



Londonderry Statewide-Southwest STP CULV(91) Regional Concerns Meeting

VT ROUTE 11, BRIDGE 25 (Dry Cattle Pass)

November 6, 2023

Introductions

Jonathan Griffin, P.E.

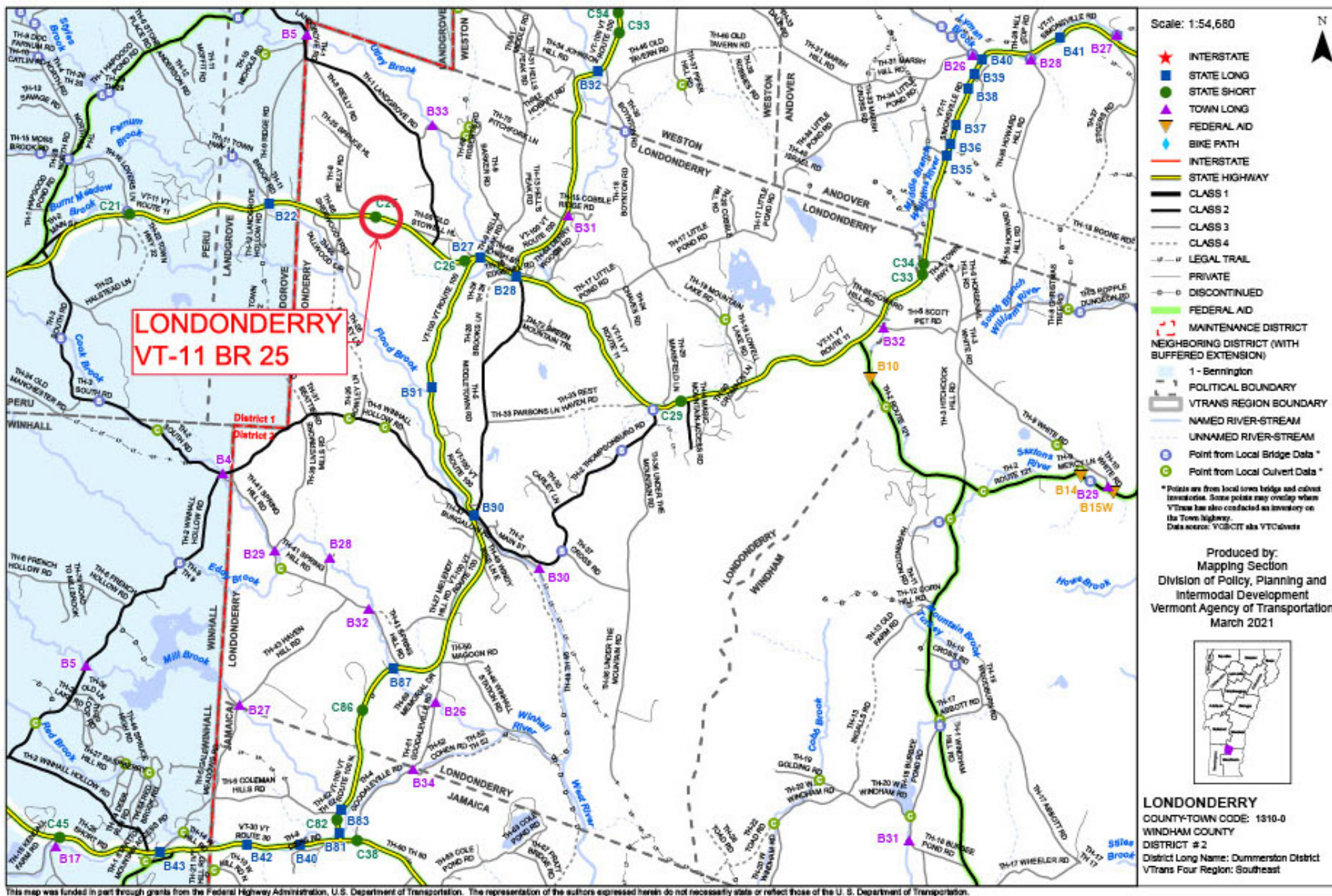
VTrans Design Project Manager

Laura Stone, P.E.

