



Topsham BF 031-1(13)
Regional Concerns Meeting
Vermont Route 25 – Bridge #23 over Waits River

November 23, 2020

04/17/2019

Introductions

Carolyn Cota, P.E.

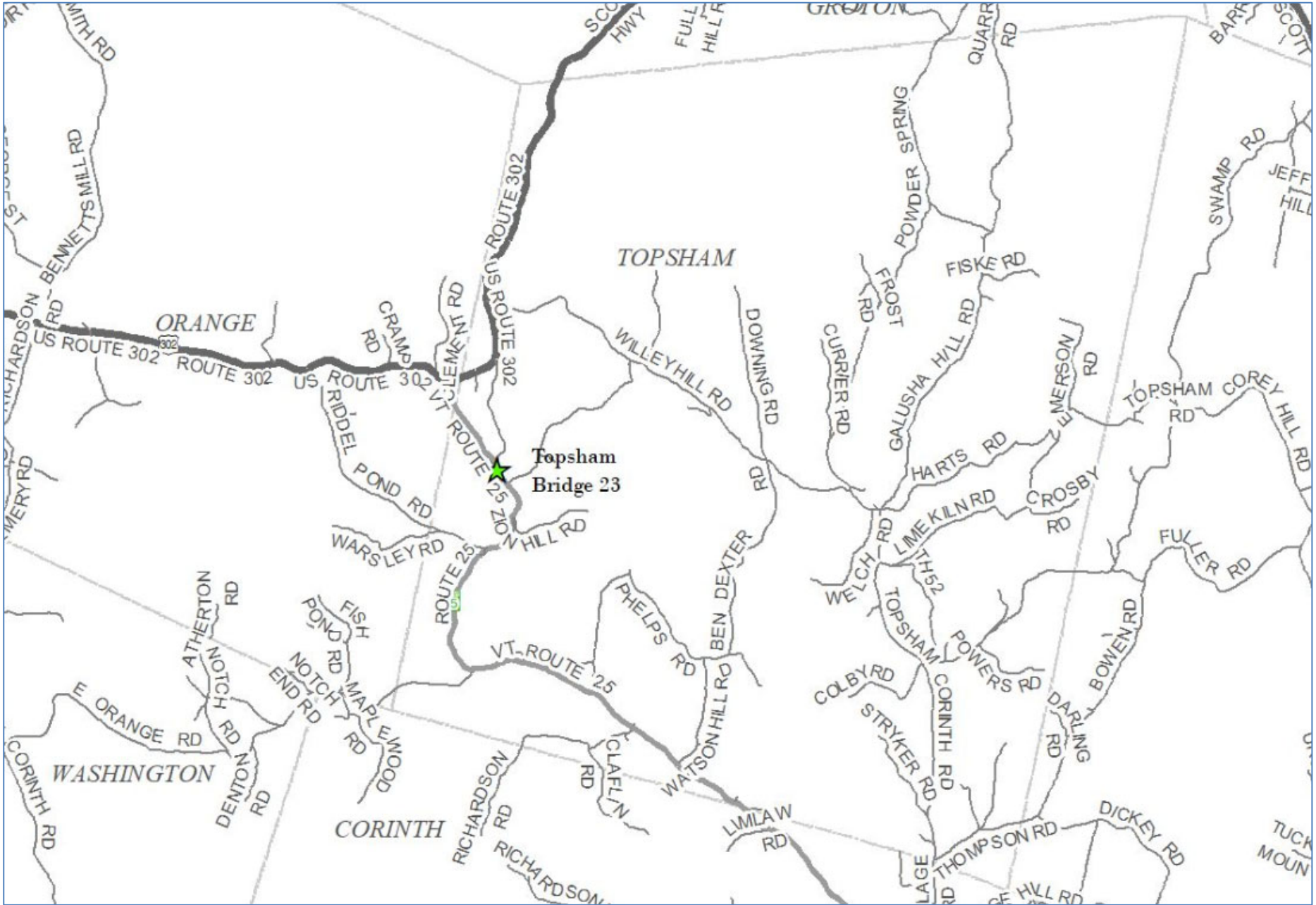
VTrans Project Manager

Laura Stone, P.E.

