West Rutland BF 020-1(25&26)
Public Informational Meeting

US ROUTE 4, BRIDGE'S 13E, 13W, 14E, 14W OVER CLARENDON & PITTSFORD RAILROAD (CPR), CASTLETON RIVER, AND VT ROUTE 4A

May 12, 2025

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Introductions

JB McCarthy, P.E.

VTrans Design Project Manager

Laura Stone, P.E.

VTrans Scoping Project Manager

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Purpose of Meeting

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

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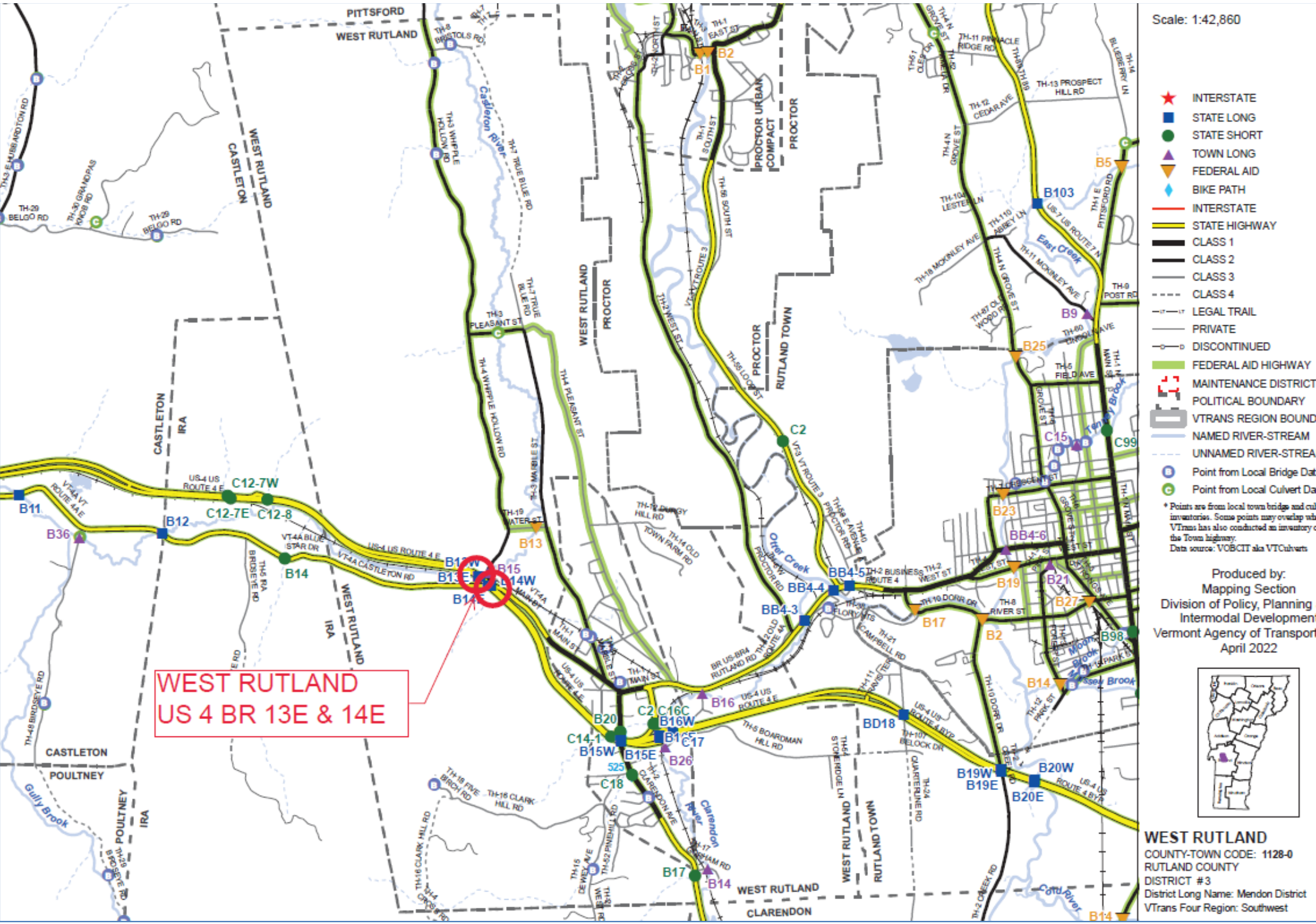
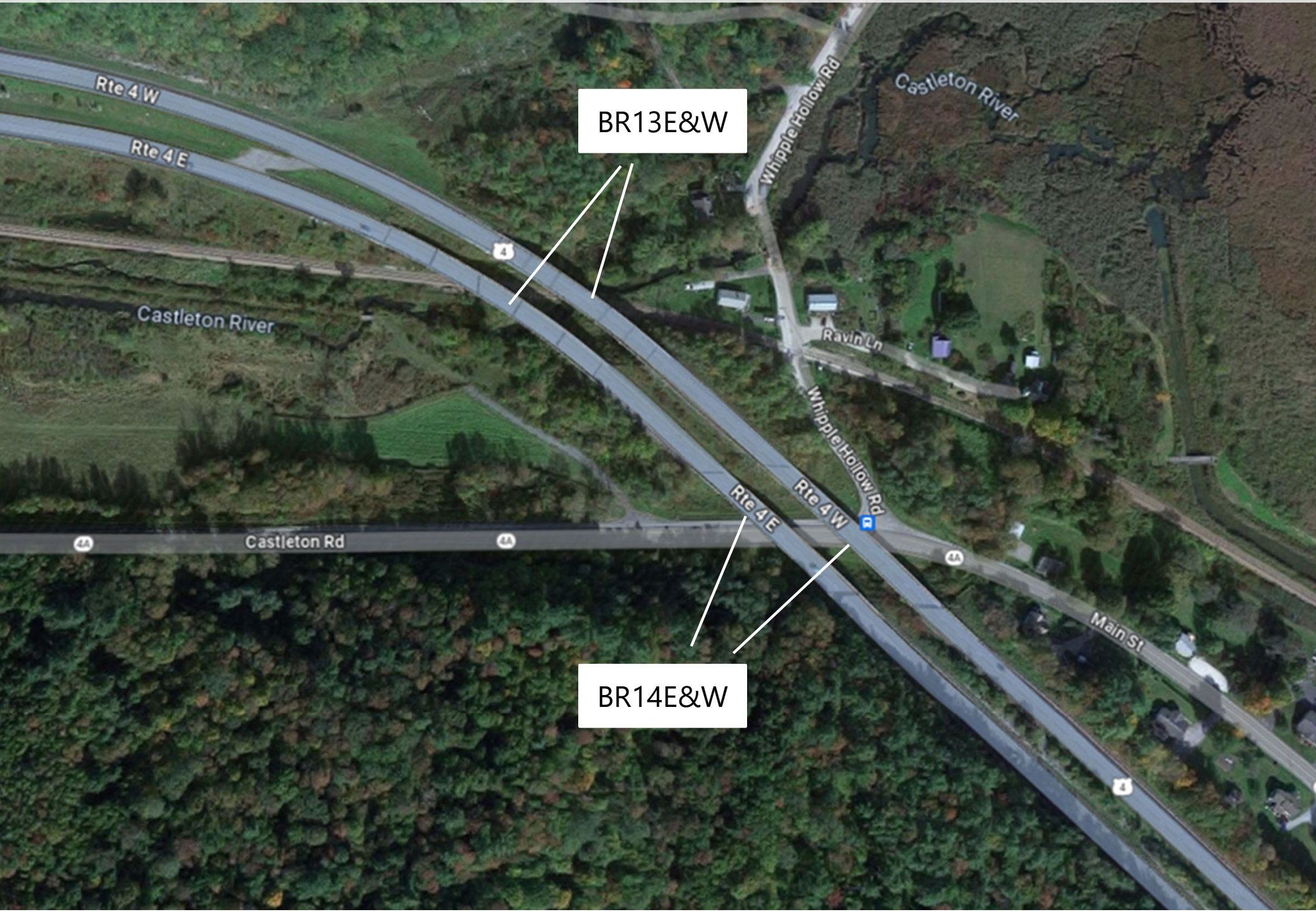
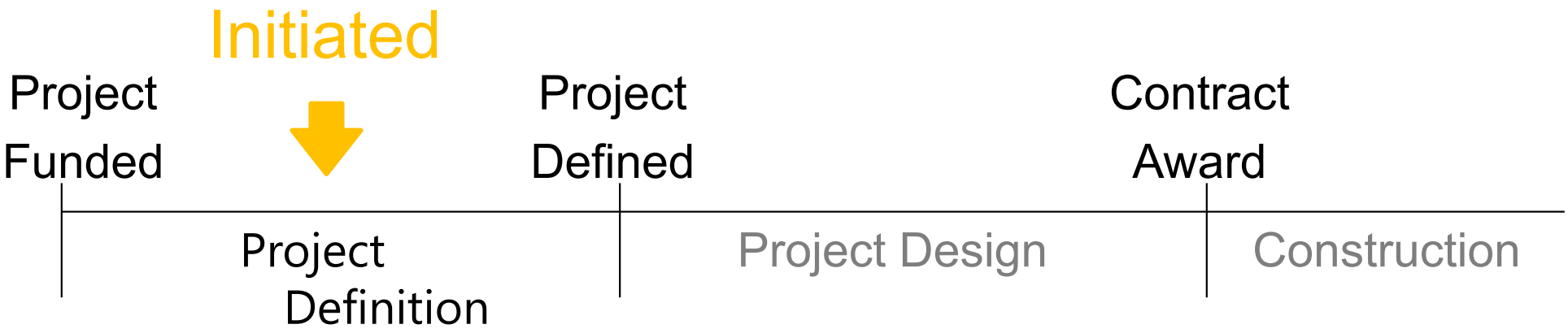


