Poultney BO 1443(53)
Alternatives Presentation Meeting

Town Highway 6 – Bridge #7 over Poultney River

April 8, 2019

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Introductions

Laura Stone, P.E.

VTrans Scoping Engineer

Mahendra Thilliyar, P.E.

VTrans 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 our recommended alternative
- Provide an opportunity to ask questions and voice concerns

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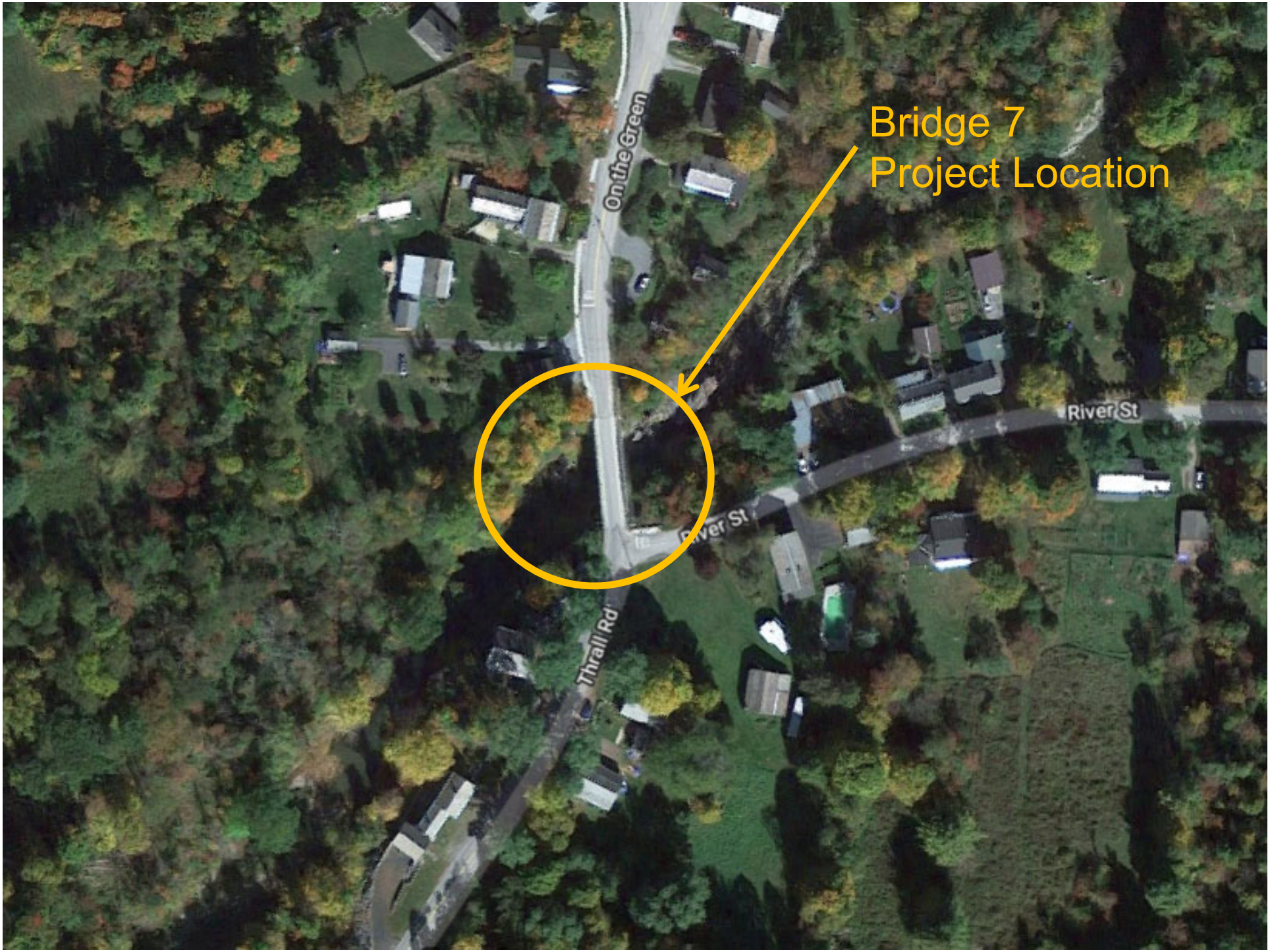
Location Map


Bridge 7
Project Location
On the Green
River St
River St
Thrall Rd

Meeting Overview

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

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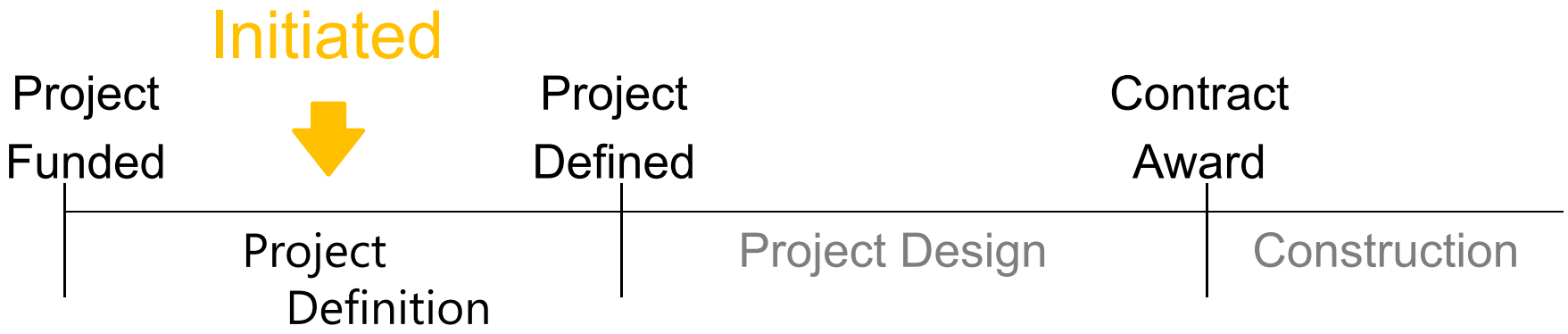
VTrans Project Development Process



- 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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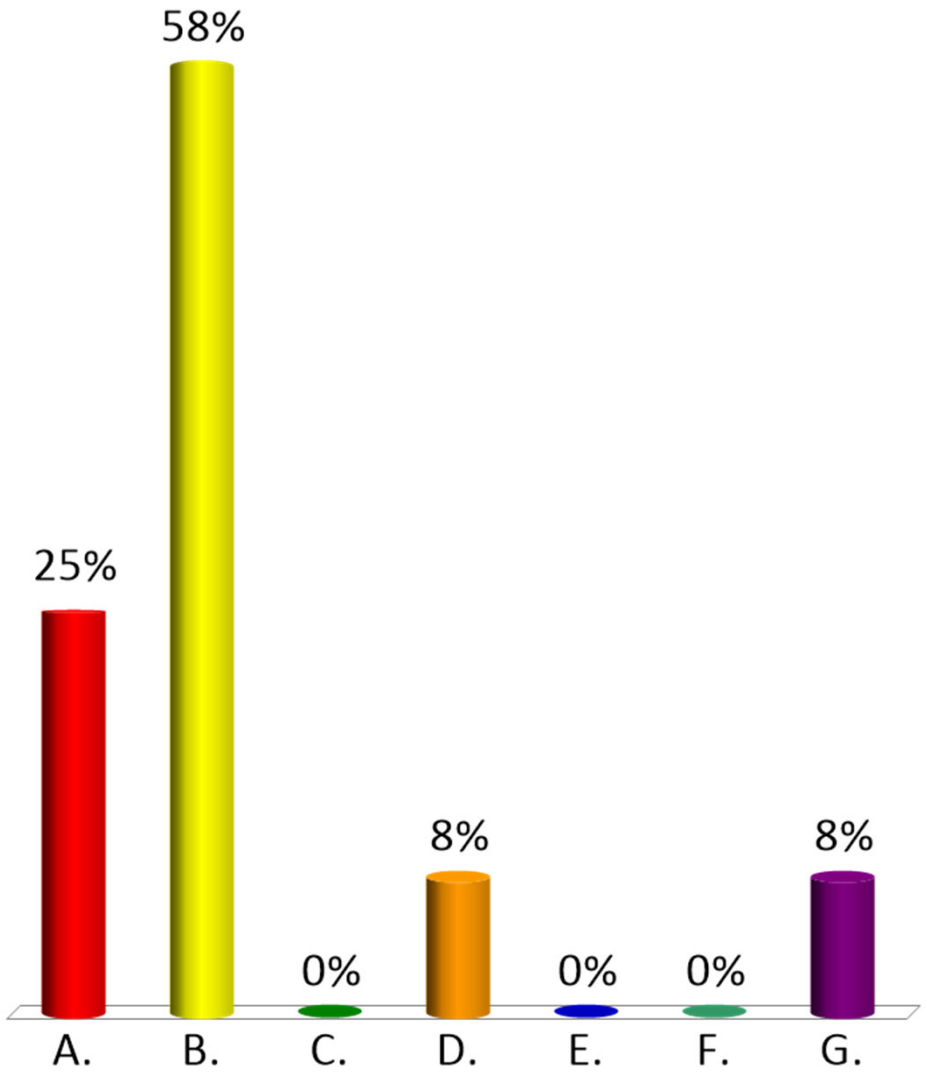
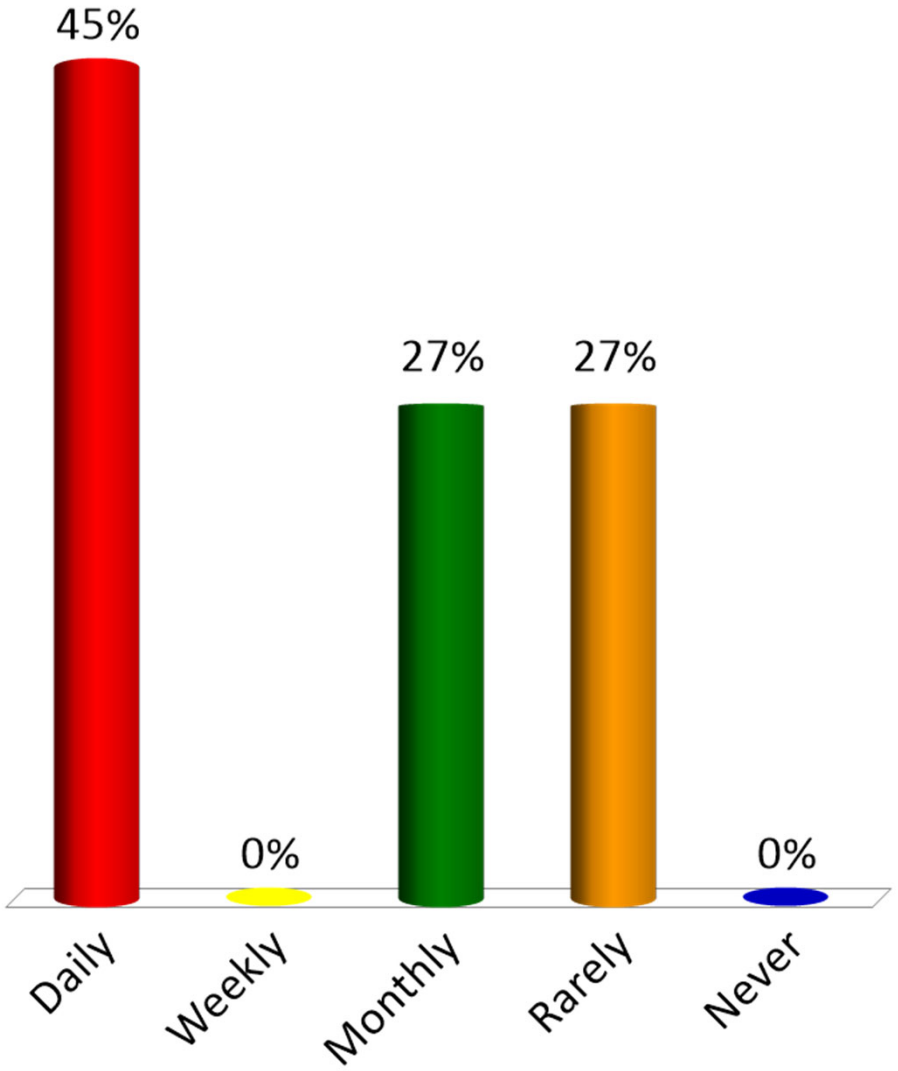
Who are you representing?

