



Richmond IM 089-2(52)
Regional Concerns Meeting
US Route 2 – Bridge #29 over Interstate 89

June 11, 2018

Introductions

Carolyn Carlson, P.E.

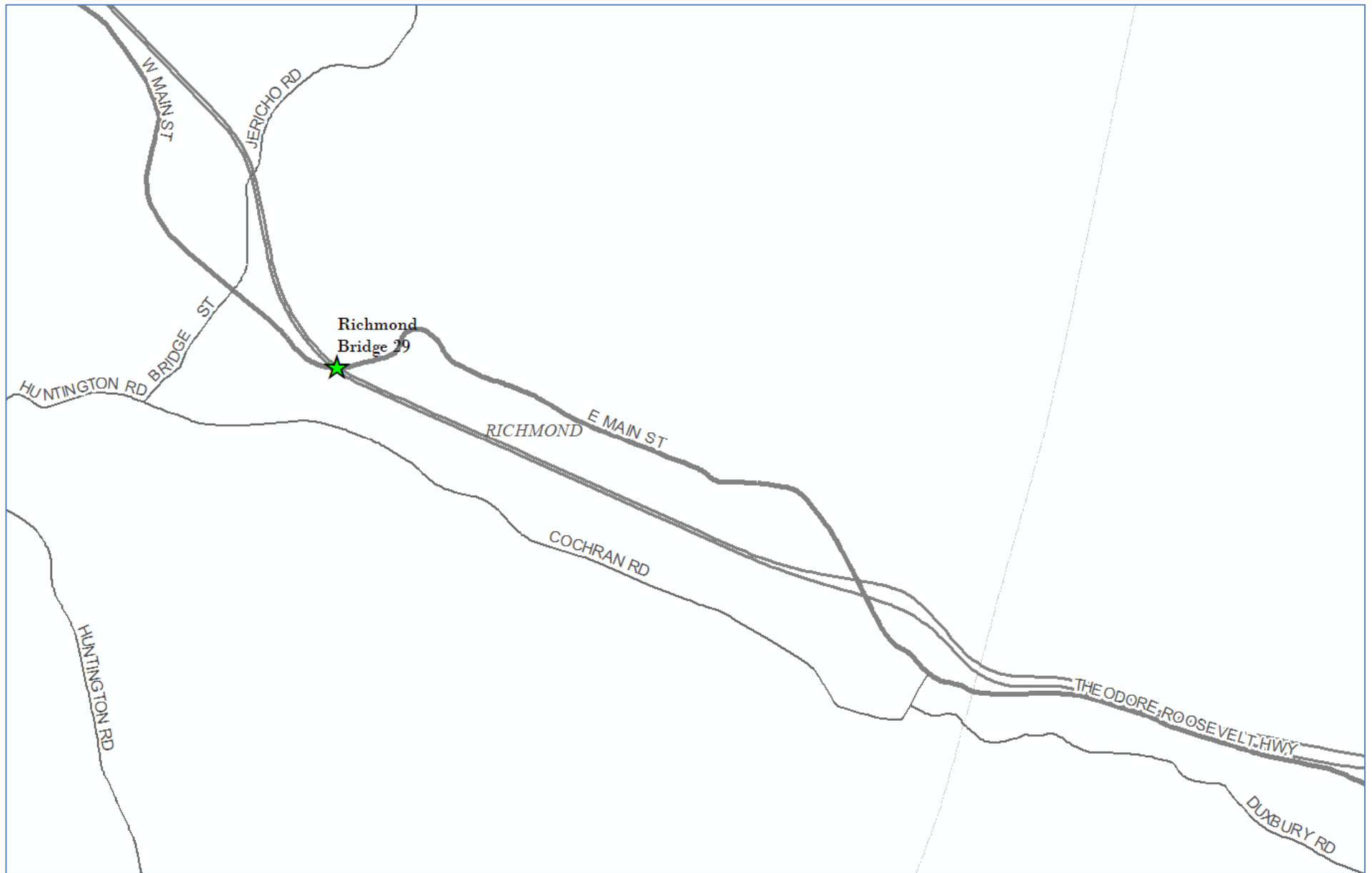
VTrans Design Project Manager

Laura Stone, P.E.