Location Map

Aerial View


BR13E&W
BR14E&W
Rte 4 W
Rte 4 E
Castleton River
Whipple Hollow Rd
Castleton River
Ravin Ln
Whipple Hollow Rd
Rte 4 E
Rte 4 W
Castleton Rd
Main St

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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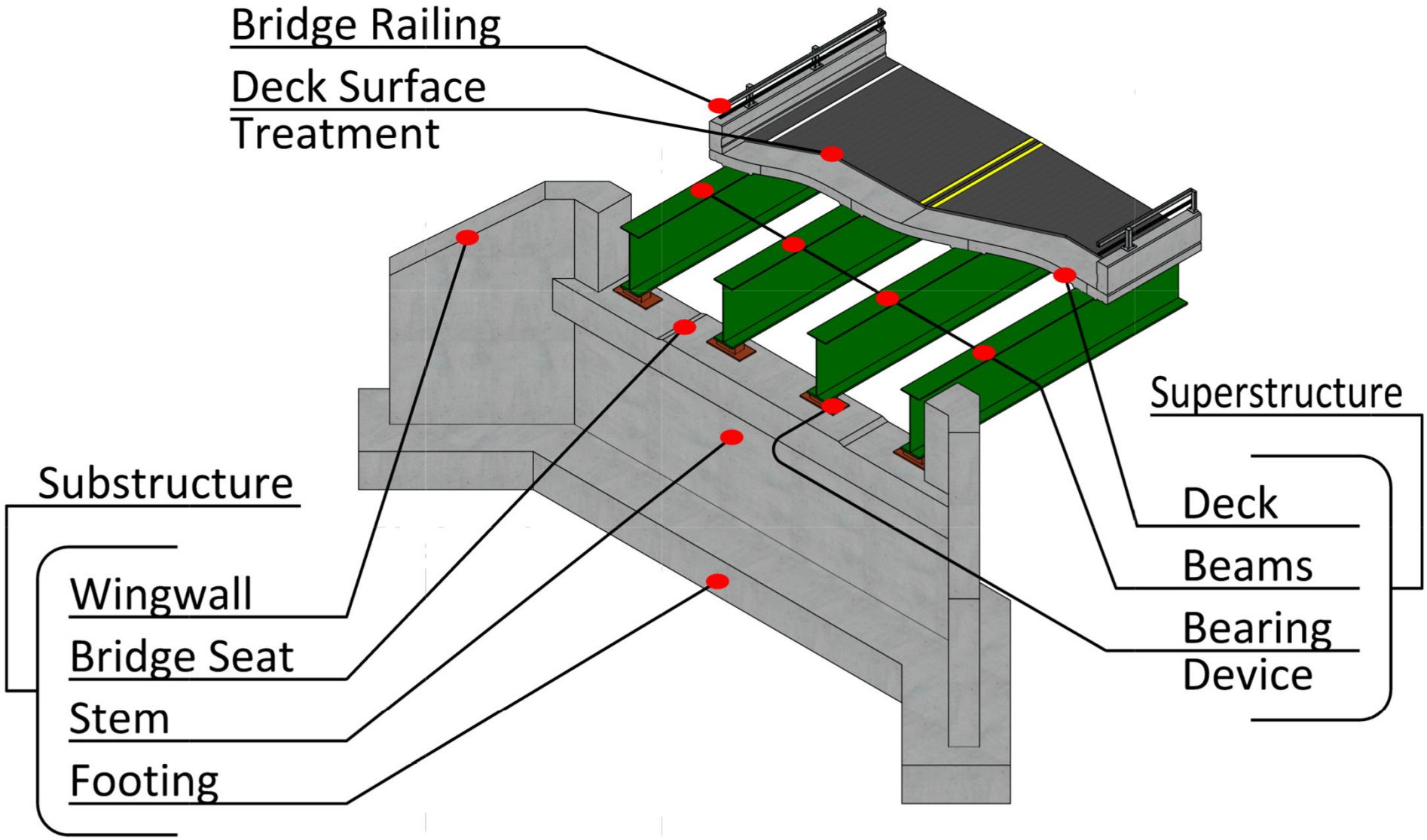
Description of Terms Used



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Looking Southeast on BR13E

Looking Northwest on BR13W

Existing Conditions – Bridge #13

- Roadway Classification – Principal Arterial (NHS)
- Bridge Type – Five Span Rolled Beam Bridge
- Ownership – State of Vermont
- Constructed in 1968

Looking Northwest at Aerial Utilities

Existing Conditions – Bridge #13

- Aerial utilities (electric, communications, and telephone) crossing perpendicular over US4 just north of Bridge 13

Existing Site Conditions – Bridge #13

- The deck of Bridge 13E is in **satisfactory condition**. Multiple bays have areas of transverse cracks forming small delaminations and efflorescence leakage. Some joints have spalling present with exposed rebar.

- The deck of Bridge 13W is in **fair condition**. Most bays have areas of delaminations and spalling that have exposed the first and second layer of steel reinforcing with minor rust scaling present along the steel. The deck underside has efflorescence leakage build up and small rust stains surrounding cracking and deck delaminations.

- The superstructures are in good condition. Lower portions of webs and flanges of the steel beams have the heaviest pitting and corrosion (from before beams were painted in 2015) along the beams and beam ends at piers. The substructures are in fairly good condition having a few hairline to minor cracking.

- The shoulder widths through the bridge and approach sections on US Route 4 are substandard.