A. Municipal Official
B. Resident
C. Emergency Services
D. Local Business
E. Independent Organization
F. Press
G. Other



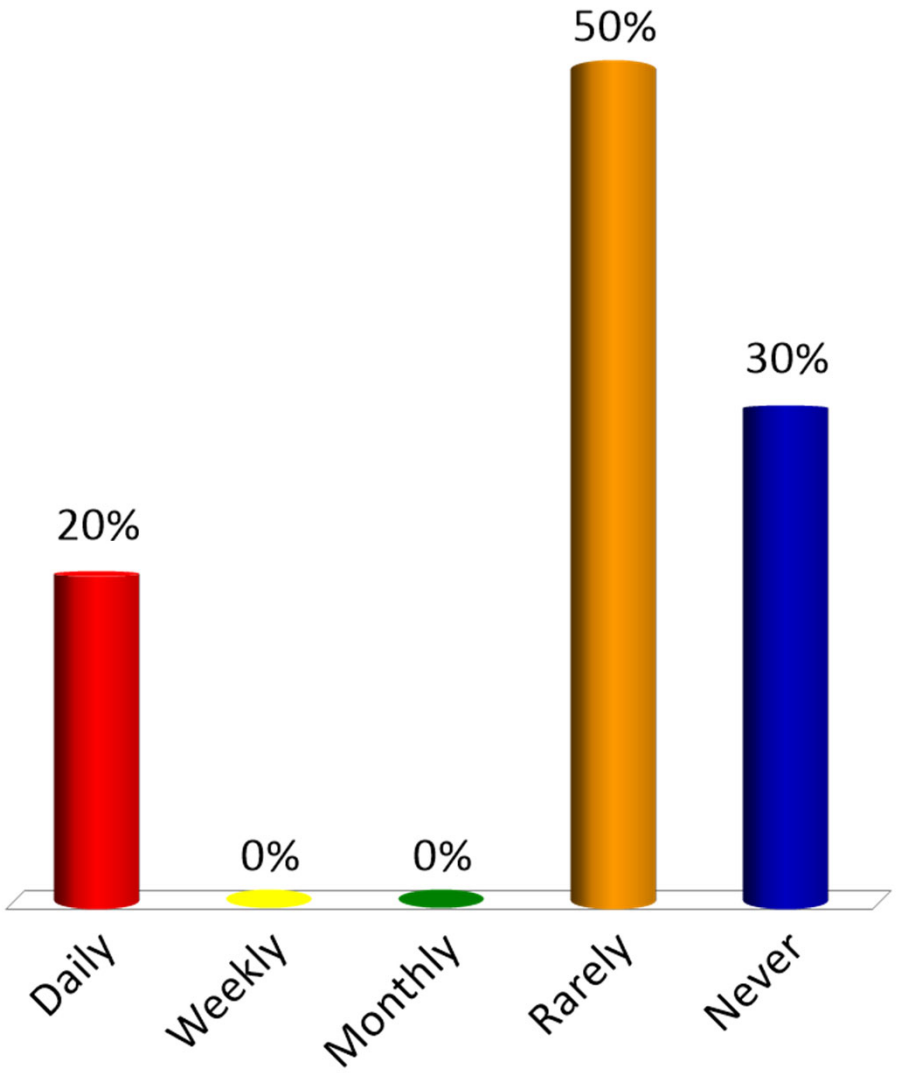
How often do you use this segment of On the Green?

A. Daily
B. Weekly
C. Monthly
D. Rarely
E. Never



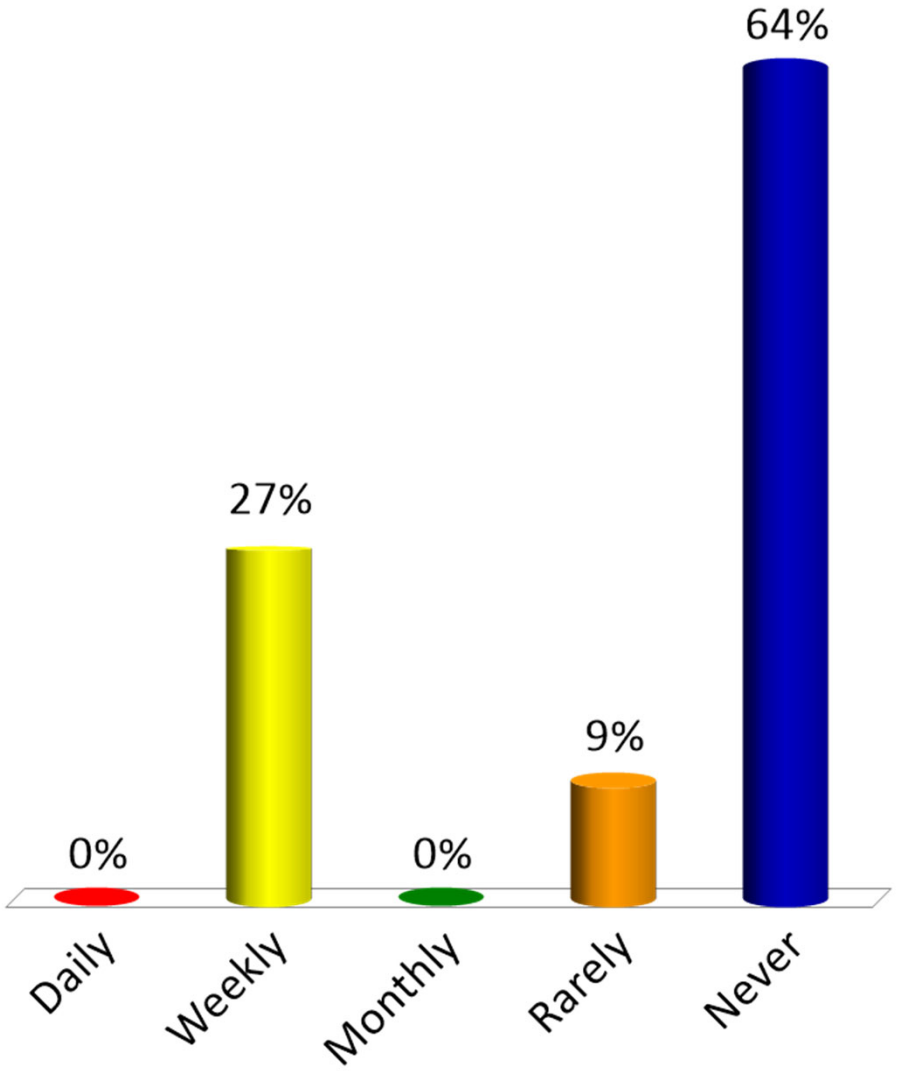
How often do you walk over the bridge?

A. Daily
B. Weekly
C. Monthly
D. Rarely
E. Never



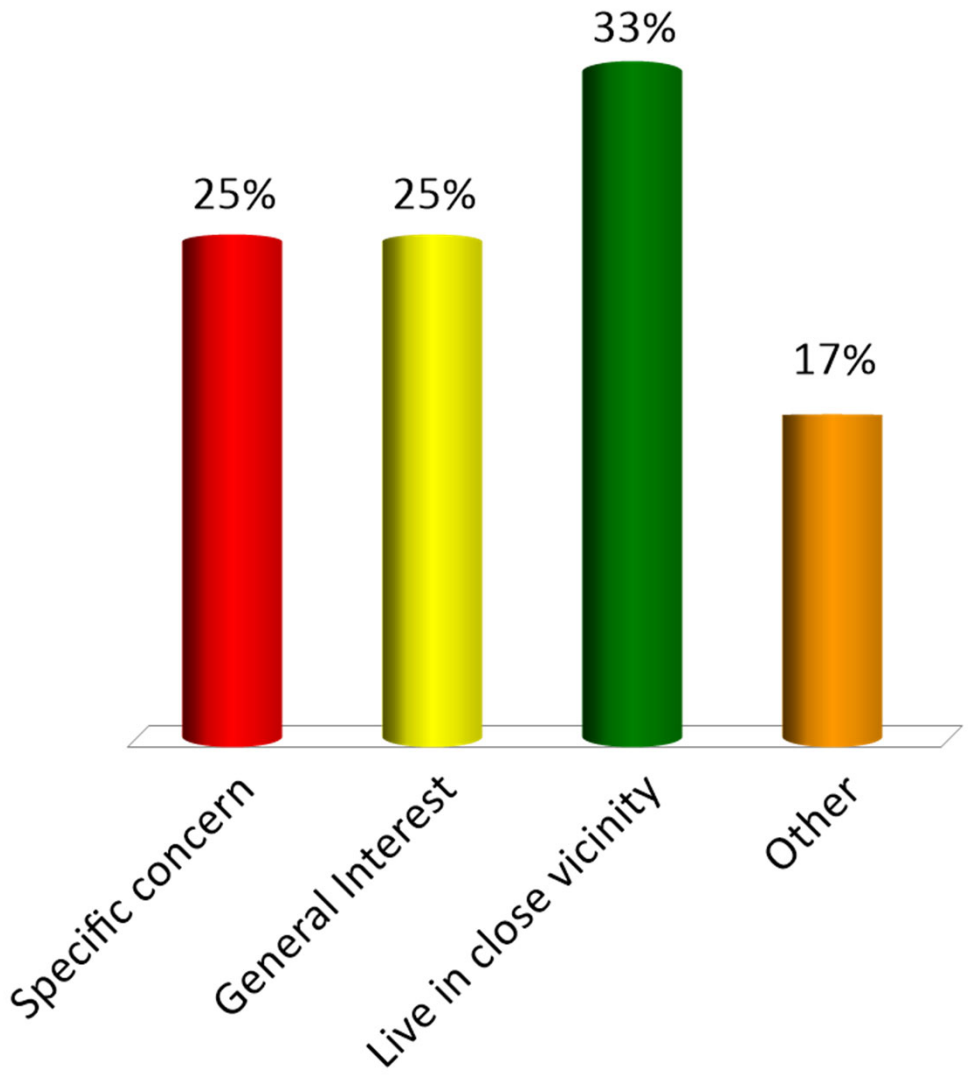
How often do you bike over the bridge?