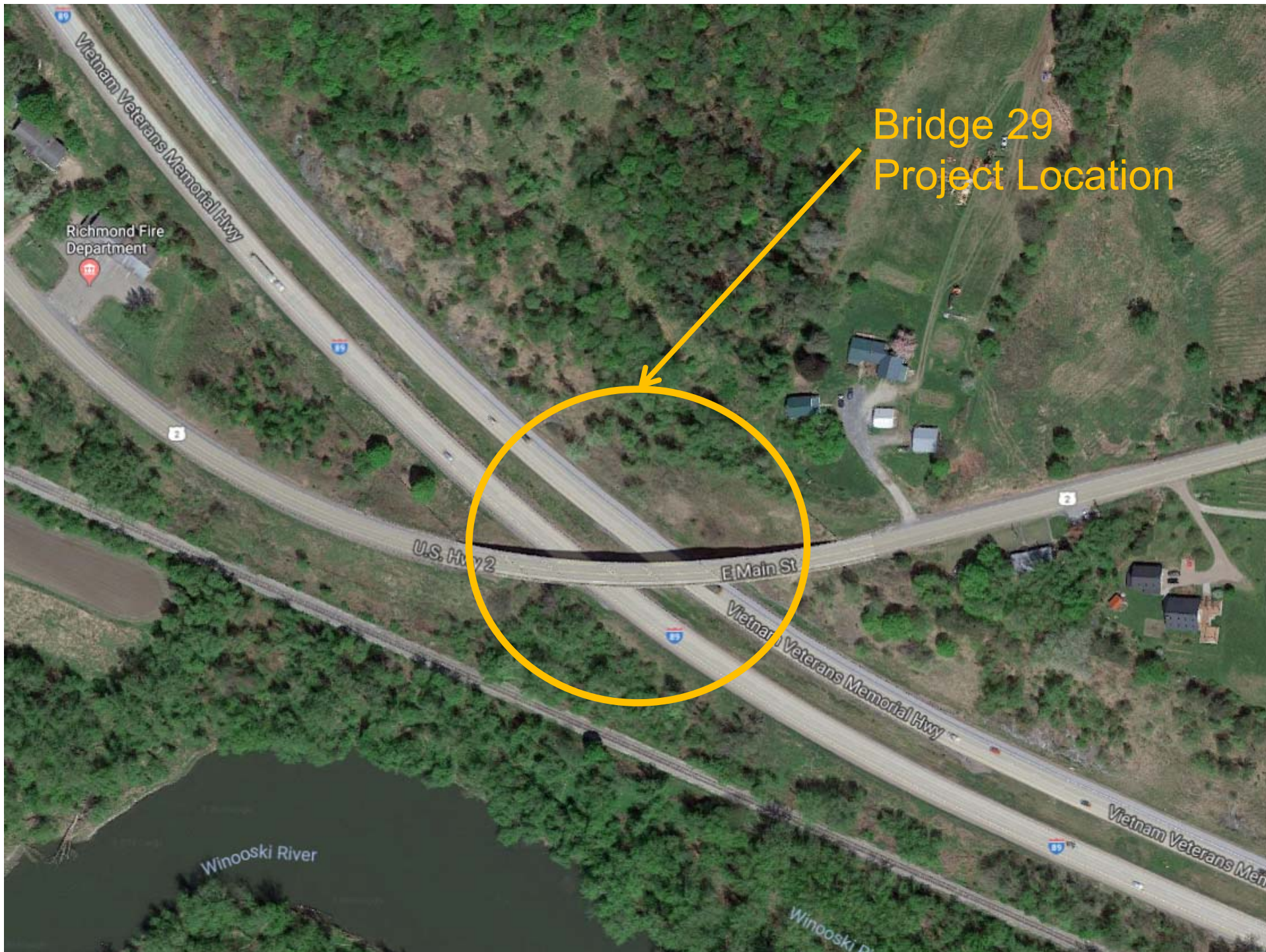
VTrans Scoping Engineer

Purpose of Meeting

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



Location Map

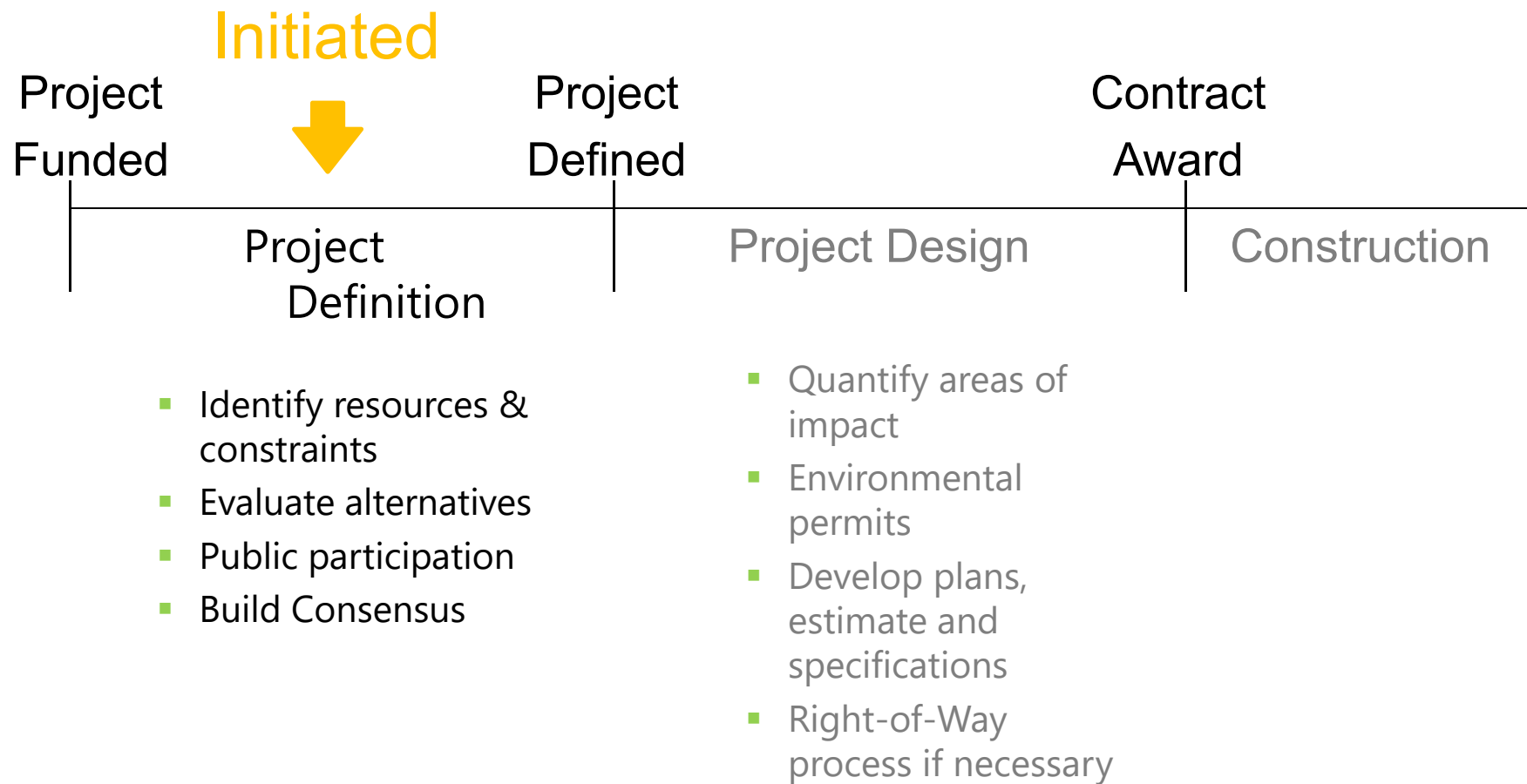


Bridge 29
Project Location

Meeting Overview

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

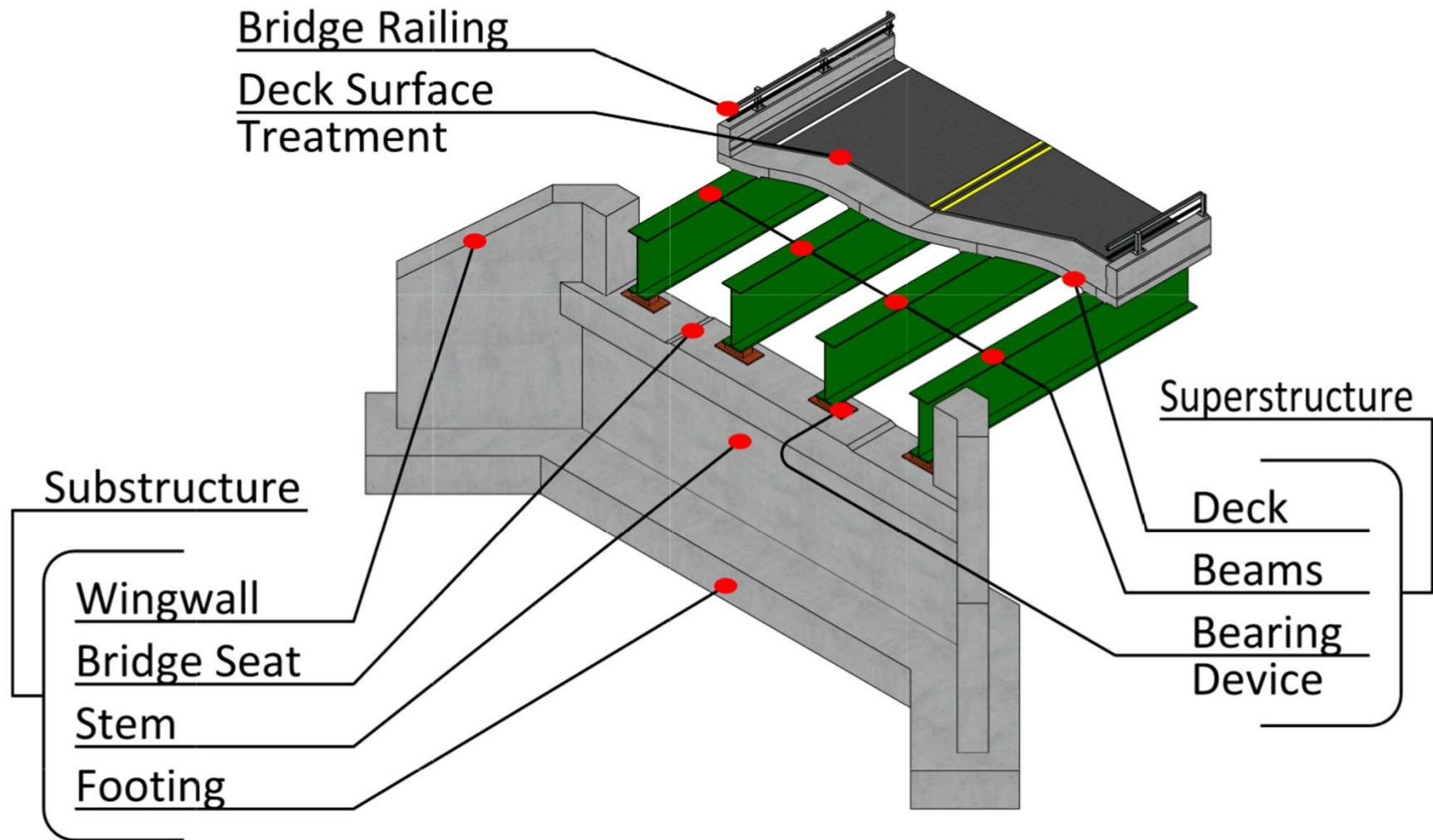
VTrans Project Development Process



Project Overview

- Existing Conditions
- Alternatives Considered
- Selected Alternative

Description of Terms Used



Looking East over Bridge



Existing Conditions – Bridge #29

- Roadway Classification – Major Collector
- Bridge Type – 497' long 8-span Rolled Beam Bridge
- Ownership – State of Vermont
- Constructed in 1964