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Bridge Inspection Report Ratings (BR13E spalling pier/span #4)

Existing Conditions - Bridge #13E

- Deck Rating 6 (Satisfactory)
- Superstructure Rating 7 (Good)
- Substructure Rating 6 (Satisfactory)
- Channel Rating 8 (Very Good)

Existing Conditions - Bridge #13W

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

Vertical Steel Plate Joint & Asphaltic Plug over Pier #1 (left) and Pier 3 (right)

Existing Conditions - Bridge #13E

Spalling on Bay 3 from Abutment 2

Existing Conditions - Bridge #13W

Southern curb at Pier #3

Existing Conditions - Bridge #13W

Pier #1 from abutment #1

Existing Conditions - Bridge #13W

Looking Northwest on BR14E

Looking Southeast on BR14W

Existing Conditions – Bridge #13

- Roadway Classification – Principal Arterial (NHS)
- Bridge Type – Three Span Rolled Beam Bridge
- Ownership – State of Vermont
- Constructed in 1968

Looking Northwest at Aerial Utilities

Existing Conditions – Bridge #14

- Aerial utilities (electric, communications, and telephone) crossing perpendicular over US4 just north of Bridge 14

Existing Site Conditions – Bridge #14

- The deck of Bridge 14E is in **fair condition**. The deck has many areas of transverse cracking with efflorescence leakage that have formed into large delaminated areas. Spalling is present in multiple bays that has exposed steel reinforcing that has minor rust scale.

- The deck of Bridge 14W is in **fair condition**. Deck underside is littered with spalling that has exposed steel reinforcing that has minor rust corrosion and delaminations along multiple bays. Areas of interior and exterior bays have areas of transverse cracking with efflorescence leakage.

- Beam ends have minor rust scaling present where paint has failed. Superstructures have minor to moderate paint distress throughout with paint bubbling, peeling and flaking causing surface corrosion of steel and heavier corrosion along beam ends. Substructures have minor cracking and rust staining present.

- The shoulder widths through the bridge and approach sections on US Route 4 are substandard.

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Bridge Inspection Report Ratings (BR14E - bearing #1 abutment #1)

Existing Conditions - Bridge #14E

- Deck Rating 5 (Fair)
- Superstructure Rating 7 (Good)
- Substructure Rating 6 (Satisfactory)

Existing Conditions - Bridge #14W

- Deck Rating 5 (Fair)
- Superstructure Rating 7 (Good)
- Substructure Rating 6 (Satisfactory)

Deck Underside in Span #1 Bays #1 and #2

Existing Conditions - Bridge #14E

Bays #2 and #3 in Span #2 over Pier #2

Existing Conditions - Bridge #14E

Concrete Spalling Surrounding Steel Joint at Abutment #2 on North Side

Existing Conditions - Bridge #14W

Span #1 Deck underside

Existing Conditions - Bridge #14W

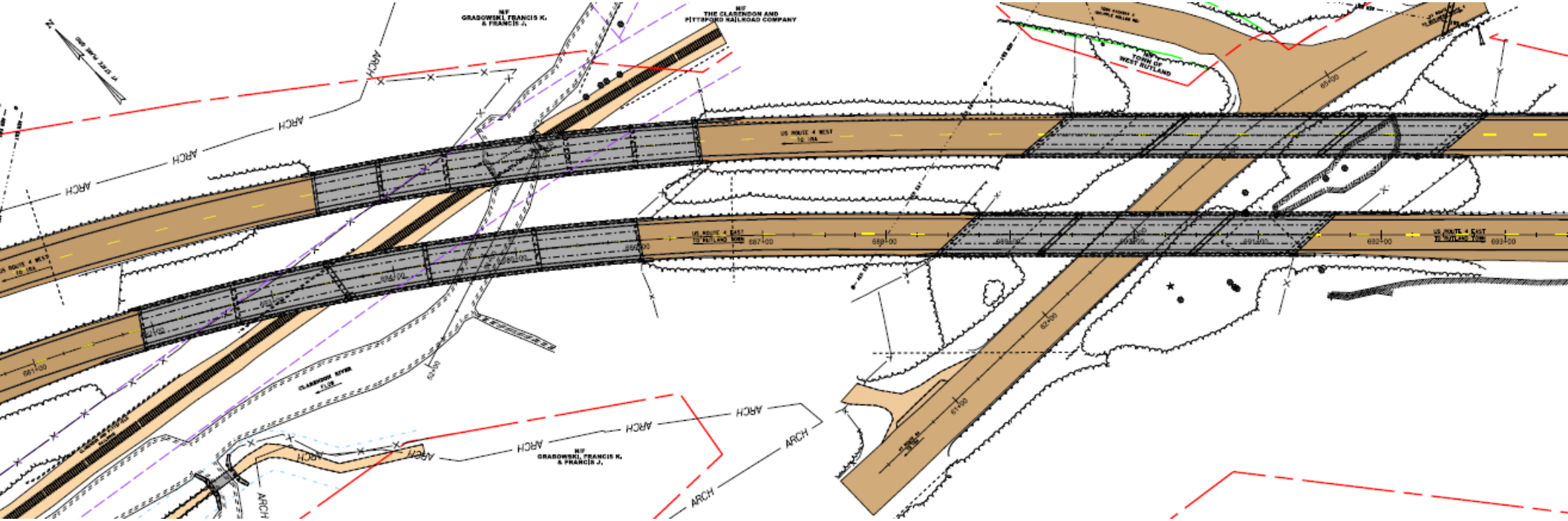
Backwall along Southern Side of Abutment #1 past Beam #5