A. Daily
B. Weekly
C. Monthly
D. Rarely
E. Never

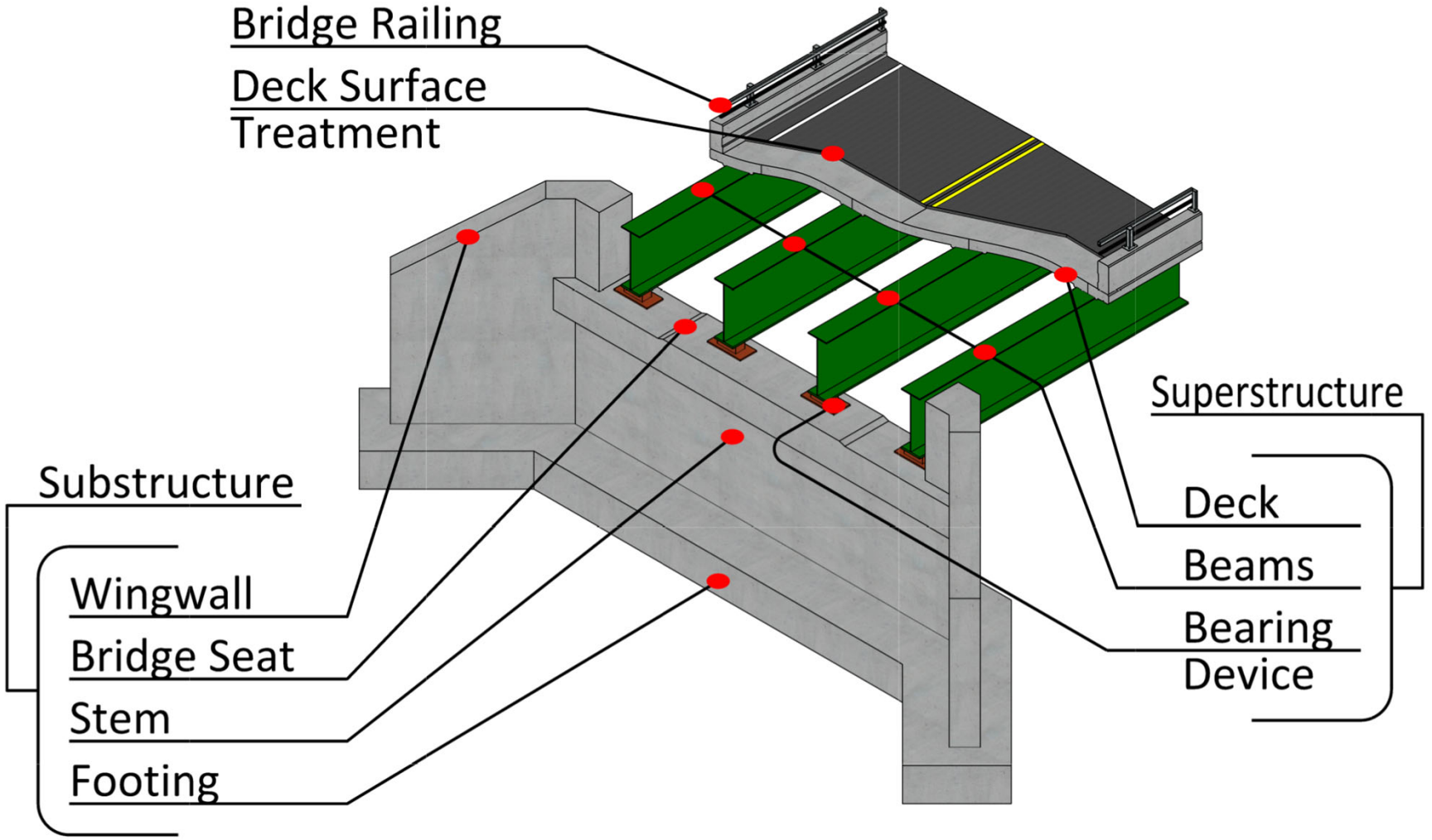


What is your reason for attending this meeting?

A. Specific concern
B. General Interest
C. Live in close vicinity
D. Other



Description of Terms Used



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Looking East over Bridge

Existing Conditions – Bridge #7

- Roadway Classification – Local Road (Class 2 TH)
- Bridge Type – 90’ Span Camelback Pony Truss
- Ownership – Town of Poultney
- Constructed in 1925, Reconstructed in 1968

Existing Conditions – Bridge #7

- Bridge 7 is Functionally Deficient due to substandard rail to rail width.
  - One lane bridge with a curb to curb width of 18-feet
- The bottom chords and lateral bracing of the truss have section loss and there is a hole in the 3rd floor beam
- The southern abutment concrete, especially at the bridge seat, is deteriorating
- The Bridge is posted for 9 tons.

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Steel Condition – Looking at Northern Abutment

Existing Conditions - Bridge #7

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

Steel Condition

Existing Conditions - Bridge #7

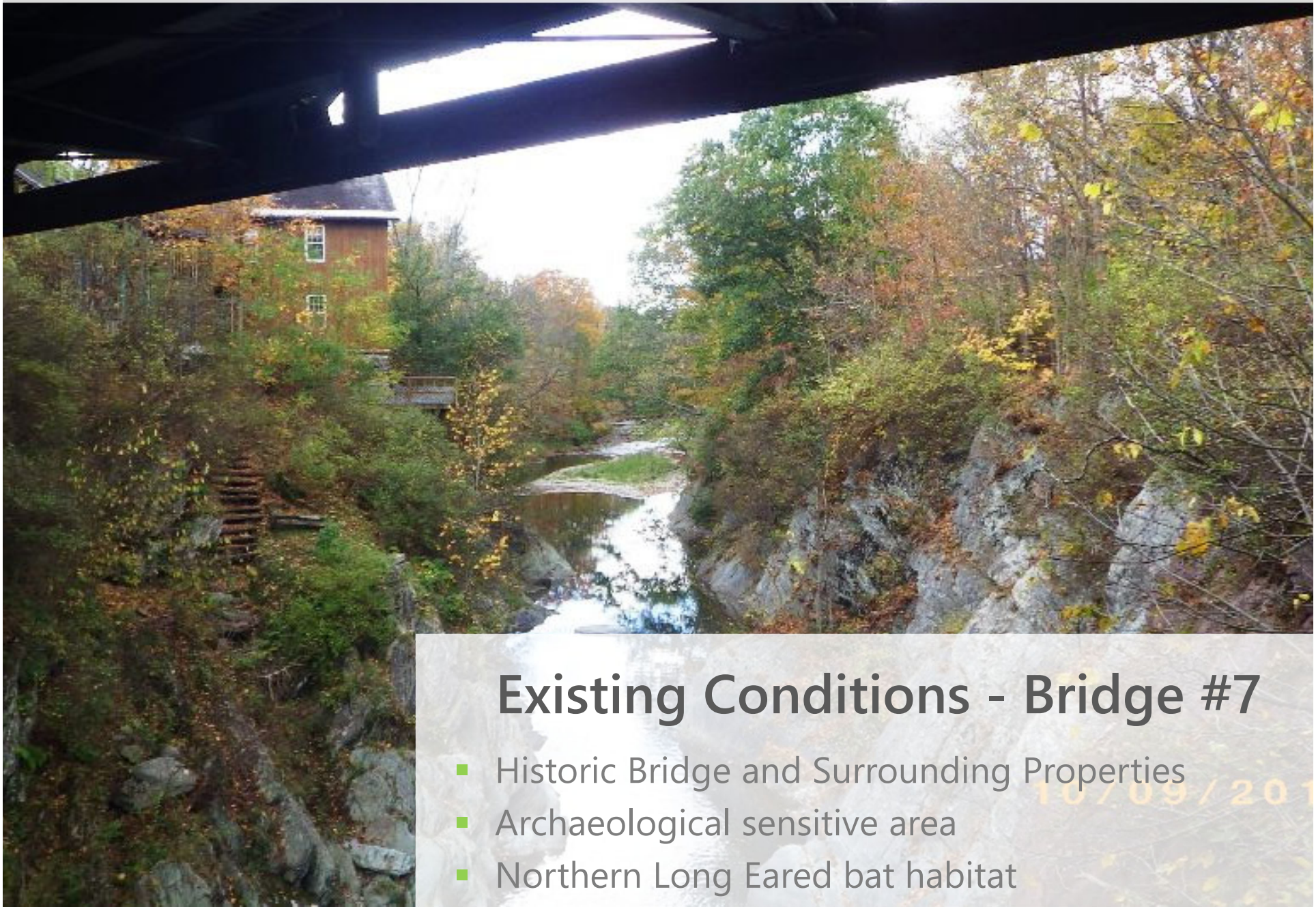
- Paint failure and minor section loss

Superstructure

Southern Abutment

Existing Conditions - Bridge #7

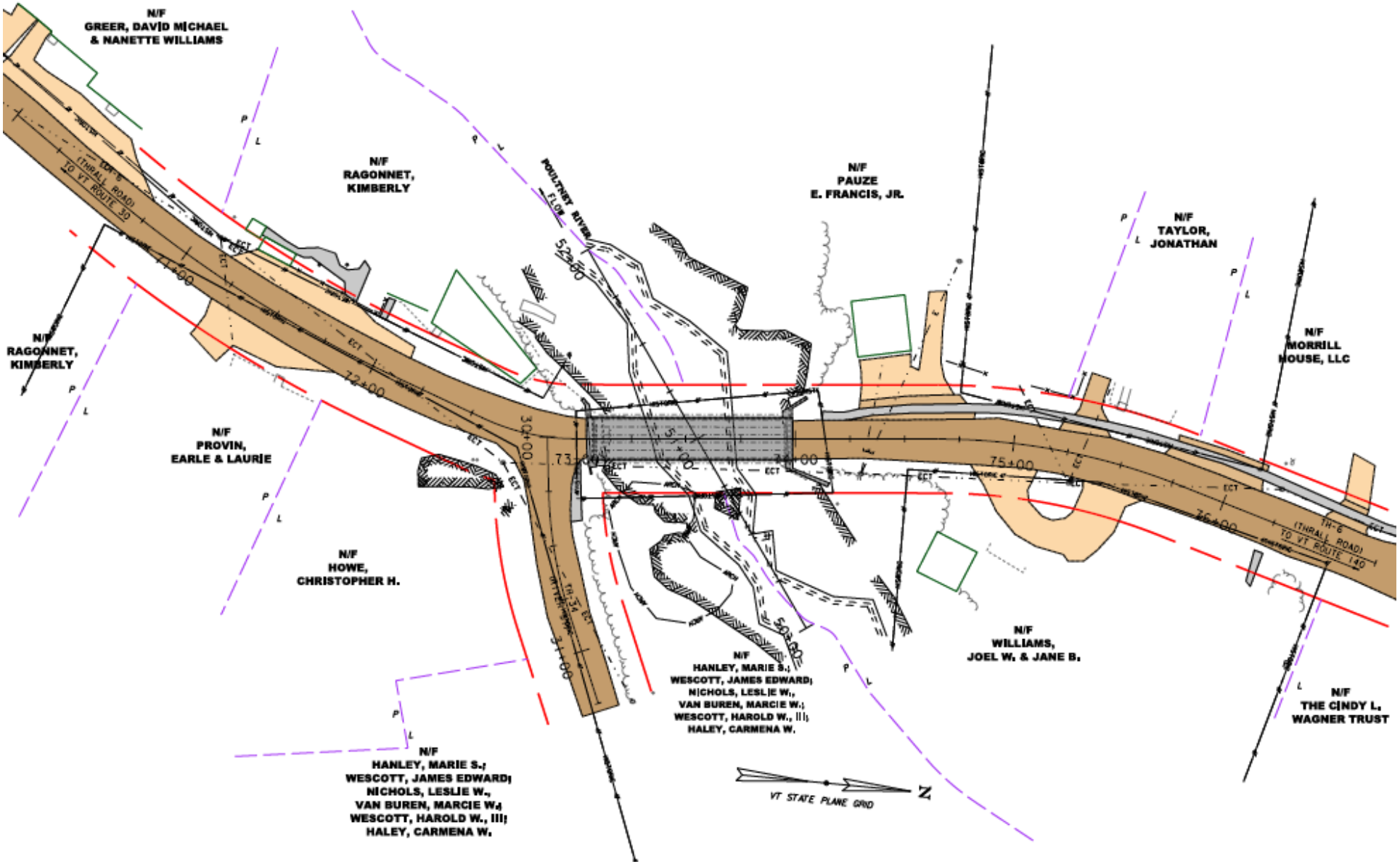
- Significant spalling
  - Failed backwall