VTrans Scoping Engineer

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

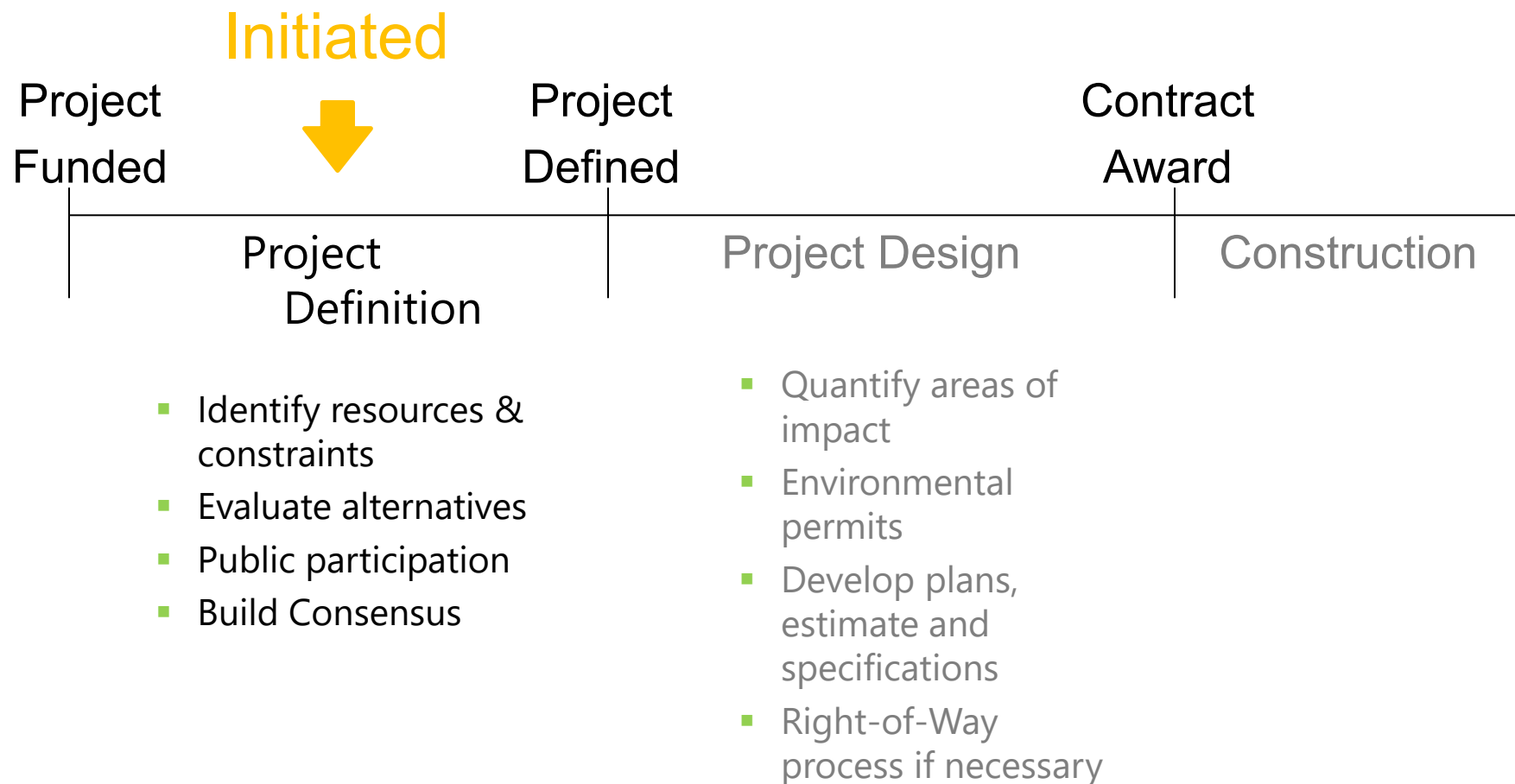


Bridge 23
Project Location

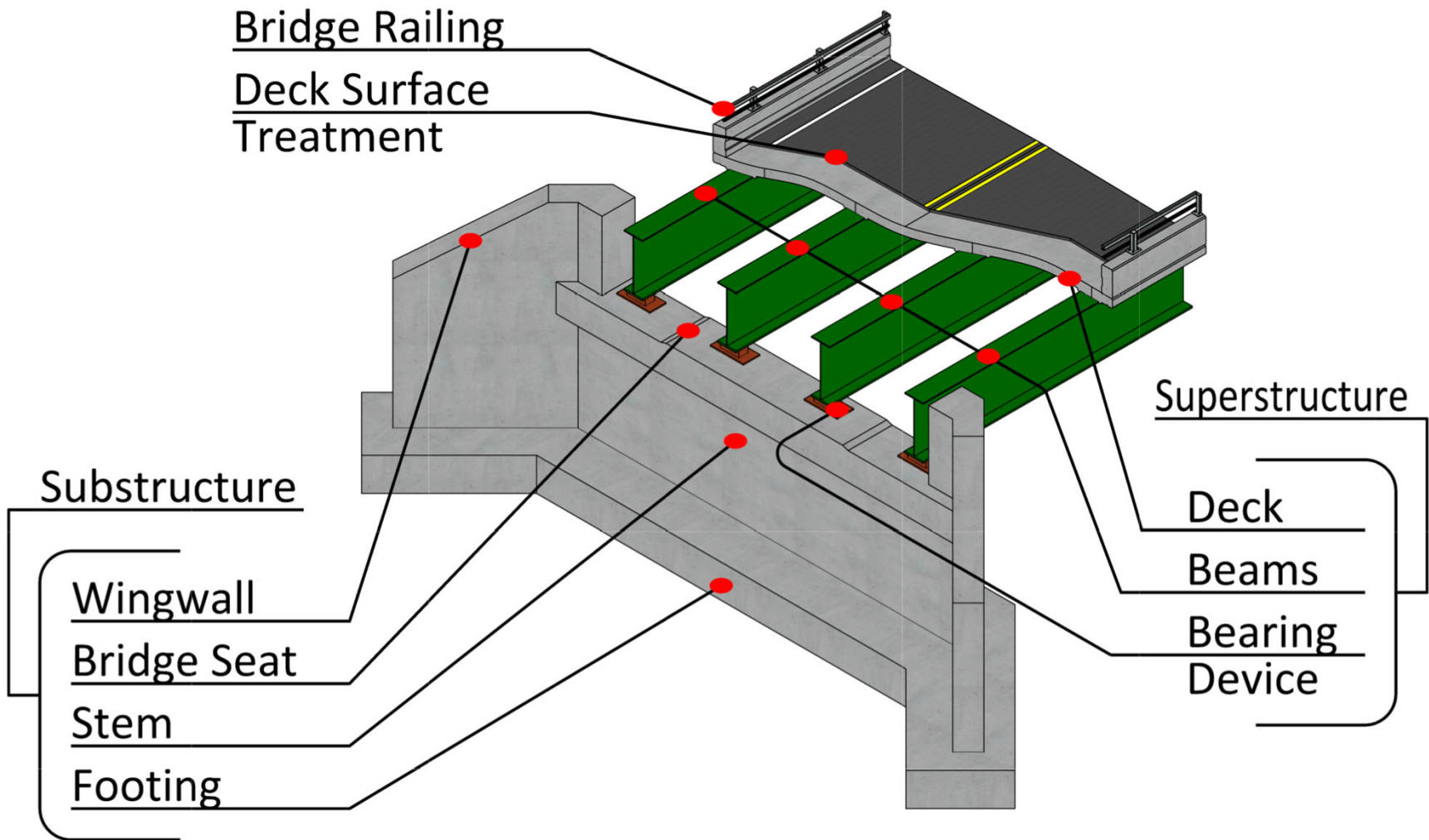
Meeting Overview

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

VTrans Project Development Process



Description of Terms Used



Looking North over Bridge 23



Existing Conditions – Bridge #23

- Roadway Classification – Minor Arterial
- Bridge Type – 44' Long Concrete T-Beam Bridge
- Ownership – State of Vermont
- Constructed in 1946

Looking South over Bridge 23



Existing Conditions – Bridge #23

- Large Skew

Existing Conditions – Bridges #23

- The reinforced concrete deck is in poor condition.
 - Impending full depth holes with areas of large spalls with exposed and rusting reinforcing steel.
- Beams have progression in deterioration from Beam 1 to Beam 5.
 - Beams 3 through 5 have delaminations and spalling present with exposed reinforcing steel
- Abutments have minor concrete scaling, and minor vertical cracking.
- The wingwalls are in fair condition with localized heavy concrete scaling with large delaminations
- The bridge is narrow.
- The bridge does not meet the minimum standard for bankfull width.

Condition Ratings

Existing Conditions - Bridge #23

- Deck Rating 4 (Poor)
- Superstructure Rating 5 (Fair)
- Substructure Rating 6 (Satisfactory)

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Southern Abutment



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Existing Conditions - Bridge #23