Existing Conditions - Bridge #14W

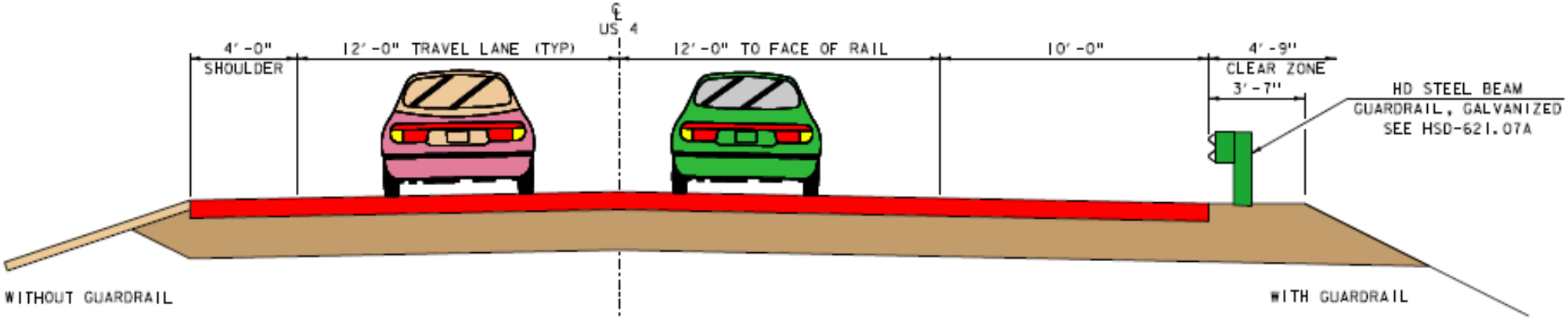
Existing Resources – BR13 & BR14

- Wetlands – no wetland complexes identified within the project area
- Historic Resources – BR13 and B14 are likely not historic structures
- Archeological – likely no areas of sensitivity identified

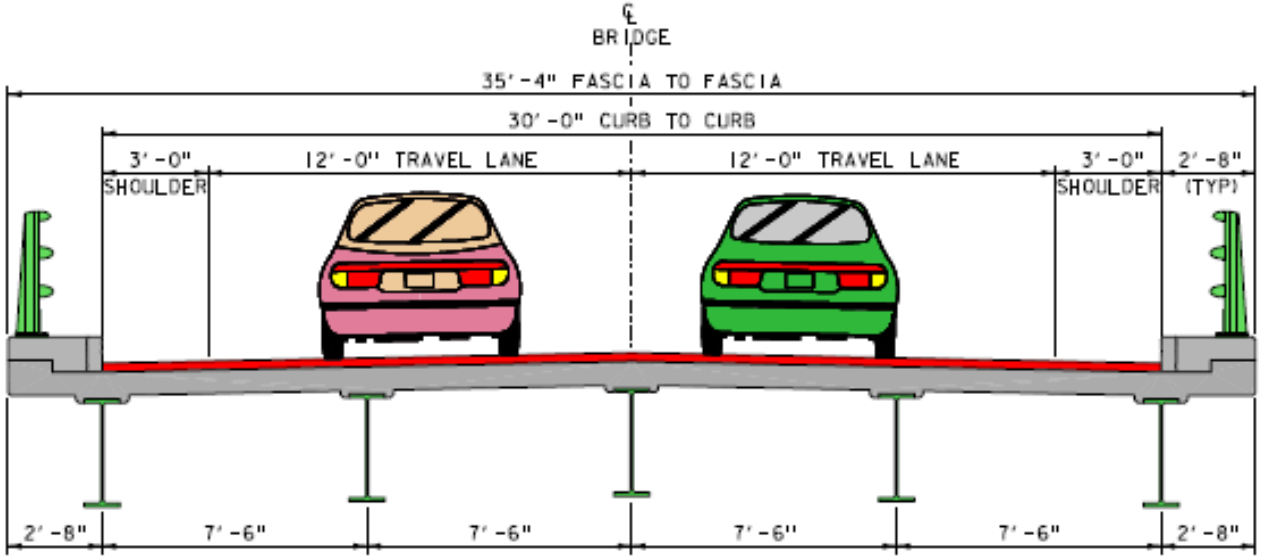
Existing Conditions Bridge 13&14



Existing Conditions Typical Section



US ROUTE 4 TYPICAL SECTION



EXISTING BRIDGE TYPICAL SECTION

Design Criteria and Considerations

- Average Daily Traffic
  - Eastbound = 7,003 vehicles per day
  - Westbound = 8,736 vehicles per day
- Design Hourly Volume
  - Eastbound = 880 vehicles per hour
  - Westbound = 1,527 vehicles per hour
- % Trucks
  - Eastbound = 9.4%
  - Westbound = 6.8%

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Alternatives Considered – BR13 & BR14

- Deck Rehabilitation
  - Concrete repair/patching of the deck
  - 15-year design life
- Deck Replacement
  - New deck with 4′/12′/12′/6′ typical section to improve bridge geometry
  - May include repairs to curtain walls and pier caps
  - 40-year design life
- Superstructure Replacement
  - Superstructure replacement including substructure concrete repair as needed
  - 40-year design life
- Full Bridge Replacement
  - New at-grade bridge replacements in kind
  - 100-year design life