VTrans Scoping Project Manager

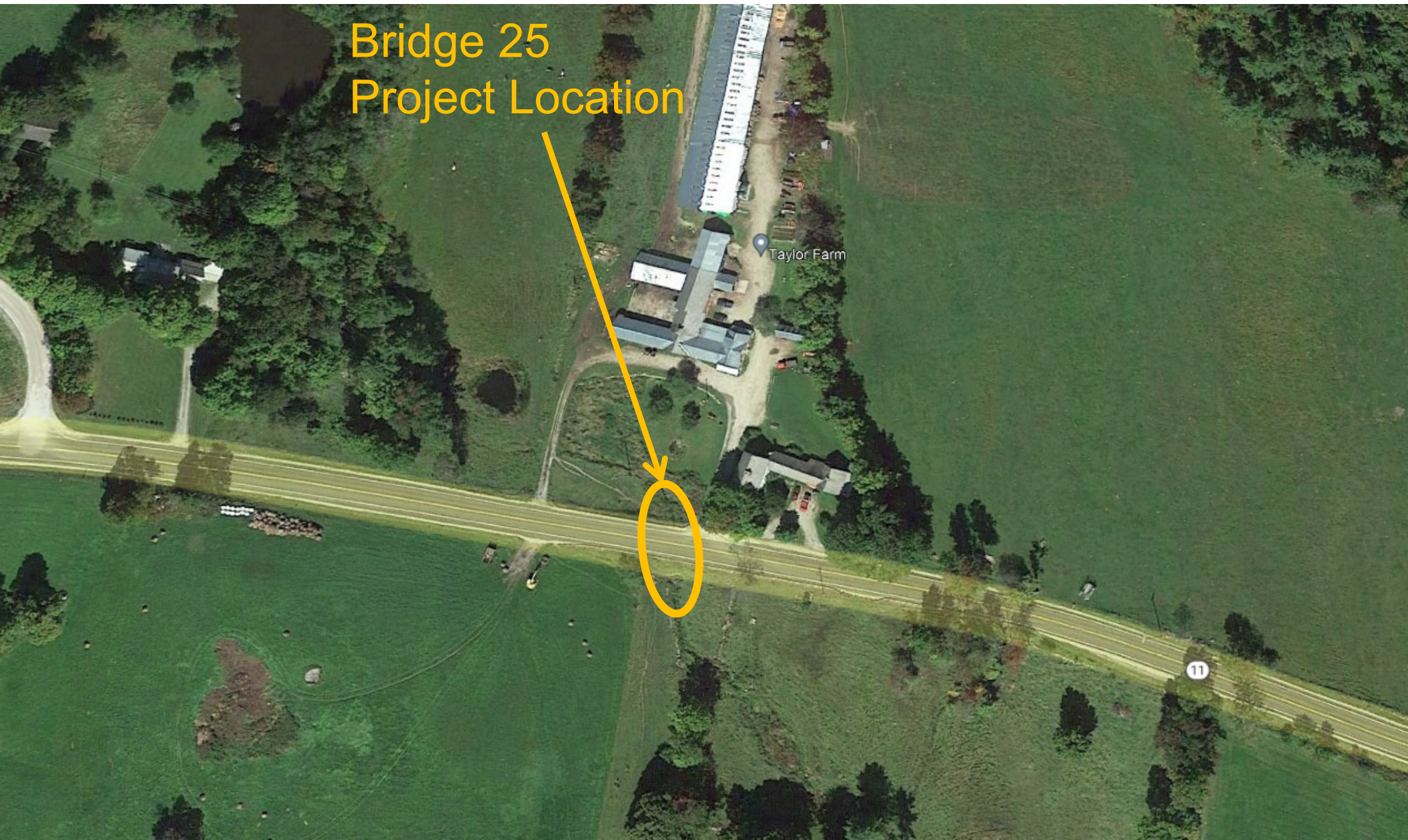
Purpose of Meeting

- Provide an understanding of our approach to the project
- Provide an overview of project constraints
- Discuss our selected alternative
- Provide an opportunity to ask questions and voice concerns



