrub Wetland
Freshwater Pond
Riverine

Deer Wintering Areas
Significant Natural Communities

Rare, Threatened, and Endangered Species
Animal
Plant

Habitat Blocks and Wildlife Corridors
10 - Higher Priority
9
8
7
6
5
4
3
2
1 - Lower Priority

0 200 400
Feet

VERMONT AGENCY OF TRANSPORTATION
MORRISTOWN BF 0239(4) RESOURCE ID

EXISTING RESOURCE MAPPING

SCALE :	DATE :	FIGURE :
1" = 200'	December 2023	2

McFarland Johnson

M:\19088.05 VTrans 6 Bridge Res ID\Draw\GIS\Morristown BF 0239(4)\VT 6 Bridges Resource ID Morristown Figure 2 Existing Resources.mxd

- VT Significant Natural Communities (VT Agency of Natural Resources)
- Deer Wintering Areas (VT Agency of Natural Resources)
- Brook Trout Waters (Vermont Agency of Natural Resources)
- Habitat Blocks and Wildlife Corridors (Vermont Agency of Natural Resources)
- VT Protected Lands Database (VT Center for Geographic Information)

Field Review

The field review was conducted on October 5, 2023. Wetlands and surface waters located within the PSA were delineated in accordance with the *Corps of Engineers Wetlands Delineation Manual (1987)*, and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region, Version 2.0 (2012)*. These methods are consistent with the Vermont Agency of Natural Resources (ANR) and Vermont Department of Environmental Conservation (DEC) standards and guidelines. Wetland boundaries and the ordinary high water mark of surface waters were demarcated in the field using intervisible flagging labeled with an alpha numeric sequence. Flag locations were recorded using a Trimble Global Positioning System (GPS) with sub-meter accuracy. GPS data were post processed using Trimble TerraFlex and Trimble Connect software to improve the horizontal accuracy. No wetlands were identified on site.

General descriptions of surface waters, vegetation/cover type, wildlife habitat, aquatic organism passage, and rare, threatened, endangered species were recorded.

Locations of Vermont Class A and Class B Noxious Weeds (invasive plant species) were also documented in the field.

Photographs of surface waters and other notable features were taken and are included with this report (**Appendix A**).

RESULTS

The following sections describe the results of the desktop and field reviews for the Morristown BF 0239(4) project.

Wetlands & Surface Waters

No wetlands were identified on site. There is one VSWI mapped Class II Wetlands located over 1,000 feet northwest of the PSA.

SURFACE WATERS

Stream 1

The Lamoille River (Stream 1) is the only surface water identified within the PSA. The Lamoille River passes under Cady Falls Road through a concrete and steel girder bridge structure. At the location of the Cady Falls bridge crossing, the Lamoille River is a fifth order, perennial stream, with a total watershed

N

GRIGGS RD

LACLAIR RD

NEEDLES EYE RD

CADYS FALLS RD

DUHAMEL RD

1-1 1-2 1-3 1-4 1-5 1-6 1-7 1-8 1-9 1-10 1-11 1-12 1-13 1-14 1-15 1-16 1-17 1-18 1-19 1-20 1-21 1-22 1-23 1-24 1-25 1-26 1-27 1-28 1-29 1-30 1-31 1-32 1-33 1-34

Morristown BF 0239(4) Project Study Area
Roads
OHW Flag
Morristown BF 0239(4) Delineated Surface Waters

Morristown BF 0239(4) Invasive Species

SPECIES

Purple Loosestrife
Goutweed
Morrow's Honeysuckle

0 50 100
Feet

VERMONT AGENCY OF TRANSPORTATION
MORRISTOWN BF 0239(4) RESOURCE ID

DELINEATED WETLANDS & SURFACE WATERS

SCALE :	DATE :	FIGURE :
1" = 50'	December 2023	3

McFarland Johnson

M:\19088.05 VTrans 6 Bridge Res ID\Draw\GIS\Morristown BF 0239(4)\VT 6 Bridges Resource ID Morristown Figure 3 Delineated Wetlands & Surface Waters.mxd

area of approximately 171,520 acres (268 square miles). The Lamoille River is a tributary of Lake Champlain. The river flows from east to west through the PSA. The average bankfull width of the Lamoille River was approximately 131 feet upstream from the culvert, and 118 feet downstream from the crossing. The flow in the creek was moderate at the time of survey, with clear water with a maximum depth of approximately six feet. The substrate was predominately bedrock, cobble and sand. The Lamoille River flows into Lake Champlain from the east, approximately 28 miles east of the PSA.

FLOODPLAINS

The Federal Emergency Management Agency (FEMA) digitized National Flood Hazard Layer mapping is not available in the PSA. However, the paper Flood Insurance Rate Map (FIRM) panel (5000640007C, Map Effective Date: 7/2/1987) was downloaded, and at the project location, the Lamoille River has a mapped Special Flood Zone (Zone AE) that includes the Regulatory Floodway and 100-year floodplain (**Appendix B**). Based on the FIRM, the majority of the PSA appears to be located within the 100-year floodplain and/or Regulatory Floodway of the Lamoille River. The Base Flood Elevation (BFE) at the bridge location is between 549 – 551 feet.

RIVER CORRIDORS

The majority of the PSA is located within the mapped River Corridor of the Lamoille River. The River Corridor of the Lamoille River in the vicinity of the PSA is approximately 300 feet wide.

WATER QUALITY IMPAIRMENTS

The Lamoille River, within the PSA, is not included on the Vermont DEC 2022 303(d) List of Impaired Waters (most recent available).

RARE, THREATENED, AND ENDANGERED SPECIES

Based on the available VT ANR mapping, there are no rare, threatened, or endangered species documented in the vicinity of the PSA. No rare, threatened, or endangered species were observed in the PSA during the field review. There are no VT ANR mapped Uncommon Species or Significant Natural Communities in the vicinity of the PSA.

The project was submitted to the US Fish and Wildlife Service (USFWS) via the online Information for Planning and Consultation (IPaC) webtool, and an Official Species List was generated on October 13, 2023, to identify federally listed species with geographic ranges that overlap the PSA (**Appendix C**). Federally listed species that have the potential to occur in the PSA include the northern long-eared bat (*Myotis septentrionalis*). The monarch butterfly (*Danaus plexippus*), currently a candidate species for listing under the Endangered Species Act (ESA) was also included. However, the candidate status does not afford the monarch butterfly additional protection under the ESA at this time.

FISH AND WILDLIFE HABITAT

The Lamoille River provides potential fish habitat. No fish were observed in the river at the time of the survey. Wildlife can utilize the banks on the south side of the bridge but are limited due to the steep slope on the north side. A decomposed mollusk shell was found on a gravel/sandbar located along the south bank of the Lamoille River. A manmade cave like structure was noted with water below the sand

bank in the southwest quadrant of the bridge structure; it was impassable but believed to be related to an industrial structure located on the southeast quadrant of the bridge. A rock dove (*Columba livia*) was roosting in this structure. Racoon tracks were also noted on the sand bank. No other significant wildlife sign was observed.

The PSA is located approximately 1.5 miles northwest of the village of Morrisville. The PSA is dominated by rural residential land use. The value of the wildlife habitat in the vicinity of the PSA is good quality due to sparse residential development surrounded by forested and agricultural ecotypes. There is significant riparian buffer along the south bank of the Lamoille River as well as the north bank, but the north banks steepness may limit use by land based animals.

The SE bridge quadrant is void of habitat and consists of an old industrial structure and concrete parking area, as well as a tank of unknown use.

The NE bridge quadrant consists of an upland area mixed with roadside grasses, herbs, and mature trees/shrubs. Dominant species included staghorn sumac (*Rhus typhina*), red maple (*Acer rubrum*), and various aster species (*Symphyotrichum* spp.). This area drops steeply to the bank of the Lamoille River.

The NW bridge quadrant was characterized by mature trees/shrubs similar to the NE quadrant with less understory. The dominant vegetation consists of staghorn sumac, box elder (*Acer negundo*), and eastern hemlock (*Tsuga canadensis*).

The SW bridge quadrant was characterized by shrub vegetation including staghorn sumac and the invasive Morrow's honeysuckle (*Lonicera morrowii*). This area sloped more gently to a gravel/sand bar at a fishing access area. A cave like structure was located at the corner of the bridge, presumably related to the industrial building located on the southeast quadrant of the bridge.

The existing bridge structure consisted of concrete pillars supporting a concrete bridge with steel girders. Some cracks were noticed that could provide potential bat roosting habitat. However, the bridge was inspected for potential signs of bat usage, and no visual evidence of bats, staining, odors, or audible sounds were detected. The manmade cave like structure was inspected and did not exhibit significant cracking or other potential areas for bat roost. The forested area contained suitable summer roost habitat for bats, however, no large snags or trees with cavities and/or exfoliating bark were documented in the PSA.

HABITAT BLOCKS

There are medium value Priority Habitat Blocks located southeast and southwest of the PSA. The Habitat Block to the southeast is ranked 5 out of 10, and includes a mosaic of habitats including the Lamoille River, adjacent floodplain wetlands, areas of open water, and adjacent riparian buffers. The Habitat Block to the southwest is ranked 6 out of 10, and includes a narrow, forested finger of habitat that connects from the Lamoille River to the Morristown Town Forest to the west. The Morristown Town Forest provides a large block of contiguous forested habitat. Larger rivers such as the Lamoille can act as travel corridors for a variety of species, and the existing crossing location could provide a potential link between these Priority Habitat Blocks.

DEER WINTERING AREAS

There are no VT ANR mapped Deer Wintering Areas identified in the vicinity of the PSA.

AQUATIC ORGANISM PASSAGE

The Lamoille River crosses under Cady Falls Road and spans over the bankfull width. Natural substrate is located throughout the passing and no obstructions (logs, etc.) were noted in the channel. Velocities are low and match through the structure. No concerns were noted for aquatic organism passage for the Lamoille River. A set of falls is located upstream from the bridge.

INVASIVE PLANT SPECIES

Vermont Class B Noxious Weeds documented in the PSA include goutweed (*Aegopodium podagraria*), Morrow's honeysuckle, and purple loosestrife (*Lythrum salicaria*).

One small patch of goutweed was located in the northwest corner of the PSA along the roadway.

Morrow's honeysuckle was intermittently scattered along the roadway in the southwest corner of the PSA.

Two individual purple loosestrife plants were located above a dry, non-jurisdictional drainage ditch 100 feet north of the northeast quadrant of the bridge.

APPENDIX A

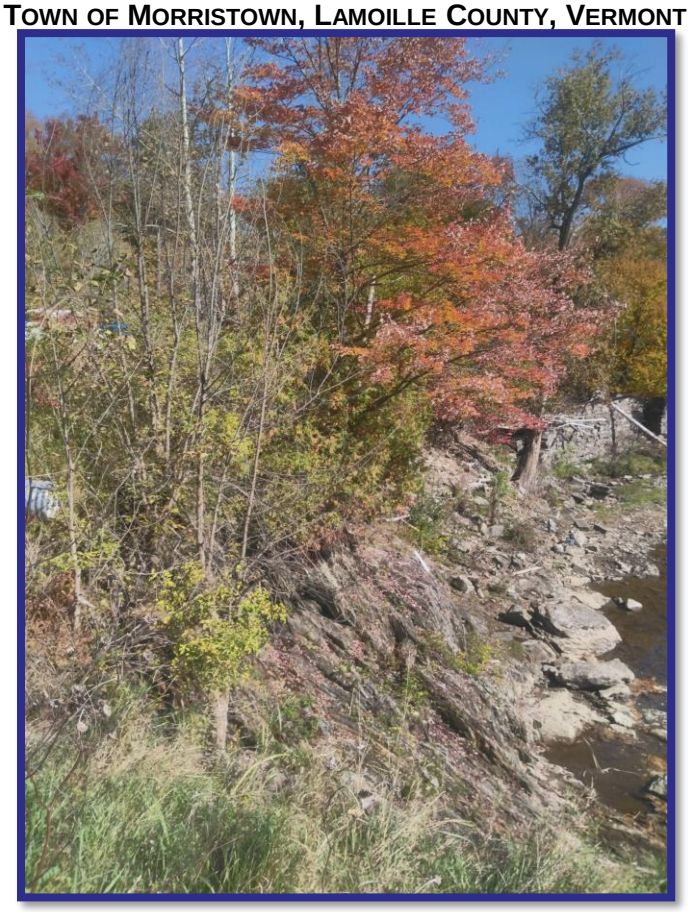
PHOTOGRAPHS

NATURAL RESOURCE PHOTOGRAPHS
MORRISTOWN BF 0239(4)
TOWN OF MORRISTOWN, LAMOILLE COUNTY, VERMONT

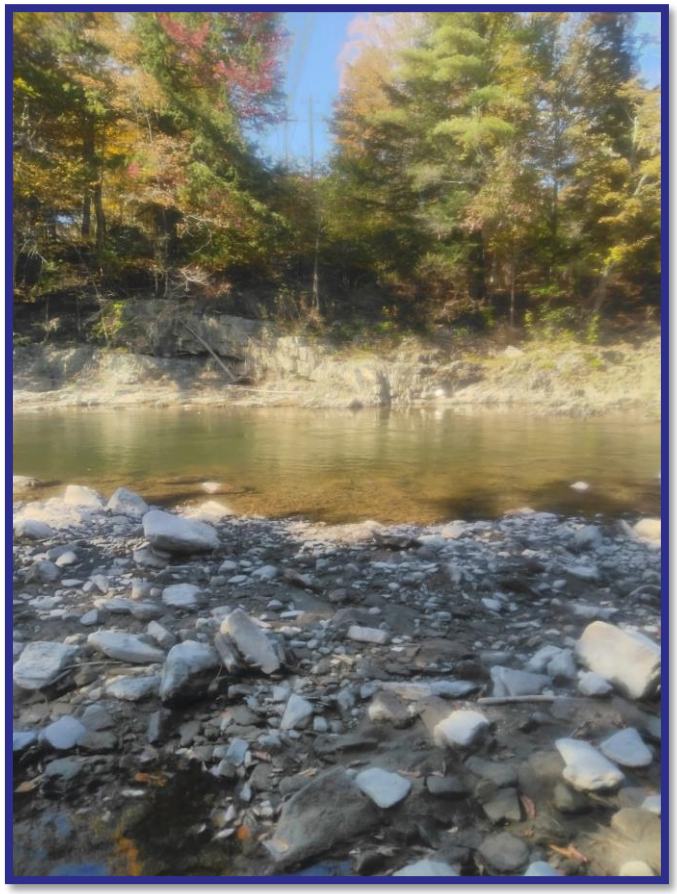
Photograph looking upstream of Lamoille River

Photograph of industrial structure on southeast corner of bridge

NATURAL RESOURCE PHOTOGRAPHS
MORRISTOWN BF 0239(4)
TOWN OF MORRISTOWN, LAMOILLE COUNTY, VERMONT



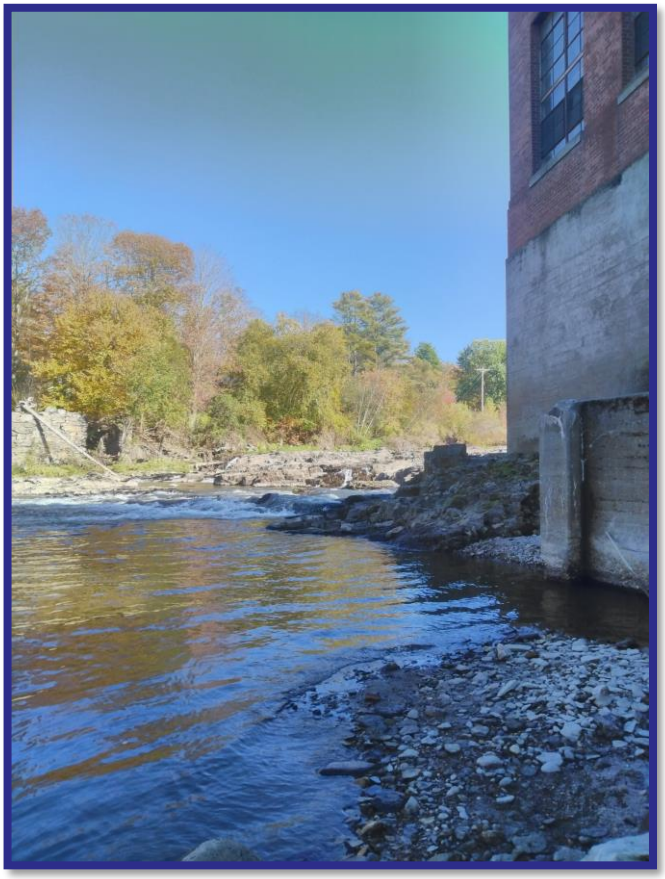
Photograph of north bank of the Lamoille River



Photograph of south bank of the Lamoille River

NATURAL RESOURCE PHOTOGRAPHS
MORRISTOWN BF 0239(4)
TOWN OF MORRISTOWN, LAMOILLE COUNTY, VERMONT

Photograph of cave like structure at southwest corner of bridge



Photograph of south bank of the Lamoille River at southeast corner

Photograph of underside of bridge structure

Photograph of decomposing shell along south bank

APPENDIX B

FEMA FIRMETTE

638-6620.

N

APPROXIMATE SCALE

500 0 500 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

TOWN OF
MORRISTOWN, VERMONT
LAMOILLE COUNTY

PANEL 7 OF 25
(SEE MAP INDEX FOR PANELS NOT PRINTED)

PANEL LOCATION

COMMUNITY-PANEL NUMBER
500064 0007C

MAP REVISED:
JULY 2, 1987

Federal Emergency Management Agency

ZONE AE
Centerville Brook
ZONE AE
ZONE X
CORPORATE LIMITS
ZONE X
RM 5
544
NORTHERN RAILROAD
ZONE X
VERMONT
ZONE X
545
RIVER
O
ZONE X
ZONE AE
LAMOILLE
CADYS FALLS ROAD
LAMOILLE RIVER
ZONE AE
U
TOWN HIGHWAY #9
549
551
ZONE X
T
ZONE X
549
546
P
560
561
W
ZONE AE
LAKE LAMOILLE
587
JOINS PANEL 0009

This is an official FIRMette showing a portion of the above-referenced flood map created from the MSC FIRMette Web tool. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For additional information about how to make sure the map is current, please see the Flood Hazard Mapping Updates Overview Fact Sheet available on the FEMA Flood Map Service Center home page at https://msc.fema.gov.

APPENDIX C

USFWS OFFICIAL SPECIES LIST

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
Phone: (603) 223-2541 Fax: (603) 223-0104

In Reply Refer To:
Project Code: 2024-0005197
Project Name: VTrans Morristown IPaC Report

October 16, 2023

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

Updated 4/12/2023 - *Please review this letter each time you request an Official Species List, we will continue to update it with additional information and links to websites may change.*

About Official Species Lists

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Federal and non-Federal project proponents have responsibilities under the Act to consider effects on listed species.