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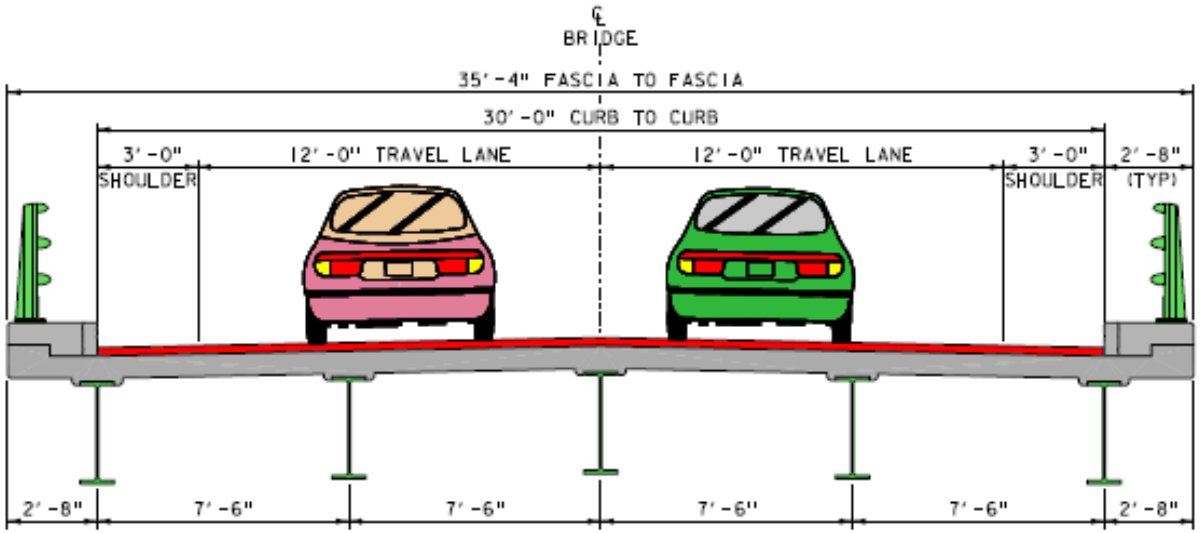
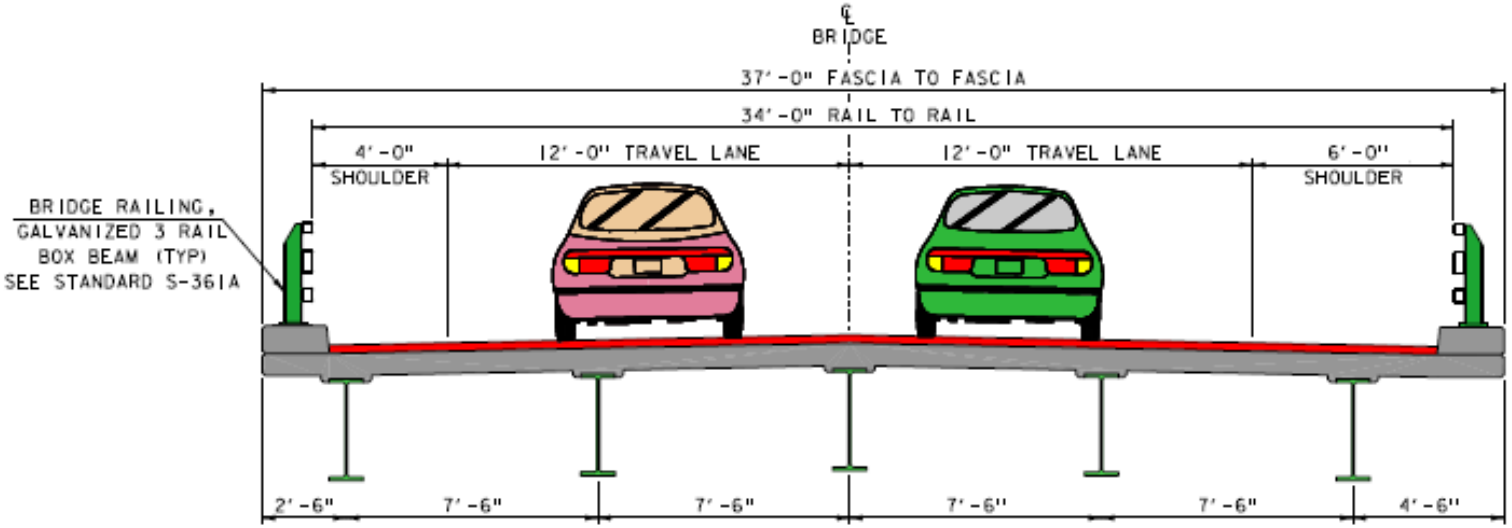
Rehabilitation Alternative – Deck Replacement