Existing Conditions - Bridge #7

- Historic Bridge and Surrounding Properties
- Archaeological sensitive area
- Northern Long Eared bat habitat

Existing Conditions



Design Criteria and Considerations

- Average Daily Traffic of 620 vehicles per day
- Design Hourly Volume of 95 vehicles per hour
- % Trucks: 10.9
- Design Speed of 35 mph
  - Stopped Condition
- Aerial Utilities
- Pedestrian Safety

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Alternatives Considered – Bridge #7

- No Action
  - Additional maintenance required within 10 years
- Truss Rehabilitation
  - Structural deficiencies would be addressed
  - Remains one-lane bridge
  - Current configuration or with addition of separate pedestrian structure
    - Widening of the substructures for a separate sidewalk structure makes this option less cost effective.
  - 40 year design life
  - Meets all ANR and hydraulic standards
- Full Bridge Replacement with New Pony Truss
  - Widen to meet the minimum standard
  - 75 year design life
- New Steel Beam Bridge with Existing Truss Used as an Ornamental Fascia Treatment
  - Widen to meet the minimum standard
  - 75 year design life

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Recommended Alternative - Bridge #7

- Full Bridge Replacement - New Pony Truss
  - Prefabricated Truss
  - Widen to meet the minimum standards
  - Include 5’ sidewalk on bridge
  - Paint color to be chosen by the Town
  - New substructures founded on bedrock
  - 75 year design life

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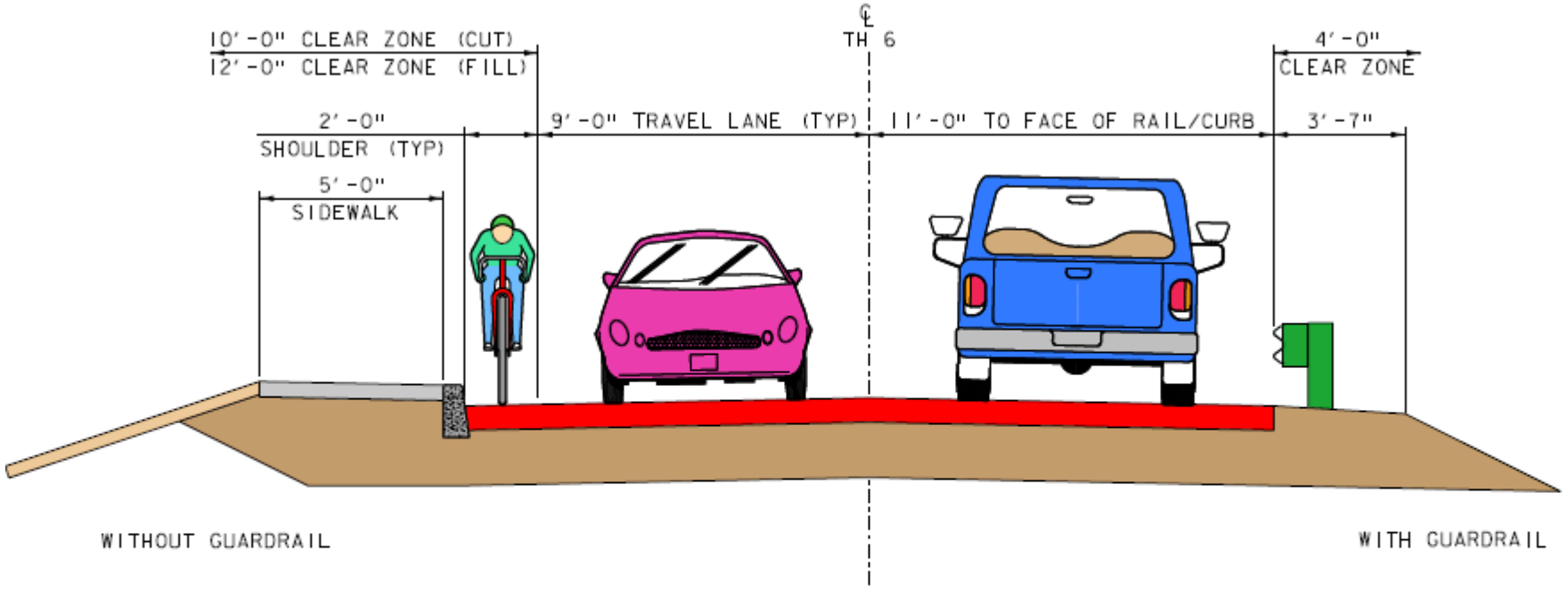
Proposed Typical Section - Roadway



PROPOSED TH 6 TYPICAL SECTION

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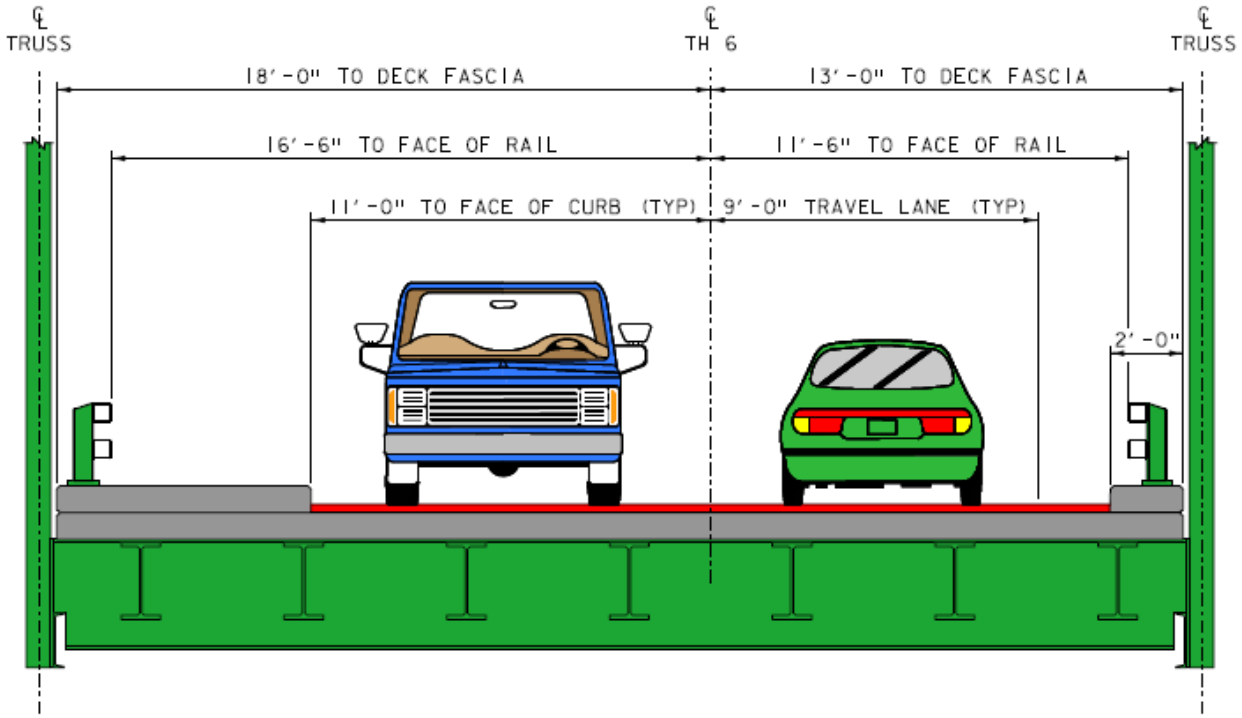
Proposed Typical Section - Bridge



ALTERNATIVE 3: TRUSS REPLACEMENT TYPICAL SECTION

Bridge #7

- Full Bridge Replacement

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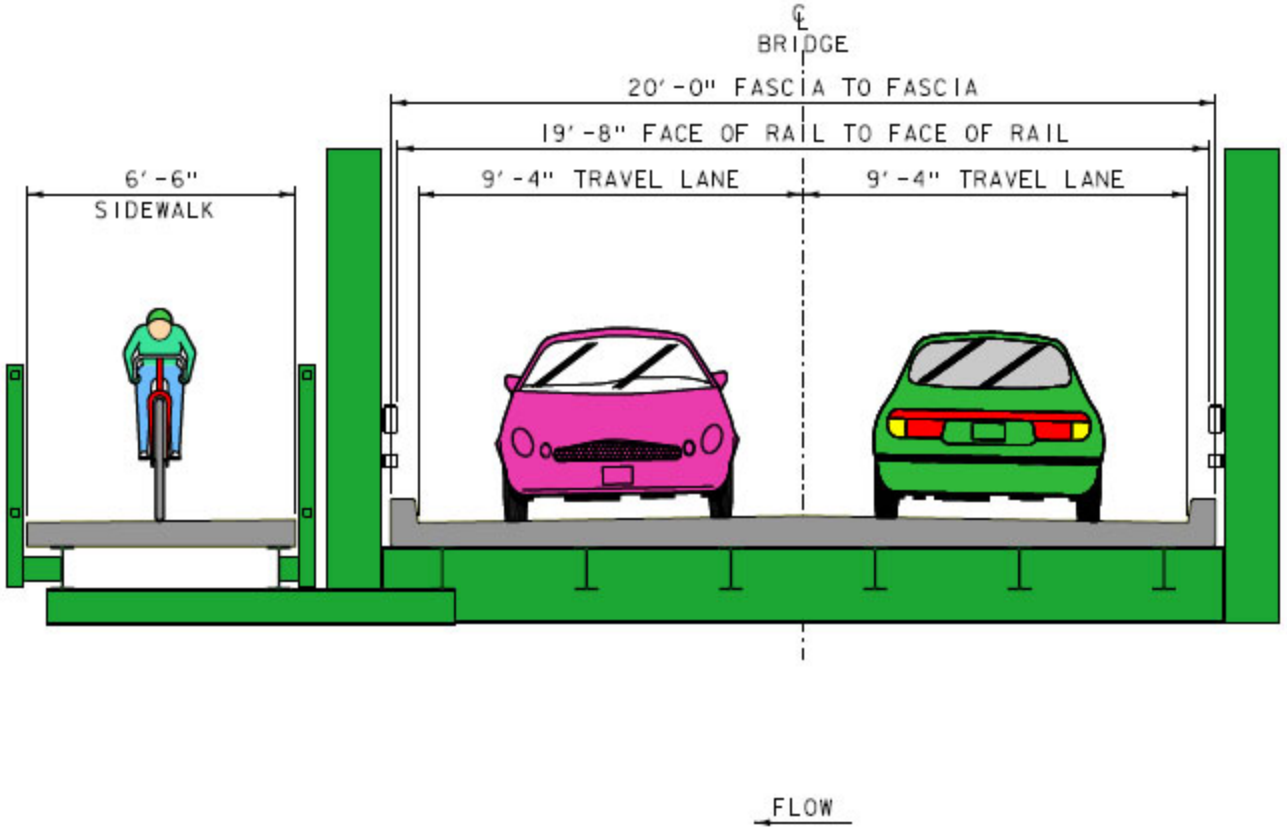
Alternate Typical Section - Rehabilitation



