Dorset STP CULV(126)
Regional Concerns Meeting

VT Route 30 – Bridge 58A

May 21, 2024

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Introductions

Robert Klinefelter, P.E.

VTrans Project Manager

Laura Stone, P.E.

VTrans Scoping Engineer

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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

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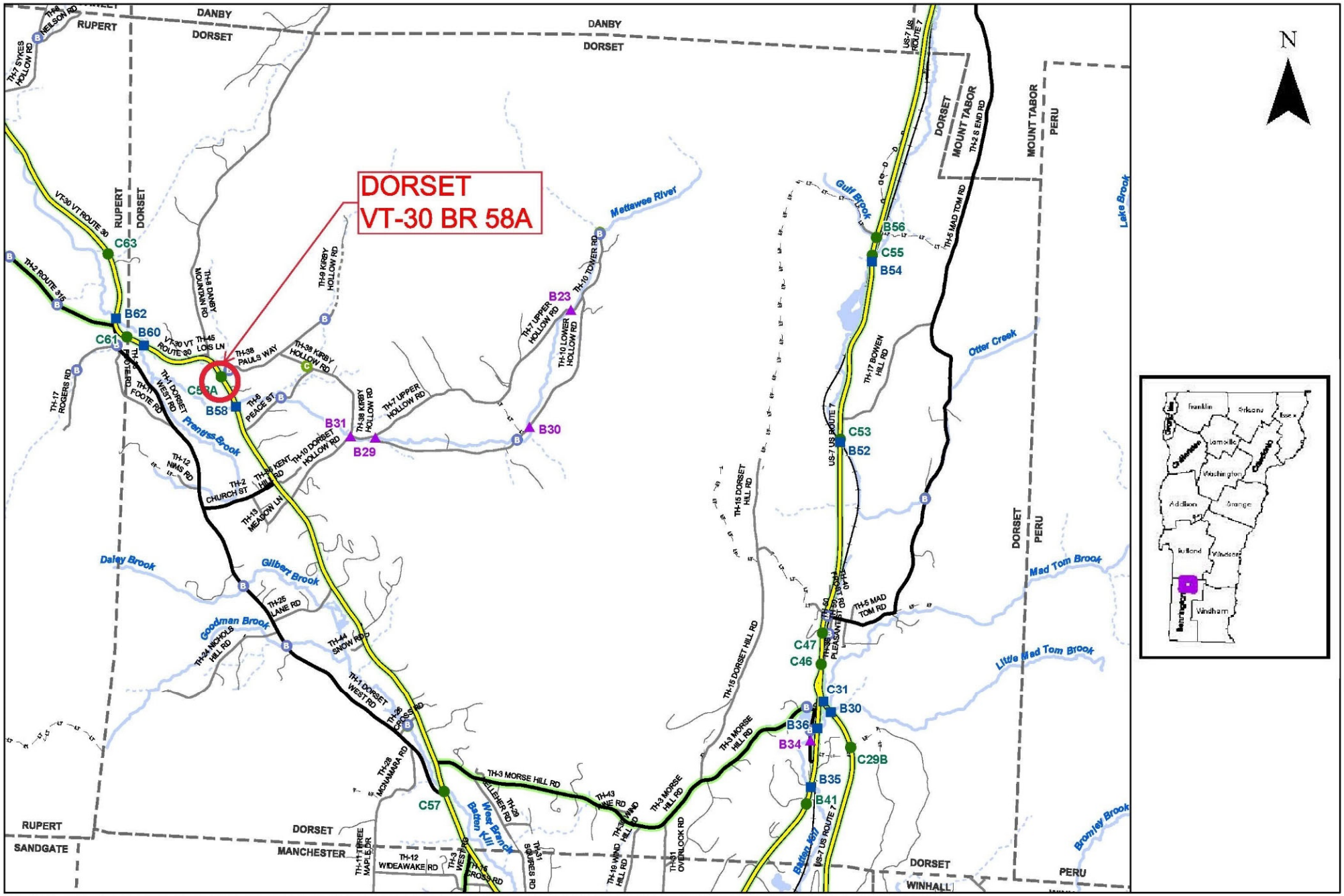
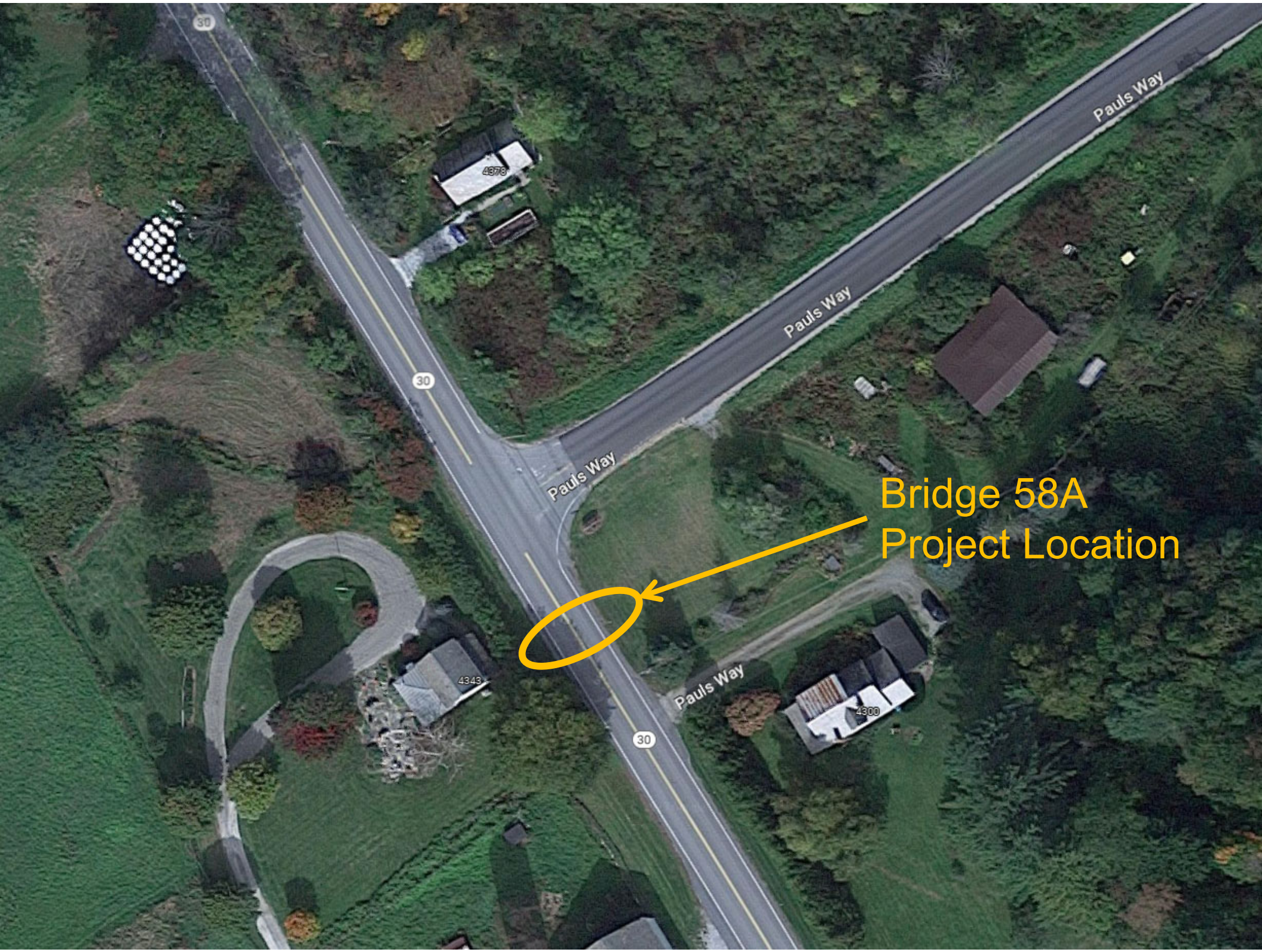