The enclosed species list identifies threatened, endangered, proposed, and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested by returning to an existing project's page in IPaC.

Endangered Species Act Project Review

Please visit the "**New England Field Office Endangered Species Project Review and Consultation**" website for step-by-step instructions on how to consider effects on listed

species and prepare and submit a project review package if necessary:

https://www.fws.gov/office/new-england-ecological-services/endangered-species-project-review

NOTE Please do not use the **Consultation Package Builder** tool in IPaC except in specific situations following coordination with our office. Please follow the project review guidance on our website instead and reference your **Project Code** in all correspondence.

Northern Long-eared Bat - (**Updated 4/12/2023**) The Service published a final rule to reclassify the northern long-eared bat (NLEB) as endangered on November 30, 2022. The final rule went into effect on March 31, 2023. You may utilize the **Northern Long-eared Bat Rangewide Determination Key** available in IPaC. More information about this Determination Key and the Interim Consultation Framework are available on the northern long-eared bat species page:

https://www.fws.gov/species/northern-long-eared-bat-myotis-septentrionalis

For projects that previously utilized the 4(d) Determination Key, the change in the species' status may trigger the need to re-initiate consultation for any actions that are not completed and for which the Federal action agency retains discretion once the new listing determination becomes effective. If your project was not completed by March 31, 2023, and may result in incidental take of NLEB, please reach out to our office at newengland@fws.gov to see if reinitiation is necessary.

Additional Info About Section 7 of the Act
Under section 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to determine whether projects may affect threatened and endangered species and/or designated critical habitat. If a Federal agency, or its non-Federal representative, determines that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Federal agency also may need to consider proposed species and proposed critical habitat in the consultation. 50 CFR 402.14(c)(1) specifies the information required for consultation under the Act regardless of the format of the evaluation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

https://www.fws.gov/service/section-7-consultations

In addition to consultation requirements under Section 7(a)(2) of the ESA, please note that under sections 7(a)(1) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species. Please contact NEFO if you would like more information.

Candidate species that appear on the enclosed species list have no current protections under the ESA. The species' occurrence on an official species list does not convey a requirement to

consider impacts to this species as you would a proposed, threatened, or endangered species. The ESA does not provide for interagency consultations on candidate species under section 7, however, the Service recommends that all project proponents incorporate measures into projects to benefit candidate species and their habitats wherever possible.

Migratory Birds

In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see:

https://www.fws.gov/program/migratory-bird-permit

https://www.fws.gov/library/collections/bald-and-golden-eagle-management

Please feel free to contact us at **newengland@fws.gov** with your **Project Code** in the subject line if you need more information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat.

Attachment(s): Official Species List

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

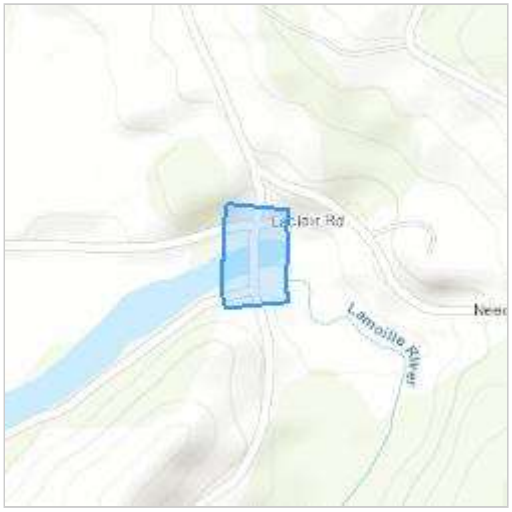
This species list is provided by:

New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
(603) 223-2541

PROJECT SUMMARY

Project Code: 2024-0005197
Project Name: VTrans Morristown IPaC Report
Project Type: Bridge - Maintenance
Project Description: Consultant for VTrans_6 Bridges Morristown
Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@44.5776927,-72.61207394107356,14z



Counties: Lamoille County, Vermont

ENDANGERED SPECIES ACT SPECIES

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: Private Entity
Name: Roy Jacobson
Address: 90 East Ave
City: Saratoga Springs
State: NY
Zip: 12866
Email jjacobson@mjinc.com
Phone: 5186913539

VERMONT
AGENCY OF TRANSPORTATION

State of Vermont | Agency of Transportation
Environmental Section
219 North Main
Barre, VT 05641
Vtrans.vermont.gov

To: Project File
From: Bonnie Kirn Donahue, *VTrans Landscape Architect*
Date: July 1, 2024
Project: **Morristown BF 0239(4) 22J399**
Subject: Landscape (LA) Clearance for Resource ID

I have reviewed the proposed area for **Morristown BF 0239(4) 22J399**, and found the following:

EXISTING CONDITIONS
The following items/conditions were found on site that could influence design decisions:

1. Context/setting:
    a. This project is located in a rural area
2. Presence of utilities:
    a. This project includes utilities that should be considered.

3. Riparian buffer:
    a. This project includes work within a riparian area and may benefit from a planting plan.

4. Trees to protect:
    a. This project includes trees that should be protected, including:
        i. Trees in the front yard of the adjacent residence.

5. Presence of hazard trees
    a. Desktop review. No hazard trees were identified.

6. Special site features:
    a. This project includes special site features that should be protected.
        i. Adjacent industrial building next to bridge.

7. Plants observed: (this is not a complete list of species on site)
    a. Desktop review. No species were identified. See natural resources clearance.

8. Accessibility & Active Transportation:
    a. Pedestrian infrastructure, such as accessible sidewalks, crosswalks, and bicycle facilities are not a concern on this project.

RECOMMENDATIONS

1. Landscape/vegetation:
    a. Minimize tree clearing in this area.
    b. Minimize disturbance in the riparian buffer.
    c. Develop a riparian planting plan for any disturbed riparian areas on this project.
    d. Tree protection shall be used for any trees with canopies within the area of construction, including:
        i. Trees in the front yard of the adjacent residence.
2. Invasive species:
    a. If invasive species are found during preliminary design, delineate the limits in the plans.
3. Community Engagement/vision:
    a. Reference the community's vision and goals for Pedestrian and Bicycle Transportation outlined in the Town Plan and incorporate into the project design.
    b. Involve the town/village government and community members in the vision & goals for the project.
4. Character/place:
    a. The existing bridge truss contributes to the character of the place. If replacements are needed, match the character and vision of the Town.

NOTES

1. I am available to assist with landscape architectural design, including planting plans, plant lists, hardscape/pedestrian access plans, etc. (bonnie.donahue@vermont.gov).

Appendix J: Hazardous Waste Locations

Hazardous Waste Urban Soils Map

Vermont Agency of Natural Resources

vermont.gov

LEGEND

- Landfills
  - OPERATING
  - CLOSED
- Land Use Restrictions
  - Class IV GW Reclass
  - Class VI GW Reclass
  - Deed Restriction
  - Easement
  - Land Record Notice
  - Other
- Hazardous Site
- Hazardous Waste Generators
- Brownfields
- Salvage Yard
- Aboveground Storage Tank
- Underground Storage Tank (w
- Dry Cleaner
- Architectural Waste Recycling
- Urban Soil Background Areas
- Parcels (standardized)
- Roads
  - Interstate
  - US Highway; 1
  - State Highway
  - Town Highway (Class 1)
  - Town Highway (Class 2,3)
  - Town Highway (Class 4)

NOTES

Map created using ANR's Natural Resources Atlas

165.0 0 82.00 165.0 Meters

WGS_1984_Web_Mercator_Auxiliary_Sphere 1" = 271 Ft. 1cm = 33 Meters

THIS MAP IS NOT TO BE USED FOR NAVIGATION

Appendix K: Historic Memo

VERMONT

Vermont Agency of Transportation
Project Delivery Bureau - Environmental Section
Barre City Place
Tel: 802.595-3744

To: JulieAnn Held

From: Judith Williams Ehrlich, VTrans Historic Preservation Officer

Date: July 3, 2024

Subject: Historic Resource Identification for Morristown BF 0239(4)

I have completed a resource identification (ID) for Morristown BF 0239(4). At this time, the project is anticipated to include improvements to Bridge No. 8 on TH-2 over the Lamoille River in Morristown.

This Resource Identification effort is being undertaken to provide information to the VTrans designers working on a proposed improvement project. Toward that end, VTrans Cultural Resources staff have identified potential resources within a broad preliminary Area of Potential Effect to ensure the designers are aware of all cultural resources that could possibly be affected by a project. Once the project is defined at the Conceptual Design phase, Cultural Resources staff will be able to determine a formal Area of Potential Effect for purposes of Section 106 and 22 VSA § 14.

I asked WSP to evaluate whether Bridge No. 8 is historic, if there are other historic resources in the area of the bridge, and to assess whether there are other Section 4(f) resources in the area as well. WSP provided a report dated May 8, 2024, that contained the following information in the Abstract (page i):

> *The survey area extends 73.15 meters (240 feet) around either end of Morristown Bridge No. 8, including all four quadrants, which includes all areas that may be directly impacted by either rehabilitation or replacement of the current bridge and have substantial visibility of the current bridge.*
>
> *The survey area contains a total of three resources: the SRHP-listed Morristown Bridge No. 8 (also known as the Cadys Falls Bridge), the SRHP-listed Cadys Falls Power Plant, and one previously unsurveyed architectural resource, a residence at 18 Griggs Road (Table A-1). No park, recreational, or refuge Section 4(f) properties were identified in the survey area.*
>
> *It is WSP's opinion that Morristown Bridge No. 8 and the Cadys Falls Power Plant should remain listed in the SRHP and are therefore eligible for listing in the NRHP. It is also WSP's opinion that Morristown Bridge No. 8 is eligible for the SR/NRHP as it meets the Criteria A and C registration requirements outlined in the Multiple Property Documentation Form, Metal Truss, Masonry and Concrete Bridges of Vermont, 1820–1978, for (A) its association with the post-1927 flood bridge-building initiative, and (C) as a rare survivor of a once common type, as it is a truss bridge constructed prior to 1940 that retains its character defining features, including its Pratt trusses and king post upper bracing. In WSP's opinion the residence at 18 Griggs Road is not eligible for listing in the SR/NRHP.*

Given the proximity of the SRHP-listed, NRHP-eligible Cadys Falls Power Plant to Morristown Bridge No. 8, precautions should be taken to limit both direct effects to the buildings from construction equipment/activities as well as potential vibration effects from construction activities, whether for bridge rehabilitation or replacement. As WSP's opinion is that the SRHP-listed Bridge No. 8 is eligible for the NRHP, replacement of the bridge would result in an adverse effect. Design of the replacement bridge could mimic the design of the current bridge or previous bridges at the site. If the bridge will be rehabilitated, work should follow the Secretary of the Interior's Standards to preserve its character-defining features and avoid an adverse effect.

Summary

VTrans concurs with the opinions and recommendations in the WSP report, specifically that:

- Bridge No. 8 and the Cadys Falls Power Plant are historic and eligible for listing in the National Register of Historic Places.
- The residence at 18 Griggs Road is not considered historic.
- Other than historic resources, there are no additional Section 4(f) property types in the survey area.

The resources have been mapped and the files are saved in the project's Resource ID folder.

Please do not hesitate to contact me should you require additional information.

MAP ID (Morristown-)	RESOURCE NAME	LOCATION	PREVIOUS ELIGIBILITY	WSP ELIGIBILITY OPINION	PHOTOGRAPH
1	Morristown Bridge No. 8 (Cadys Falls Bridge)	TH 2, Morristown	Listed, SRHP	Remain Listed, SRHP; Eligible. NRHP	
2	Cadys Falls Power Plant	1550 Cadys Falls Road, Morristown	Listed, SRHP	Remain Listed, SRHP; Eligible, NRHP	
3	Residence	18 Griggs Road, Morristown	Not Evaluated	Not Eligible	

Table 1 from WSP Report: NRHP Eligibility Recommendations for Previously and Newly Identified Historic Resources in Survey Area

Location of three surveyed resources identified in the table above. Table from WSP report.

Historic Resources Identification Survey
Bridge No. 8 over Lamoille River, TH 2
Morristown BF 0239(4)

Morristown, Lamoille County, Vermont

Prepared for:

Vermont Agency of Transportation
219 North Main Street
Barre, Vermont 05641

Prepared by:

WSP USA Inc.
433 River Street, 7th Floor
Troy, New York 12180

May 8, 2024

Historic Resources Identification Survey
Bridge No. 8 over Lamoille River, TH 2
Morristown BF 0239(4)

Morristown
Lamoille County, Vermont

Prepared for:

Vermont Agency of Transportation
219 North Main Street
Barre, Vermont 05641

Prepared by:

Kate Umlauf, Austin White, and Camilla McDonald

WSP USA Inc.
433 River Street, 7th Floor
Troy, New York 12180

May 8, 2024

Abstract

On behalf of the Vermont Agency of Transportation (VTrans), Barre, WSP USA Inc. (WSP) of Troy, New York, completed a historic resources identification survey (ID Report) involving the anticipated future repair and/or replacement of 27 bridges throughout the state. This particular report addresses Morristown Bridge No. 8 over Lamoille River, Town Highway (TH) 2, Lamoille County. The scope of work for these resource identification projects includes surveys to identify historic buildings, structures, objects, districts, landscapes, and Section 4(f) properties in the preliminary aboveground survey area (survey area), including the bridge, that may be directly, indirectly (including views of the project from the survey area), and/or cumulatively impacted by the potential project. As the forthcoming bridge projects have no specific plans, each bridge and their proximal historic resources will be documented in ID Reports to inform the project designers regarding historic and Section 4(f) resources and for National Register of Historic Places eligibility determinations in the Section 106 review. WSP performed no archaeological investigations for these ID Reports.

The survey area extends 73.15 meters (240 feet) around either end of Morristown Bridge No. 8, including all four quadrants, which includes all areas that may be directly impacted by either rehabilitation or replacement of the current bridge and have substantial visibility of the current bridge.

This reconnaissance-level survey included background research and fieldwork, which was conducted on March 26, 2024. All surveys were undertaken in accordance with the guidelines and criteria established by the National Park Service and in 36 Code of Federal Regulations (CFR) 60.4, and the Advisory Council on Historic Preservation's Reasonable and Good Faith Identification Standard.

The goal of the survey was to identify (1) buildings, structures, objects, districts, and landscapes in the survey area previously listed in the Vermont State Register of Historic Places/National Register of Historic Places (SR/NRHP) (the criteria for both are identical), (2) previously unsurveyed historic aboveground resources in the survey area that may be eligible for listing in the SR/NRHP, and (3) historic, park, recreational, or refuge Section 4(f) properties. The survey also evaluated the potential effects of the project on viewsheds associated with any SR/NRHP-listed and -eligible properties. As the project is still in the planning stages and may take several years to be implemented, WSP identified properties that meet the 45-year mark for NRHP evaluation.

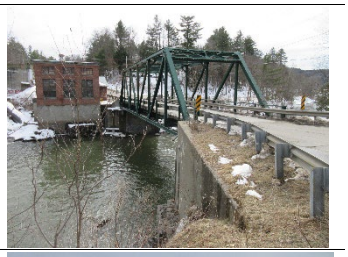
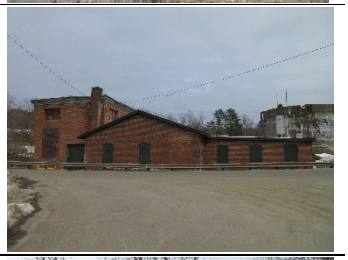
The survey area contains a total of three resources: the SRHP-listed Morristown Bridge No. 8 (also known as the Cadys Falls Bridge), the SRHP-listed Cadys Falls Power Plant, and one previously unsurveyed architectural resource, a residence at 18 Griggs Road (Table A-1). No park, recreational, or refuge Section 4(f) properties were identified in the survey area.

It is WSP's opinion that Morristown Bridge No. 8 and the Cadys Falls Power Plant should remain listed in the SRHP and are therefore eligible for listing in the NRHP. It is also WSP's opinion that Morristown Bridge No. 8 is eligible for the SR/NRHP as it meets the Criteria A and C registration requirements outlined in the Multiple Property Documentation Form, *Metal Truss, Masonry and Concrete Bridges of Vermont, 1820–1978*, for (A) its association with the post-1927 flood bridge-building initiative, and (C) as a rare survivor of a once common type, as it is a truss bridge constructed prior to 1940 that retains its character-defining features, including its Pratt trusses and king post upper bracing. In WSP's opinion the residence at 18 Griggs Road is not eligible for listing in the SR/NRHP.

Given the proximity of the SRHP-listed, NRHP-eligible Cadys Falls Power Plant to Morristown Bridge No. 8, precautions should be taken to limit both direct effects to the buildings from construction equipment/activities as well as potential vibration effects from construction activities, whether for bridge rehabilitation or replacement. As WSP's opinion is that the SRHP-listed Bridge No. 8 is eligible for the

NRHP, replacement of the bridge would result in an adverse effect. Design of the replacement bridge could mimic the design of the current bridge or previous bridges at the site. If the bridge will be rehabilitated, work should follow the Secretary of the Interior's Standards to preserve its character-defining features and avoid an adverse effect.

TABLE A-1: NRHP ELIGIBILITY RECOMMENDATIONS FOR PREVIOUSLY AND NEWLY IDENTIFIED HISTORIC RESOURCES IN SURVEY AREA

MAP ID (Morristown-)	RESOURCE NAME	LOCATION	PREVIOUS ELIGIBILITY	WSP ELIGIBILITY OPINION	PHOTOGRAPH
1	Morristown Bridge No. 8 (Cadys Falls Bridge)	TH 2, Morristown	Listed, SRHP	Remain Listed, SRHP; Eligible. NRHP	
2	Cadys Falls Power Plant	1550 Cadys Falls Road, Morristown	Listed, SRHP	Remain Listed, SRHP; Eligible, NRHP	
3	Residence	18 Griggs Road, Morristown	Not Evaluated	Not Eligible	

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I. Introduction

A. Project Description

On behalf of the Vermont Agency of Transportation (VTrans), Barre, VT, WSP USA Inc. (WSP) of Troy, New York, completed a historic resources identification survey (ID Report) involving the anticipated future repair and/or replacement of 27 bridges throughout the state. This particular report addresses Morristown Bridge No. 8 over Lamoille River, Town Highway (TH) 2, Lamoille County. The scope of work for these resource identification projects includes intensive surveys to identify and evaluate all historic and Section 4(f) properties in the survey area, including the bridge, that may be directly, indirectly (including views of the project from the survey area), and/or cumulatively impacted by the potential project.