04 / 29 / 20

Pier Deterioration

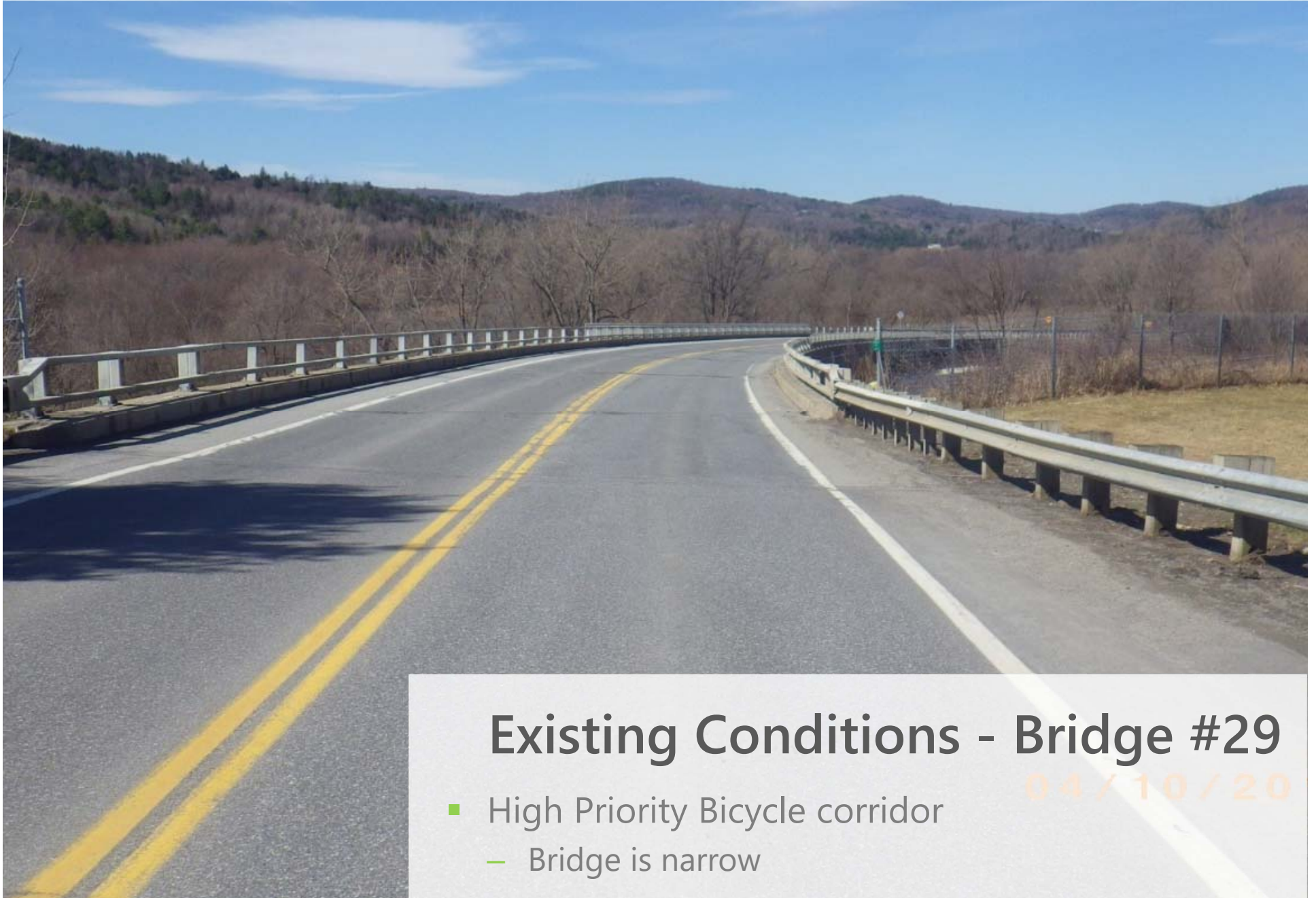


Existing Conditions - Bridge #29

- Deck Rating 7 (Good)
- Superstructure Rating 5 (Fair)
- Substructure Rating 4 (Poor)
 - Extensive deterioration of pier caps

04/10/20

Looking West over Bridge



Existing Conditions - Bridge #29

- High Priority Bicycle corridor
- Bridge is narrow

04 / 10 / 20

Deck Condition



Existing Conditions - Bridge #29

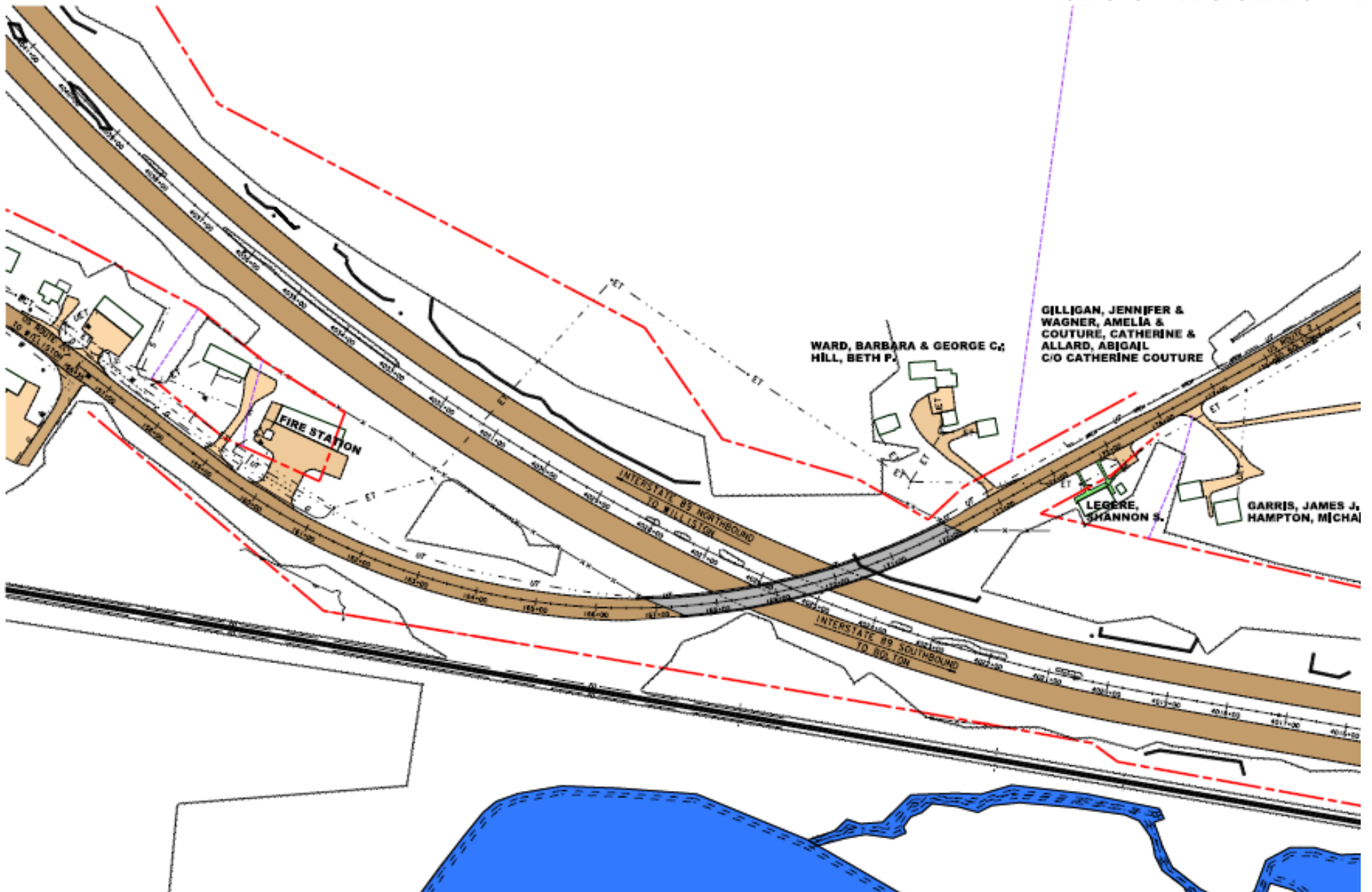
- Bridge Joints in poor condition
 - Allowing water to run onto the bearings and pier caps
- Deteriorating Fascia

Resources

Existing Conditions - Bridge #29

- Utilities
- Natural Resources South of the bridge and along the Winooski River

Existing Conditions



Design Criteria and Considerations

- ADT of 2,600
- DHV of 350
- % Trucks: 1.3
- Design Speed of 40 mph
- 16'-3" minimum vertical clearance over Interstate 89
- Utilities

Alternatives Considered – Bridge #29

- No Action
 - Additional maintenance required within 10 years
- 2 or 3 Span Steel Beam Bridge – On and Off Alignment Option
 - Widen to match corridor (12'/6')
 - Meets geometric standards
 - 100 year design life
- Buried Structure – On and Off Alignment Option
 - Widen to match corridor (12'/6')
 - Long structure required due to skew of Interstate 89 to US Route 2 along with horizontal curve along US Route 2
 - Meets geometric standards
 - 100 year design life
- Off Alignment options will require a raise in vertical grade along US Route 2