ALTERNATIVE 2: TRUSS REHABILITATION TYPICAL SECTION

Bridge #7

- Truss Rehabilitation

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Proposed Layout

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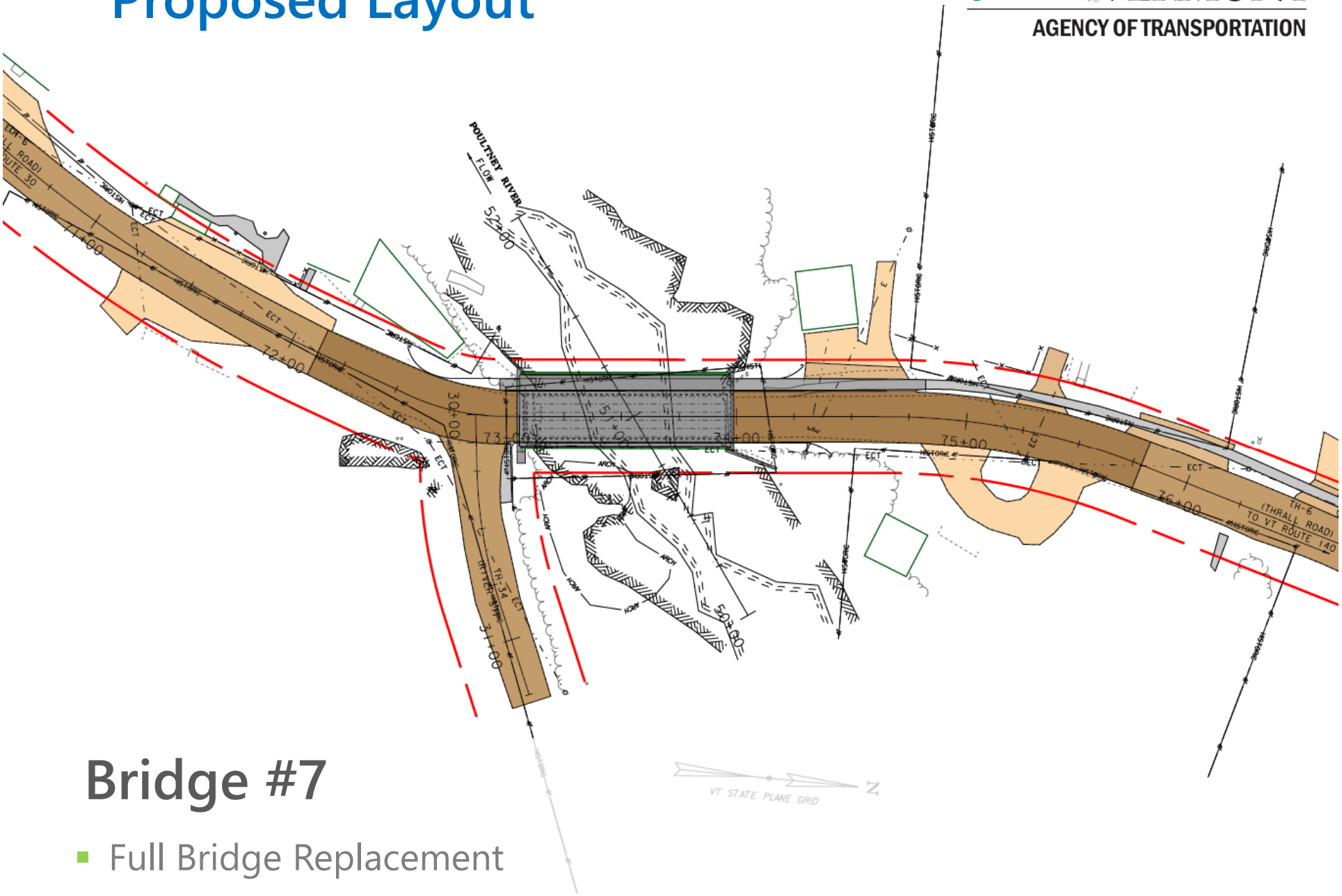

Bridge #7

- Full Bridge Replacement

Alternative Layout

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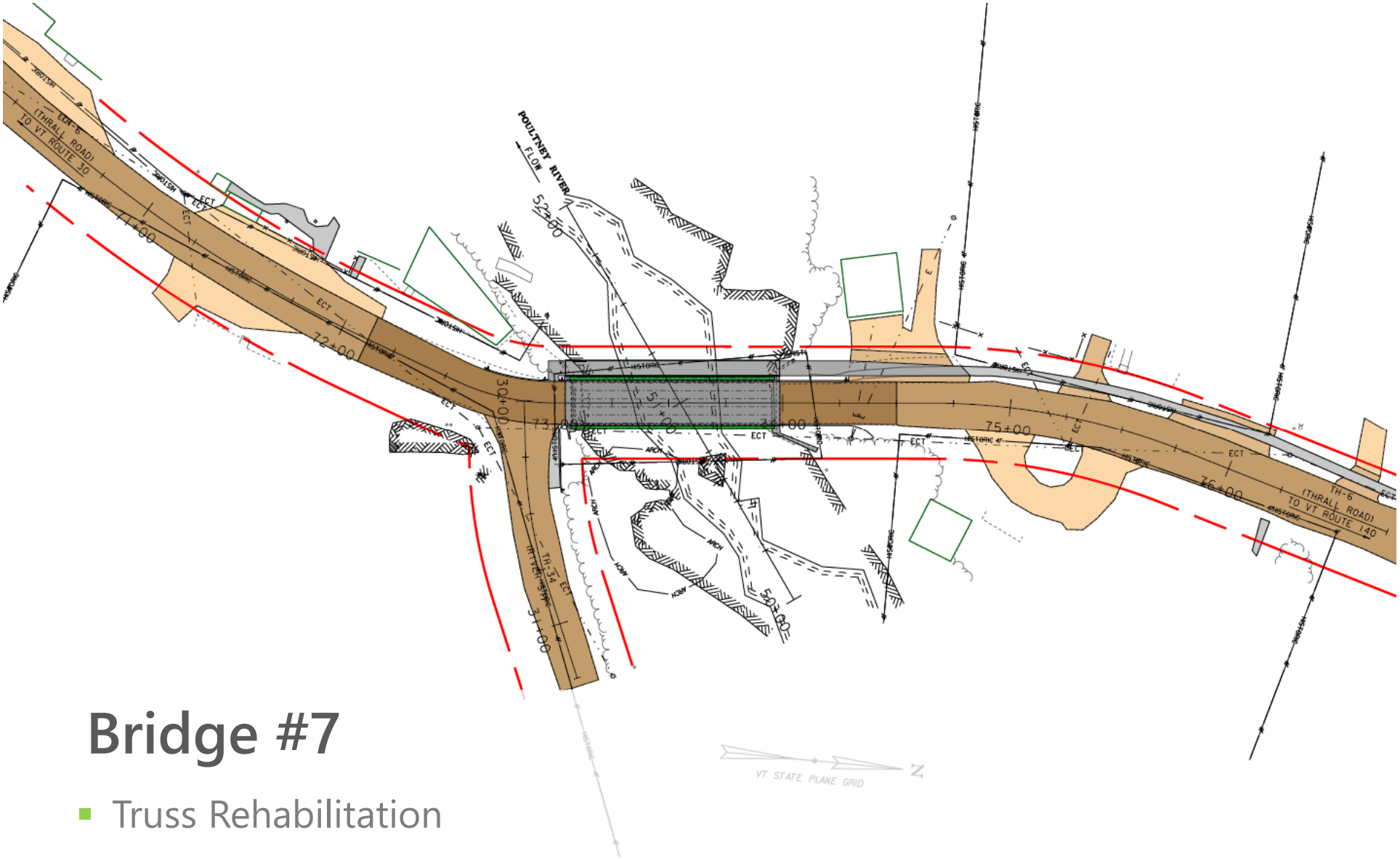

Bridge #7

- Truss Rehabilitation

Proposed Profile

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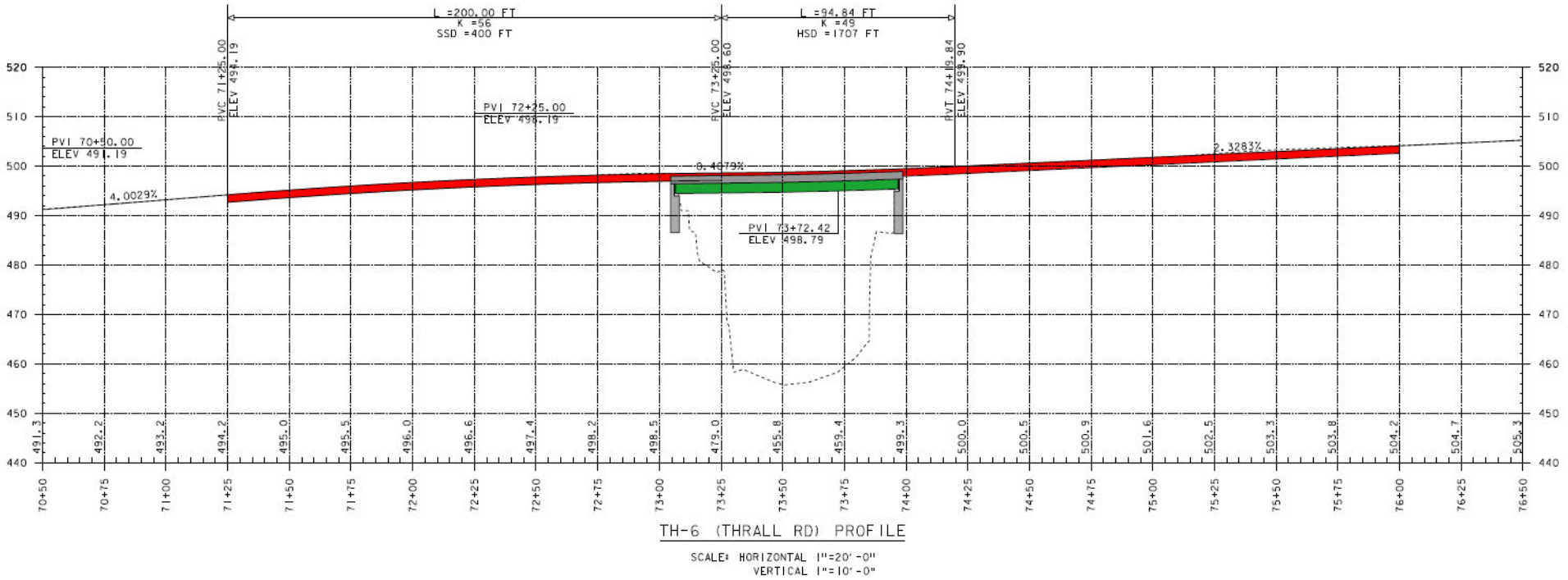

TH-6 (THRALL RD) PROFILE

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

What Will the New Bridge Look Like?