Location Map


Pauls Way
Pauls Way
Pauls Way
Pauls Way
30
30
30
4378
4343
4300
Bridge 58A
Project Location

Meeting Overview

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

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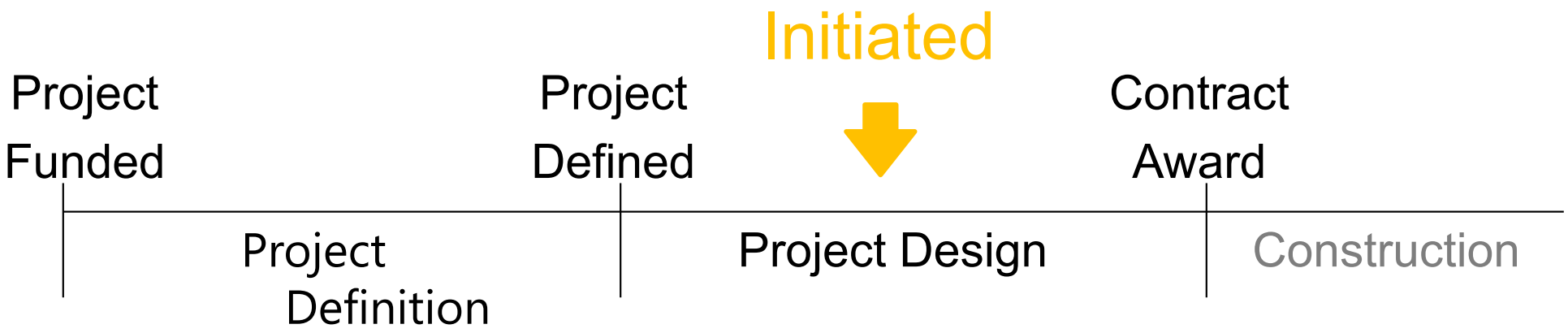
VTrans Project Development Process



- Identify resources & constraints
- Evaluate alternatives
- Public participation
- Build Consensus

- Quantify areas of impact
- Environmental permits
- Develop plans, estimate and specifications
- Right-of-Way process if necessary

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Looking Southeast

Existing Conditions

- Roadway Classification – Rural Minor Arterial
- Bridge Type – Asphalt Coated Corrugated Galvanized Metal Plate Pipe (ACCGMPP)
  - 56-feet long, 6-foot span, 4-feet of cover
- Ownership – State of Vermont
- Constructed in 1949

Looking Northwest

Existing Conditions

- Aerial utilities are present on the east (inlet) side of VT 30

Existing Site Conditions

- The culvert is in poor condition. There are holes scattered throughout the pipe measuring 1 to 2-feet in diameter causing material loss.
- The existing shoulder widths along VT Route 30 are substandard.
- VT Route 30 has a substandard vertical crest curve through the project area.