Resources

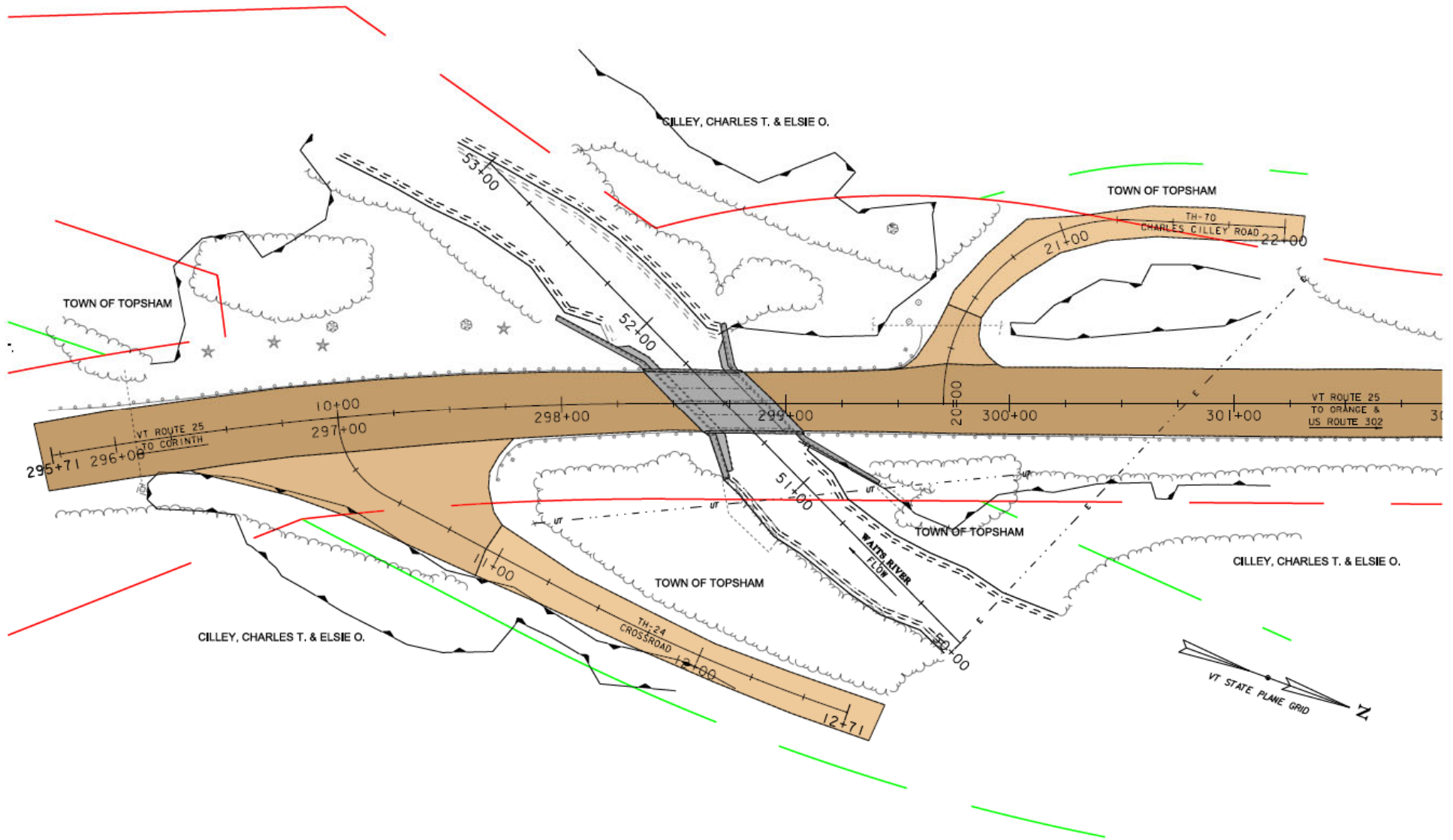


Existing Conditions - Bridge #23

- Wetlands
- Two historic properties:
 - Farm complex on Charles Cilley Road
 - Home at 558 VT Route 25

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Existing Conditions



Design Criteria and Considerations

- Average Daily Traffic
 - 2,000 vehicles per day
- Design Hourly Volume
 - 260 vehicles per hour
- % Trucks:
 - 12.5%