Location Map

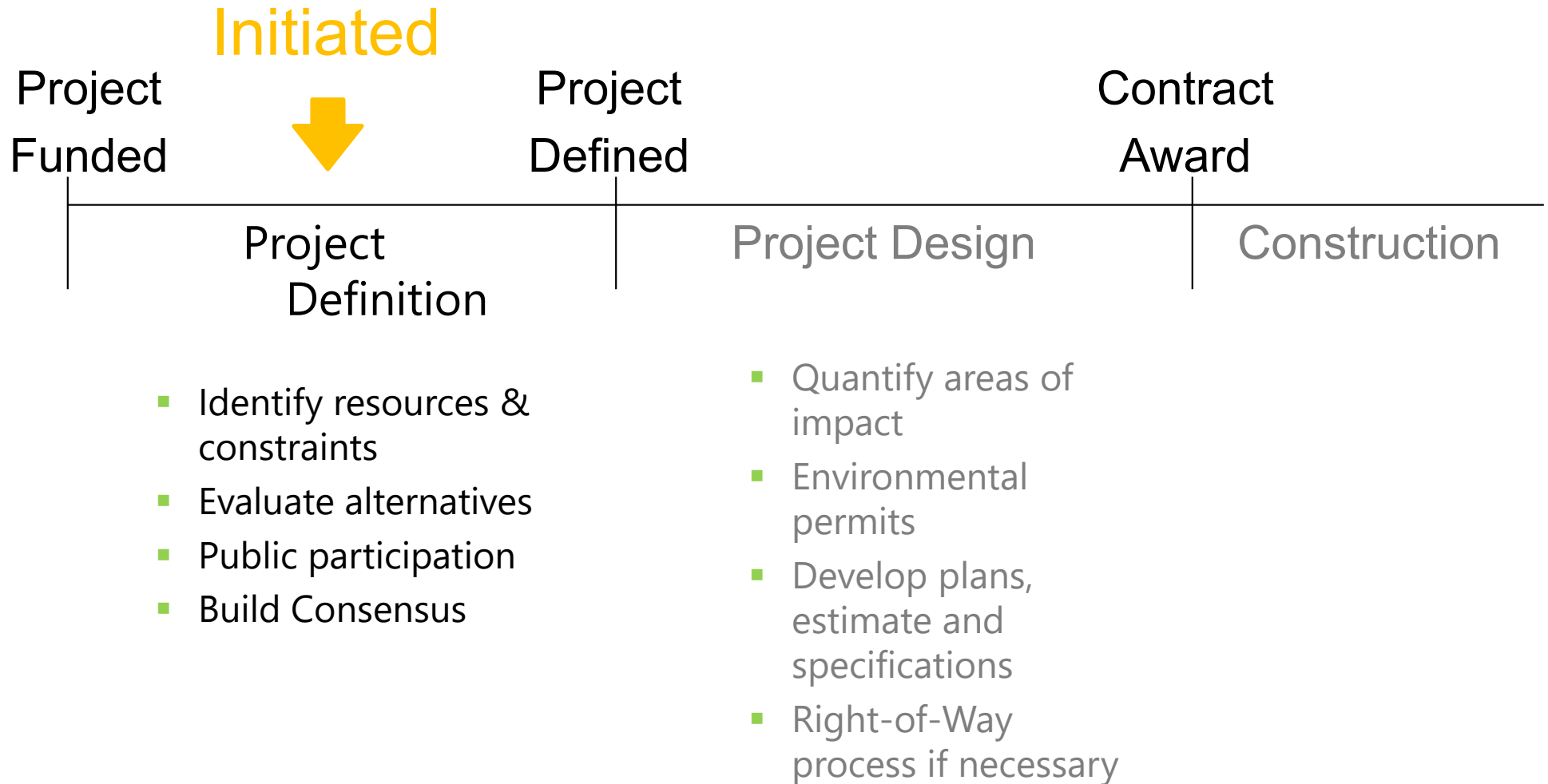
Bridge 25 Project Location



Meeting Overview

- VTrans Project Development Process
- Project Overview
 - Existing Conditions
 - Alternatives Considered
 - Selected Alternative
- Maintenance of Traffic
- Schedule
- Summary
- Questions

VTrans Project Development Process



Looking West



Existing Conditions – Bridge #25

11/06/2020

- Roadway Classification – Rural Minor Arterial
- Bridge Type – 6' Span Asphalt Coated Corrugated Galvanized Metal Plate Pipe (ACCGMPP)
- Ownership – State of Vermont
- Constructed in 1948

Looking East



Existing Conditions – Bridge #25

- No reported buried infrastructure through the project area 11/06/2020
- Aerial utilities, owned by Green Mountain Power (Single Phase and Three Phase), Comcast Communications, Consolidated Communications and FirstLight Fiber cross over the roadway approximately 150' east of the existing culvert
- It is anticipated that overhead utilities may need to be relocated for replacement of the culvert

Existing Site Conditions – Bridge #25

- The culvert is in fair condition. There is some deformation and crushing throughout the pipe.
- There is debris within the pipe that should be flushed clear.
- The Taylor Farm has a herd of less than 50 cows.