Proposed Example - Bridge #7

- Prefabricated Truss, Warren Bridge 173 on VT Route 100

Maintenance of Traffic Options Considered

- Offsite Detour
- Temporary Bridge

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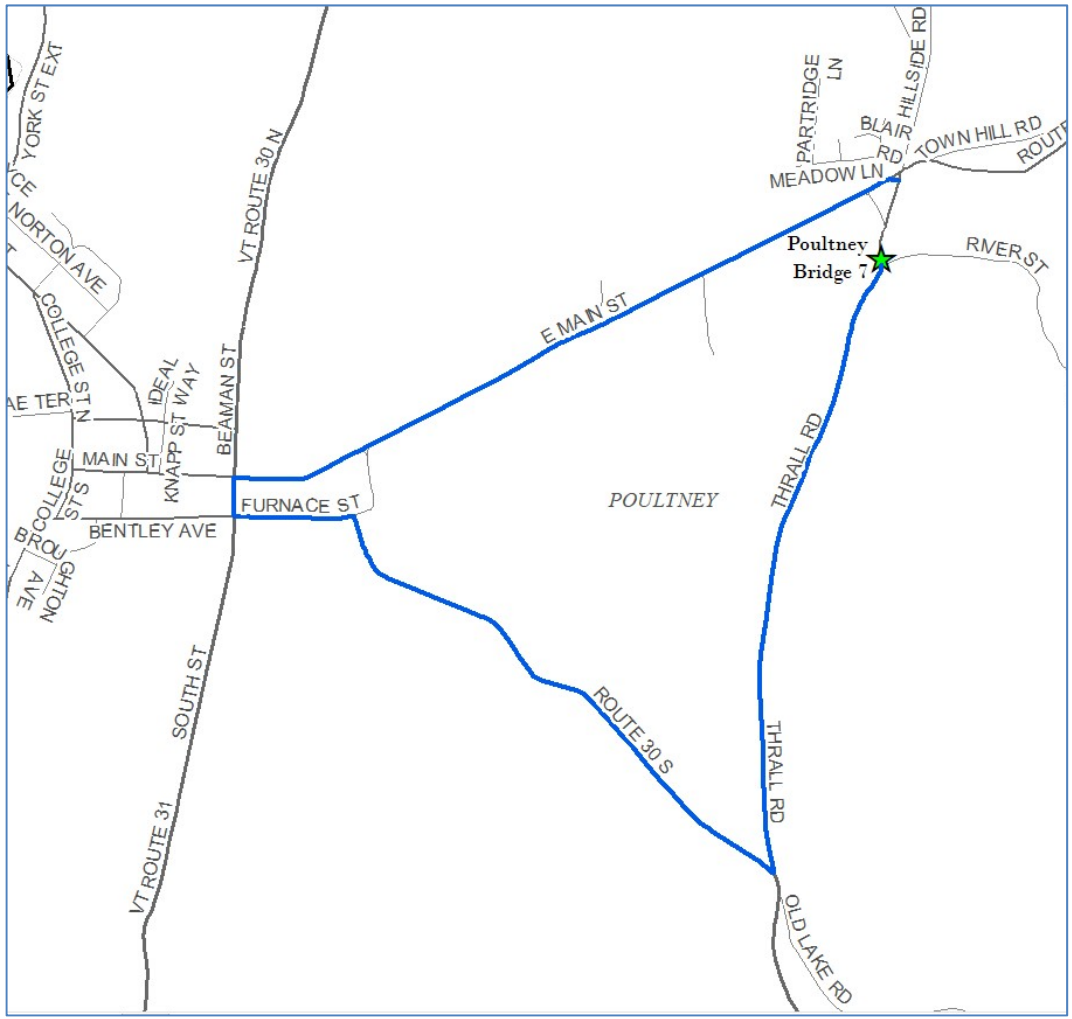
Road Closure

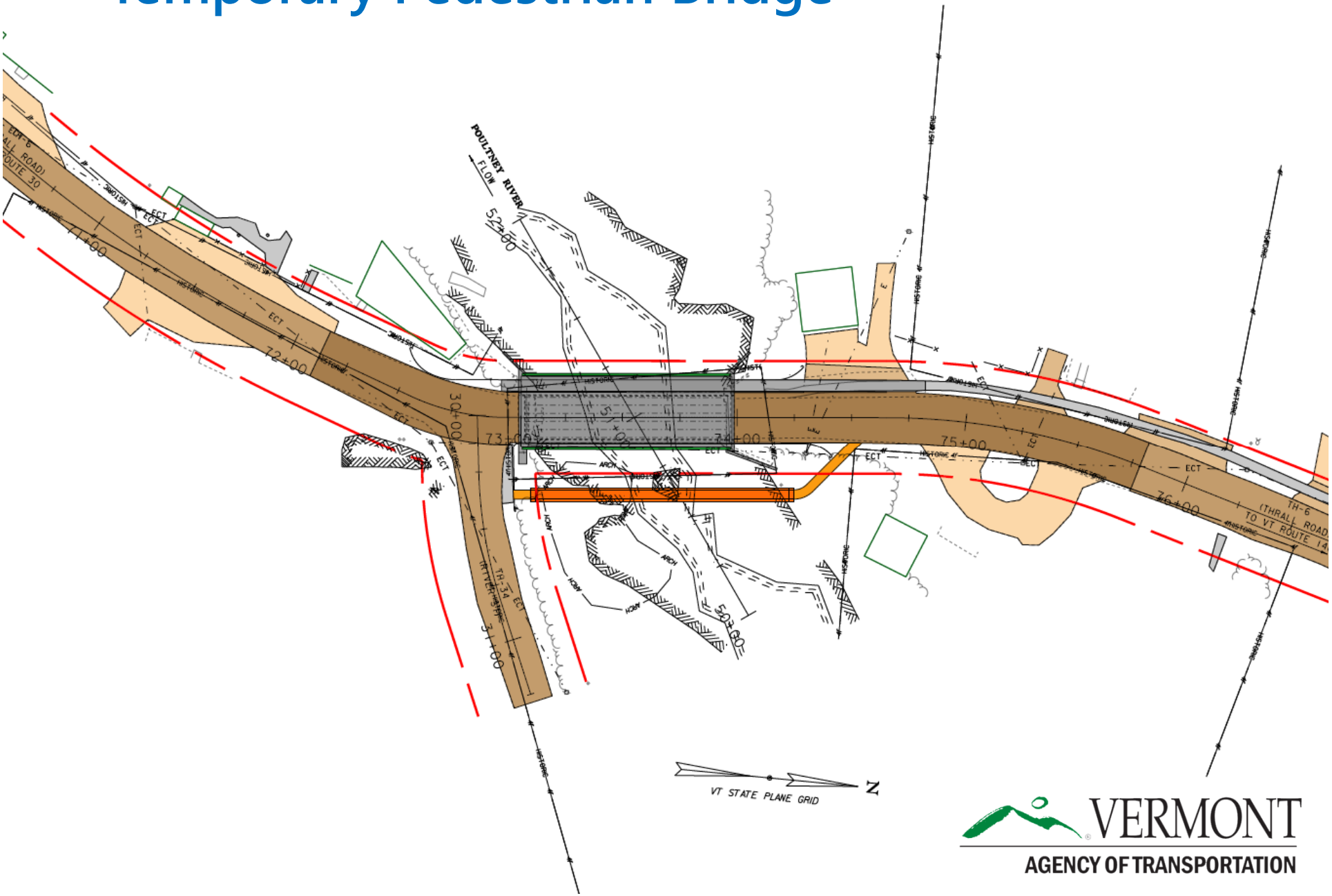
- Detour chosen and signed by Town
- Shortest route is 4.6 miles end-to-end
- 12 week closure

Traffic Control – Offsite Detour



- The shortest local detour route, has an End-to-End distance of 4.6 miles
  - On the Green, to Thrall Road, Route 30, Furnace Street, Grove Street, East Main Street (Route 140), back to On the Green

Temporary Pedestrian Bridge



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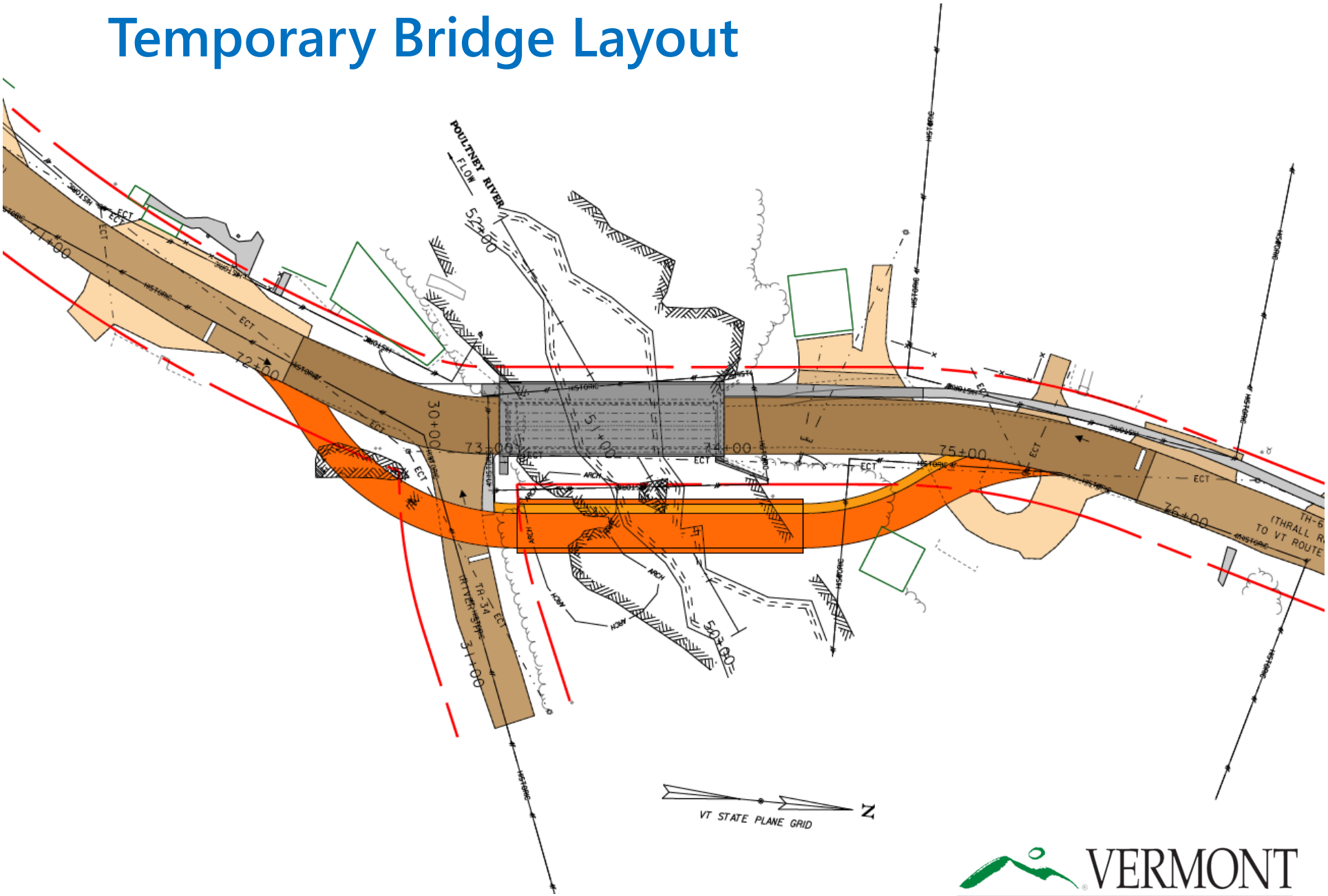
Temporary Bridge

- One Lane Upstream Temporary Bridge with Traffic Signal
  - Would require temporary garage move
- Downstream temporary bridge would go through house

Temporary Bridge Layout



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Recommended Scope

- Full Bridge Replacement with a New Pony Truss and Traffic Maintained on an Offsite Detour
  - Widen to meet the minimum standards
  - 12 week closure
  - Include 5’ sidewalk on bridge
  - Paint color to be chosen by the Town
  - New substructures founded on bedrock
  - 75 year design life
  - Right of Way needed