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Existing Conditions

- Culvert Rating 4 (Poor)
- Channel Rating Not applicable

Outlet

Existing Conditions

Inlet

Existing Conditions

Material Infiltration

Existing Conditions

Rusting Barrel

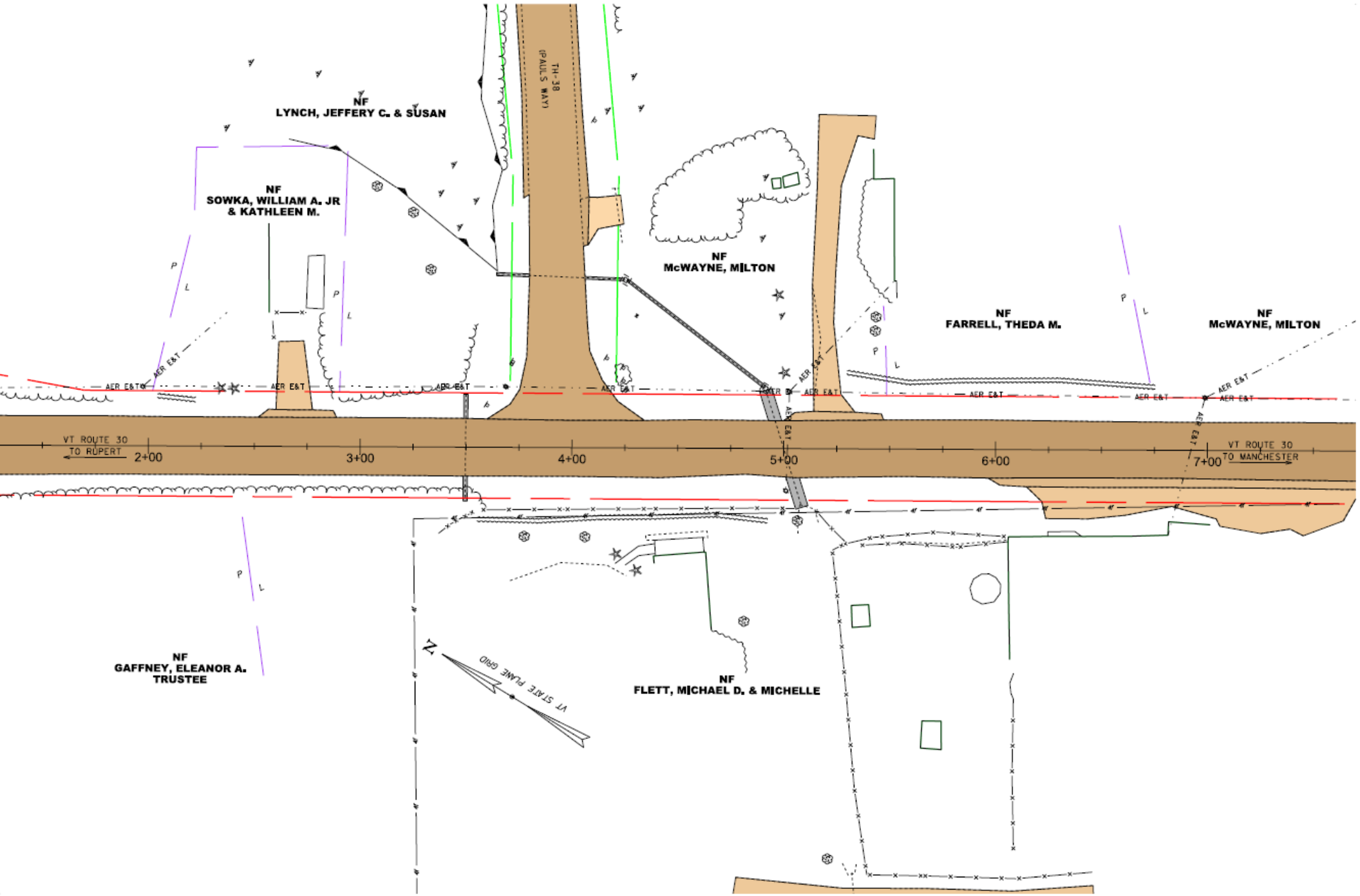
Existing Conditions

Outlet End of Culvert

Resources

- Within the Northern Long Eared Bat's (NLEB's) habitat range
- Historic - A potentially National-register eligible farmstead was identified within a likely project APE at 4299 and 4343 Vt. Route 30. Further research, including better images of the farmhouse, is necessary to make a more definitive determination.

Existing Conditions



Design Criteria and Considerations

- Average Daily Traffic
  - 4,060 vehicles per day
- Design Hourly Volume
  - 480 vehicles per hour
- % Trucks
  - 13.6%

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Alternatives Considered

- No Action
  - Not recommended. The bridge will continue to deteriorate if no action is taken.

- Rehabilitation – Pipe Liner or Spray-on Liner
  - Minimum 3’ inner diameter
  - Meets minimum hydraulic standards
  - Most cost and time efficient option
  - Minimal impacts to resources and would not interrupt traffic
  - 30-year design life

- Full Bridge Replacement with a 3-foot diameter culvert
  - Can accommodate standard roadway width
  - Would remove the structure from the state’s large culvert inventory
  - 75-year design life

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Selected Alternative - Bridge #58A

- Replace the existing culvert with a new 3-foot diameter pipe
  - Minimum hydraulic standard and bank full width conditions will be met
  - New pipe can accommodate standard 11’/5’ roadway typical section
    - Match existing and construct a longer pipe in case widening of VT Route 30 occurs in the future
  - Since there is approximately 4’ of fill above the culvert, there would not be an excessive amount of earthwork
  - Would remove the structure from the state’s large culvert inventory.
  - Extends the life of the structure an additional 75 years