The project is located along TH 2 in the Town of Morristown, Lamoille County (Figure 1). The survey area for the resource identification survey extends 73.15 meters (240 feet) around either end of Morristown Bridge No. 8, including all four quadrants, based on the visibility and proximity with regard to the structure's dimensions (Figure 2).

B. Objectives

The goal of the survey was to identify (1) historic architectural resources (properties) in the survey area previously listed in the Vermont State Register of Historic Places/National Register of Historic Places (SR/NRHP) (the criteria for both are identical), and (2) previously unsurveyed historic architectural resources in the survey area that may be eligible for listing in the SR/NRHP. The survey also evaluated the potential effects of the project on viewsheds associated with any SR/NRHP-listed and -eligible historic resources. The investigation included background research and fieldwork. Fieldwork was conducted on March 26, 2024.

Determinations of eligibility for the NRHP followed the guidelines and criteria established by the National Park Service (NPS) (NPS 2002) and in 36 Code of Federal Regulations (CFR) 60.4, and the Advisory Council on Historic Preservation's Reasonable and Good Faith Identification Standard. In 2001 the Vermont Division for Historic Preservation (VDHP) changed the Vermont SRHP criteria to make them identical to the NRHP criteria, and all resources then listed in the Vermont SRHP were deemed eligible for the NRHP, creating a single class of historic properties and thereby streamlining the historic preservation permitting process in Vermont. As the unspecified project is still in the planning stages and may take several years to be implemented, WSP identified properties that meet the 45-year mark for evaluation for the NRHP.

This report contains six chapters. Following the introduction in Chapter I, Chapter II describes the survey's methodology. Chapter III provides the historic context for the project vicinity. Chapter IV describes the survey results, and the conclusions and recommendations appear in Chapter V. Chapter VI contains the references cited.

This investigation was conducted under the direction and supervision of WSP Contract Manager Jospeh Tomberlin. Senior Architectural Historian Camilla McDonald supervised the QA/QC process. Architectural Historian Austin White conducted fieldwork, and Architectural Historian Kate Umlauf conducted research and report writing with assistance from Mr. White. Principal Cartographer/GIS Analyst Jacqueline L. Horsford prepared the graphics. Principal Editor Anne Moiseev edited the report.

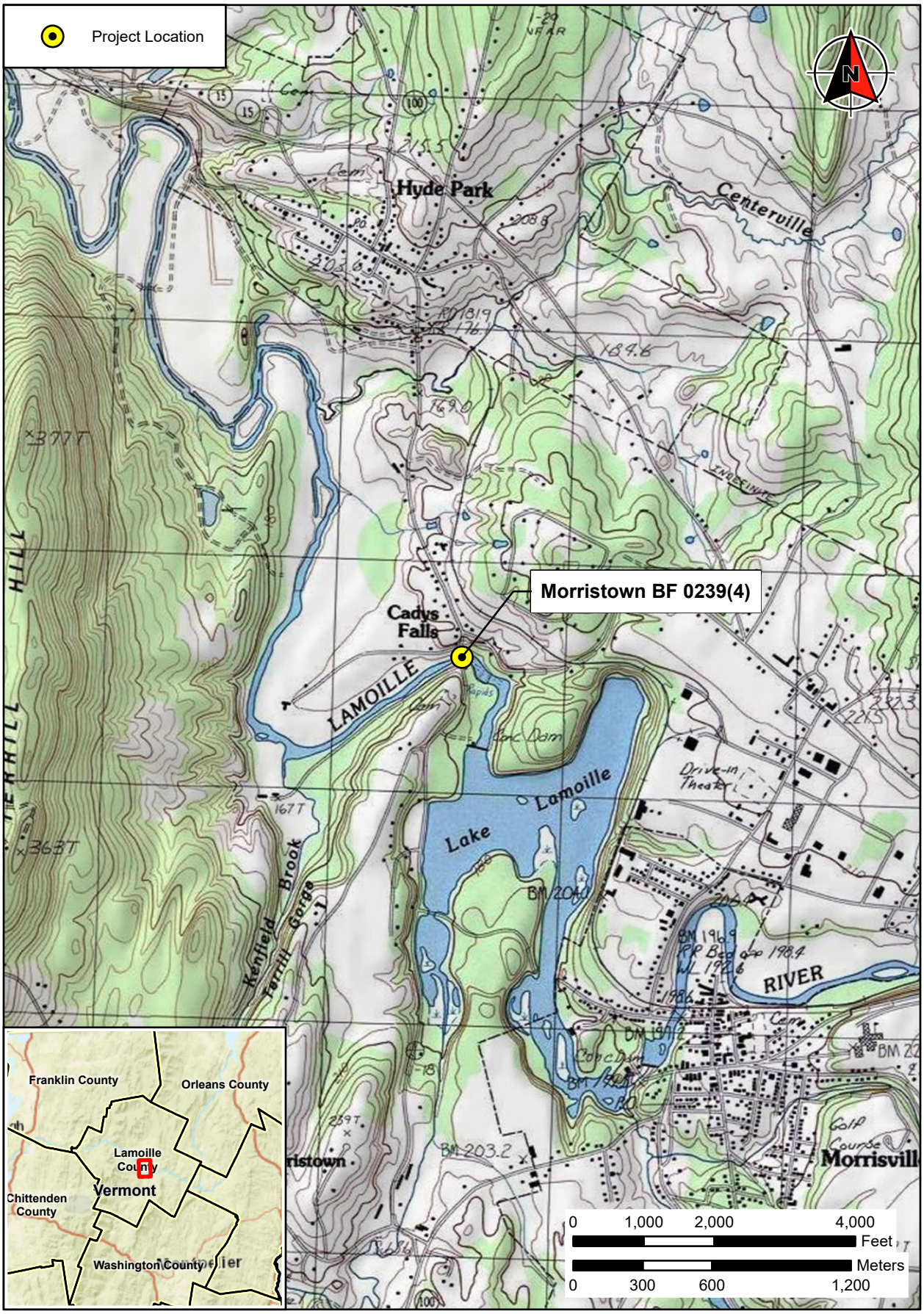


FIGURE 1: Location of Project (ESRI USA Topo Maps 2019 [USGS Morrisville])

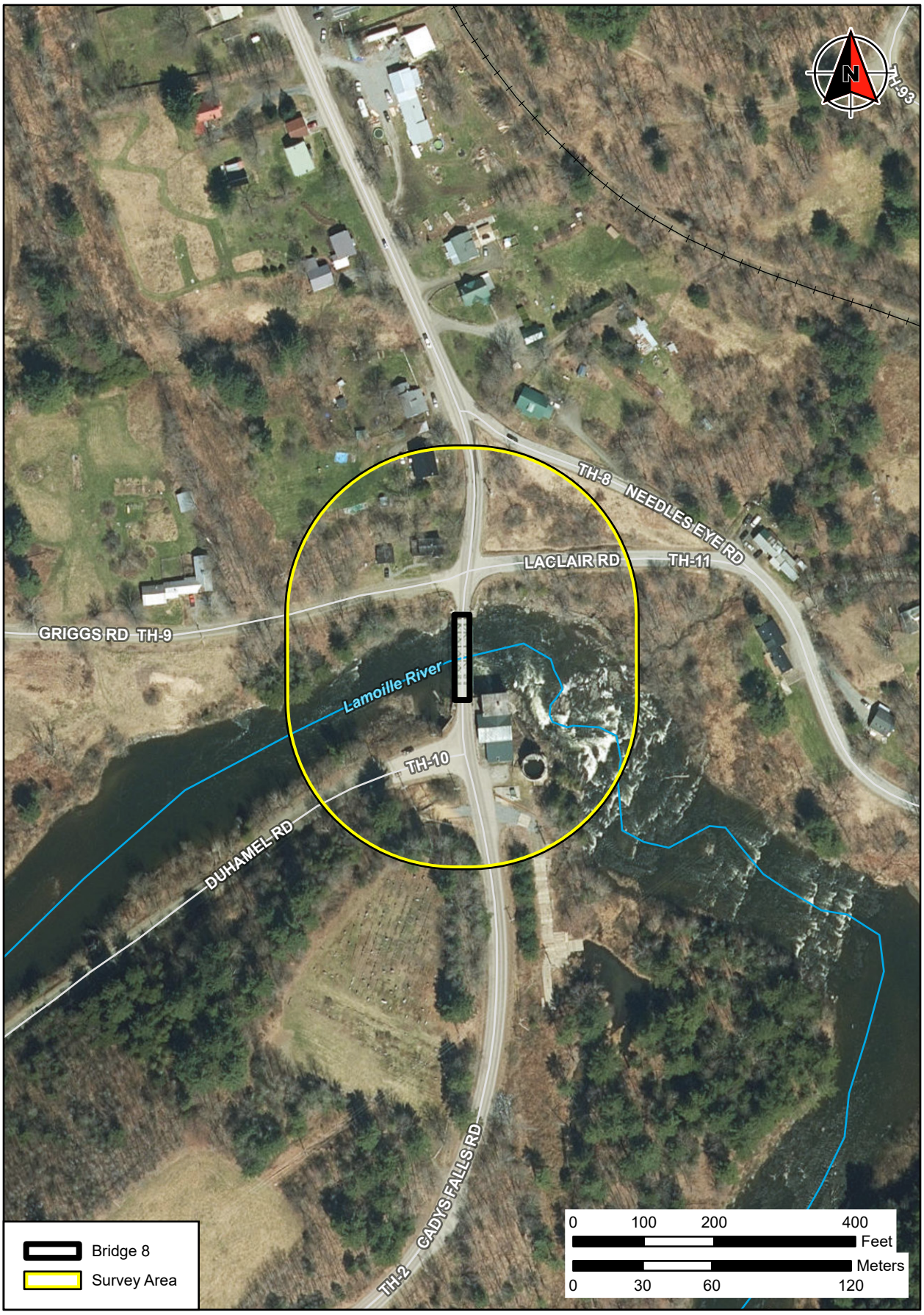


FIGURE 2: Project Survey Area (ESRI World Imagery 2022)

II. Methodology

WSP's primary task for this survey was to identify historic properties in the survey area listed in or eligible for listing in the NRHP. WSP reviewed site files at the VDHP, identifying documented resources in the survey area that are already either listed in or eligible for listing in the NRHP. Location information on the identified properties was mapped, and nomination forms and eligibility determination data were copied for comparison against current conditions during the field survey. Available historic context data on the development of the community in the survey area were gathered from VDHP files to assist in the evaluation of additional historic properties identified during the field survey.

The field survey checked the continued existence of the historic properties identified during the site file check and collected information on each property's architectural and historical integrity and eligibility for listing in the NRHP. Each resource in the survey area was documented through digital photographs and narrative field notes. Some properties were not visible from the right-of-way, and those properties were examined through historical and current aerial photographs to determine their age.

WSP followed the NRHP criteria in evaluating each resource. According to the NRHP criteria for evaluation, properties may be eligible for the NRHP if:

A. they are associated with events that have made a significant contribution to the broad patterns of our history; or
B. they are associated with the lives of significant persons in our past; or
C. they embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
D. they have yielded or may be likely to yield, information important in history or prehistory [NPS 2002:7].

WSP's eligibility assessments were further guided by the Multiple Property Documentation (MPD) form, *Metal Truss, Masonry and Concrete Bridges of Vermont, 1820-1978* (Louis Berger 2018).

Results of the background research and field survey were analyzed under the established criteria to determine the NRHP eligibility of each architectural resource, whether previously recorded or newly identified.

III. Historic Context

A. Historical Overview of Lamoille County

On October 26, 1835, Lamoille County became the last county to be organized in the State of Vermont (The Newberry Library 2008). Agricultural settlement in Lamoille County was slow and began in the late 1700s, concentrating in the fertile areas near the Lamoille River; the first settlement occurred at what is now Cambridge in 1783 (Vermont Genealogy 2024). Despite the benefits of the fertile land, Lamoille County experienced some of the shortest growing seasons in the state and required hard labor to clear the land, perhaps some of the reasons behind its lag in population settlement as compared with the growth in the southern counties. The first prosperous farms were located in the Cambridge area, which recorded a population of about 354 residents in 1790. In the same year Johnson counted 90 residents, and Morristown had 10 residents (Andres and Johnson 2014:217).

Five years after Lamoille County's organization, a total of 10,475 residents lived in the villages along the Lamoille River, including the well-established mill villages of Wolcott, Morrisville, Hyde Park, Johnson, and Waterbury. As the farms and mills continued to prosper, Lamoille County experienced an increase in wealth in the 1870s, as seen in the area's distinct Greek Revival style of architecture showcased in everything from farmhouses to churches to other village buildings. The economy suffered somewhat when the railroads bypassed the area in the 1850s, but prosperity continued nonetheless. This wealth and growth in population continued after the Civil War as Lamoille County witnessed a boom in logging and wood-product manufacturing; sales of hay and dairy products increased after sections of railroad connected with St. Johnsbury, Swanton, and Cambridge in the 1870s; and the shores of Lake Elmore began attracting lakeside camps and fishermen. The population peaked in the 1890s and included approximately 1,600 farms. By 1930, however, the smaller mountain towns had lost half of their populations, with Morristown suffering an added 10 percent loss, and the number of farms dropped to 950 in 1950 and 586 in 1960. Today, the farms in the area number fewer than 300 (Andres and Johnson 2014:217-219; United States Department of Agriculture 2017; United States Department of the Interior 1880, 1890).

In the late 1940s Lamoille County businesses began investing in the mountainous landscape of the area, acquiring the over-logged mountains to promote state forest growth and beginning to develop areas as ski resorts (Andres and Johnson 2014:219). The growth of the interstate highway system in the 1960s opened up these ski areas to tourists coming from New York and Pennsylvania, fostering substantial migration and the development of second homes (Andres and Johnson 2014:218; Woolf [2009]).

IV. Survey Results

The survey area extends 73.15 meters (240 feet) around either side of Morristown Bridge No. 8 (Cadys Falls Bridge) over Lamoille River, on TH 2. The survey area consists of a rural residential setting.

WSP identified two previously surveyed architectural properties that are 45 years old or older in or adjacent to the survey area (Figure 3; Table 1). These are the SRHP-listed Morristown Bridge No. 8 (Cadys Falls Bridge) and the SRHP-listed Cadys Falls Power Plant.

WSP also identified one previously unsurveyed architectural resource in or adjacent to the survey area (see Figure 3 and Table 1). This is a single-family residence at 18 Griggs Road.

WSP did not identify any park, recreational, or refuge Section 4(f) resources in or adjacent to the survey area.

TABLE 1: PREVIOUSLY AND NEWLY IDENTIFIED HISTORIC RESOURCES IN SURVEY AREA

MAP ID (Morristown -)	SR/NRHP ELIGIBILITY	NAME	ADDRESS
1	Listed, SRHP	Morristown Bridge No. 8 over Lamoille River (Cadys Falls Bridge)	TH 2, Morristown
2	Listed, SRHP	Cadys Falls Power Plant	1550 Cadys Falls Road, Morristown
3	Not evaluated	House	18 Griggs Road, Morristown

A. Vermont SR/NRHP-Listed Properties

1. Morristown Bridge No. 8 (Cadys Falls Bridge), TH 2 over Lamoille River, Morristown (Morristown-1)

Resource Name Morristown Bridge No. 8 (Cadys Falls Bridge), TH 2 over Lamoille River
VTrans ID No. BF 0239(4)
Location TH 2, Morristown
Parcel ID N/A
Date(s) of Construction 1928; reconstructed 2012
NRHP Recommendation Remain Listed, SRHP; Eligible, NRHP

FIGURE 3: Location of Surveyed Architectural Resources in Survey Area (ESRI World Imagery 2022)

This single-span riveted Pratt through truss bridge is 121 feet long with a 21.5-foot-wide concrete cast-in-place deck with metal railings. The superstructure is composed of four panels joined by solid end posts and crossed portal bracing with lattice undersides. The upper bracing consists of two solid I-beam king posts. The deck is paved with concrete curbs on both sides and supported by longitudinal rolled I-beams and anchored by concrete abutments. According to the Morristown State Register nomination form (Brack 1990), the 1928 bridge, fabricated by the American Bridge Company, replaced an earlier wood covered bridge destroyed in the 1927 flood. The 1928 bridge was reconstructed in 2012; however, its characteristic trusses and chords remain, and alterations appear to be limited to repainting and wood posts reinforcing the guardrails. The bridge therefore retains its integrity of design, materials, and workmanship. The bridge retains its integrity of location as it has not been relocated.

The bridge is in poor condition, rated as "fracture critical." The deck, approaches, and abutments are in generally good condition but show cracking and moisture staining, and the chords and verticals show signs of serious deterioration. The rail posts, bottom chords and connection plates, diagonals and connection plates, and floor beams suffer from heavy section loss. Perforations are present in rail posts, bottom chords, gusset plates, floor beams, rail posts, and verticals. Heavy pitting is found in the second downstream vertical. Efflorescence covers most of the concrete curbs. Furthermore, a large section of the upstream curb near the north abutment is missing.

In WSP's opinion Morristown Bridge No. 8 over Lamoille River meets the registration requirements outlined in the MPD, *Metal Truss, Masonry and Concrete Bridges of Vermont, 1820-1978* (Louis Berger 2018:F59-F61). The bridge meets NRHP Criterion A as it was constructed as part of a major post-1927 flood bridge-building initiative. The bridge meets NRHP Criterion C as a rare survivor of a once common type, as it is a truss bridge constructed prior to 1940 that retains its character-defining features, including its Pratt trusses and king post upper bracing, that define it as an exceptional representation of a Pratt through truss.

2. Cadys Falls Power Plant, 1550 Cadys Falls Road, Morristown (Morristown-2)

Resource Name	Cadys Falls Power Plant
VTrans ID No.	N/A
Location	1550 Cadys Falls Road, Morristown
Parcel ID	07297-
Date(s) of Construction	1895; 1901; 1913
NRHP Recommendation	Remain Listed, SRHP; Eligible, NRHP

The Cadys Falls Power Plant consists of three sections built in stages over 18 years. The rectangular main block is the oldest, constructed in 1895, and stands one and one-half stories tall on a concrete foundation built into the rocky south riverbank. It is sheltered by a flat roof with a projecting cornice above a brick frieze and common bond exterior walls. It has large 24-pane fixed industrial ground-floor windows and similar windows but with 12-pane configurations on the upper floor, all featuring concrete lug sills. A large recessed door and a brick chimney interrupting the cornice are present on the west elevation. The central portion, constructed in 1901, is also faced in common bond. It is capped by a side-gable standing-seam

metal roof. The windows are boarded, and the openings have segmented arch lintels and rock-faced granite sills. This portion is accessed on the southwest corner by a recessed door topped with a segmented arch lintel. The 1913 portion is a three-bay shed-roof addition with boarded openings, lintels, and sills matching the central block. A short brick chimney pierces the roof near the eaves on the south elevation above the central bay. The property has one auxiliary structure, a large concrete surge tank, built concurrently with the shed-roof addition. The substation and a metal penstock, constructed in 1928 and 1962, respectively, were razed at unknown date(s).