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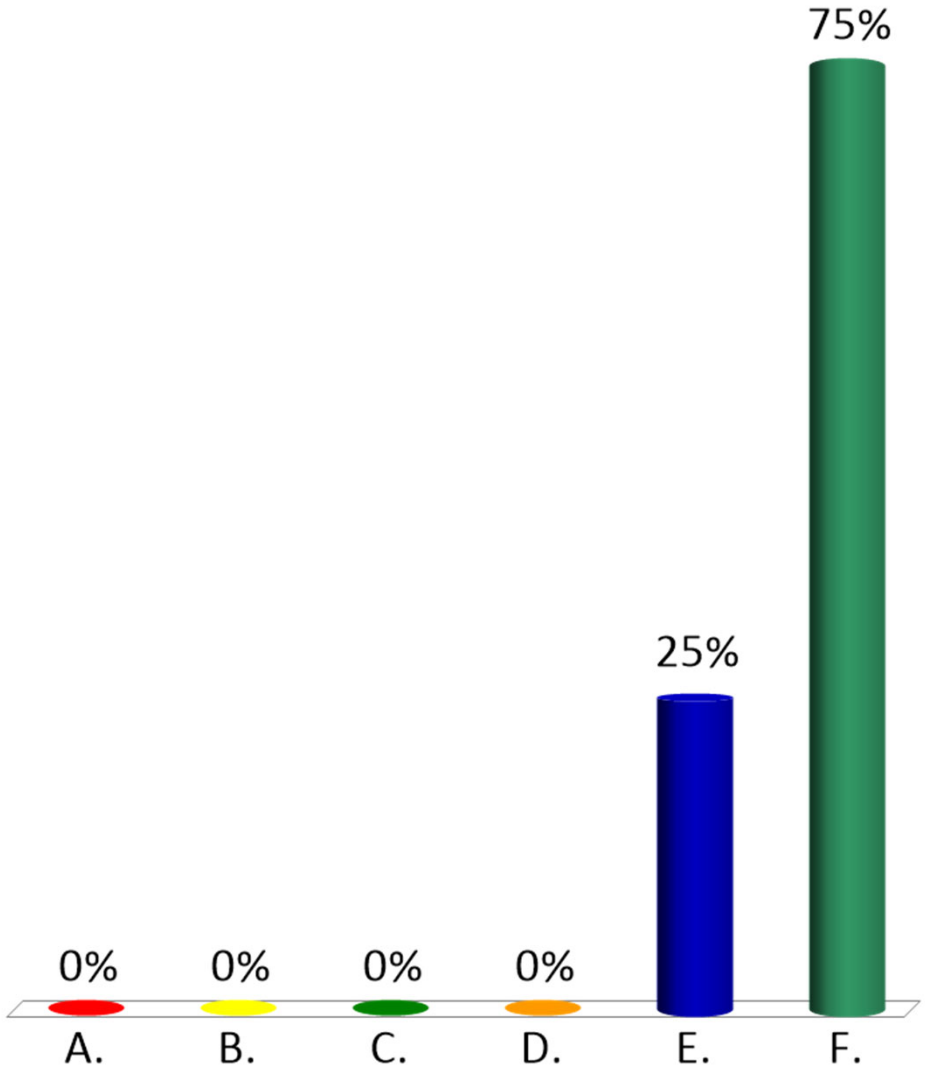
Alternatives Matrix

Poultney BO 1443(53)	Alternative 1: Truss Rehabilitation		Alternative 2: Truss Rehabilitation		Alternative 3: Full Bridge Replacement		Alternative 4: Full Bridge Replacement	
	Existing Configuration		Two-way w/ Sidewalk Addition		Pony Truss		Steel Beam Bridge with Ornamental Fascia Treatment	
	a. Offsite Detour	b. Temporary Bridge	a. Offsite Detour	b. Temporary Bridge	a. Offsite Detour	b. Temporary Bridge	a. Offsite Detour	b. Temporary Bridge
Total Project Costs	$1,688,240	$1,795,563	$2,271,920	$2,413,988	$2,683,176	$3,185,968	$2,701,084	$2,446,033
Annualized Costs	$42,206	$44,889	$56,798	$60,350	$35,776	$42,480	$36,014	$32,614
TOWN SHARE	**$42,206**	**$89,778**	**$56,798**	**$120,699**	**$134,159**	**$318,597**	**$135,054**	**$244,603**
TOWN %	**2.5%**	**5%**	**2.5%**	**5%**	**5%**	**10%**	**5%**	**10%**
Construction Duration	2 Months	8 Months	4 Months	8 Months	6 Months	18 Months	6 Months	18 Months
Closure Duration (If Applicable)	12 weeks	N/A	12 weeks	N/A	12 weeks	N/A	8 weeks	N/A
Typical Section - Bridge (feet)	19'-8" (one-lane bridge)		19'-8" (one-lane bridge), with 6'-6" sidewalk		22', with 5' sidewalk		22', with 5' sidewalk	
Geometric Design Criteria	Substandard Width		Substandard Width		Meets Minimum Standards Meets Minimum Standards		Meets Minimum Standards Meets Minimum Standards	
Traffic Safety	Posted Bridge		Posted Bridge		Improved		Improved	
Bicycle Access	No Change		Improved		Improved		Improved	
Pedestrian Access	No Change		Improved		Improved		Improved	
Utilities	No Change	Minor Aerial Relocation	No Change	Minor Aerial Relocation	Minor Aerial Relocation	Minor Aerial Relocation	Minor Aerial Relocation	Minor Aerial Relocation
ROW Acquisition	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Road Closure	Yes	No	Yes	No	Yes	No	Yes	No
Design Life	40		40		75		75	

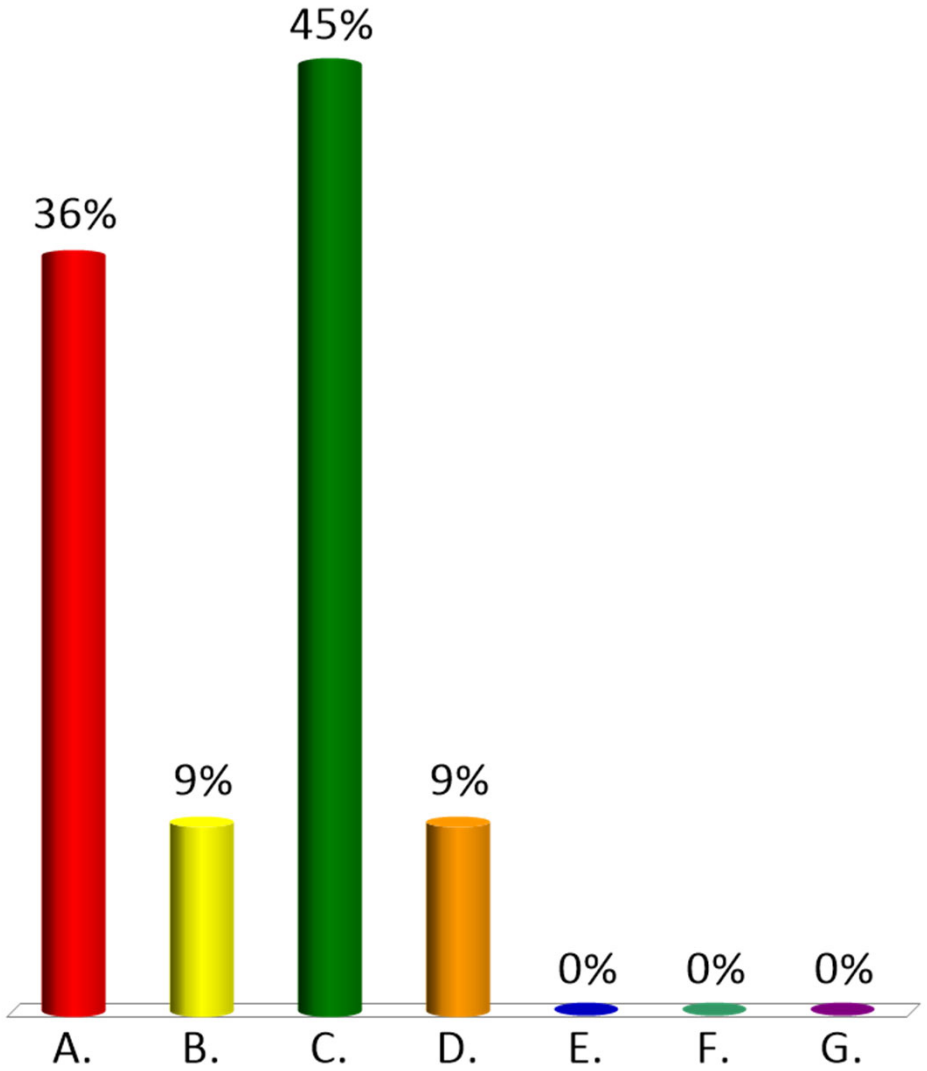
What would be the maximum acceptable length of closure for Bridge #7?

A. 7 days
B. 21 days
C. 30 days
D. 6 weeks
E. 8 weeks
F. 12 weeks



Which time of year would be <u>most</u> acceptable for Bridge #7 to be closed?