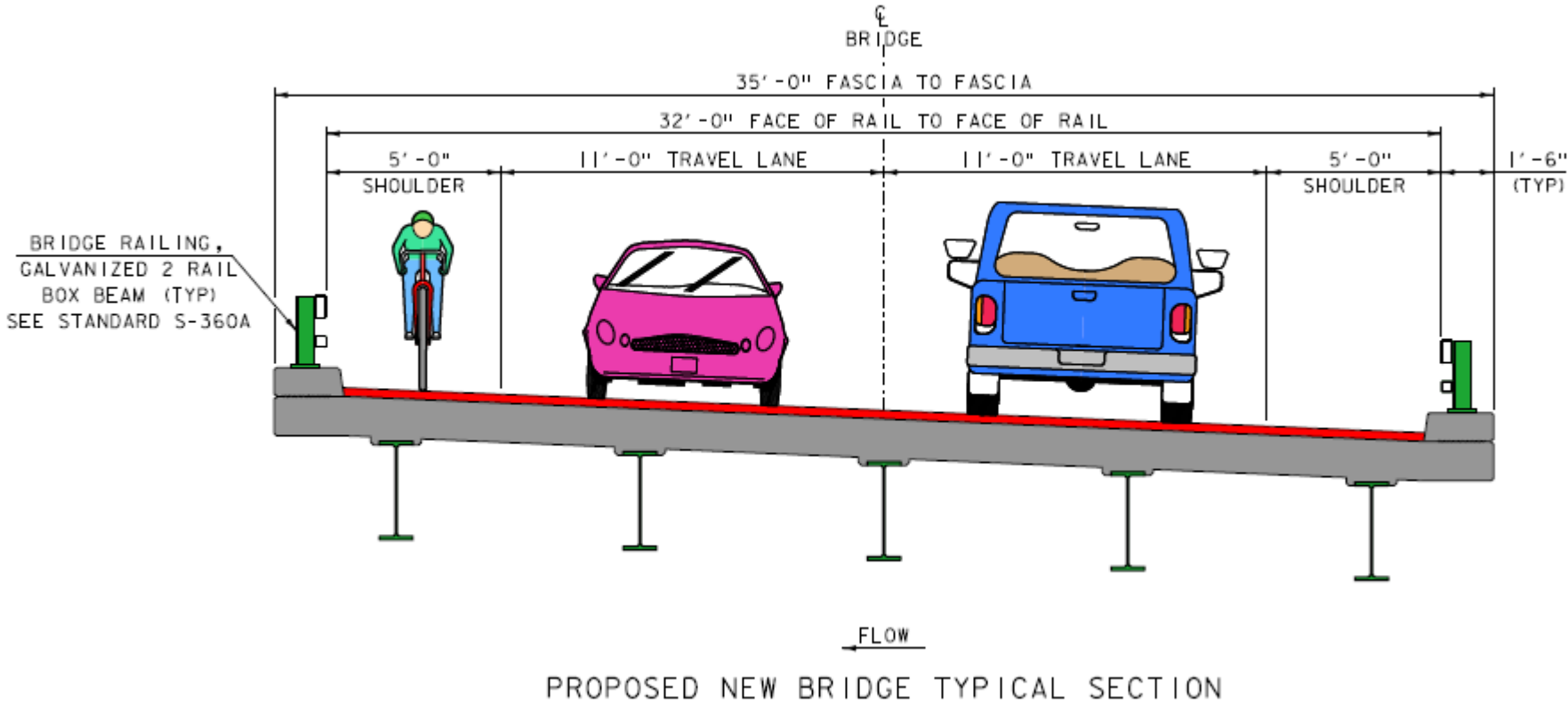
Alternatives Considered – Bridge #23

- No Action
 - Additional maintenance required within 10 years
- Rehabilitation
 - Structural deficiencies would be addressed
 - Matches existing typical (11'/2.5')
 - 15-year design life
- Superstructure Replacement
 - Structural deficiencies would be addressed as well as beam maintenance issues
 - Widen slightly (11'/3')
 - 40-year design life
- Full Bridge Replacement
 - Widen to minimum standard typical (11'/5')
 - 75-year design life