The Cadys Falls Power Plant is generally intact with moderate integrity. Although most of the windows have been boarded, the property retains its overall design, materials, and workmanship. The cornice, frieze, arches, and stone sills, although simple, lend architectural distinction to the property. Furthermore, the surrounding area remains largely undeveloped and has been virtually unchanged since the property's completion. It is WSP's opinion that the Cadys Falls Power Plant should remain listed in the SRHP and is by extension eligible for listing in the NRHP under Criterion A for its pioneering tole in rural electrification, and under Criterion C as embodies a late nineteenth- and early twentieth-century power plant with architectural distinction.

B. Newly Surveyed Resources

1. House, 18 Griggs Road, Morristown (Morristown-3)

Resource Name	House
VTrans ID No.	N/A
Location	18 Griggs Road, Morristown
Parcel ID	07235-
Date(s) of Construction	ca. 1870
NRHP Recommendation	Not Eligible

This resource is a two-story front-gable double-pile late nineteenth-century dwelling. The house stands on a cut stone foundation and is sheltered by an asphalt-shingle roof pierced by a central chimney. The exterior is clad in wood siding and features 2/1 double-hung sash windows in crowned surrounds and truncated cornerboards. The centered main entrance is a multipaned door under a shed hood supported by wood posts. A two-story front-gable projecting octagonal bay is located on the southeast corner. A small shed-roof addition on the west elevation serves as a side entry. The parcel contains a front-gable frame garage.

Although the resource has been minimally altered and retains many of its original materials and modest stylistic elements, it is not architecturally distinguished and was not found to be associated with significant events or persons (Criteria A, B, and C; Criterion D is not applicable). It is WSP's opinion that the resource is not eligible for listing in the SR/NRHP.

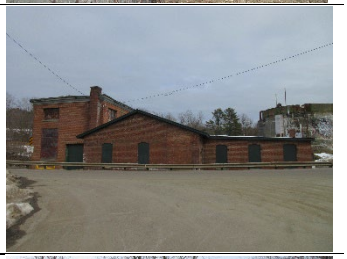
V. Conclusions and Recommendations

On behalf of VTrans, WSP completed an ID Report involving the anticipated future repair and/or replacement of 27 bridges throughout Vermont. This particular report addresses Morristown Bridge No. 8 over Lamoille River, TH 2, Lamoille County. The survey's purpose was to identify and evaluate all structures and buildings in the survey area, including the bridge, that may be directly, indirectly, and/or cumulatively impacted by the potential project.

WSP identified three resources in the survey area: the SRHP-listed Bridge No. 8 (Cadys Falls Bridge), the SRHP-listed Cadys Falls Power Plant, and one previously unsurveyed architectural resource, the residence at 18 Griggs Road (Table 2). No park, recreational, or refuge Section 4(f) resources were identified in the survey area.

It is WSP's opinion that Morristown Bridge No. 8 and the Cadys Falls Power Plant should remain listed in the SRHP and are therefore also eligible for listing in the NRHP. It is also WSP's opinion that Morristown Bridge No. 8 is eligible for the SR/NRHP under Criteria A and C registration requirements outlined in the MPD form, *Metal Truss, Masonry and Concrete Bridges of Vermont, 1820–1978* (Louis Berger 2018:F59-F61) for its association with the post-1927 flood bridge-building initiative and as a rare survivor of a once common type, as it is a truss bridge constructed prior to 1940 that retains its character-defining features, including its Pratt trusses and king post upper bracing. In WSP's opinion the house at 18 Griggs Road is not eligible for listing in the SR/NRHP. WSP did not identify any park, recreational, or refuge Section 4(f) resources in or adjacent to the survey area.

TABLE 2: NRHP ELIGIBILITY RECOMMENDATIONS FOR
NEWLY IDENTIFIED HISTORIC RESOURCES IN SURVEY AREA

MAP ID (Morristown-)	RESOURCE NAME	LOCATION	PREVIOUS ELIGIBILITY	WSP ELIGIBILITY OPINION	PHOTOGRAPH
1	Morristown Bridge No. 8 (Cadys Falls Bridge)	TR 2, Morristown	Listed, SRHP	Remain Listed, SRHP; Eligible, NRHP	
2	Cadys Falls Power Plant	1550 Cadys Falls Road, Morristown	Listed, SRHP	Listed, SRHP; Eligible, NRHP	
3	Residence	18 Griggs Road, Morristown	Not evaluated	Not Eligible	

Given the proximity of the SRHP-listed, NRHP-eligible Cadys Falls Power Plant to Morristown Bridge No. 8, precautions should be taken to limit both direct effects to the buildings from construction equipment/activities as well as potential vibration effects from construction activities, whether for bridge rehabilitation or replacement. As WSP's opinion is that the SRHP-listed Bridge No. 8 is eligible for the NRHP, replacement of the bridge would result in an adverse effect. Design of the replacement bridge could mimic the design of the current bridge or previous bridges at the site. If the bridge will be rehabilitated, work should follow the Secretary of the Interior's Standards to preserve its character-defining features and avoid an adverse effect.

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Appendix L: Archaeological Resource ID

VERMONT

Jeannine Russell
VTrans Archaeology Officer
State of Vermont
Environmental Section
Barre City Place
219 Main St.
Barre City, VT 05641
802-477-3460 phone
Jeannine.russell@vermont.gov

Agency of Transportation

To: JulieAnn Held, Environmental Specialist

From: Jeannine Russell, VTrans Archaeology Officer

Date: June 28, 2024

Subject: Morristown BF 0239(4) 22J399 Bridge 8 – Archaeological Resource ID

VTrans is proposing work to Bridge 8 located at Cady's Falls in Morristown, VT. The scope of the work has yet to be defined so an archaeological resources assessment has been requested to determine if any previously recorded sites or sensitive areas exist within or directly adjacent to the project. Therefore, a fairly wide area around the bridge was reviewed that includes the potential for off-road access and temporary bridges although a temp is very unlikely to be used here as there are standing structures immediately adjacent to the bridge in the SE quadrant and overhead utilities in the SW quadrant. A temporary road closure is a much more likely option.

The project area is situated east of the Green Mountain ridge along a high terrace overlooking the Lamoille River at Cady's Falls near Lake Lamoille. The immediate area is characterized by early industry focused on the falls including sawmills and manufacturing shops along with a few residences. These are shown in both the Beers and Wallings maps included in this report. Both the Beers and Wallings maps show structures in the immediate NE quad between the road and river. Structures including a former BS shop are also noted in the now grassy triangle area north and east of the bridge. Structures are shown in the immediate SW quadrant as well and there is a cemetery located further south in the SW quadrant. No structures are depicted in the immediate NW or SE quadrant on either historic map.

The closest known site is VT-LA-0027 and is cited as being located immediately north of the project area although the exact location may be slightly south of this and located on rocks within the cliffs of the falls themselves or upstream or down based on the description. There is some margin of error in the site recordings. It's recorded to be a petroglyph carved into a rock at Cady's Falls. Documentation found in the DHP online resource center indicates that this is an historic feature and is not Native American in origin.

There are no other recorded archaeological sites within or adjacent to the project.

The VTrans Archaeology Officer conducted a site visit on November 2, 2023, to assess the archaeological potential of the area especially for historic given the potential for structural remains associated with mill sites.

All four quadrants drop steeply from the existing roadway around the bridge to the river and there were no standing structures, nor any evidence of structural remains located within the NW or NE quads in the immediate

vicinity of the bridge. The former area of the shoe shop and structure labeled D. Place, are steep and consisted of exposed bedrock but no structural remains were visible. In addition, a concrete retaining wall had been constructed that ran from the edge of the bridge to the intersection. A drainage outfall pipe had been placed in the corner as shown in one of the images included in this report. It is highly likely that this area was disturbed by more recent drainage construction, slope stabilization and even the potential for slight roadway shifts over time. Another structure was located in a small triangular plot of land just north of the intersection. This plot shows a BS or blacksmith shop there on the Beers map. The VTrans Archaeology Officer conducted a thorough walkover of this location and took core samples and there is no visible evidence of any structural remains. The area had been heavily disturbed, and it is likely that the structure was razed and the ground leveled and cleaned up. There is little likelihood of any significant deposits associated with the BS shop here and there are examples of BS shops in other areas that exhibit better integrity. Further downstream on the NE side, extensive mill remains can be seen. These are likely associated with the various mill operations such as saw, grist, clothespin and later woolen factory. However, these are anticipated to be well outside the project limits and APE.

The NW quadrant was also characterized by exposed bedrock and a very steep vegetated slope. No evidence of any structural remains was noted in that quadrant as it dropped directly from the edge of roadway to the river.

The SW quadrant shows structural remains that may be related to the early carriage shop identified in both the Wallings and Beers maps. The remains are directly adjacent to the intersection of Duhamel and Cady's Falls Road along the edge of the river and bridge.

The SE quadrant contains a standing brick structure which appears to be a hydroelectric building. This structure is located immediately adjacent to the bridge in the SE quad and was built after the Beers map illustrations which places the structure in the very late 1880's or early 1900's. There are some earlier stone remains that do not appear to be associated with this structure that sit south and east of the existing building along the banks of the river. They may be connected to the mill structures across the river or may have simply been built after the Beers recording and did not survive into modern times. There has also been some disturbance along road and within the SE quadrant for construction of a gravel parking area.

Other features to note nearby include the cemetery south of the project and located on a high terrace. This is well outside the APE. Lower terraces along the river upstream and downstream of the falls are considered archaeologically sensitive for Native American potential but again, these areas are well outside the project and no impacts are anticipated upstream or downstream at this time.

Lastly, there is a triangle piece of property located north and east of the intersection at the bridge which depicted a structure at the intersection

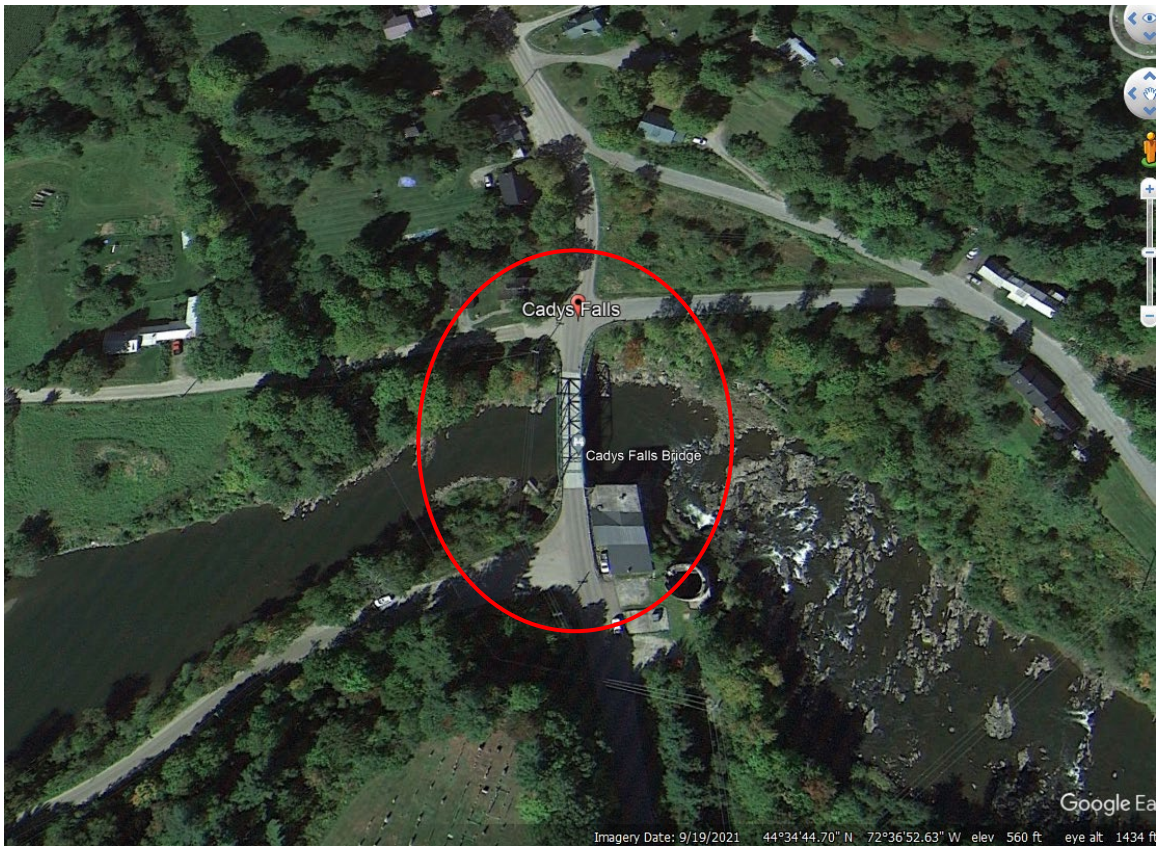
In conclusion, the immediate project area is very steep and consists of former mill structures in the vicinity of the project. Most of the structural remains are located outside the APE with the exception of those in the SW quadrant. All areas of sensitivity are shown in the attached image in this report and are recorded in ArcGIS Fieldmaps and will be incorporated into the project plans. Any areas of historic arch sensitivity that cannot be avoided will require further review.

Please let me know if you have any questions.

Jeannine Russell

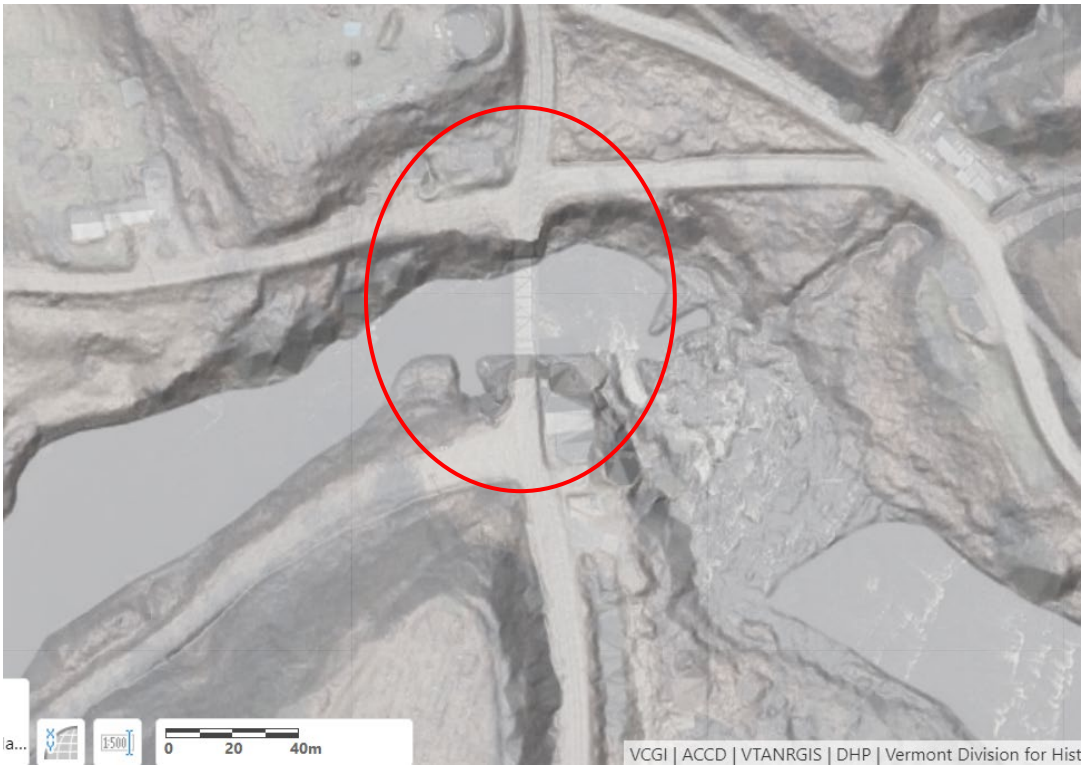
Thank you,
Jen Russell
VTrans Archaeology Officer