A. April - June
B. May - July
C. June - August
D. July - September
E. August -October
F. During Summer Break
G. Other



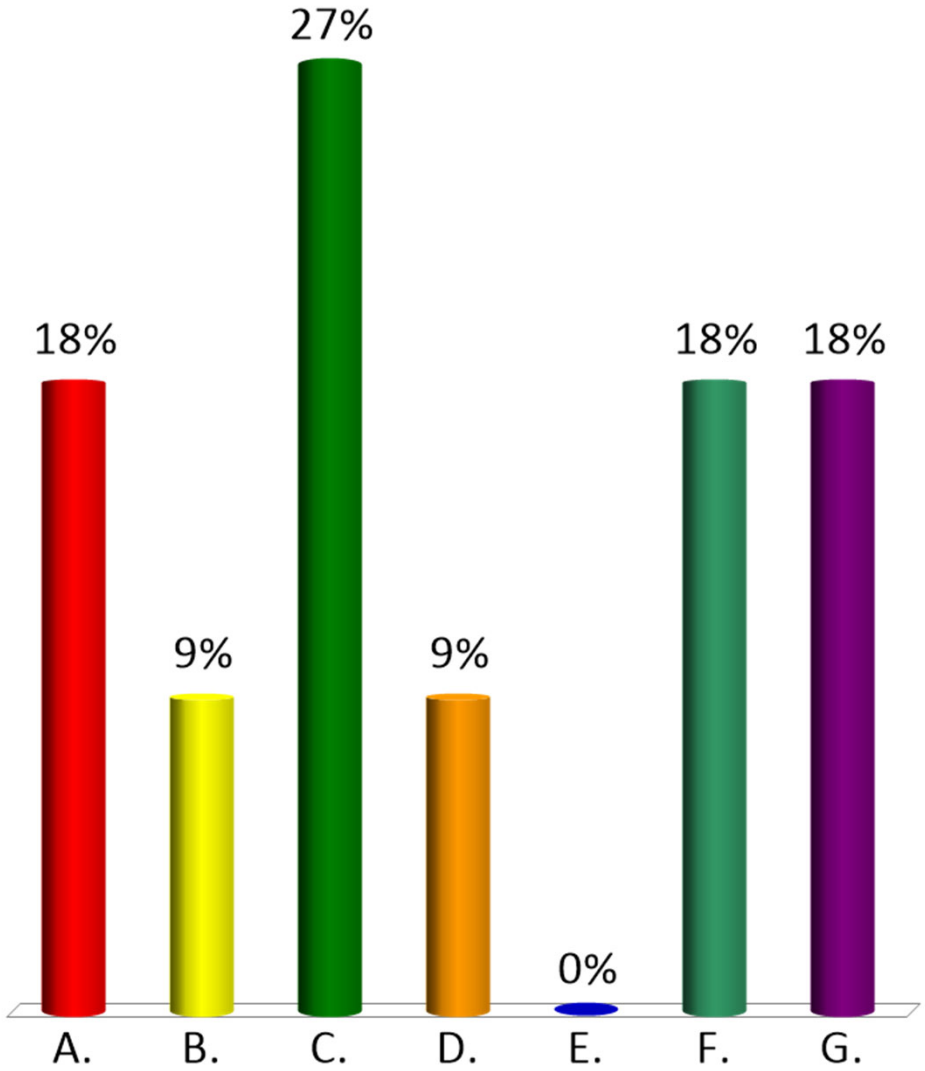
Preliminary Project Schedule

- Construction Start – 2023
  - Total Cost Estimate: $2,683,000

Accelerated Bridge Program
VTRANS

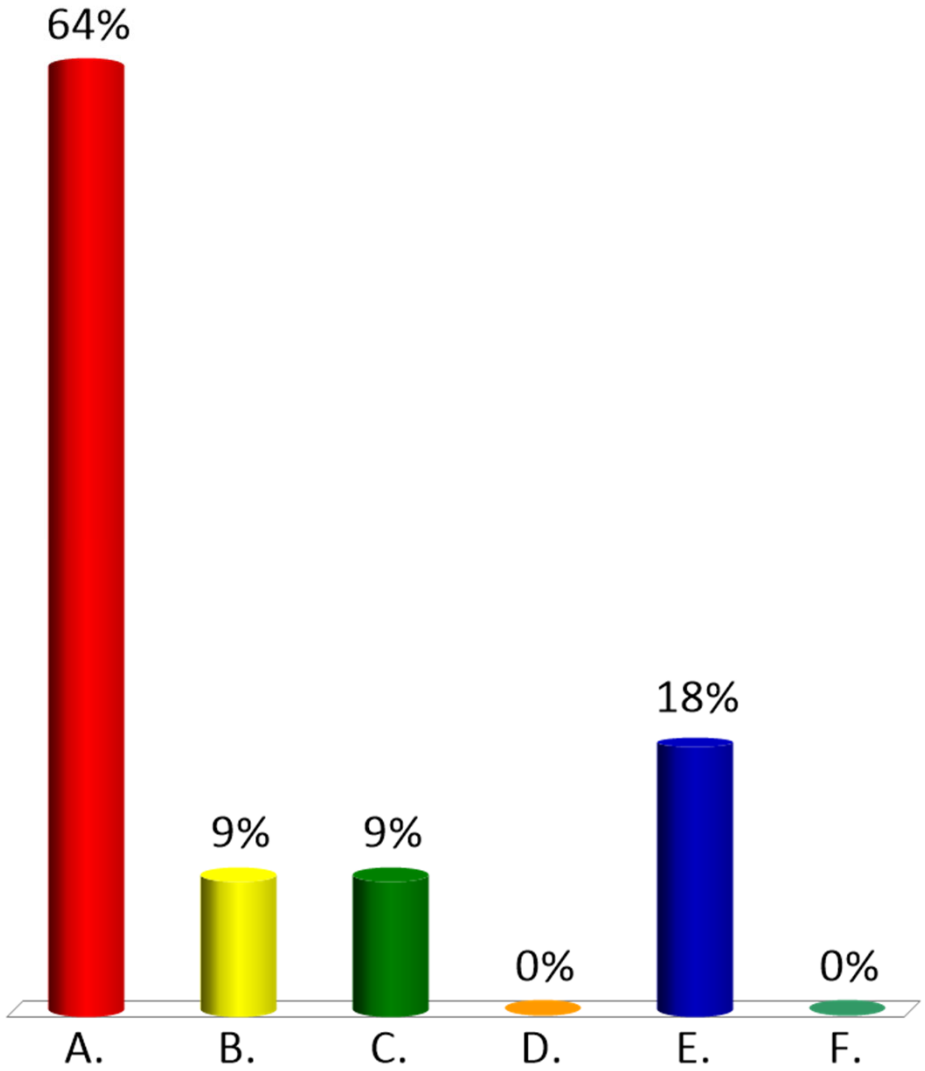
Which would you be most concerned about?

A. Construction delays on On The Green
B. Length of Detour
C. Bridge Aesthetics
D. Environmental Impacts
E. Recreational Impacts
F. Other
G. Not really concerned



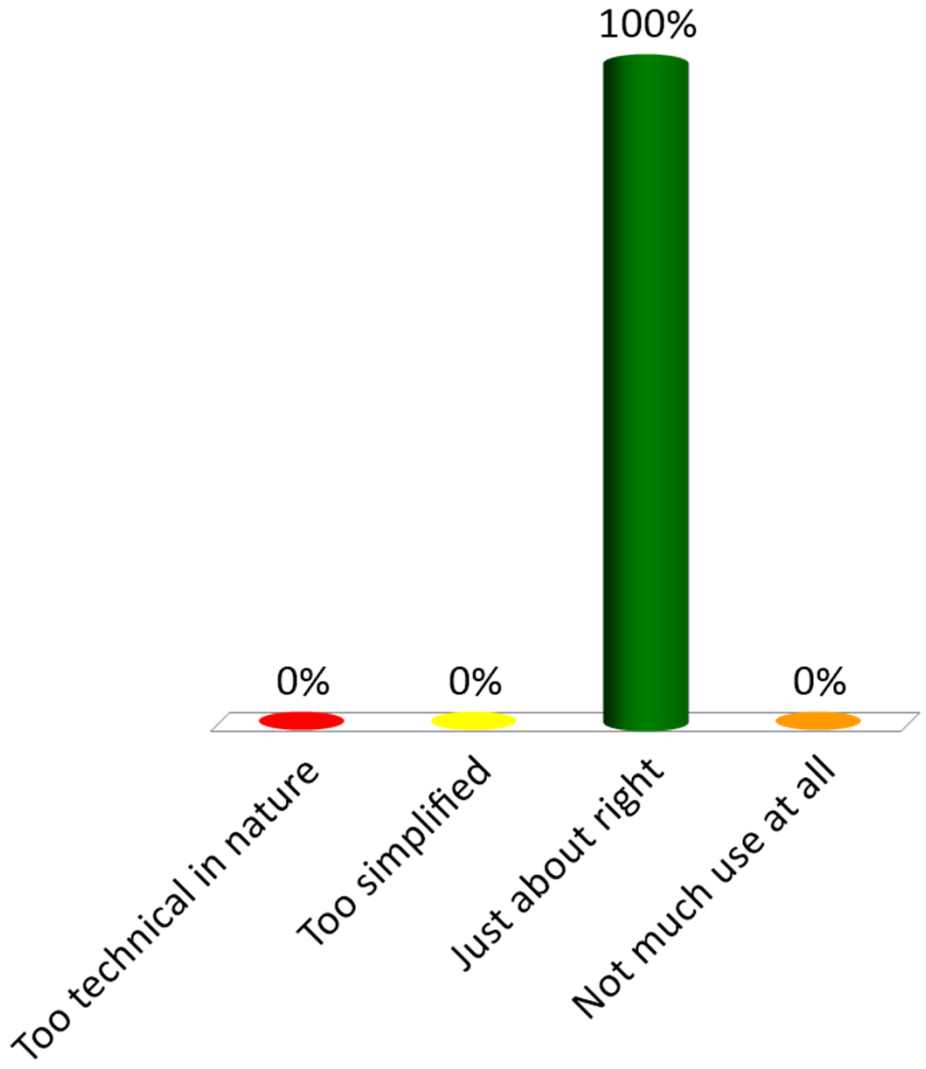
Which design aspect is the most important to you?

A. Shoulder width/bicycle accommodations
B. Aesthetics - Bridge Railing
C. Construction year
D. Construction Duration
E. Cost
F. Other



Did you find this presentation to be?

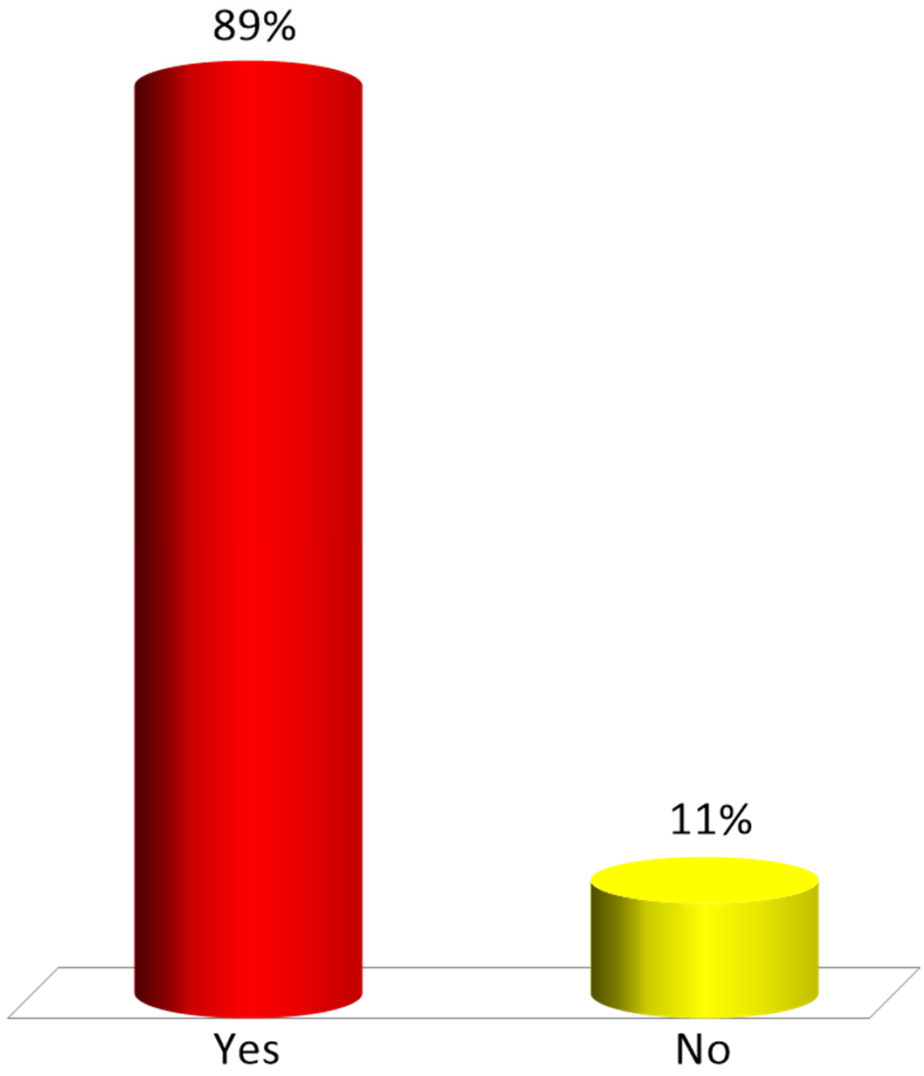
A. Too technical in nature
B. Too simplified
C. Just about right
D. Not much use at all



Do you find the recommended scope of work satisfactory?

A. Yes

B. No



Next Steps – Bridge #7

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

- Wait for Town response to recommendation on proposed project
  - Develop Conceptual plans and distribute for comment
  - Request a Public Information meeting
  - Process local agreements
  - Right-of-Way process (if needed)
  - Town is responsible for any chosen detour route

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For more information:

- https://outside.vermont.gov/agency/vtrans/external/Projects/Structures/16J180

Poultney BO 1443(53)
Questions and Comments

Town Highway 6 – Bridge #7 over Poultney River

April 8, 2019

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