Bridge Inspection Report Ratings



Existing Conditions - Bridge #25

- Culvert Rating 6 (Satisfactory)
- Channel Rating N/A – Dry Cattle Pass

Looking South



Existing Conditions - Bridge #25

Looking North

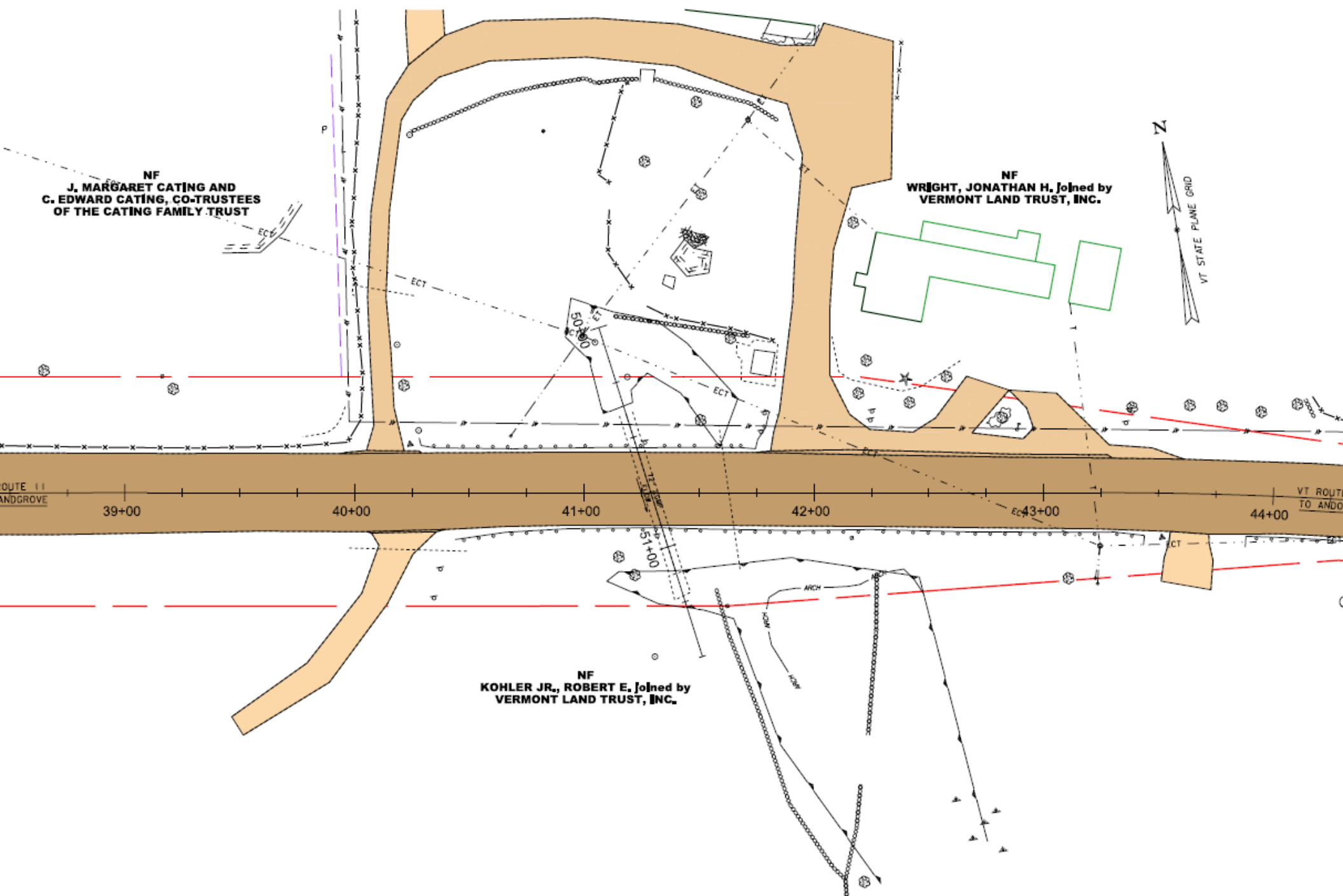


Existing Conditions - Bridge #25

Existing Resources – Bridge #25

- Project area is within the Northern Long Eared Bat's (NLEB's) habitat range.
- Agricultural Soils – Primary agricultural soils were identified within the project area.
- Wetlands – There are mapped wetlands at the inlet and outlet of the culvert
- Historic – The culvert is not historic, but the farmstead was identified as potentially historic. (4(f))
- Archaeological – There are stone walls south of the current culvert that may be foundation remains of a barn or other farm-related structures.

Existing Conditions



Design Criteria and Considerations

- Average Daily Traffic
 - 4,970 vehicles per day
- Design Hourly Volume
 - 770 vehicles per hour
- % Trucks
 - 14.8%

Title 19: Highways

Chapter 005: Condemnation for State Highway Projects

§ 507. Cattle-passes

In its order of condemnation, the Court may direct the Agency to install passes under the highway for the benefit of large modern farm properties, the fee title of which is owned by any party to the proceedings, where a reasonable need is shown by the owner. The Court may consider evidence relative to present and anticipated future highway traffic volume, future land development in the area, and the amount and type of acreage separated by the highway in determining the need for an underpass of larger dimensions than a standard cattle-pass of reinforced concrete, metal, or other suitable material which provides usable dimensions five feet wide by six feet three inches high.