VERMONT

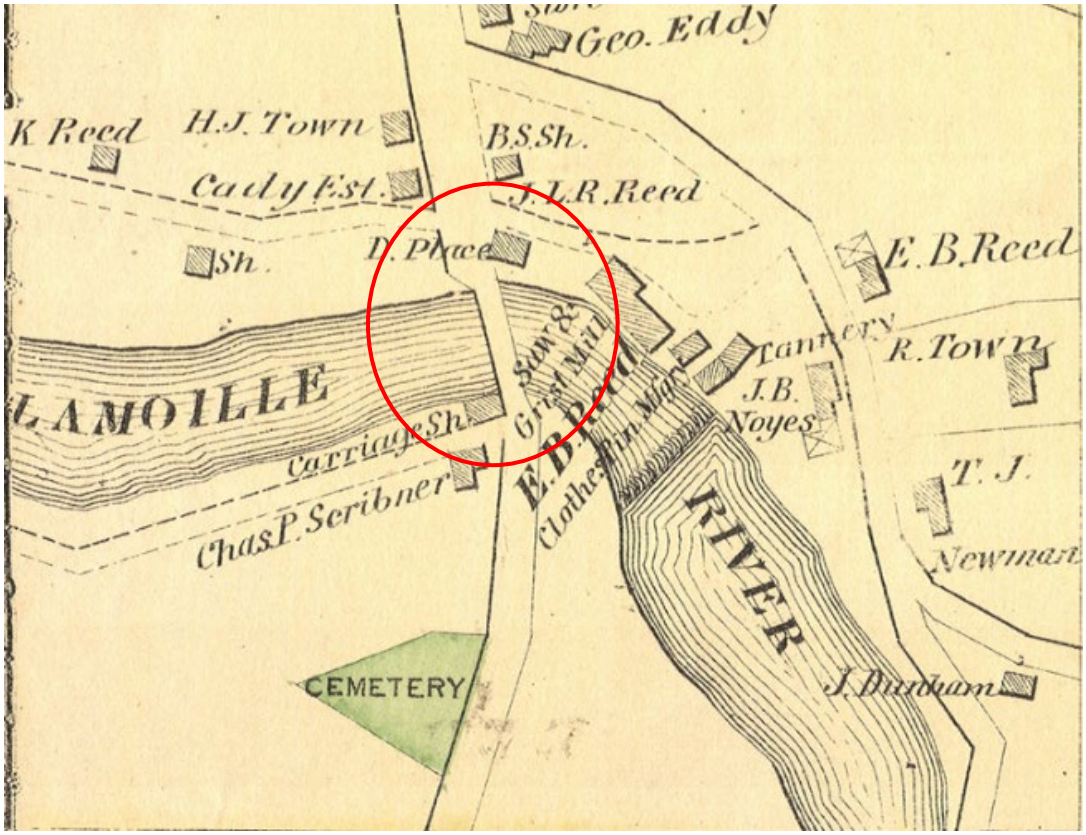


Google aerial image of project location

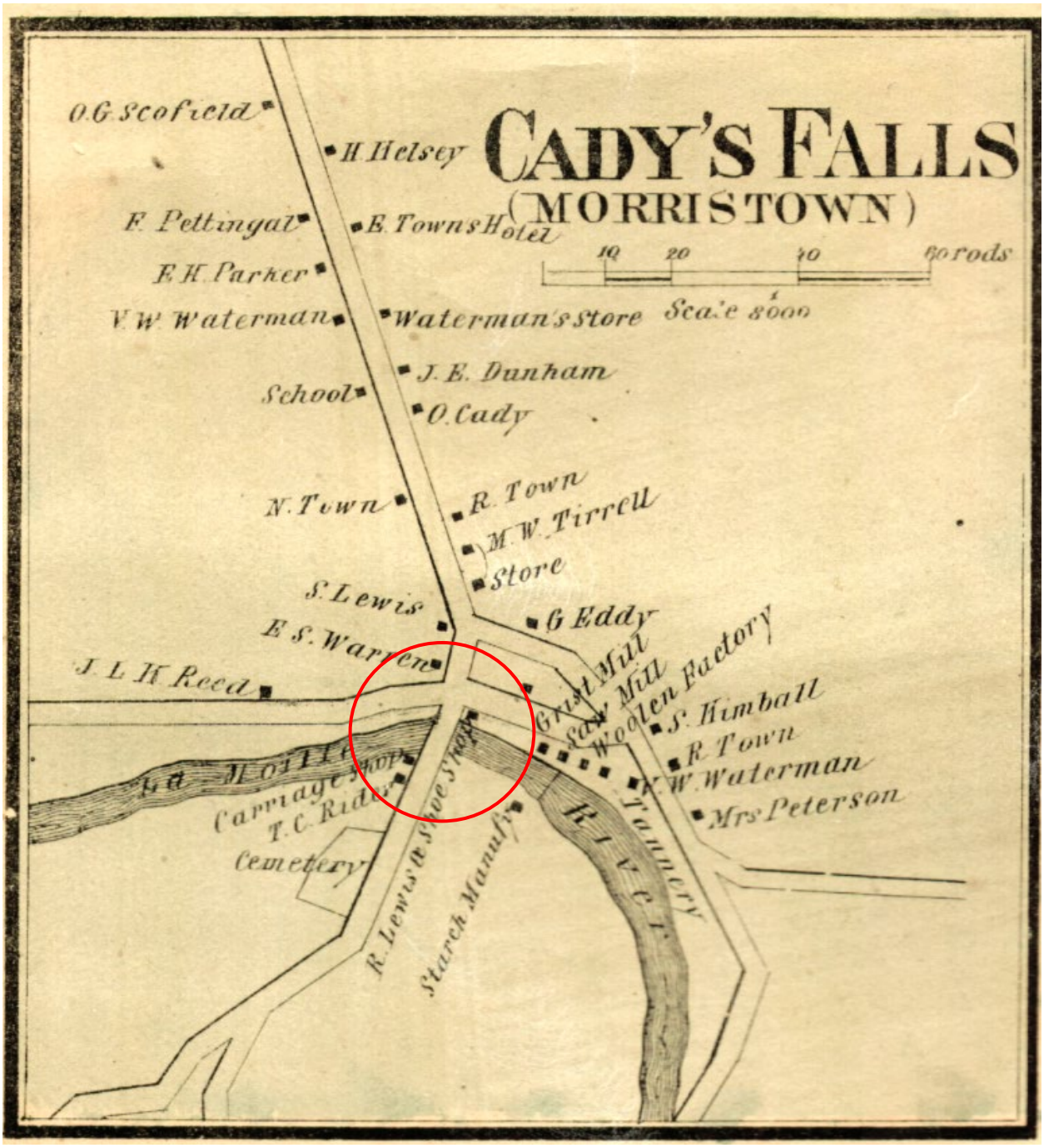
ORC map showing closest recorded archaeological site



LiDAR map from the ORC



Beers Map showing project location



Wallings Map of Project Area

ArcGIS image of archaeologically sensitive areas in red

Street view from bridge of NE quadrant where D. Place and shoe shop structures were formerly located. *Note outfall pipe in corner and concrete retaining wall connected to bridge.

Mill remains further along the river NE of the bridge. Possible woolen mill remains.

NW quadrant showing rip rap from bridge abutment and steep slope to river.

SE quadrant showing hydroelectric facility built sometime after 1872

Structural remains located in back of (immediately south and east) the hydroelectric building. These are stone and do not appear to be related to the current structure. These may be associated with a mill structure that post-dates the Beers or may be connected to the mill structures across the river.

Gravel parking area in SE quad south of existing building.

Appendix M: Stormwater Resource ID

State of Vermont
Environmental Section
219 North Main Street
Barre, Vermont 05641
Vtrans.vermont.gov

Agency of Transportation

[phone] 802-498-5787

To: Project file
From: Heather Voisin, VTrans Green Infrastructure Engineer
Date: June 28, 2024
Subject: Morristown BF 0239(4) - Stormwater Resource ID Review

Project Description: I have reviewed the project area for Morristown BF 0239(4) for stormwater related regulatory and water quality concerns. The project involves Bridge 8 on Cadys Falls Road that spans the Lamoille River. The scope has not yet been determined so this review is based on available mapping (ANR Natural Resource Atlas and Google Street View) to capture existing stormwater features in the project vicinity.

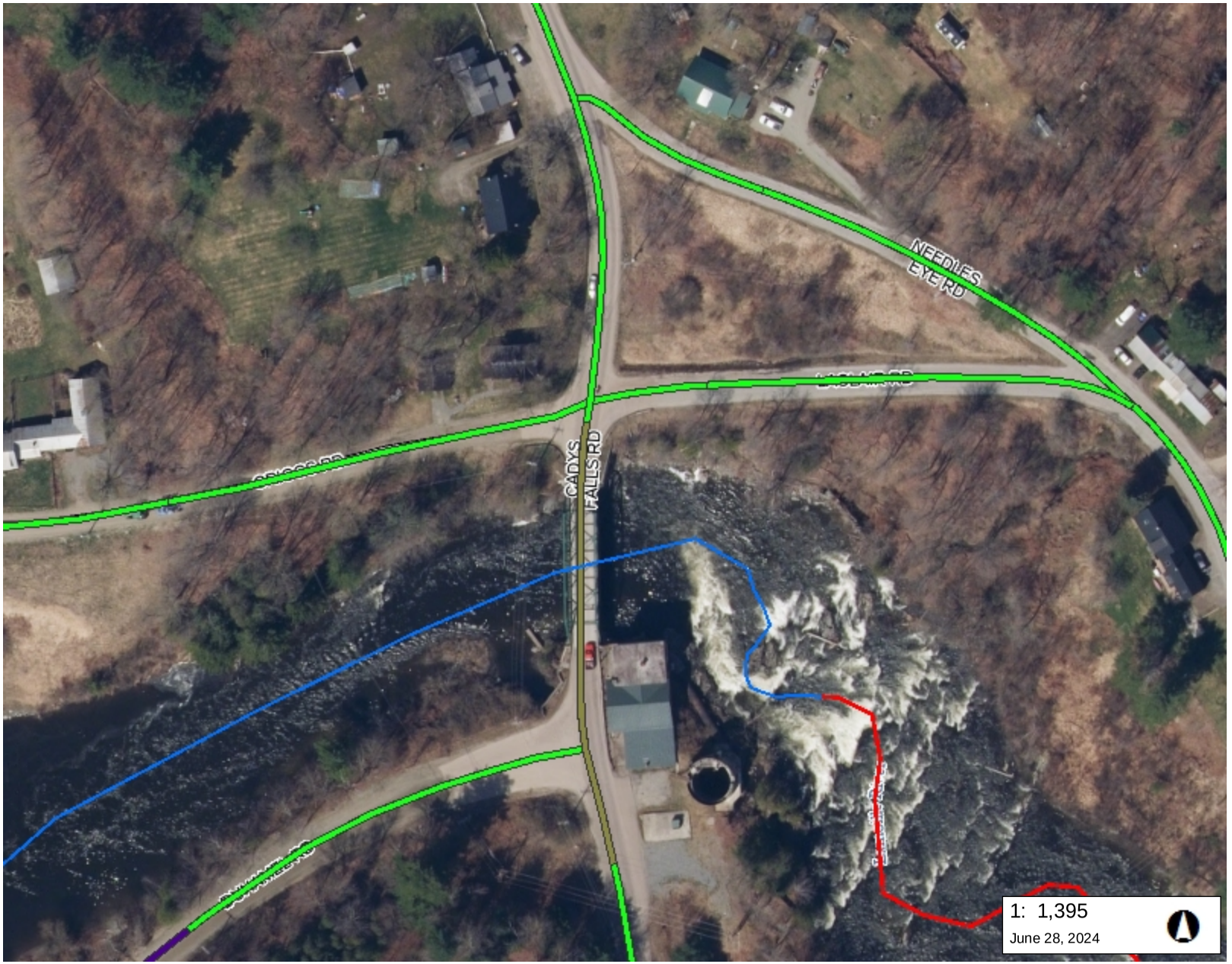
Regulatory Considerations
There are no existing stormwater permits within the project vicinity. Cadys Falls Road is listed as a hydrologically connected roadway, however the segment that includes the bridge has closed drainage and is considered to be in compliance with the Town's MRGP. There are no other regulatory considerations of note.

Existing Drainage
The bridge itself has curbing and the deck itself has inlet grates. The adjacent roadways within the project area are not curbed and runoff is generally able to drain overland in a distributed manner.

Natural Resources Atlas - SW Resource ID

Vermont Agency of Natural Resources

vermont.gov



LEGEND

303(d) List of Impaired Stream

Priority Waters List (Streams a

- Part B (impaired TMDL not required
- Part D (impaired with approved TM
- Part E (altered exotic species)
- Part F (altered flow regulation)

Stormwater Permits (Issued)

- Operational
- Construction
- Industrial - NOI
- Industrial - NOX
- Other

Stormwater Permits (Pending)

- Operational
- Construction
- Industrial - NOI
- Industrial - NOX
- Other

Existing stormwater point

- Pipe Cross (not connected)
- Catchbasin
- Dry Well
- Drop Inlet
- Grate/Curb Inlet
- Yard drain
- Junction Box
- Stormwater Manhole
- Outfall

NOTES

Map created using ANR's Natural Resources Atlas

71.0 0 36.00 71.0 Meters

WGS_1984_Web_Mercator_Auxiliary_Sphere 1" = 116 Ft. 1cm = 14 Meters

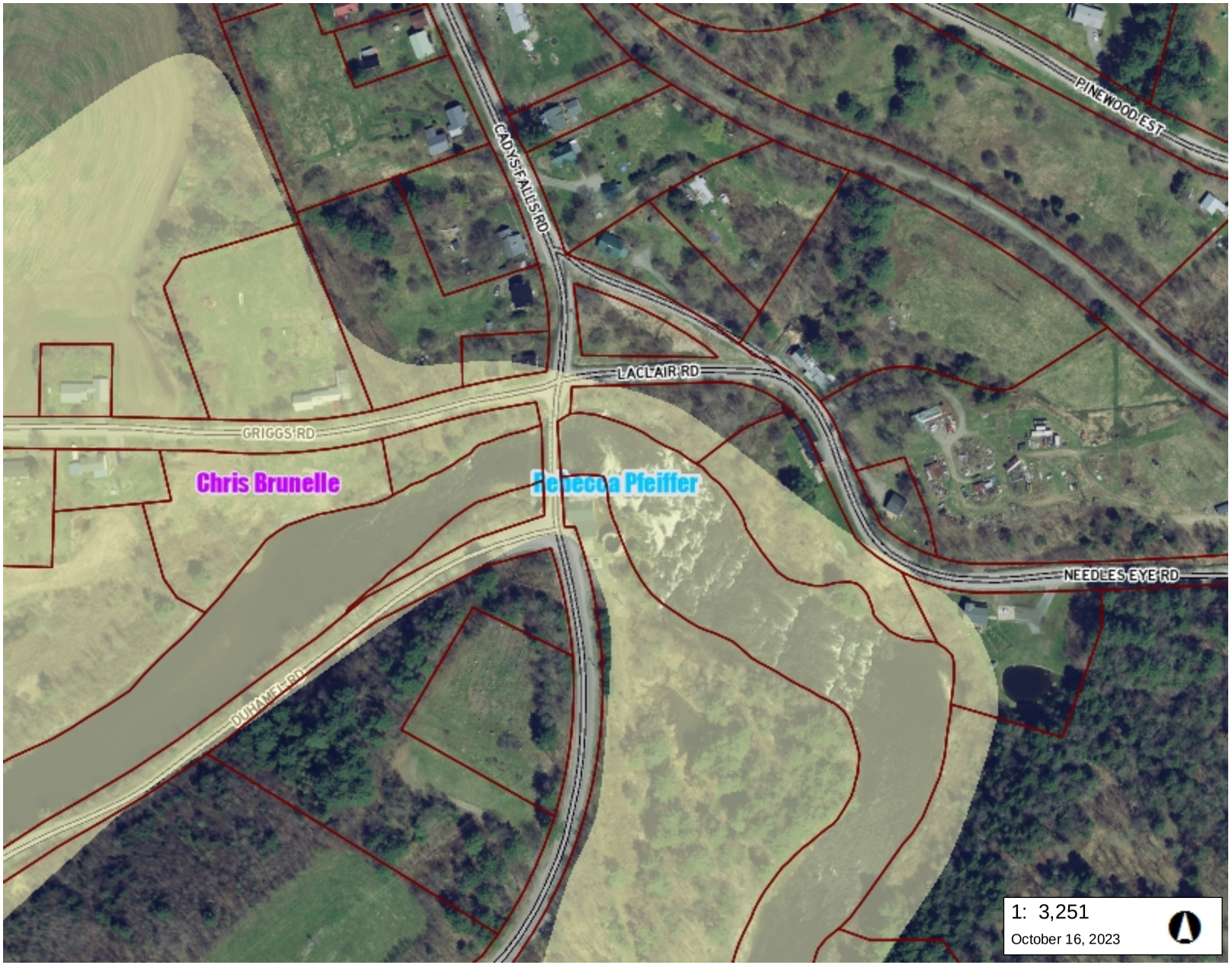
THIS MAP IS NOT TO BE USED FOR NAVIGATION

VERMONT

Floodplains Rivers Map

Vermont Agency of Natural Resources

vermont.gov



LEGEND

- DFIRM X-Sections
- DFIRM - Letter of Map Revisio
- DFIRM Panels
- 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
- River Corridors (Aug 27, 2019)
  - .5 - 2 sqmi.
  - .25-.5 sqmi.
- River Management Engineer D
- Floodplain Manager Regions
- Parcels (standardized)
- Roads
  - Interstate
  - US Highway; 1
  - State Highway
  - Town Highway (Class 1)
  - Town Highway (Class 2,3)
  - Town Highway (Class 4)
  - State Forest Trail
  - National Forest Trail
  - Legal Trail
  - Private Road/Driveway
  - Proposed Roads

NOTES

Map created using ANR's Natural Resources Atlas

165.0 0 82.00 165.0 Meters

WGS_1984_Web_Mercator_Auxiliary_Sphere 1" = 271 Ft. 1cm = 33 Meters

THIS MAP IS NOT TO BE USED FOR NAVIGATION

VERMONT

Other Resources Map

Vermont Agency of Natural Resources

vermont.gov

LEGEND

- Protected Lands
  - Private Organizations
  - Vermont Municipalities
  - State
  - Federal
- Parcels (standardized)
- Waterbody
- ACT250 Permits
- Roads
  - Interstate
  - US Highway; 1
  - State Highway
  - Town Highway (Class 1)
  - Town Highway (Class 2,3)
  - Town Highway (Class 4)
  - State Forest Trail
  - National Forest Trail
  - Legal Trail
  - Private Road/Driveway
  - Proposed Roads
- Town Boundary

NOTES

Map created using ANR's Natural Resources Atlas

165.0 0 82.00 165.0 Meters

WGS_1984_Web_Mercator_Auxiliary_Sphere 1" = 271 Ft. 1cm = 33 Meters

THIS MAP IS NOT TO BE USED FOR NAVIGATION

Appendix N: Crash Data

MAJ 0239 (Cady's Falls Road) (TH-5) Bridge 8 is located at MM 1.71

ObjectID	Crash Date	City/Town	AOT Route	Crash Type	Collision Direction	Weather	Report Number	Milepoint	Animal	Time of Day	Impairmer	Involving	Road Characteristics	Road Condition	Surface Condition
3844785	August 15, 2018 at 4:04 PM	Morristown	CADYS FALLS RD	Property Damage Only	Other - Explain in Narrative	Clear	18MR002859	0.59	None/Other	Day	None	None	Parking Lot	None	Dry
3844957	May 21, 2018 at 4:40 PM	Morristown	CADYS FALLS RD	Property Damage Only	Left Turn and Thru, Same Direction Sideswipe/Angle Crash vv--	Clear	18MR001695	0.72	None/Other	Day	None	None	T - Intersection	None	Dry
5930968	November 26, 2021 at 8:13 PM	Morristown	CADYS FALLS RD	Property Damage Only	Single Vehicle Crash	Freezing Precipitation	21MR003742	1	None/Other	Night	None	None	Not at a Junction	Road Surface Condition(wet, icy, snow, slush, etc)	
3857045	January 25, 2019 at 8:02 AM	Morristown	CADYS FALLS RD	Property Damage Only	No Turns, Thru moves only, Broadside ^<	Cloudy	19MR000299	1.01	None/Other	Day	None	None	Not at a Junction	None	Wet
3842852	January 16, 2018 at 1:15 PM	Morristown	CADYS FALLS RD	Property Damage Only		Cloudy	18MR000197	1.05	None/Other	Day	None	Heavy Truck	Not at a Junction	Road Surface Condition(wet, icy, snow, slush, etc)	Snow
812384	November 27, 2017 at 11:00 AM	Morristown	CADYS FALLS RD	Property Damage Only	Single Vehicle Crash	Freezing Precipitation	17MR003833	1.6	None/Other	Day	None	Heavy Truck	Not at a Junction	Road Surface Condition(wet, icy, snow, slush, etc)	Snow
3844332	June 4, 2018 at 3:51 PM	Morristown	CADYS FALLS RD	Property Damage Only	Single Vehicle Crash	Cloudy	18MR001913	1.61	None/Other	Day	None	None	Not at a Junction	None	Dry
3840929	October 10, 2018 at 6:08 AM	Morristown	CADYS FALLS RD	Injury	Single Vehicle Crash	Cloudy	18MR003602	1.62	None/Other	Night	None	None	Not at a Junction	None	Dry
5928998	January 12, 2022 at 9:10 PM	Morristown	CADYS FALLS RD	Property Damage Only	Single Vehicle Crash	Clear	22MR000140	1.68	None/Other	Night	None	None	Not at a Junction	None	Wet
804697	September 30, 2017 at 11:01 AM	Morristown	CADYS FALLS RD	Property Damage Only	Opp Direction Sideswipe	Cloudy	17MR003162	1.71	None/Other	Day	None	None	Not at a Junction	None	Dry
3839049	January 22, 2019 at 2:44 PM	Morristown	CADYS FALLS RD	Property Damage Only	Rear End	Clear	19MR000254	1.82	None/Other	Day	Alcohol	Heavy Truck	Not at a Junction		
805074	August 6, 2017 at 9:38 PM	Morristown	CADYS FALLS RD	Property Damage Only	Single Vehicle Crash	Clear	17MR002469	1.92	None/Other	Night	Alcohol	None	Not at a Junction	None	Dry
5933310	August 27, 2021 at 7:59 AM	Morristown	CADYS FALLS RD	Injury	Single Vehicle Crash	Clear	21MR002644	2.03	None/Other	Day	None	None	Not at a Junction	None	Dry
5925450	March 21, 2021 at 11:31 PM	Morristown	CADYS FALLS RD	Property Damage Only	Single Vehicle Crash	Clear	21MR000738	2.06	None/Other	Night	None	None	Not at a Junction	None	Dry

Appendix O: Local Questionnaire Survey

Local & Regional Input Questionnaire

Project Summary

This project, BF 0239(4), focuses on bridge 8 on FAS Route 0239 (Town Highway 2 – Cadys Fall Road) in Morristown, Vermont. The bridge is deteriorating and needs either a major maintenance action or replacement. Potential options being considered for this project include targeted repairs, girder replacement, replacement with a new truss bridge, and replacement with a new non-truss bridge. It is possible that VTrans will recommend a road closure and detour traffic away from the project site for the duration of the work. Efforts will be made to limit the detour to State roads.