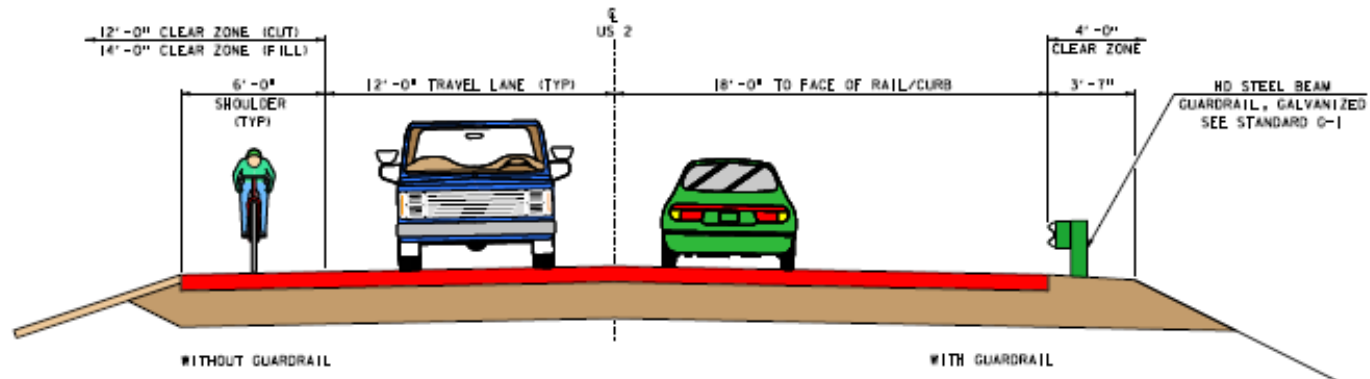
Maintenance of Traffic Options Considered

- Off Site Detour
 - Year long closure with significant impacts to business
- Existing Bridge for Off Alignment Option
- Temporary Bridge

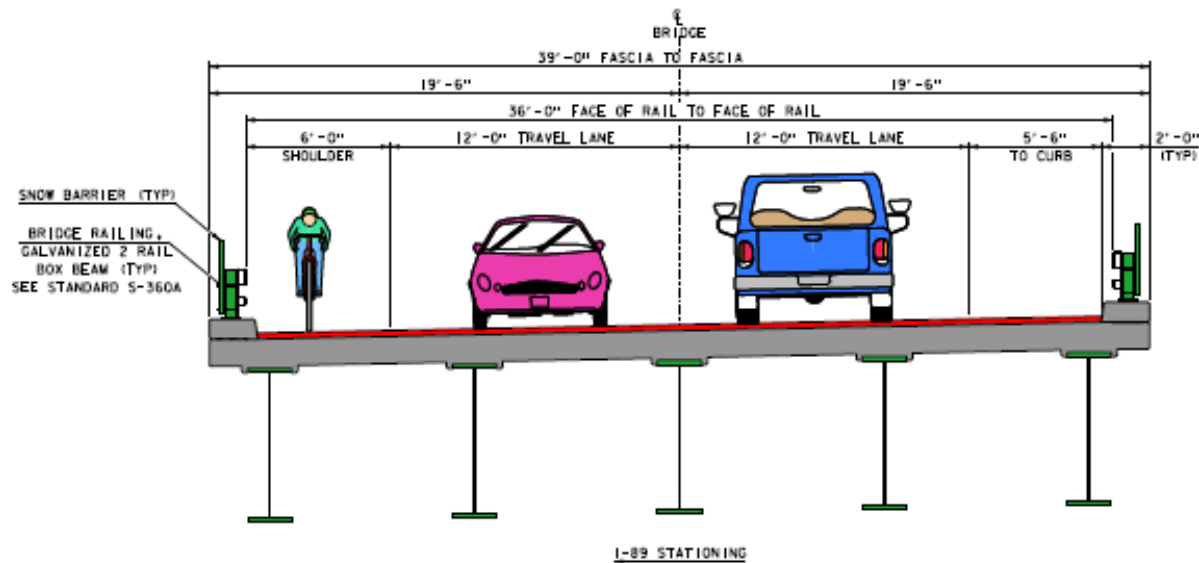
Recommended Scope - Bridge #29

- Full Bridge Replacement with Steel Beam Bridge OFF Alignment
 - Bridge centerline to shift approximately 70' north
 - Number of spans to be reduced from 8 spans to 2 or 3 continuous spans
 - Future maintenance needs reduced
 - MSE walls are likely due to the height of abutments
 - US Route 2 raised approximately 2 feet
 - Deeper superstructures due to increased span length
 - Interstate has a grade climb north of the existing structure
 - Widen Bridge to meet minimum standard and the needs of the corridor
 - Abutments may be skewed to allow for future maintenance lanes on Interstate 89
 - 100 year design life
 - Right-of-Way needed
 - Utility Relocation needed