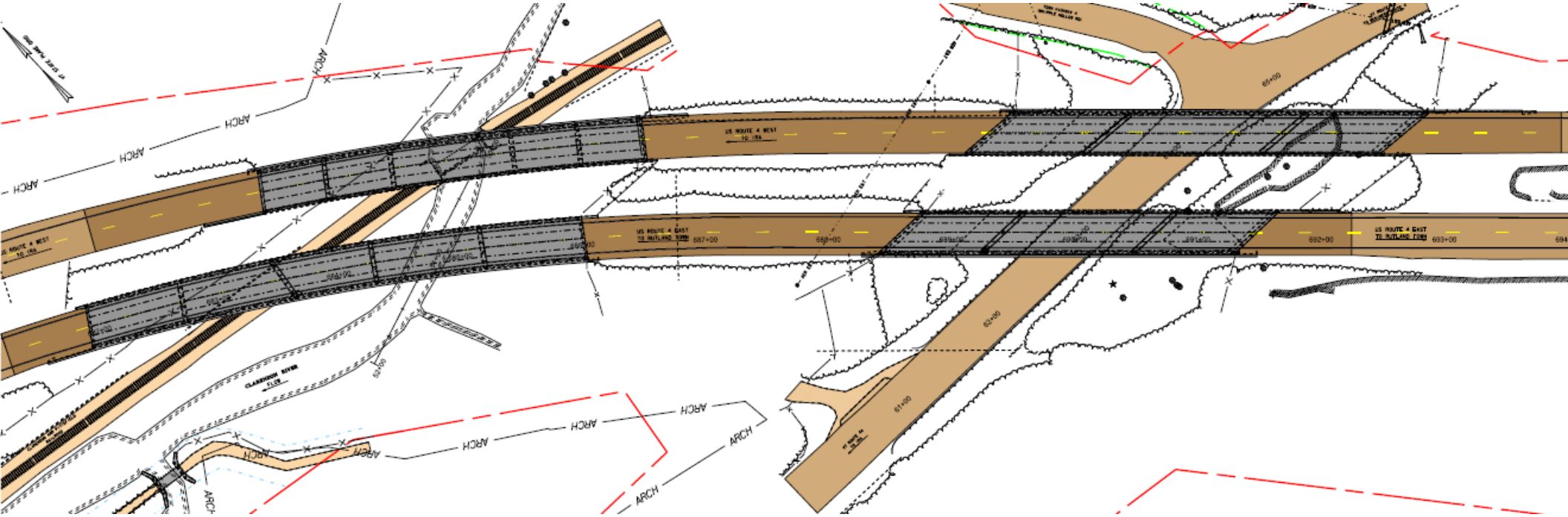
EXISTING BRIDGE TYPICAL SECTION



PROPOSED DECK REPLACEMENT TYPICAL SECTION

- The typical section will increase from 12’/3’ to approximately 4’-12’-12’-6’

Rehabilitation Alternative – Deck Replacement



- New deck with 4′/12′/12′/6′ typical section to improve bridge geometry
- May include repairs to curtain walls and pier caps
- 40-year design life

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Selected Alternative

- Replace the existing decks
  - Improved width - 4′/12′/12′/6′ typical section
  - Existing superstructure is in good condition and existing substructures are in satisfactory condition, and it is reasonable to assume that they can last another 40 years.
  - Deck replacement option has the lowest annualized cost based on a 40-year design life.

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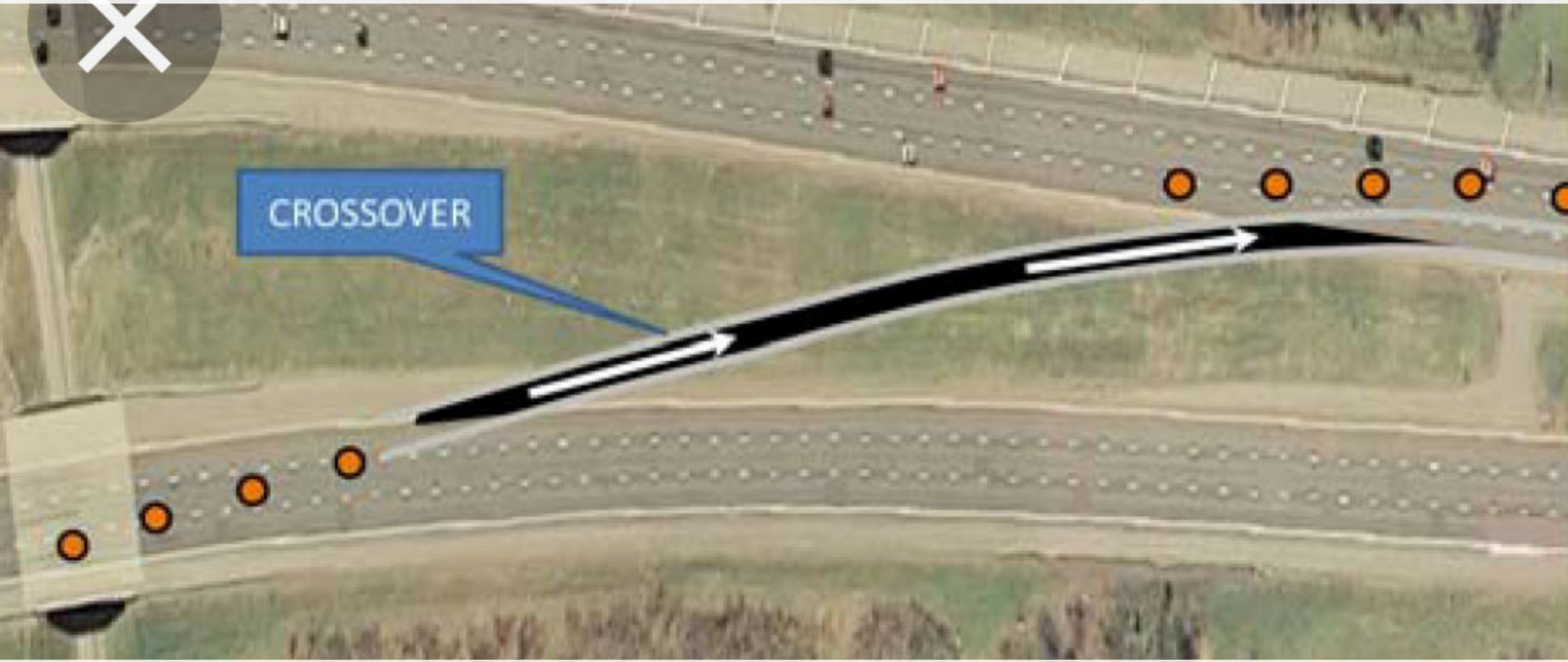
Maintenance of Traffic Options Considered