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Proposed Typical Section

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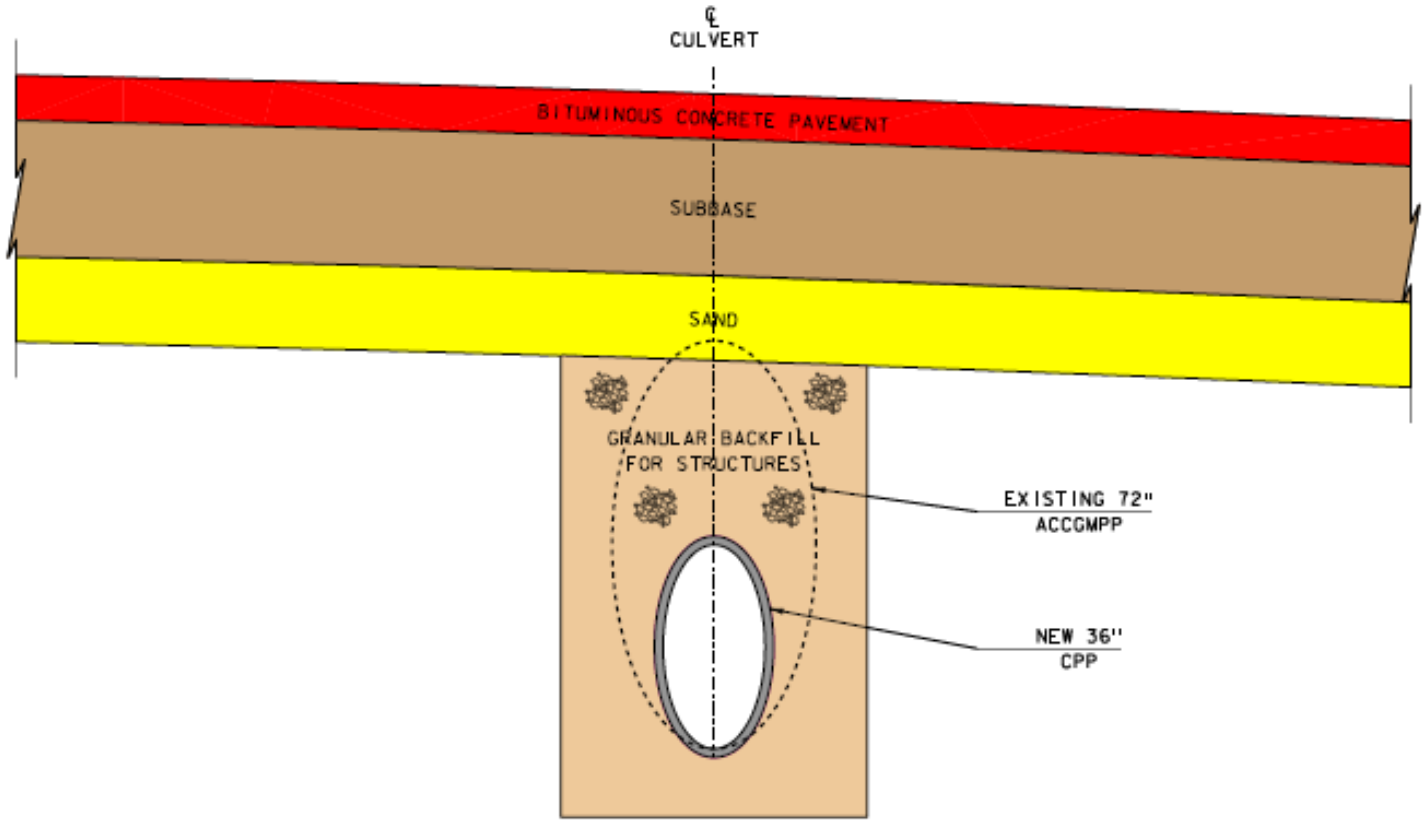