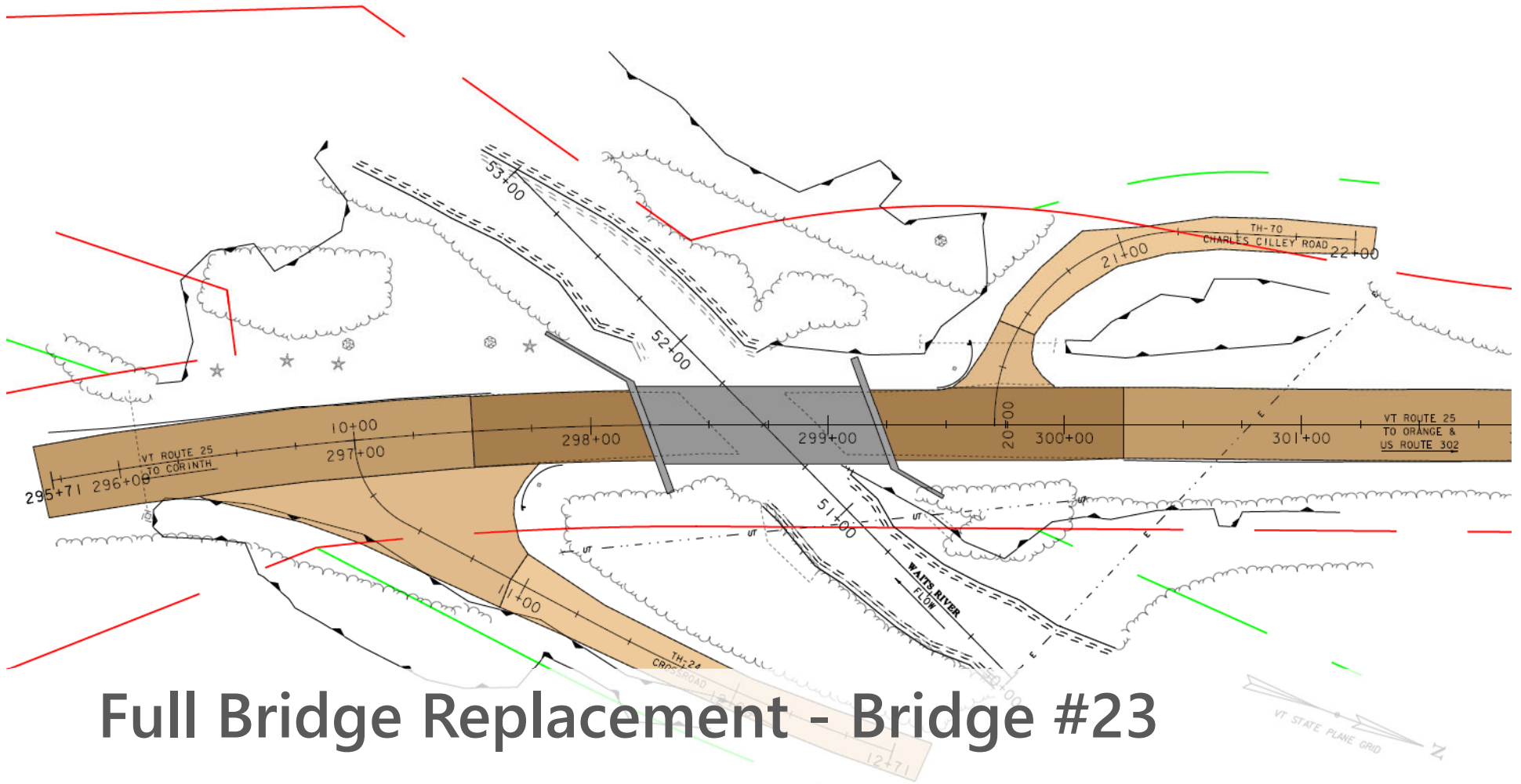
Selected Alternative - Bridge #23

- Full Bridge Replacement
 - All new bridge components
 - Widen to minimum standard: 11'/5'
 - 75-year design life
 - No Right of Way Needed
 - No Utility Relocation

Proposed Typical Section



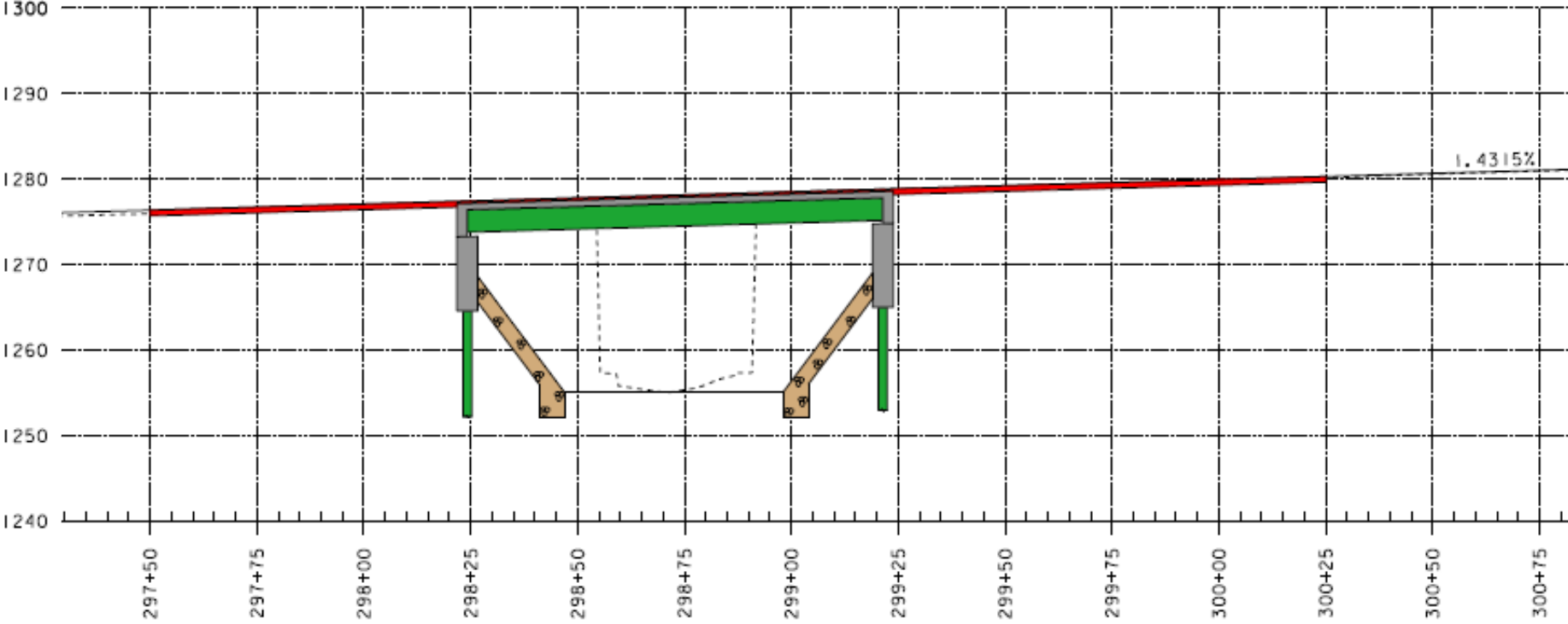
Proposed Layout



Full Bridge Replacement - Bridge #23

- 11'5" typical
- 75-year design life
- Integral abutment bridge

Proposed Profile



VT ROUTE 25 NEW BRIDGE PROFILE

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

Full Bridge Replacement- Bridge #23

- Match Existing vertical alignment

Maintenance of Traffic Options Considered

- Offsite Detour
- Phased Construction
- Temporary Bridge

Selected Method of Traffic Maintenance

A photograph of a road closure barrier. The barrier consists of several horizontal white panels with red diagonal stripes. A central white sign with a black border and the words "ROAD CLOSED" in large, bold, black capital letters is mounted on the barrier. The background shows a concrete curb, a chain-link fence, and green foliage under a clear sky.