Community Considerations

1. Are there regularly scheduled public events in the community that will generate increased traffic (e.g. vehicular, bicycles and/or pedestrians), or may be difficult to stage if the bridge is closed during construction? Examples include annual bike races, festivals, parades, cultural events, weekly farmers market, concerts, etc. that could be impacted? If yes, please provide approximate date, location and event organizers' contact info.
   No.

2. Is there a "slow season" or period of time from May through October where traffic is less or no events are scheduled?

   No.

3. Please describe the location of the Town garage, emergency responders (fire, police, ambulance) and emergency response routes that might be affected by the closure of the bridge, one-way traffic, or lane closures and provide contact information (names, address, email addresses, and **phone numbers.**

   Town Garage - 836 Cochran Road
   Village Garage - 85 Old Creamery Road
   Police & Fire – Main St. in Morrisville
   Ambulance – Washington Highway near hospital

   As project schedule is developed, notify all of the above.

4. Are there businesses (including agricultural operations and industrial parks) or delivery services (fuel or goods) that would be adversely impacted either by a detour or due to work zone proximity?

   No. Currently posted at 5 tons, so deliveries and businesses know to go around.

5. Are there important public buildings (town hall, community center, senior center, library) or community facilities (recreational fields, town green, etc.) close to the project?

Active Morrisville Water & Light power generation substation is directly adjacent to project site.

6. What other municipal operations could be adversely affected by a road/bridge closure or detour?

   Duhamel Road provides access to town gravel pit – must remain open throughout construction.

7. Are there any town highways that might be adversely impacted by traffic bypassing the construction on other local roads? Please indicate which roads may be affected and their condition (paved/unpaved, narrow, weight-limited bridges, etc), including those that may be or go into other towns.

   All nearby local roads have no height/weight restrictions except Needle Eye Road.

8. Is there a local business association, chamber of commerce, regional development corporation, or another downtown group that we should be working with? If known, please provide name, organization, email, and phone number.

   LCPC
   LEDC
   MACC – Tricia Follert

9. Are there any public transit services or stops that use the bridge or transit routes in the vicinity that may be affected if they become the detour route?

   Public microtransit service between Morrisville and Hyde Park Village. To our knowledge, the route follows Route 15, but RCT should be notified anyway. No public service stops that we know of at this time.

Schools

1. Where are the schools in your community and what are their yearly schedules (example: first week in September to third week in June)?

   Lamoille North (Lamoille Union & GMTCC campus, Hyde Park Elementary) – last week of August through third week of June

   Lamoille South (People's Academy, People's Elementary, Bishop Marshall) – last week of Aug/third week of June

2. Is this project on specific routes that school buses or students use to walk to and from school?

   No.

3. Are there recreational facilities associated with the schools nearby (other than at the school)?

   No.

Pedestrians and Bicyclists

1. What is the current level of bicycle and pedestrian use on the bridge?

   Moderate – popular bicycle route.

2. Are the current lane and shoulder widths adequate for pedestrian and bicycle use?

   Not currently adequate.

3. Does the community feel there is a need for a sidewalk or bike lane on the bridge?

   Yes.

4. Is pedestrian and bicycle traffic heavy enough that it should be accommodated during construction?

   Including in vehicle detour is sufficient.

5. Does the Town have plans to construct either pedestrian or bicycle facilities leading up to the bridge? Please provide any planning documents demonstrating this (scoping study, master plan, corridor study, town or regional plan).

   No.

6. In the vicinity of the bridge, is there a land use pattern, existing generators of pedestrian and/or bicycle traffic, or zoning that will support development that is likely to lead to significant levels of walking and bicycling?

   No.

Design Considerations

1. Are there any concerns with the alignment of the existing bridge? For example, if the bridge is located on a curve, has this created any problems that we should be aware of?

   Power generation facility constrains the ability to change alignment.

2. Are there any concerns with the width of the existing bridge?

   Ideally, the bridge would be made wider to accommodate bicycles and pedestrians.

3. Are there any special aesthetic considerations we should be aware of?

   Yes, it is a historic bridge. However, the community would be open to hearing about alternatives for replacement.

4. Does the location have a history of flooding? If yes, please explain.

   As far as we know, the bridge was not damaged during the July 2023 flood event (DR-4720).

5. Are there any known Hazardous Material Sites near the project site?

   Possibly the power generation site.

6. Are there any known historic, archeological and/or other environmental resource issues near the project site?

   The power generation site, and the bridge itself. Standard NEPA review will reveal any issues to be addressed.

7. Are there any utilities (water, sewer, communications, power) attached to or adjacent to the existing bridge? Please provide any available documentation.

   Power lines, probably communications. All above ground.

8. Are there any existing, pending, or planned municipal utility projects (communications, lighting, drainage, water, wastewater, etc.) near the project that should be considered?

   follow up with Scott about any planned projects - & timeline

9. Are there any other issues that are important for us to understand and consider?

   No.

Land Use & Zoning

1. Please provide a copy of your existing and future land use map or **zoning map,** if applicable.
   Will attach, but don't foresee any land use issues.

2. Are there any existing, pending or planned development proposal that would impact future transportation patterns near the bridge? If so, please explain.
   Kevin will follow up with Todd

3. Is there any planned expansion of public transit or intercity transit service in the project area? Please provide the name and contact information for the relevant public transit provider.
   No.

Communications

1. Please identify any local communication outlets that are available for us to use in communicating with the local population. Include weekly or daily newspapers, blogs, radio, public access TV, Facebook, Front Page Forum, etc. Also include any unconventional means such as local low-power FM.
   News & Citizen, Front Porch Forum, WLVB, WDEV

2. Other than people/organizations already referenced in this questionnaire, are there any others who should be kept in the loop as the project moves forward?
   Town Administrator and Selectboard, LCPC, LEDC, MACC, and RCT.

Appendix P: Proposed Detour

Project Factsheet January 2016

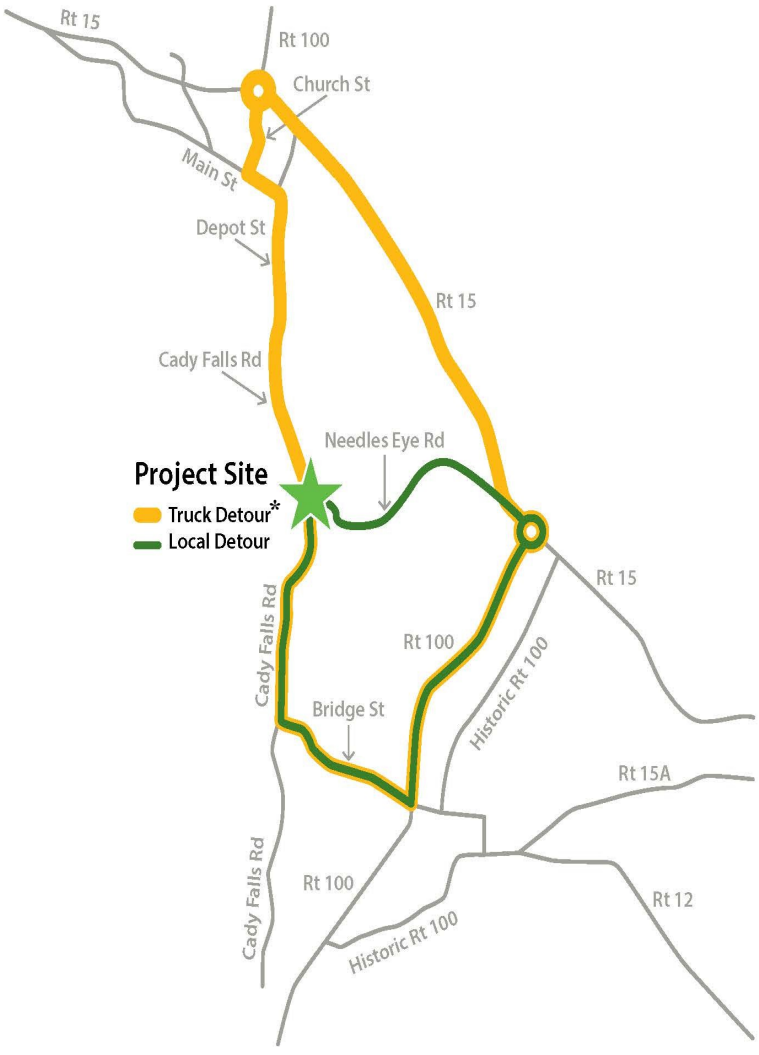
VERMONT
AGENCY OF TRANSPORTATION

Local Detour Route: From TH-2 (FAS 0239 Cady's Falls Road) onto TH-3 (FAS 0238, Bridge Street). This is a Class 2 paved roadway. The detour then turns northward onto VT A100 (Alternate Truck Route), then left onto VT Route 15/100. Next is a left turn onto Morristown TH-11 (Needles Eye Road), a Class 3 paved road, then returns to TH-2, Cady's Falls Road.

Truck Detour Route*: Bridge Street to Rt 100 to Route 15 to Church Street to Main Street and Depot Street in Hyde Park.

The Village of Hyde Park does not allow trucks to use this route unless they are making local deliveries; these restrictions apply to the Church St., Main St., and Depot St. portion of the truck detour.

	Local Detour	Truck Detour*
Thru distance:	0.8 miles 1 minute	2.2 Miles 5 Minutes
Detour distance:	2.9 miles 8 minutes	3.5 Miles 6 Minutes
Added distance for Thru Traffic:	2.1 miles 7 minutes	1.3 miles 1 minute



The project is located adjacent to Cady's Falls and contains visible historic archaeological mill site foundation remains. The properties contain a saw and grist mill, carriage shop, and a clothespin manufacturing company.

Looking North, Historic Power Plant at right

Appendix Q: Plans

EXISTING CONDITIONS

SCALE 1" = 20'-0"

20 0 20

VT STATE PLANE GRID

N

TOWN OF MORRISTOWN

GRUNDSTEIN, ROBERT H.

STATE OF VERMONT

MORRISVILLE WATER & LIGHT DEPARTMENT

GRESSER, ISAAC & BROWN, ALISON

BENCHMARK
RAIL ROAD
SPIKE IN POLE
ELEV. = 565.84

BENCHMARK/
DISK IN STEP
M.W. & L. DEPT
ELEV. = 562.95

TH-10 (DUHAMEL RD)

TH-9 (MORRIGGS RD)

TH-2 (CADY'S FALLS RD) TO VT ROUTE 100

TH-11 (NEEDLE'S EYE RD)

APPROX. EXISTING R.O.W.

Invasive Species

CURVE (x)
DELTA = 11°50'36"
D = 13°59'59"
R = 409.26'
T = 42.45'
L = 84.60'
E = 2.20'

CURVE (x)
DELTA = 08°49'32"
D = 10°54'58"
R = 525.00'
T = 40.51'
L = 80.87'
E = 1.56'

CURVE (x)
DELTA = 10°40'30"
D = 08°00'00"
R = 716.20'
T = 66.91'
L = 133.44'
E = 3.12'

POE 52+00.00

POB 50+00.00

PI 43+07.48

PT 41+73.45

PI 41+06.93

PC 42+65.03

PT 43+49.62

PC 44+93.06

PT 45+73.93

PI 45+33.58

PC 46+20.30

PI 47+06.75

STA 44+25.00=
CHAN 51+00.00
Δ=90°00'00"Lt

N12°33'52.05"W

N00°43'16.20"W

S89°16'43.78"W

N08°06'15.97"E

LAMOILLE RIVER

60" STEEL PIPE FLOW

36" STEEL PIPE FLOW

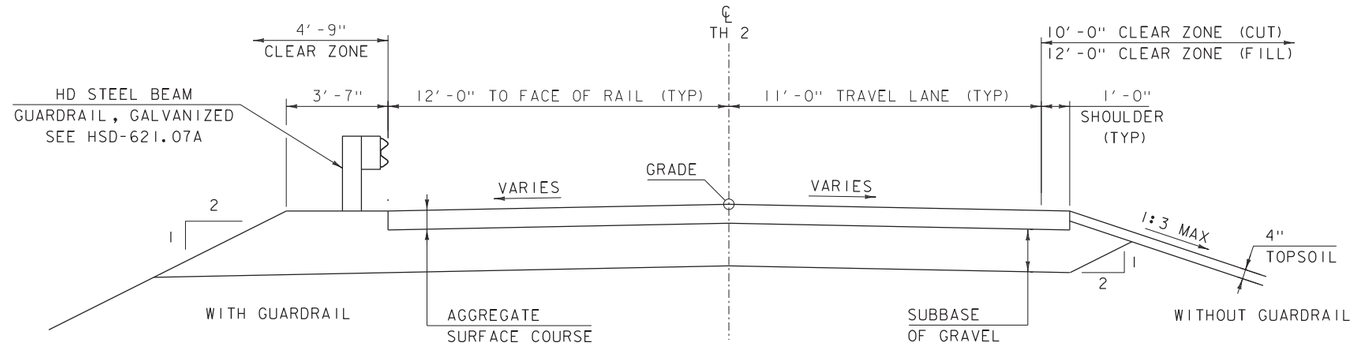
15" CGMP FLOW

STEEL PENSTOCK (APPX)

SURGE TANK

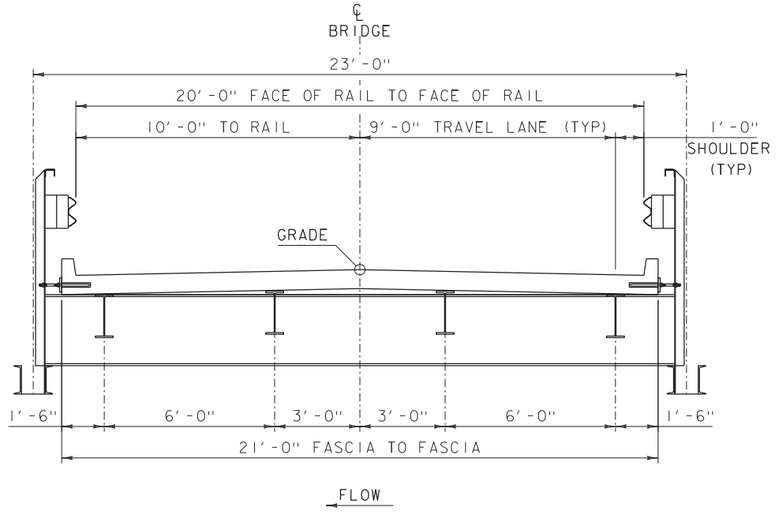
EXISTING STEEL THRU TRUSS
124' LONG SINGLE SPAN
BUILT 1928, RECONSTRUCTED 2017
CURB TO CURB DISTANCE OF 19'-10"
FASCIA TO FASCIA DISTANCE OF 21'-6"

PROJECT NAME:	MORRISTOWN
PROJECT NUMBER:	BF 0239(4)
FILE NAME: 22j399/s22j399BDR_Existing.dgn	PLOT DATE: 2-OCT-2024
PROJECT LEADER: L.J.STONE	DRAWN BY: D.D.BEARD
DESIGNED BY: ------	CHECKED BY: ------
EXISTING CONDITIONS LAYOUT	SHEET 1 OF 12



EXISTING TH 2 TYPICAL SECTION

SCALE 3/8" = 1'-0"