CULVERT TYPICAL SECTION

New Pipe - Bridge #58A

- Existing 72" pipe removed and replaced with 3' diameter pipe

Proposed Layout

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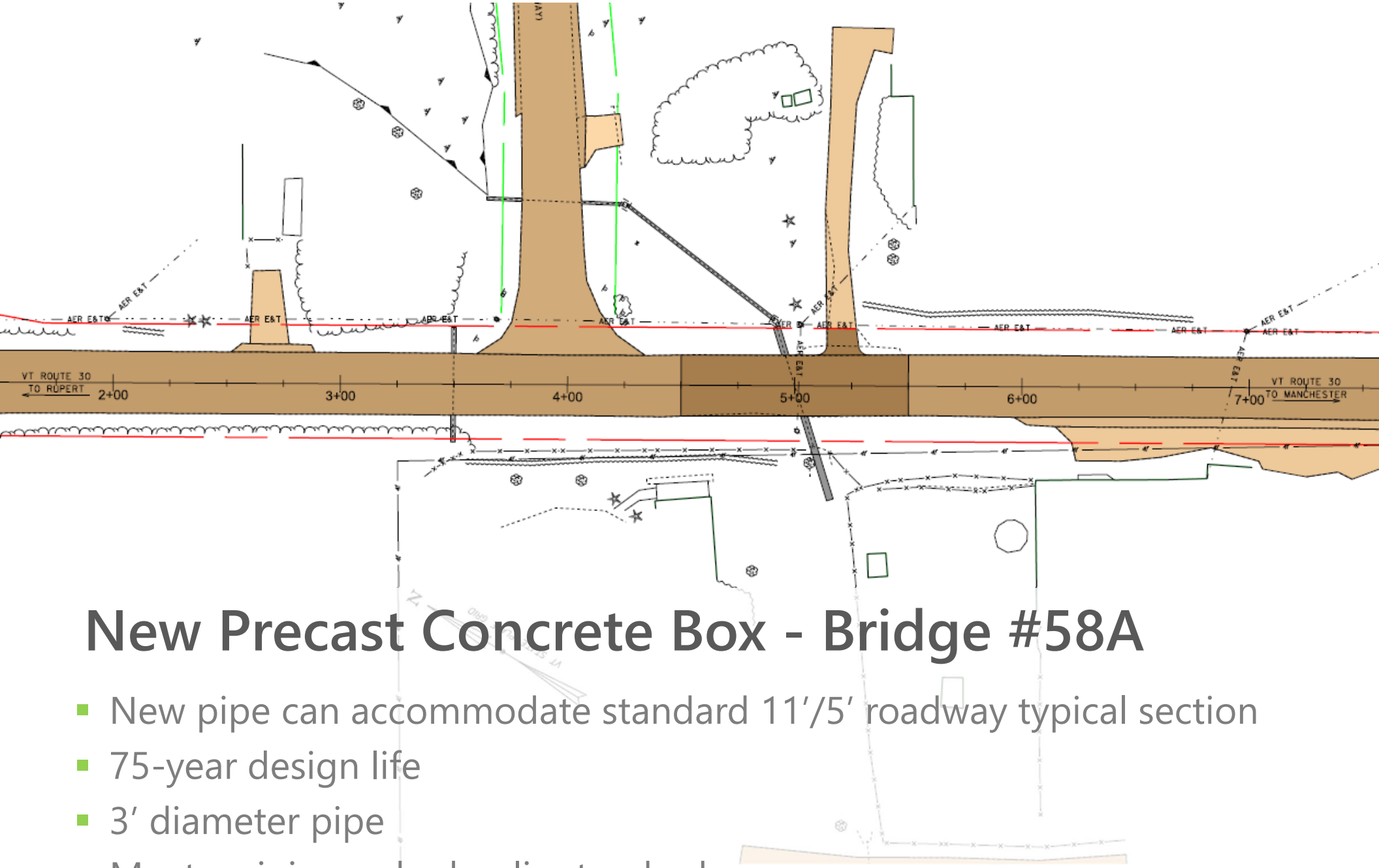


New Precast Concrete Box - Bridge #58A

- New pipe can accommodate standard 11’/5’ roadway typical section
- 75-year design life
- 3’ diameter pipe
- Meets minimum hydraulic standards

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 on the existing bridge while building one lane at a time of the proposed structure. This allows the road to stay open during construction with minimal impacts.