- Offsite Detour
- Phased Construction
- Median Crossovers
- Temporary Bridge

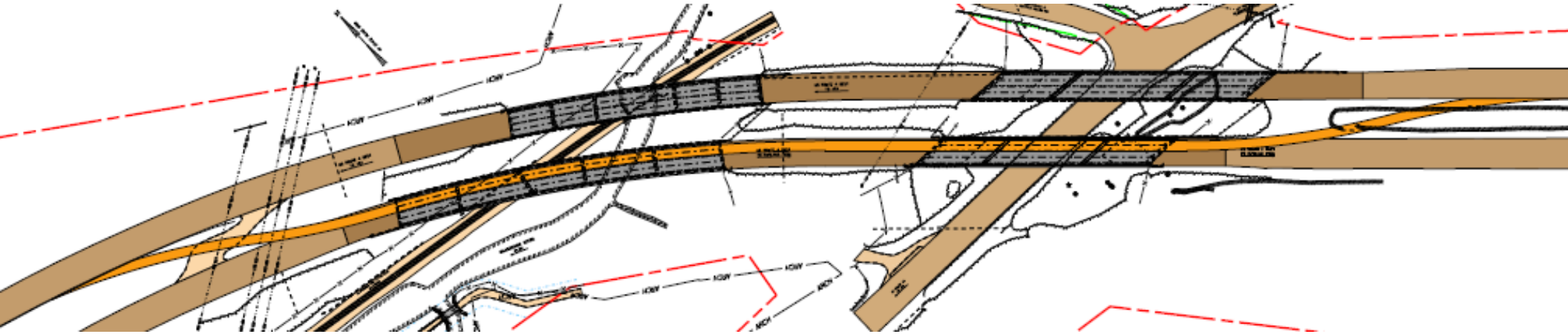
Selected Maintenance of Traffic



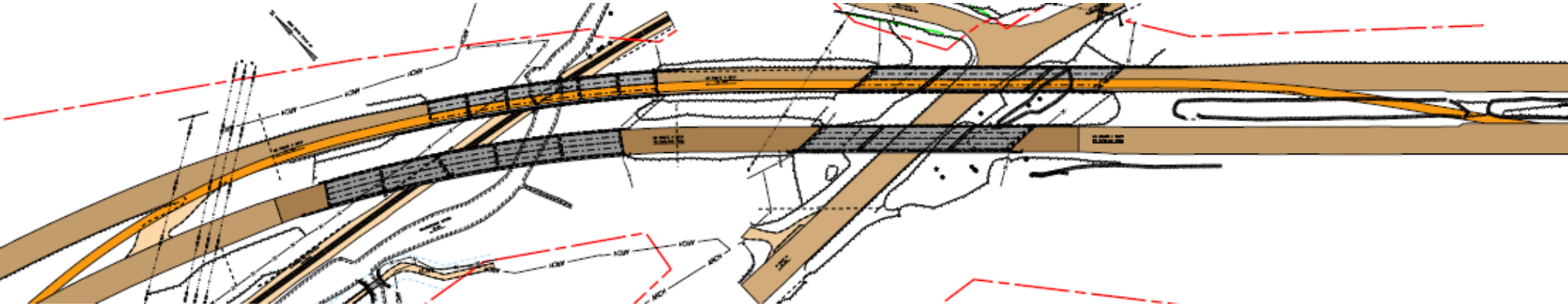
Crossovers

- One lane traffic maintained for each barrel
- US Route 4 reduced from 2-lanes in each direction to 1-lane in each direction. Based on the Traffic Volumes, some delay may be experienced during the peak hour of traffic in the westbound direction.
- Single crossover for Bridge 13 and 14 is a cost-effective solution
  - Traffic to crossover before Bridge 13 and crosses back after Bridge 14

Westbound Crossover



Eastbound Crossover



Conclusion and Recommendation

- Deck replacement while maintaining traffic on crossovers
  - Improved width - 4’/12’/12’/6’ typical section
  - New deck, joints, and bridge rail
  - 40-year design life.
  - Crossover to be used for both Bridge 13 and 14. This is the most cost-effective maintenance of traffic option.

Preliminary Project Schedule

- Construction Start – 2031
  - Total Cost Estimate: $20,500,000

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Next Steps – Bridges 13&14

This is a list of a few important activities expected in the near future and is not a complete list of activities.

- Evaluate and consider comments received at this meeting
- Proceed based on recommended alternative unless adequate justification for reconsidering alternatives
- Develop Conceptual plans and distribute for comment
- Process local agreements (if needed)
- Right-of-Way process (if needed)
- Updates on project plans and estimates at each submittal

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For more information:

- https://outside.vermont.gov/agency/vtrans/external/Projects/Structures/22B395

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Questions and Comments

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May 12, 2025

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