Where a herd of greater than 50 milking cows is consistently maintained on the property, the court may direct that the dimensions of the larger underpass shall be eight feet in width and six feet three inches in height to be constructed of reinforced concrete, and the owner of the farm property shall pay one-fourth of the difference in overall cost between the standard cattle-pass and the larger underpass. Where the owner of the farm property desires an underpass of dimensions greater than eight feet in width and six feet three inches in height, the underpass may be constructed if feasible and in accordance with acceptable design standards, and the total additional costs over the dimensions specified shall be paid by the owner. The provisions of this section shall not be interpreted to prohibit the Agency and the property owner from determining the specifications of a cattle-pass or underpass by mutual agreement at any time, either prior or subsequent to the date of the Court's order. The owner of a fee title shall be interpreted to include lessees of so-called lease land. (Added 1985, No. 269 (Adj. Sess.), § 1; amended 1993, No. 172 (Adj. Sess.), § 22; 1995, No. 183 (Adj. Sess.), § 18d, eff. May 22, 1996; 2009, No. 3 (Sp. Sess.), § 1; 2011, No. 126 (Adj. Sess.), § 2.)

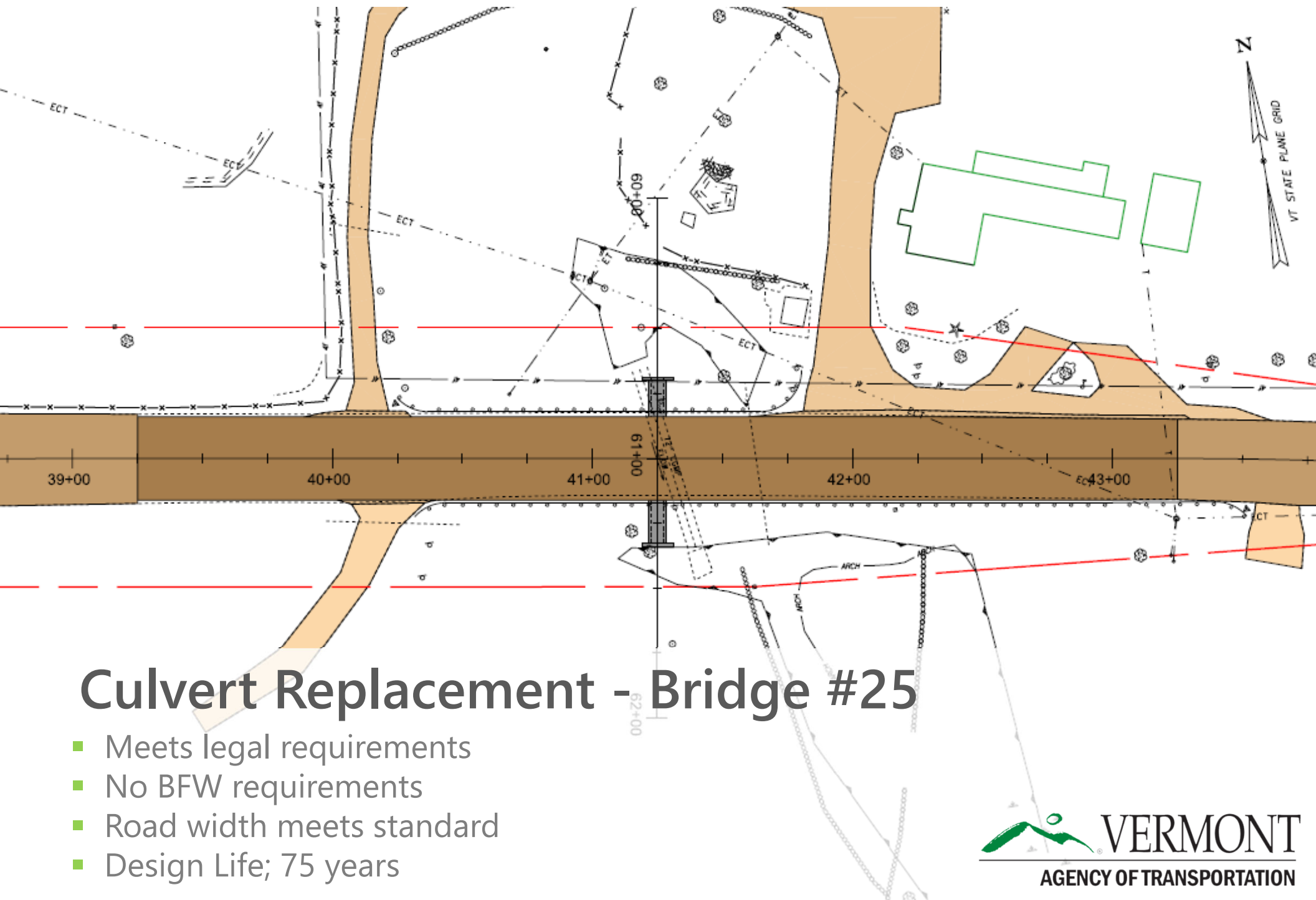
Alternatives Considered – Bridge #25

- No Action
 - Additional maintenance required within 10 years
- Culvert Rehabilitation
 - Spray liner (approx. 2" thickness).
 - Cured-in-Place liner
 - Invert repair
 - Meets minimum roadway geometric standards
 - 15 to 30-year design life
- Full Bridge Replacement – Concrete Box Culvert
 - Meets all legal requirements
 - 5' span x 7'-3" rise (w/ class I stone)
 - Meets minimum roadway geometric standards
 - 75-year design life