EXISTING BRIDGE TYPICAL SECTION

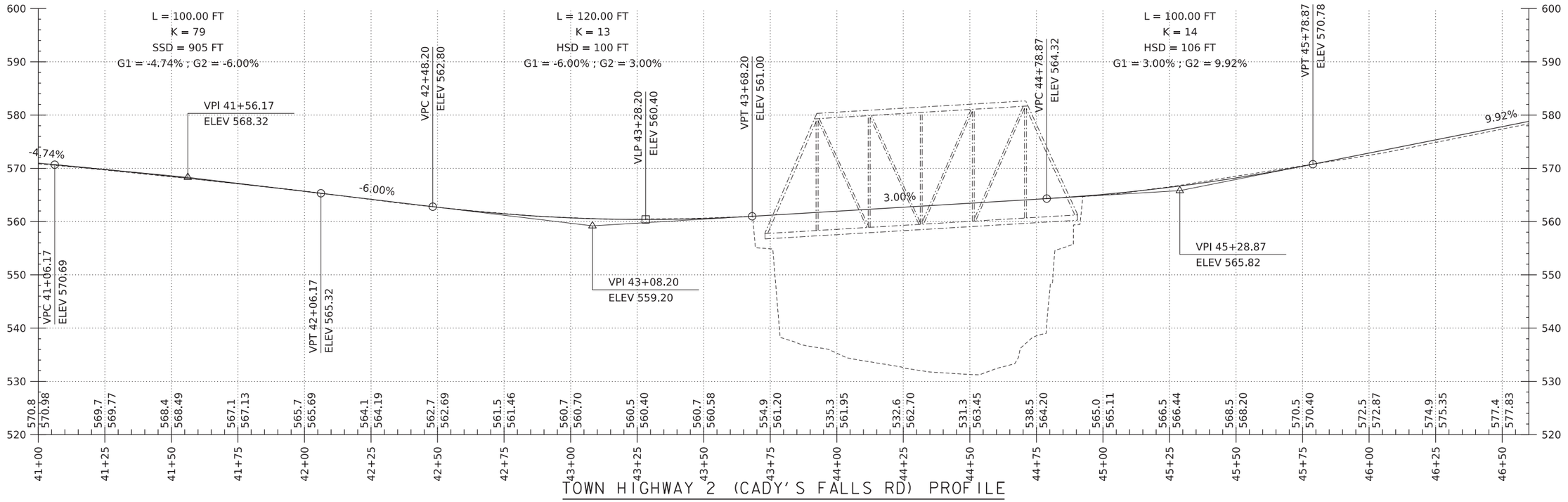
SCALE 3/8" = 1'-0"

MATERIAL TOLERANCES (IF USED ON PROJECT)	
SURFACE	
- PAVEMENT (TOTAL THICKNESS)	+/- 1/4"
- AGGREGATE SURFACE COURSE	+/- 1/2"
SUBBASE	+/- 1"
SAND BORROW	+/- 1"

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: BF 0239(4)

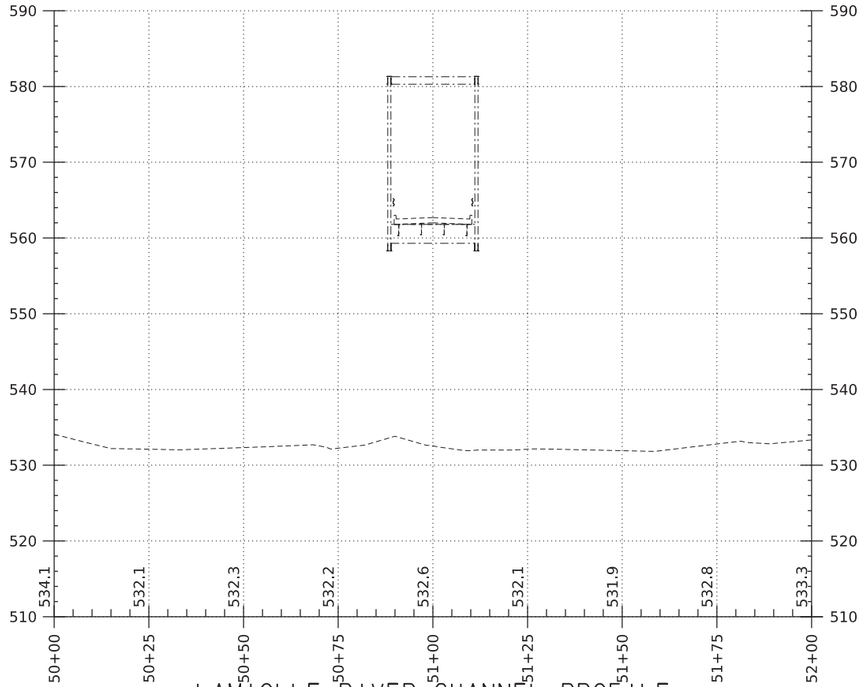
FILE NAME: 22j399\\s22j399typical.dgn
PROJECT LEADER: L.J.STONE
DESIGNED BY: ----------
EXISTING TYPICAL SECTIONS

PLOT DATE: 2-OCT-2024
DRAWN BY: D.D.BEARD
CHECKED BY: ------



TOWN HIGHWAY 2 (CADY'S FALLS RD) PROFILE

SCALE: HORIZONTAL 1"=20'-0"
VERTICAL 1"=10'-0"



LAMIOLLE RIVER CHANNEL PROFILE

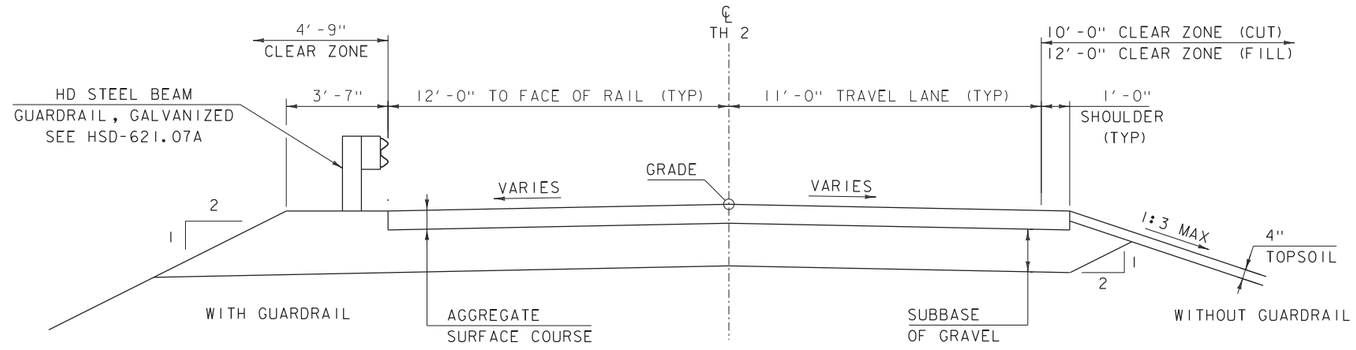
SCALE: HORIZONTAL 1"=20'-0"
VERTICAL 1"=10'-0"

NOTE:
GRADES SHOWN TO THE NEAREST TENTH ARE EXISTING GROUND ALONG ℄
GRADES SHOWN TO THE NEAREST HUNDREDTH ARE FINISH GRADE ALONG ℄

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: BF 0239(4)

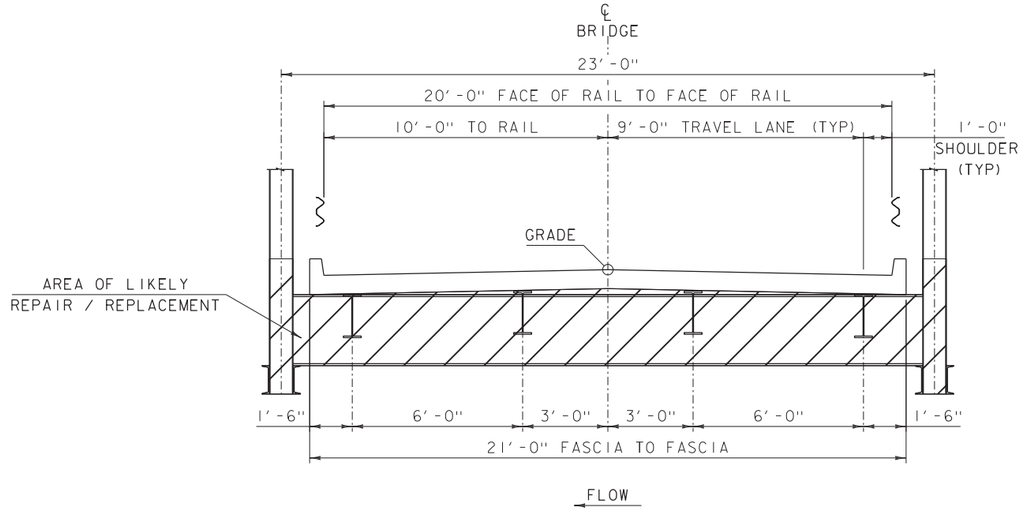
FILE NAME: s22j399profile.dgn
PROJECT LEADER: L.J.STONE
DESIGNED BY: ------
EXISTING PROFILE SHEET

PLOT DATE: 2-OCT-2024
DRAWN BY: D.D.BEARD
CHECKED BY: ------
SHEET 3 OF 12



EXISTING TH 2 TYPICAL SECTION

SCALE 3/8" = 1'-0"



BRIDGE REPAIR TYPICAL SECTION

SCALE 3/8" = 1'-0"

MATERIAL TOLERANCES (IF USED ON PROJECT)	
SURFACE	
- PAVEMENT (TOTAL THICKNESS)	+/- 1/4"
- AGGREGATE SURFACE COURSE	+/- 1/2"
SUBBASE	+/- 1"
SAND BORROW	+/- 1"

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: BF 0239(4)

FILE NAME: 22j399\\s22j399typical.dgn
PROJECT LEADER: L.J.STONE
DESIGNED BY: ----------
BRIDGE REPAIR TYPICAL SECTIONS

PLOT DATE: 2-OCT-2024
DRAWN BY: D.D.BEARD
CHECKED BY: ------

N

VT STATE PLANE GRID

BENCHMARK
RAIL ROAD
SPIKE IN POLE
ELEV. = 565.84

BENCHMARK
DISK IN STEP
M.W. & L. DEPT
ELEV. = 562.95

CURVE (x)
DELTA = 11°50'36"
D = 13°59'59"
R = 409.26'
T = 42.45'
L = 84.60'
E = 2.20'

CURVE (x)
DELTA = 08°49'32"
D = 10°54'49"
R = 525.00'
T = 40.51'
L = 80.87'
E = 1.56'

CURVE (x)
DELTA = 10°40'30"
D = 08°00'00"
R = 716.20'
T = 66.91'
L = 133.44'
E = 3.12'

STA 44+25.00=
CHAN 51+00.00
Δ=90° 00' 00"LT

N12°33'52.05"W

N00°43'16.22"W

S89°16'43.78"W

E/N08°06'15.97"E

PT 41+73.45
PI 41+06.93
PI 43+07.48
PC 42+65.03
PT 43+49.62
POB 50+00.00
PC 44+93.06
PI 45+33.58
PT 45+73.93
PC 46+20.30
PI 47+06.75
POE 52+00.00

TH-10 (DUHAMEL RD)
TH-9 (GRIGGS RD)
TH-2 (CADY'S FALLS RD) TO VT ROUTE 100
TH-11 (NEEDLE'S EYE RD)

APPROX. EXISTING R.O.W.

LAMOILLE RIVER

POWER PLANT

SURGE TANK

9' STEEL PENSTOCK (APPX)

7' STEEL PENSTOCK

60" STEEL PIPE

36" STEEL PIPE

18" PVC

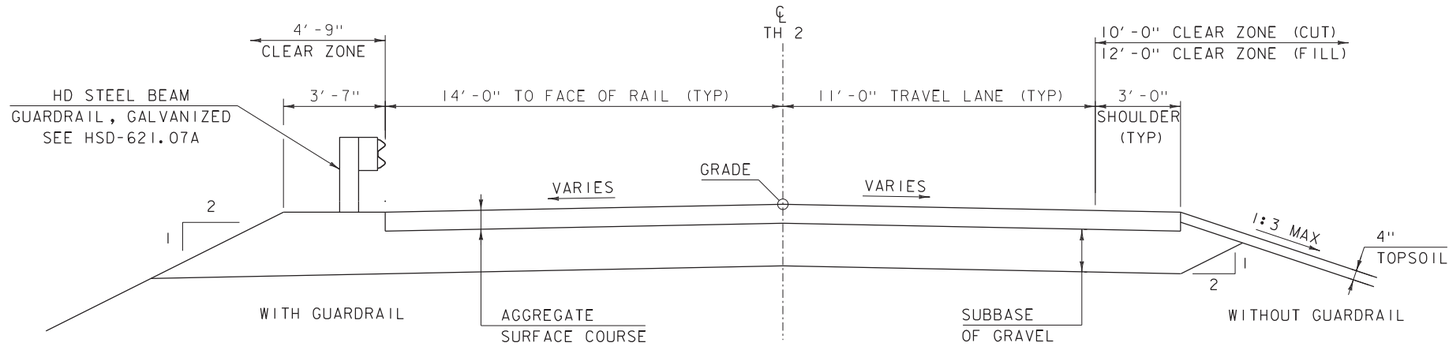
15" CGMP

EXISTING STEEL THRU TRUSS
124' LONG SINGLE SPAN
BUILT 1928, RECONSTRUCTED 2017
CURB TO CURB DISTANCE OF 19'-10"
FASCIA TO FASCIA DISTANCE OF 21'-6"

REPAIR LAYOUT

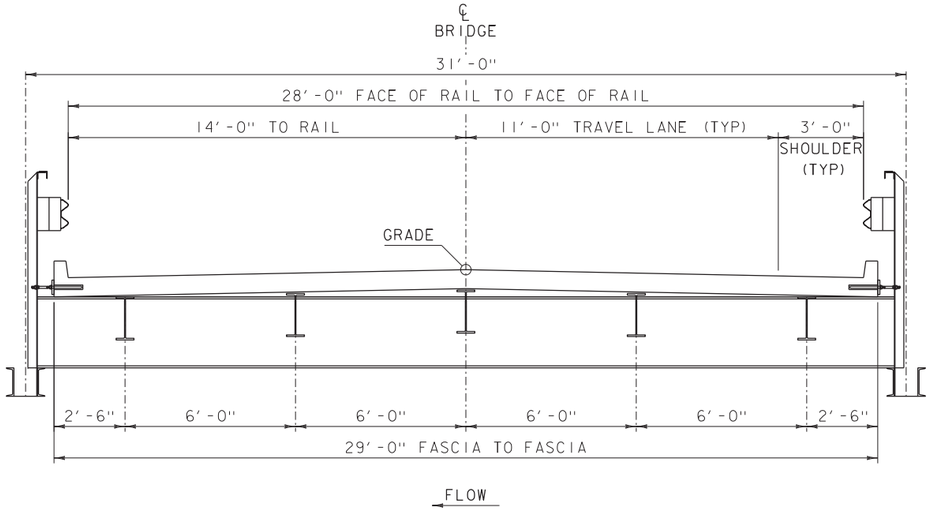
SCALE 1" = 20'-0"
20 0 20

PROJECT NAME:	MORRISTOWN
PROJECT NUMBER:	BF 0239(4)
FILE NAME: 22j399/s22j399BDR_Repair.dgn	PLOT DATE: 2-OCT-2024
PROJECT LEADER: L.J.STONE	DRAWN BY: D.D.BEARD
DESIGNED BY: ------	CHECKED BY: ------
REPAIR LAYOUT	SHEET 5 OF 12



PROPOSED TH 2 TYPICAL SECTION

SCALE 3/8" = 1'-0"



PROPOSED TRUSS BRIDGE TYPICAL SECTION

SCALE 3/8" = 1'-0"

MATERIAL TOLERANCES (IF USED ON PROJECT)	
SURFACE	
- PAVEMENT (TOTAL THICKNESS)	+/- 1/4"
- AGGREGATE SURFACE COURSE	+/- 1/2"
SUBBASE	+/- 1"
SAND BORROW	+/- 1"

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: BF 0239(4)

FILE NAME: 22j399\\s22j399typical.dgn
PROJECT LEADER: L.J.STONE
DESIGNED BY: ----------
NEW TRUSS BRIDGE TYPICAL SECTIONS

PLOT DATE: 2-OCT-2024
DRAWN BY: D.D.BEARD
CHECKED BY: ------

N

VT STATE PLANE GRID

BENCHMARK
RAIL ROAD
SPIKE IN POLE
ELEV. = 565.84

BENCHMARK
DISK IN STEP
M.W. & L. DEPT
ELEV. = 562.95

CURVE (x)
DELTA = 11°50'36"
D = 13°59'59"
R = 409.26'
T = 42.45'
L = 84.60'
E = 2.20'

CURVE (x)
DELTA = 08°49'32"
D = 10°54'49"
R = 525.00'
T = 40.51'
L = 80.87'
E = 1.56'

CURVE (x)
DELTA = 10°40'30"
D = 08°00'00"
R = 716.20'
T = 66.91'
L = 133.44'
E = 3.12'

STA 44+25.00=
CHAN 51+00.00
Δ=90° 00' 00"LT

N12°33'52.05"W

N00°43'16.22"W

N08°06'15.97"E

PT 41+73.45
PI 41+06.93
PI 43+07.48
PC 42+65.03
PT 43+49.62
POB 50+00.00
PC 44+93.06
PI 45+33.58
PT 45+73.93
PC 46+20.30
PI 47+06.75
POE 52+00.00

42+00
43+00
44+00
45+00
46+00
47+00
50+00
51+00
52+00

TH-10 (DUHAMEL RD)
TH-9 (GRIGGS RD)
TH-2 (CADY'S FALLS RD) TO VT ROUTE 100
TH-11 (NEEDLE'S EYE RD)

APPROX. EXISTING R.O.W.