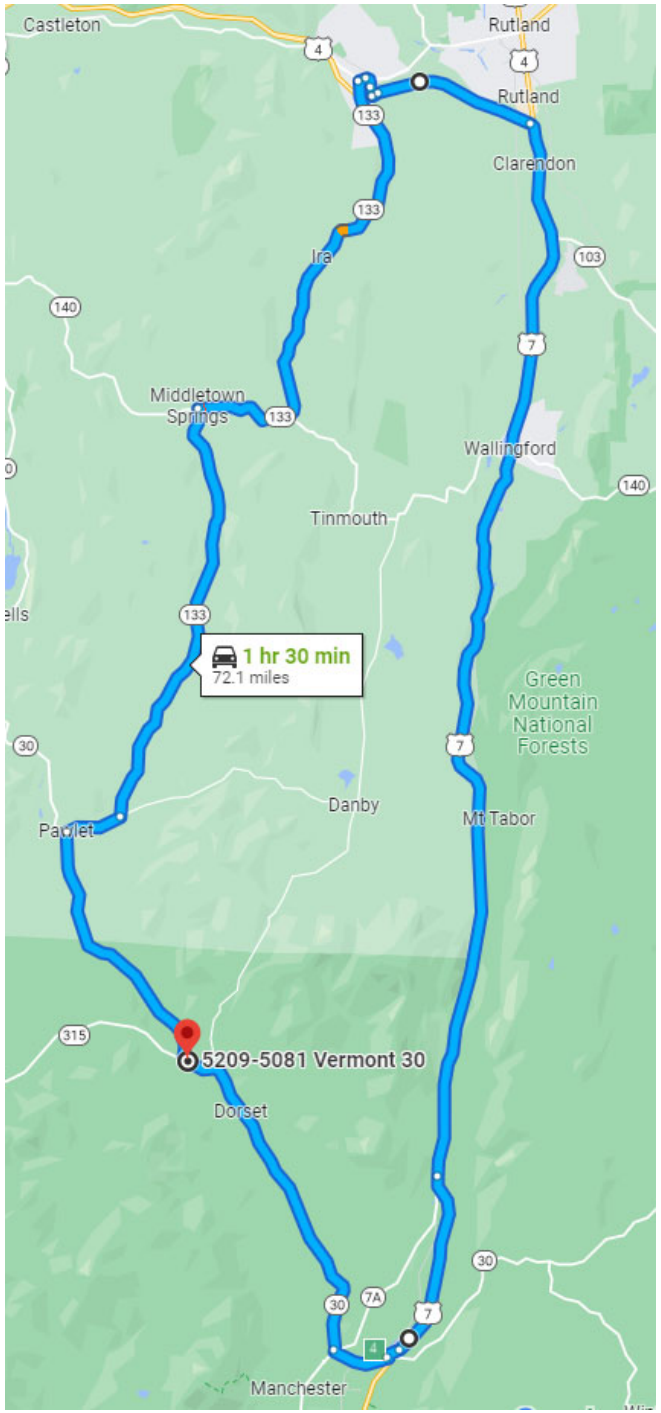
- **Temporary Bridge** - A temporary bridge on either side would have limits outside the existing Right-of-Way and require a utility relocation

Road Closure

- Detour chosen and signed by State
- 2-Day closure duration
- Shortest State-signed detour is 72.1 miles end-to-end
- Shortest Town-signed local bypass is 4.3 miles end-to-end