Selected Alternative - Bridge #25

- Replace the existing culvert with a new 4-sided concrete box
 - 5' span x 7'-3" rise box (w/ class I stone)
 - (Invert material to be determined)
 - Existing roadway typical meets minimum standard width
 - Headwalls to be designed.
 - New structure life of 75 years

Selected Alternative: Replacement – New Precast Box



Culvert Replacement - Bridge #25

- Meets legal requirements
- No BFW requirements
- Road width meets standard
- Design Life; 75 years

Maintenance of Traffic Options Considered

- **Offsite Detour** – This option would close the bridge and reroute traffic onto an official, signed State detour.
- **Phased Construction** – Involves maintenance of traffic over the existing culvert while building one half at a time of the proposed structure. This allows the road to stay open during construction, but with reduced lane widths and a long construction season.
- **Temporary Bridge** - A temporary bridge on either side would have limits outside the existing Right-of-Way

Selected Alternative

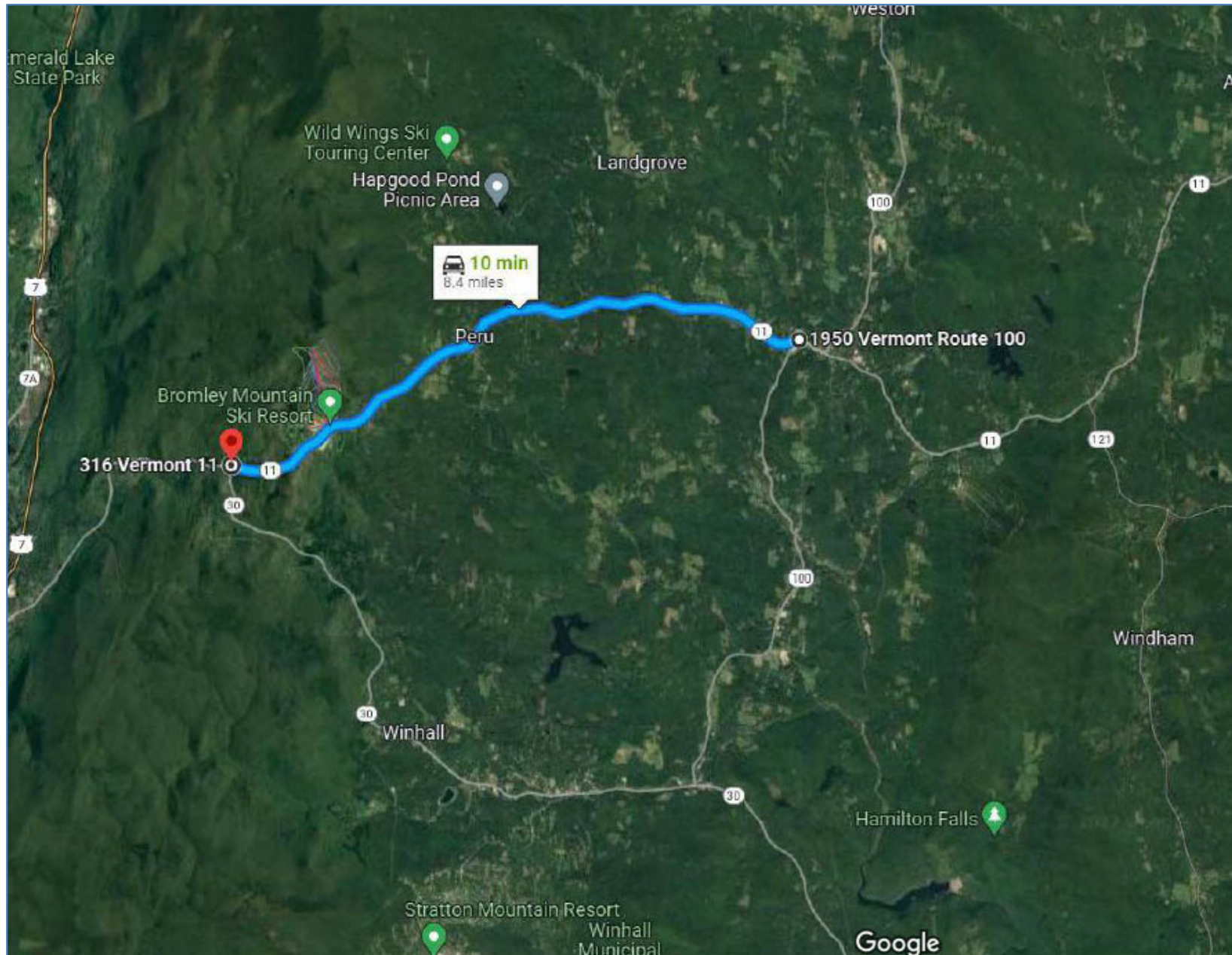
A photograph of a road closure. In the center is a white rectangular sign with a black border and the words "ROAD CLOSED" in large, bold, black capital letters. The sign is mounted on a white post. Behind the sign is a concrete barrier wall. In front of the barrier are several horizontal barriers with red and white diagonal stripes. The background shows green trees and a clear sky.