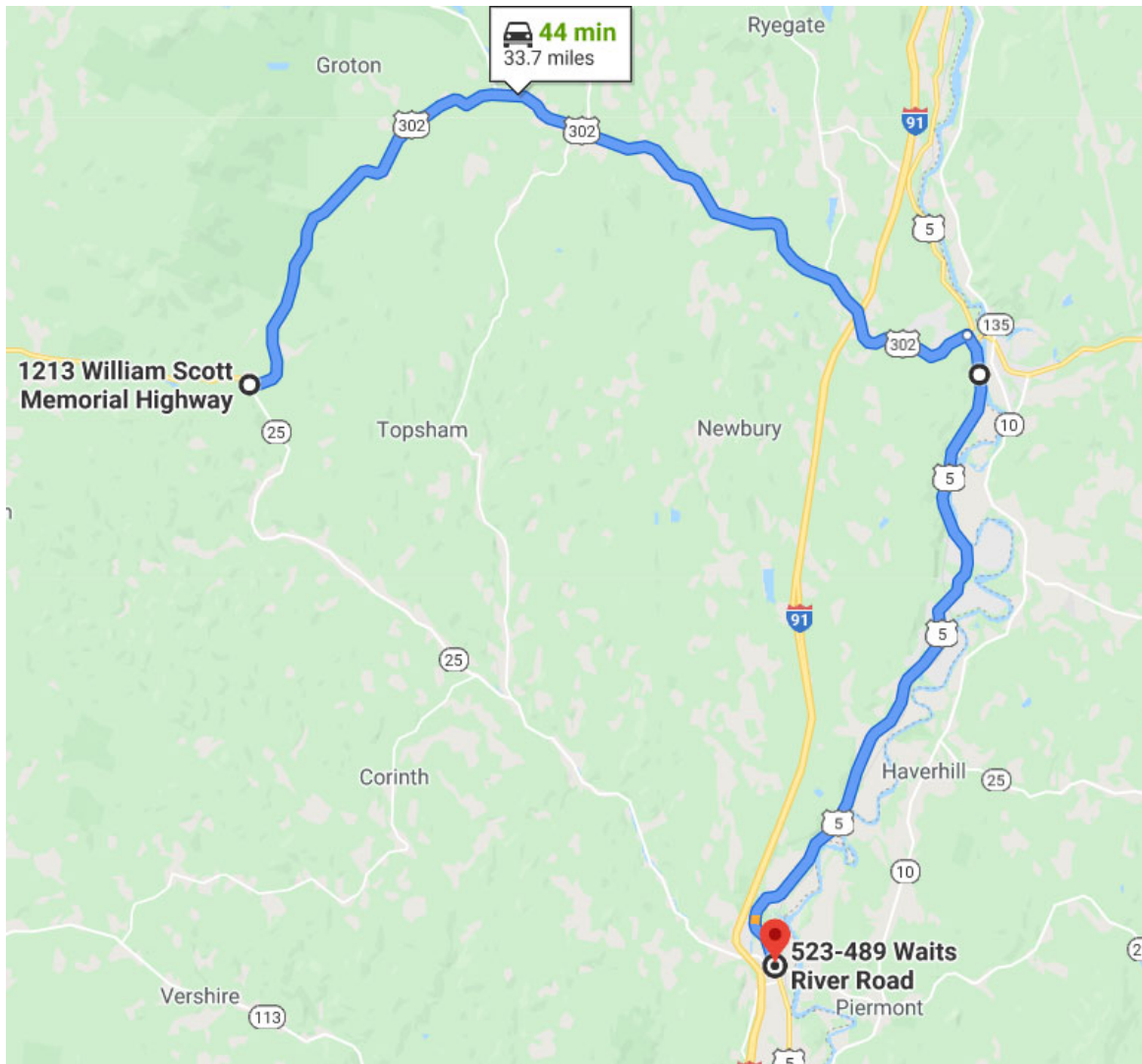
**ROAD
CLOSED**

Road Closure

- Detour chosen and signed by State
- Relatively long Regional Route with a 3-mile end-to-end local bypass
- 28-day closure