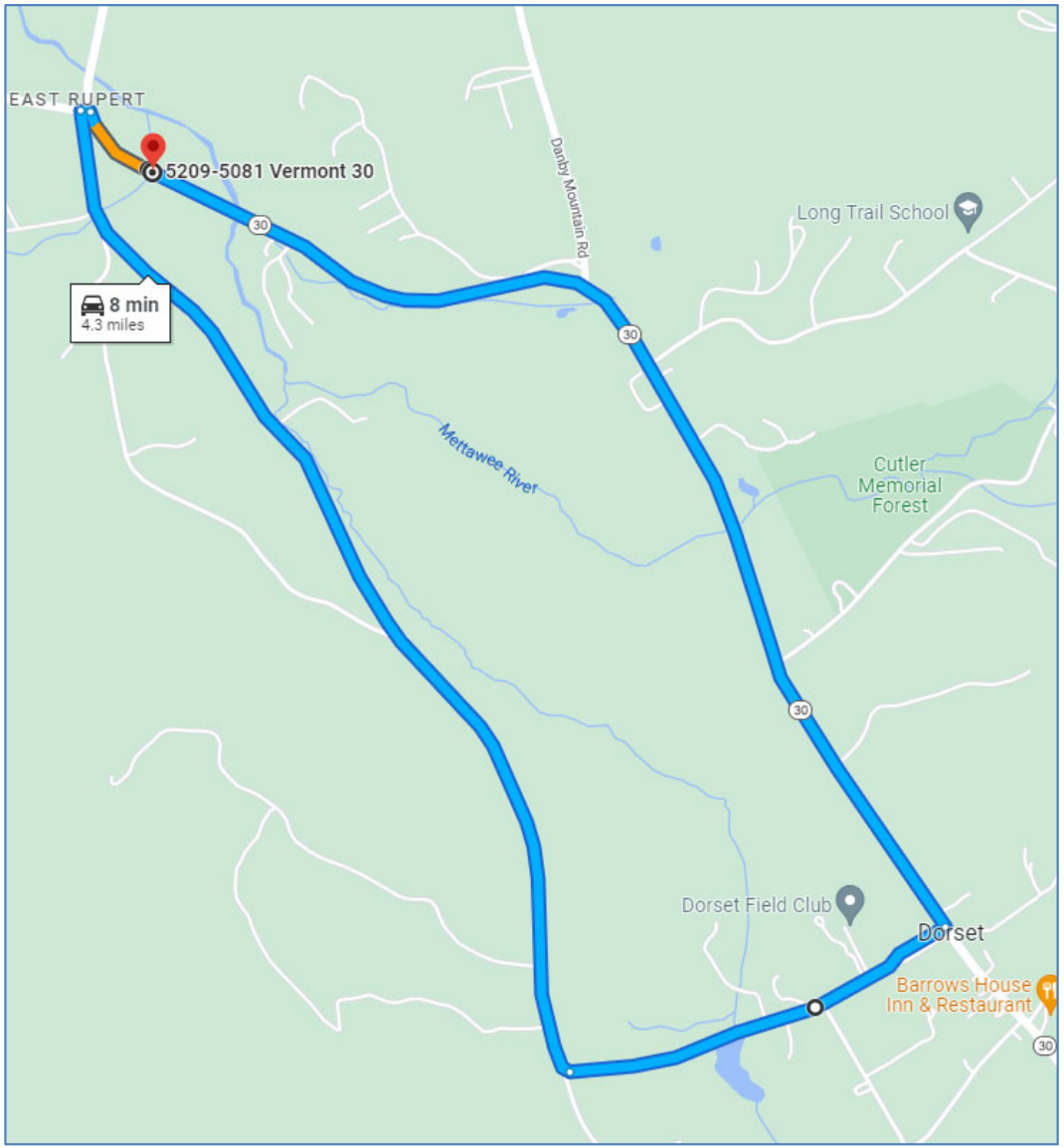
Traffic Control – Regional Detour

- **Regional Detour Route:** VT Route 30, to US Route 7, US Route 4, and VT Route 133, back to VT Route 30
  - End-to-End Distance: 72.1 miles
  - Through Distance: 15.7 miles
  - Detour Distance: 56.4 miles
  - Added Distance: 40.7 miles



Traffic Control – Local Bypass

- **Local Detour Route:** VT Route 30, to Church Street, Dorset West Road, Rupert Mountain Road, back to VT Route 30
  - End-to-End Distance: 4.3 miles
  - Through Distance: 2.0 miles
  - Detour Distance: 2.3 miles
  - Added Distance: 0.3 mile



Preliminary Project Schedule

- Construction Start – Spring/Summer 2026
  - Total Cost Estimate: $480,000

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Project Summary

- Full bridge replacement with a new 3’ diameter pipe, while maintaining traffic on an offsite detour
  - 2-day road closure
    - Official State detour route has an end-to-end distance of 72 miles
    - Local Bypass Route (end-to-end distance of 4.3 miles) is being used for Rupert Bridge 61 as a signed detour route for passenger cars, and has gained permission from the Town
  - Current culvert is rated as being in poor condition – replacement is needed
    - By replacing the culvert with a 3-foot pipe, the structure can be removed from the BIS
  - Either corrugated metal plate pipe (CGMPP) or High-Density Polyethylene (HDPE) pipe is acceptable for this site
  - Meets the minimum state standard for any future widening of the roadway
  - Design life; 75 years

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For more information:

- https://outside.vermont.gov/agency/vtrans/external/Projects/Structures/23B031

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Questions and Comments

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