Proposed Typical Section

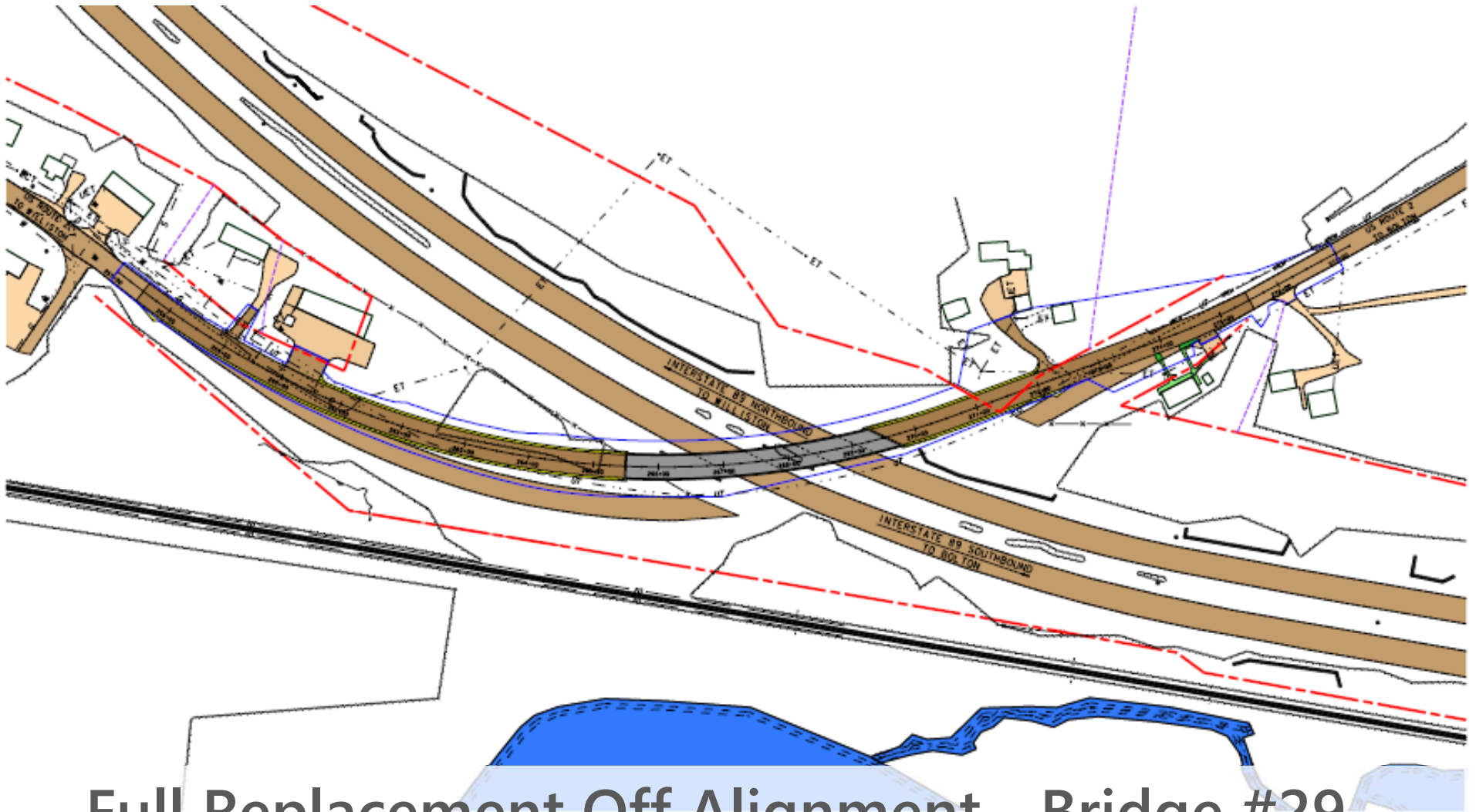


PROPOSED US ROUTE 2 TYPICAL SECTION



BRIDGE TYPICAL SECTION

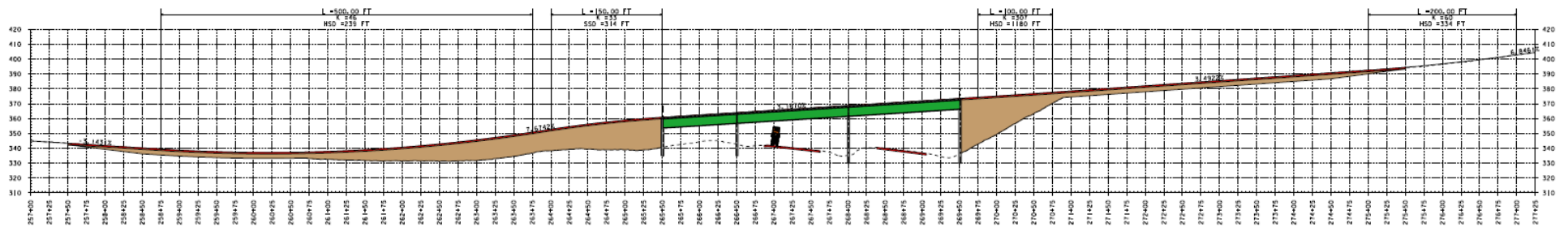
Proposed Layout



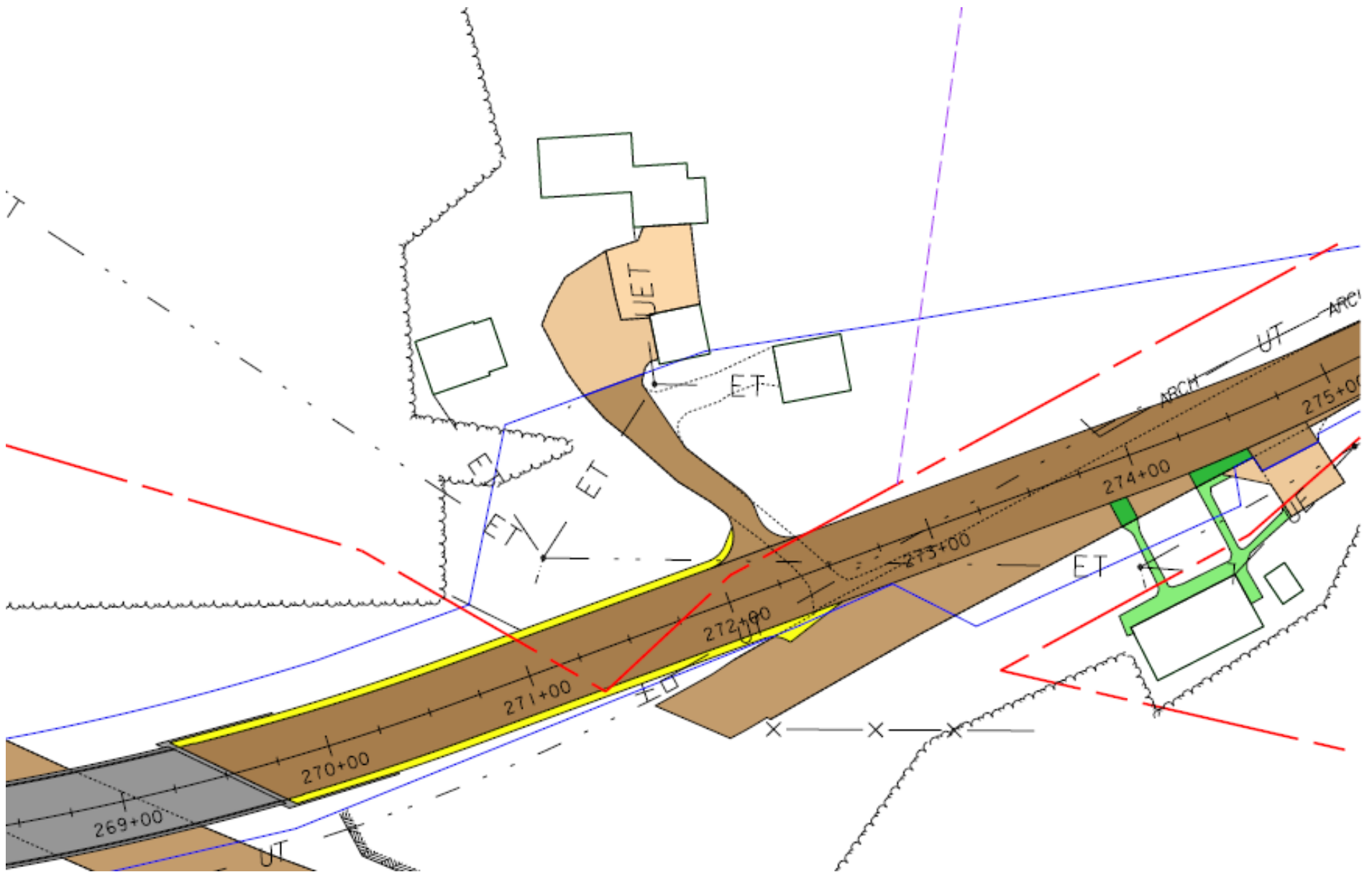
Full Replacement Off Alignment - Bridge #29