Traffic Control – Offsite Detour

- VT Route 25, to US Route 5, and US Route 302, back to VT Route 25



17.2 Miles Through-Route
(23 minutes)

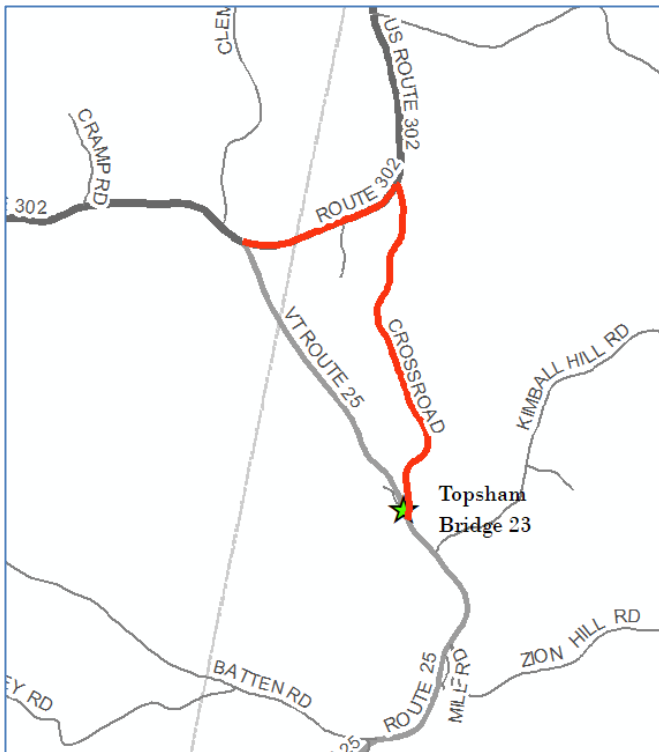
33.7 Miles Detour Route
(44 minutes)

50.9 Miles end-to-end

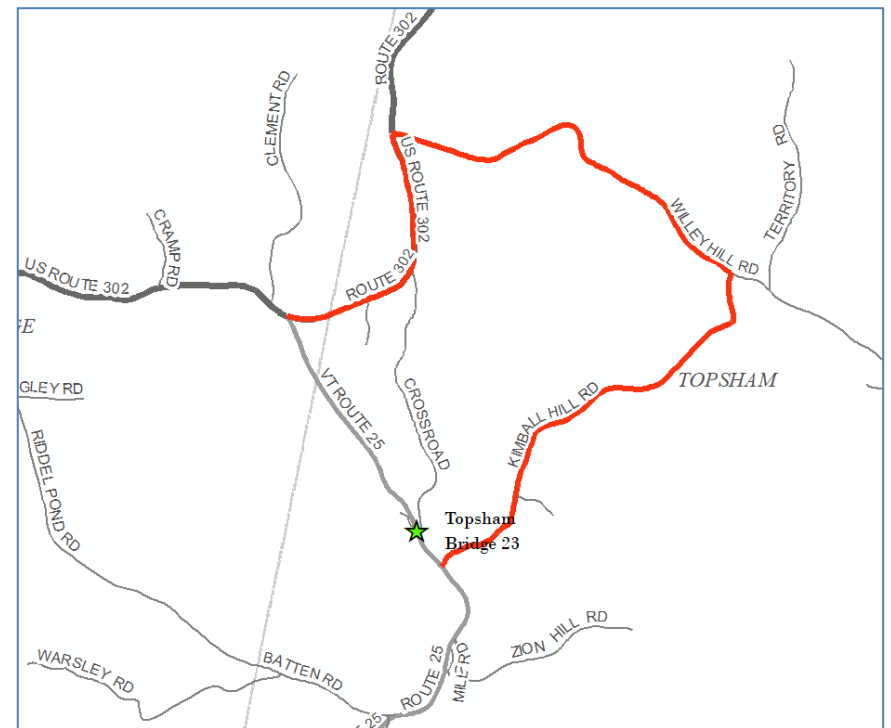
16.5 Miles Added

Traffic Control – Local Bypass Routes

- VT Route 25, to Crossroad (Legal Load Limit: 24,000 lbs), and US Route 302, back to VT Route 25
 - 1.1 Miles Through-Route
 - 1.8 Miles Detour Route
 - 2.9 Miles end-to-end
 - 0.7 Miles Added



- VT Route 25, to Kimball Hill Road, Willey Hill Road, and US Route 302, back to VT Route 25
 - 1.3 Miles Through-Route
 - 4.9 Miles Detour Route
 - 6.2 Miles end-to-end
 - 3.6 Miles Added



Preliminary Project Schedule

- Construction Start – Summer 2024
 - Total Cost Estimate: \$2,300,000

Project Summary: Bridge 23

- Full Bridge Replacement with Traffic Maintained on an Offsite Detour
 - 28 Day Closure
 - All new bridge components
 - Widen to minimum standard width (11'/5')
 - Lengthen for integral abutment bridge
 - Shorter closure duration
 - Additional scour protection
 - 75-year design life
 - No Right of Way Needed
 - No Utility Relocation

For more information:

- <https://outside.vermont.gov/agency/vtrans/external/Projects/Structures/19B210>



Topsham BF 031-1(13) Questions and Comments

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