**ROAD
CLOSED**

Road Closure

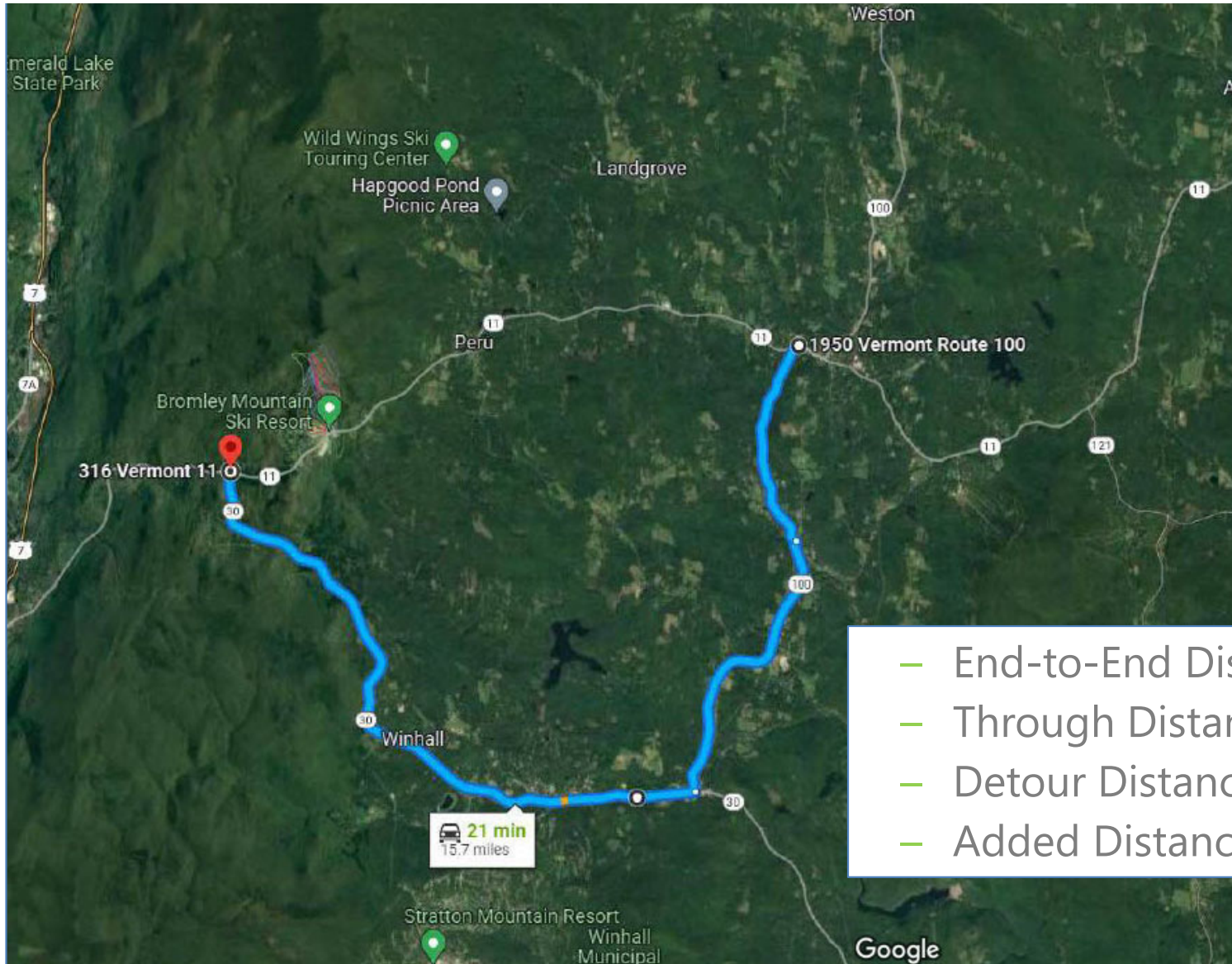
- Detour chosen and signed by State
- 60 Hour Closure Duration
- Shortest Detour Route is 24 miles end-to-end