POWER PLANT
SURGE TANK
LAMOILLE RIVER
HISTORIC #2 RAILROAD
DRAINAGE DITCH
PAVED DRIVE
GRAVEL DRIVE
MAILBOX

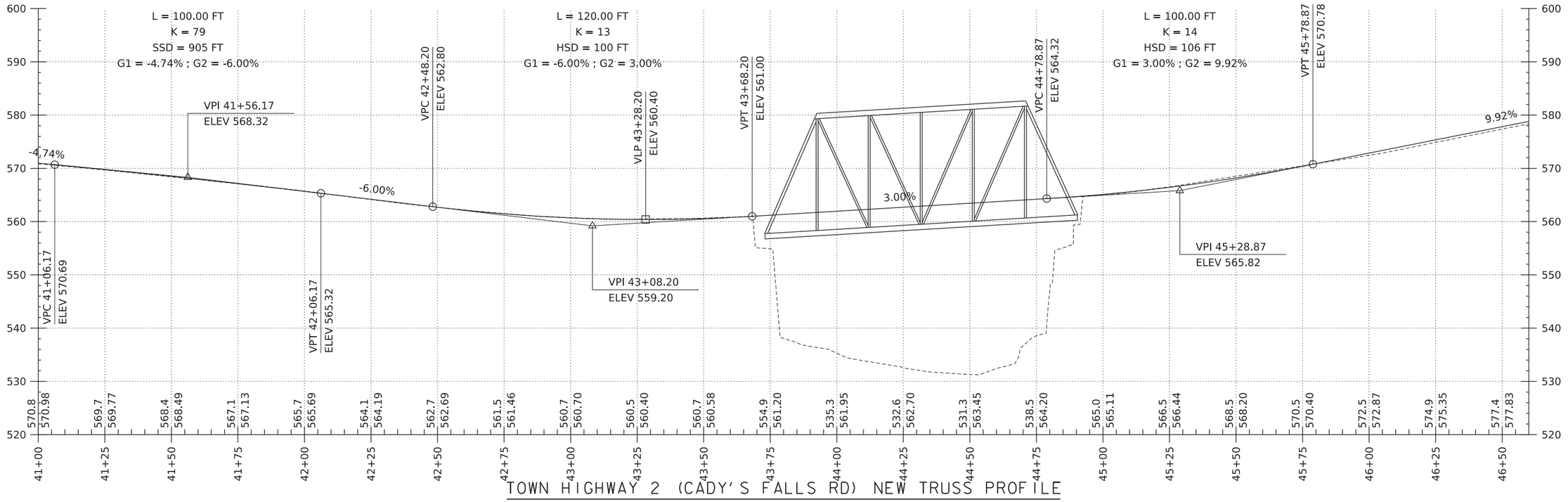
9' STEEL PENSTOCK (APPX)
7' STEEL PENSTOCK
60" STEEL PIPE
36" STEEL PIPE
18" PVC
15" CCMP
5'-0" CCMP

EXISTING STEEL THRU TRUSS
124' LONG SINGLE SPAN
BUILT 1928, RECONSTRUCTED 2017
CURB TO CURB DISTANCE OF 19'-10"
FASCIA TO FASCIA DISTANCE OF 21'-6"

NEW TRUSS BRIDGE

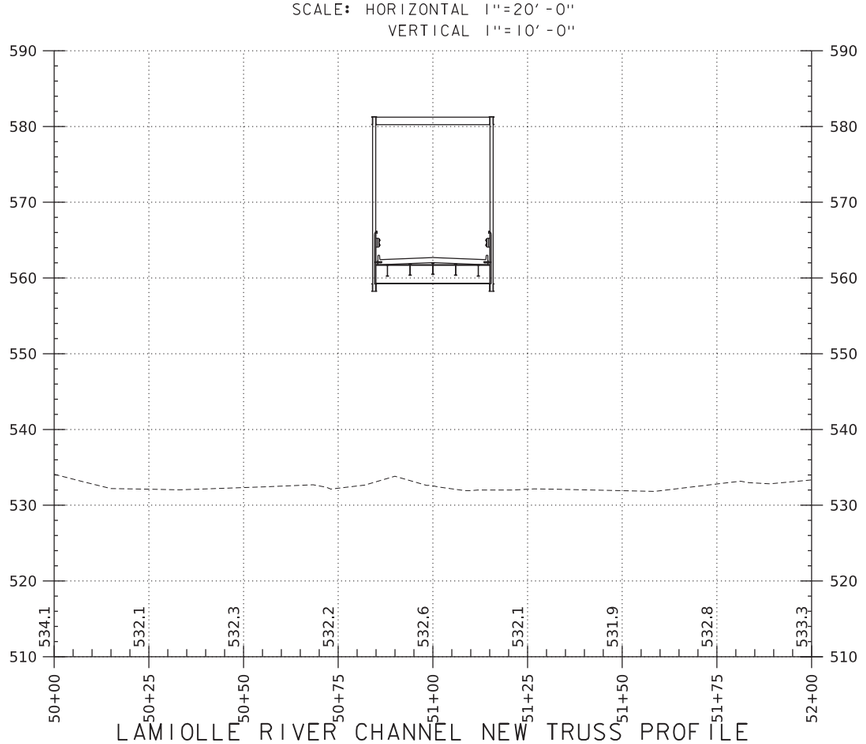
SCALE 1" = 20'-0"
20 0 20

PROJECT NAME:	MORRISTOWN
PROJECT NUMBER:	BF 0239(4)
FILE NAME: 22j399/s22j399BDR_New Truss.dgn	PLOT DATE: 2-OCT-2024
PROJECT LEADER: L.J.STONE	DRAWN BY: D.D.BEARD
DESIGNED BY: ------	CHECKED BY: ------
NEW TRUSS BRIDGE LAYOUT	SHEET 7 OF 12



TOWN HIGHWAY 2 (CADY'S FALLS RD) NEW TRUSS PROFILE

SCALE: HORIZONTAL 1"=20'-0"
VERTICAL 1"=10'-0"

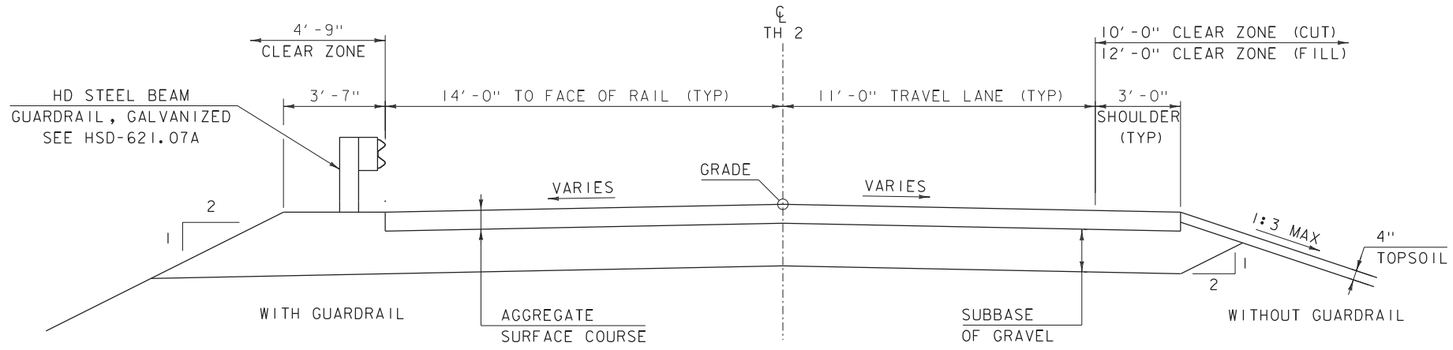


LAMIOLLE RIVER CHANNEL NEW TRUSS PROFILE

SCALE: HORIZONTAL 1"=20'-0"
VERTICAL 1"=10'-0"

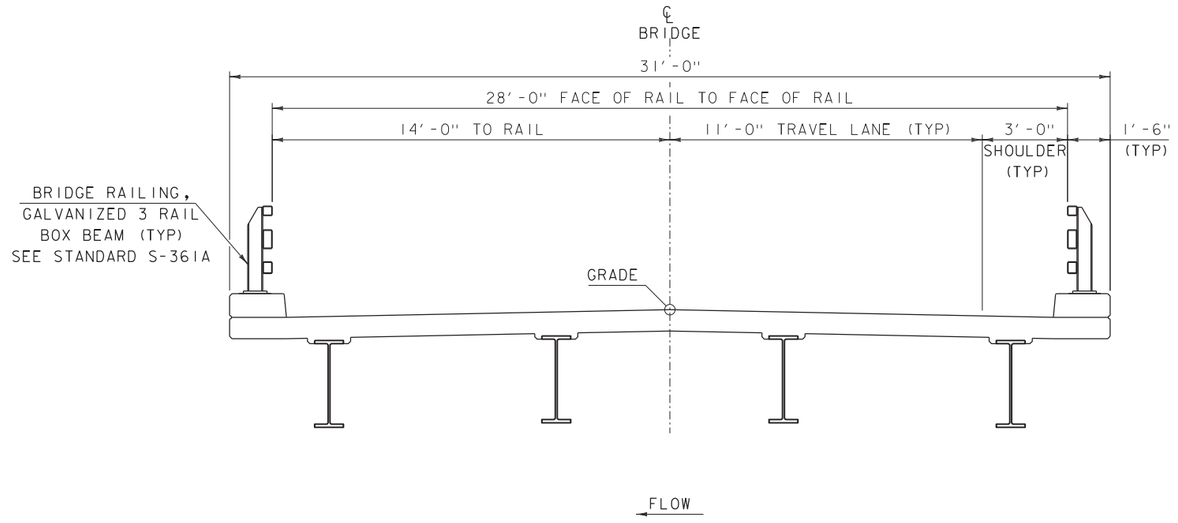
NOTE:
GRADES SHOWN TO THE NEAREST
TENTH ARE EXISTING GROUND ALONG ℄
GRADES SHOWN TO THE NEAREST
HUNDREDTH ARE FINISH GRADE ALONG ℄

PROJECT NAME:	MORRISTOWN
PROJECT NUMBER:	BF 0239(4)
FILE NAME: s22j399profile.dgn	PLOT DATE: 2-OCT-2024
PROJECT LEADER: L.J.STONE	DRAWN BY: D.D.BEARD
DESIGNED BY: ------	CHECKED BY: ------
NEW TRUSS PROFILE SHEET	SHEET 8 OF 12



PROPOSED TH 2 TYPICAL SECTION

SCALE 3/8" = 1'-0"



PROPOSED CONCRETE BRIDGE TYPICAL SECTION

SCALE 3/8" = 1'-0"

MATERIAL TOLERANCES

(IF USED ON PROJECT)

SURFACE	
- PAVEMENT (TOTAL THICKNESS)	+/- 1/4"
- AGGREGATE SURFACE COURSE	+/- 1/2"
SUBBASE	+/- 1"
SAND BORROW	+/- 1"

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: BF 0239(4)

FILE NAME: 22j399\\s22j399typical.dgn
PROJECT LEADER: L.J.STONE
DESIGNED BY: ----------
NEW CONCRETE BRIDGE TYPICAL SECTIONS

PLOT DATE: 2-OCT-2024
DRAWN BY: D.D.BEARD
CHECKED BY: ------

N

VT STATE PLANE GRID

BENCHMARK
RAIL ROAD
SPIKE IN POLE
ELEV. = 565.84

BENCHMARK
DISK IN STEP
M.W. & L. DEPT
ELEV. = 562.95

CURVE (x)
DELTA = 11°50'36"
D = 13°59'59"
R = 409.26'
T = 42.45'
L = 84.60'
E = 2.20'

CURVE (x)
DELTA = 08°49'32"
D = 10°54'49"
R = 525.00'
T = 40.51'
L = 80.87'
E = 1.56'

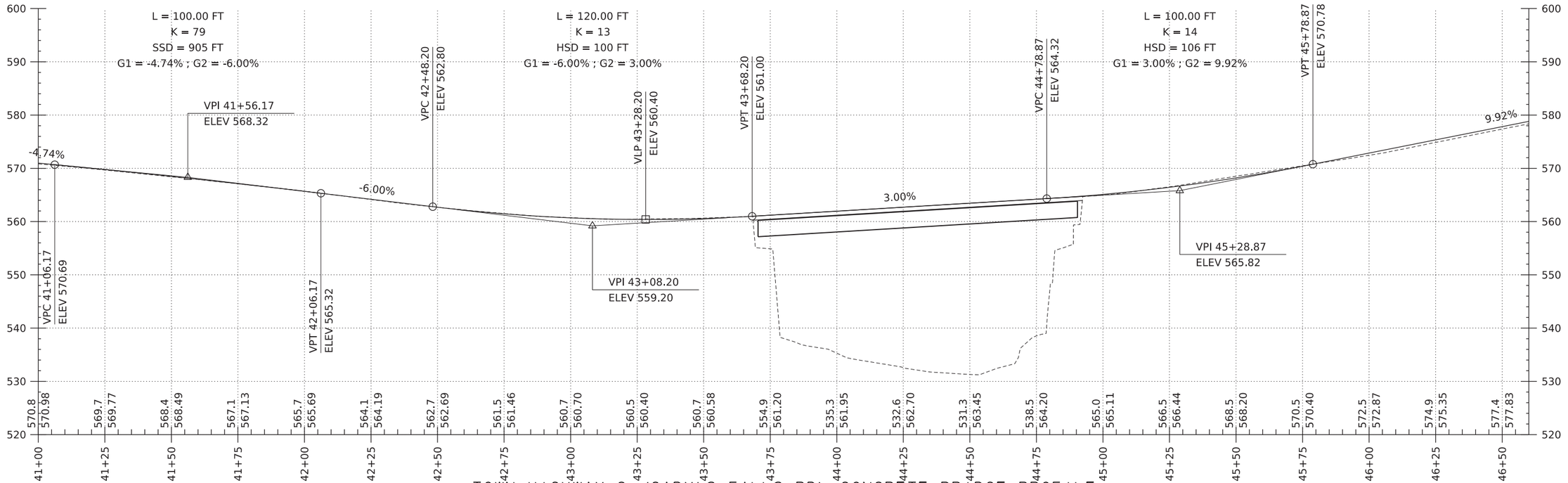
CURVE (x)
DELTA = 10°40'30"
D = 08°00'00"
R = 716.20'
T = 66.91'
L = 133.44'
E = 3.12'

EXISTING STEEL THRU TRUSS
124' LONG SINGLE SPAN
BUILT 1928, RECONSTRUCTED 2017
CURB TO CURB DISTANCE OF 19'-10"
FASCIA TO FASCIA DISTANCE OF 21'-6"

NEW CONCRETE BRIDGE

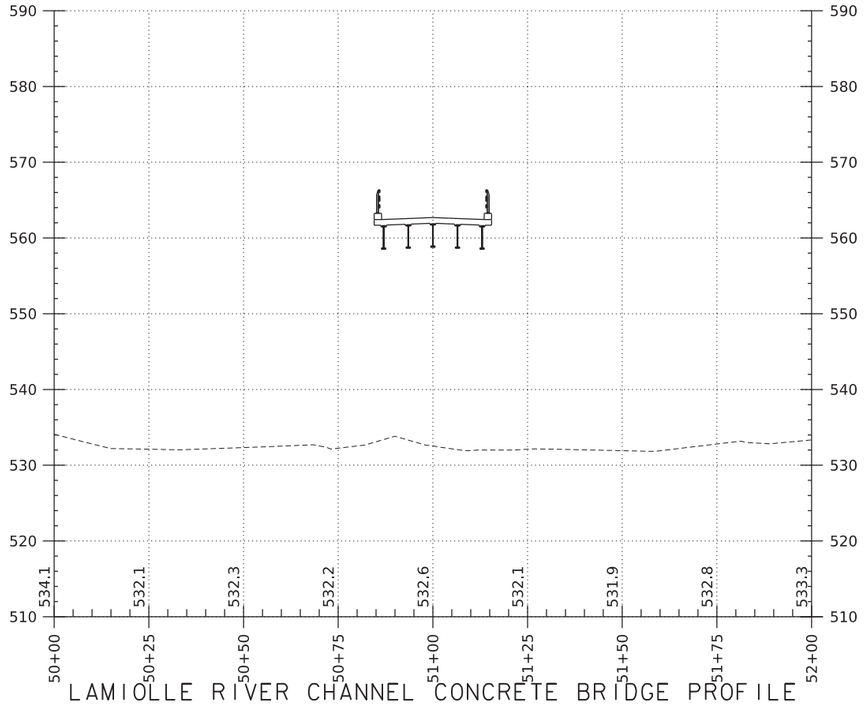
SCALE 1" = 20'-0"
20 0 20

PROJECT NAME:	MORRISTOWN
PROJECT NUMBER:	BF 0239(4)
FILE NAME: 22j399/s22j399BDR_New Bridge.dgn	PLOT DATE: 2-OCT-2024
PROJECT LEADER: L.J.STONE	DRAWN BY: D.D.BEARD
DESIGNED BY: ------	CHECKED BY: ------
NEW CONCRETE BRIDGE LAYOUT	SHEET 10 OF 12



TOWN HIGHWAY 2 (CADY'S FALLS RD) CONCRETE BRIDGE PROFILE

SCALE: HORIZONTAL 1"=20'-0"
VERTICAL 1"=10'-0"



LAMIOLLE RIVER CHANNEL CONCRETE BRIDGE PROFILE

SCALE: HORIZONTAL 1"=20'-0"
VERTICAL 1"=10'-0"

NOTE:
GRADES SHOWN TO THE NEAREST
TENTH ARE EXISTING GROUND ALONG ℄
GRADES SHOWN TO THE NEAREST
HUNDREDTH ARE FINISH GRADE ALONG ℄

PROJECT NAME:	MORRISTOWN
PROJECT NUMBER:	BF 0239(4)
FILE NAME: s22j399profile.dgn	PLOT DATE: 2-OCT-2024
PROJECT LEADER: L.J.STONE	DRAWN BY: D.D.BEARD
DESIGNED BY: ------	CHECKED BY: ------
CONCRETE BRIDGE PROFILE SHEET	SHEET 11 OF 12

N

VT STATE PLANE GRID

BENCHMARK
RAIL ROAD
SPIKE IN POLE
ELEV. = 565.84

BENCHMARK
DISK IN STEP
M.W. & L. DEPT
ELEV. = 562.95

CURVE (x)
DELTA = 11°50'36"
D = 13°59'59"
R = 409.26'
T = 42.45'
L = 84.60'
E = 2.20'

CURVE (x)
DELTA = 08°49'32"
D = 10°54'49"
R = 525.00'
T = 40.51'
L = 80.87'
E = 1.56'

CURVE (x)
DELTA = 40°40'30"
D = 08°00'00"
R = 716.20'
T = 66.91'
L = 133.44'
E = 3.12'

STA 44+25.00=
CHAN 51+00.00
Δ=90° 00' 00"LT

N00°43'16.22"W

S89°16'43.78"W

N12°33'52.05"W

E/N08°06'15.97"E

POB 50+00.00

POE 52+00.00

PI 41+06.93

PT 41+73.45

PC 42+65.03

PT 43+49.62

PI 43+07.48

PC 44+93.06

PT 45+73.93

PI 45+33.58

PC 46+20.30

PI 47+06.75

TH-10 (DUHAMEL RD)

TH-9 (GRIGGS RD)

TH-2 (CADY'S FALLS RD) TO VT ROUTE 100

TH-11 (NEEDLE'S EYE RD)

APPROX. EXISTING R.O.W.

LAMOILLE RIVER

POWER PLANT

SURGE TANK

9' STEEL PENSTOCK (APPX)

7' STEEL PENSTOCK

60" STEEL PIPE

36" STEEL PIPE

18" PVC

15" CGMP

EXISTING STEEL THRU TRUSS
124' LONG SINGLE SPAN
BUILT 1928, RECONSTRUCTED 2017
CURB TO CURB DISTANCE OF 19'-10"
FASCIA TO FASCIA DISTANCE OF 21'-6"

TEMPORARY BRIDGE

SCALE 1" = 20'-0"
20 0 20

PROJECT NAME:	MORRISTOWN
PROJECT NUMBER:	BF 0239(4)
FILE NAME: 22j399/s22j399BDR_Temp Bridge.dgn	PLOT DATE: 2-OCT-2024
PROJECT LEADER: L.J.STONE	DRAWN BY: D.D.BEARD
DESIGNED BY: ------	CHECKED BY: ------
TEMPORARY BRIDGE LAYOUT	SHEET 12 OF 12