- 12'/6' typical, 100 year design life

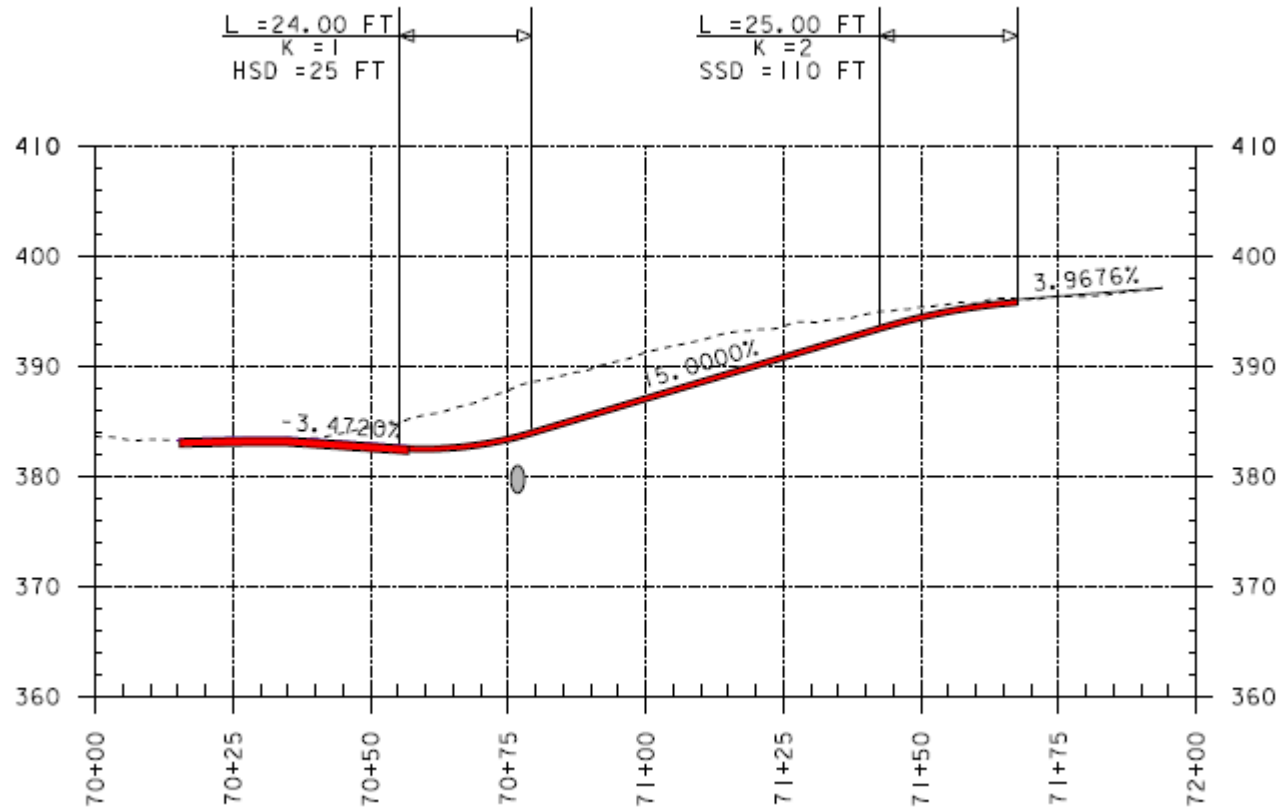
Proposed Profile



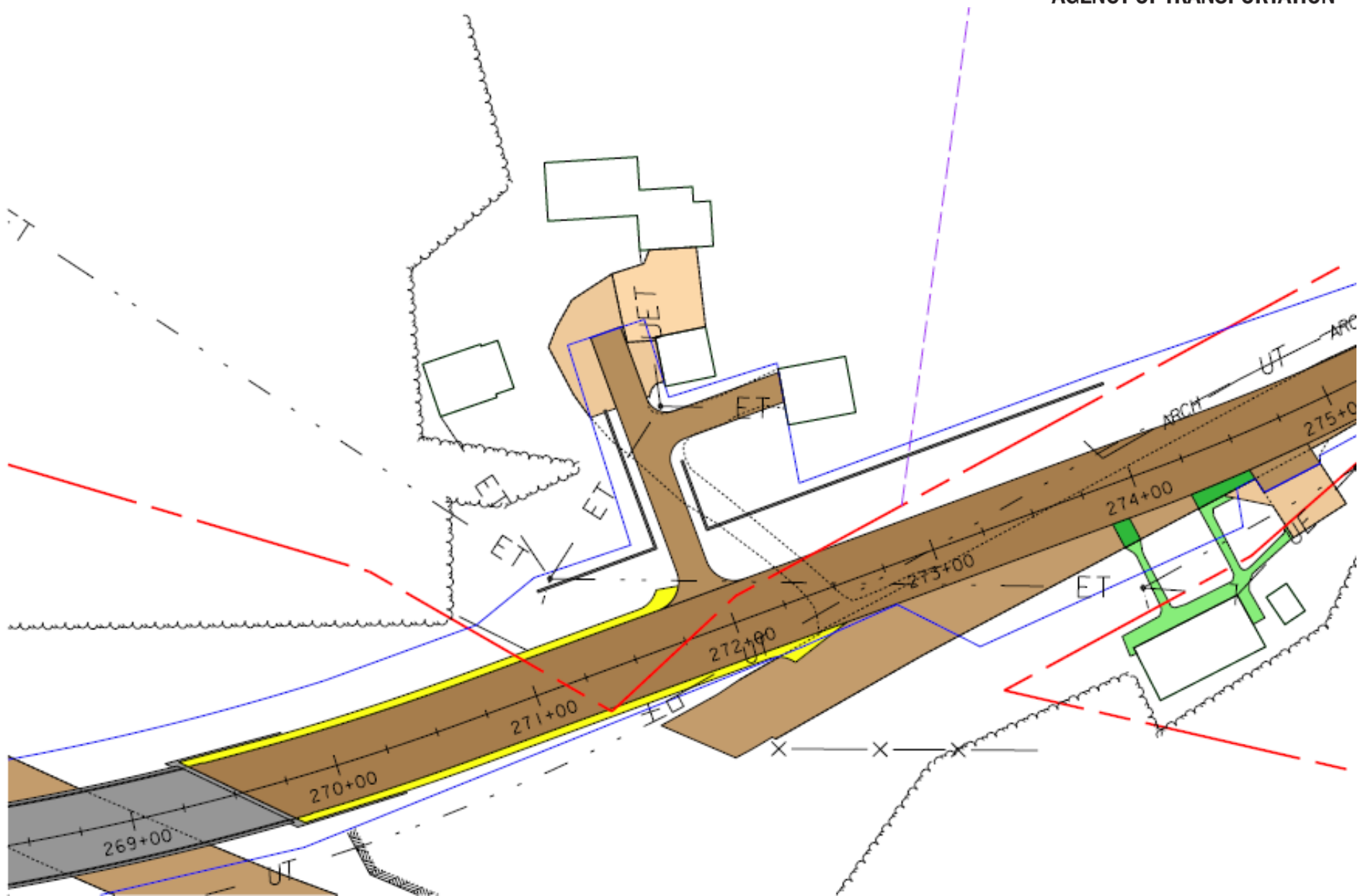
Drive Layout Option 1



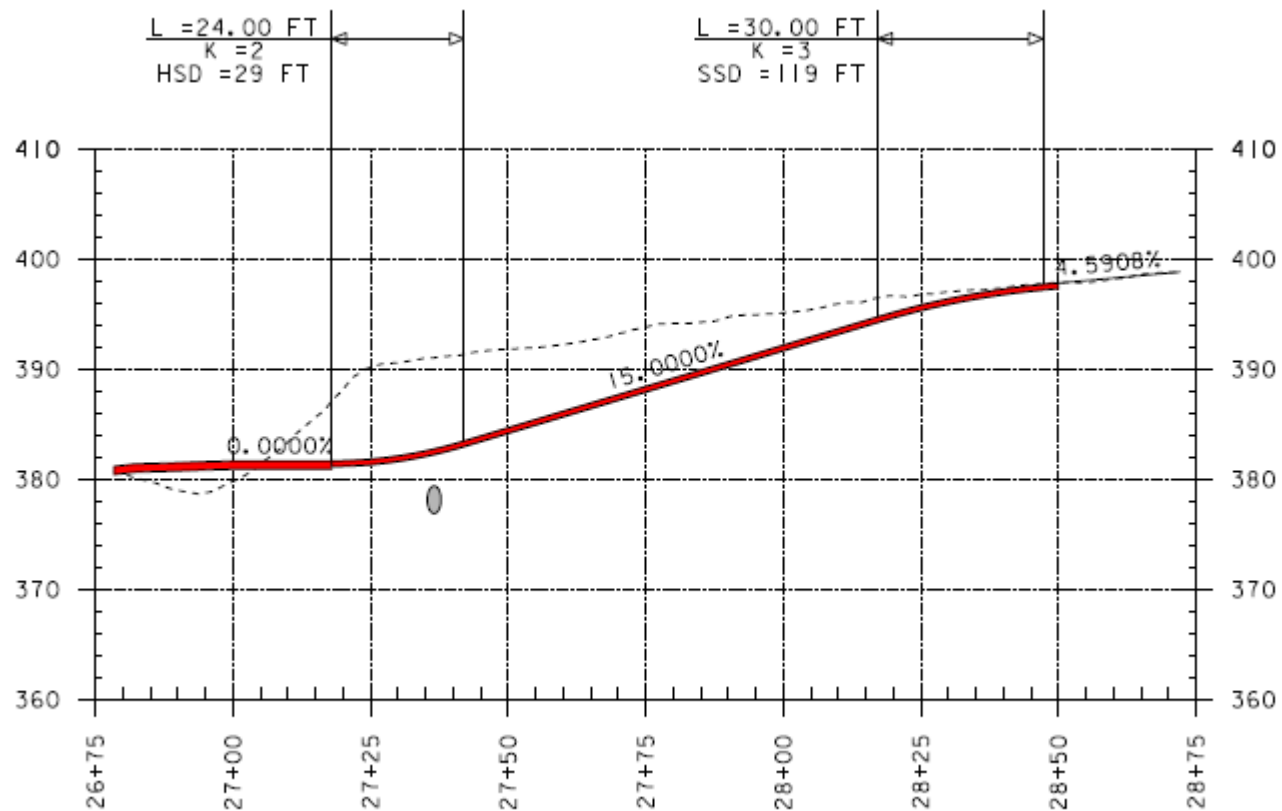
Drive Profile Option 1



Drive Layout Option 2



Drive Profile Option 2



What Will the New Bridge Look Like?



Proposed Example - Bridge #29

- MSE Walls – Middlesex

Preliminary Project Schedule

- Construction Start – 2023
 - 2 Year construction project
 - Total Cost Estimate: \$11,100,000

For more information:

- <https://outside.vermont.gov/agency/vtrans/external/Projects/Structures/16A183>



Richmond IM 089-2(52) Questions and Comments

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