Traffic Control – Through Route



Traffic Control – Detour Route

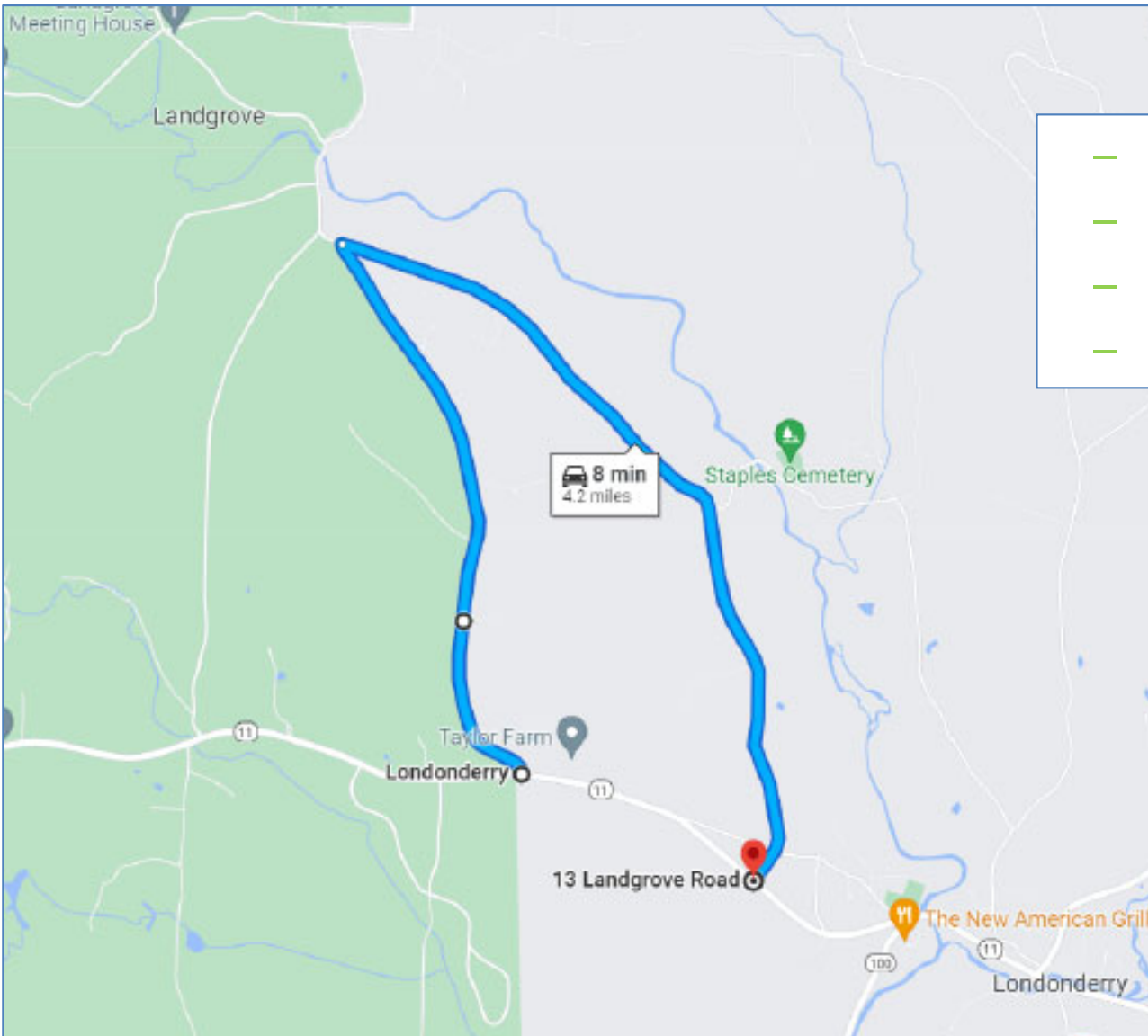
- **Detour Route:** From VT Route 11, VT Route 30, to VT Route 100, back to VT Route 11



- End-to-End Distance: 24.1 miles
- Through Distance: 8.4 miles
- Detour Distance: 15.7 miles
- Added Distance: 7.3 miles

Traffic Control – Local Bypass Route

- **Local Bypass Route:** From VT Route 11, Reilly Road (TH-8) (Class 3 gravel road) to Landgrove Road (TH-1) and back to VT Route 11



- End-to-End Distance: 5.0 miles
- Through Distance: 0.8 miles
- Detour Distance: 4.2 miles
- Added Distance: 3.4 miles

Preliminary Project Schedule

- Construction Start – Spring/Summer 2025
 - Total Cost Estimate: \$950,000

Project Summary - Bridge #25

- Replace the existing culvert with a new 4-sided concrete box while maintaining traffic on an offsite detour
 - Hyper-accelerated weekend closure (60 hours)
 - 5' span x 7'-3" rise box (w/ class I stone)
 - (Invert material to be determined)
 - Existing roadway typical meets minimum standard width
 - Headwalls to be designed.
 - New structure life of 75 years

For more information:

- <https://outside.vermont.gov/agency/vtrans/external/Projects/Structures/23B030>



Londonderry Statewide-Southwest STP CULV(91) Questions and Comments

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