ALTERNATIVES PRESENTATION MEETING

DEPOT STREET BRIDGE
JAMAICA BO 1442(42)
TH 19, BRIDGE NO. 32 OVER WEST RIVER

HOYLE TANNER

PRESENTATION OUTLINE

- Introductions
- Purpose of Meeting
- Location Map
- VTrans Project Development Process
- Existing Conditions
- Design Criteria and Considerations
- Alternatives Considered
- Recommended Alternative
- Preliminary Project Schedule
- Questions

INTRODUCTIONS

- Gary Laroche, P.E.
  - VTrans Project Manager
- Sean James, P.E.
  - Hoyle Tanner Project Manager
- Megan Ooms, P.E.
  - Hoyle Tanner Senior Structural Engineer

PURPOSE OF MEETING

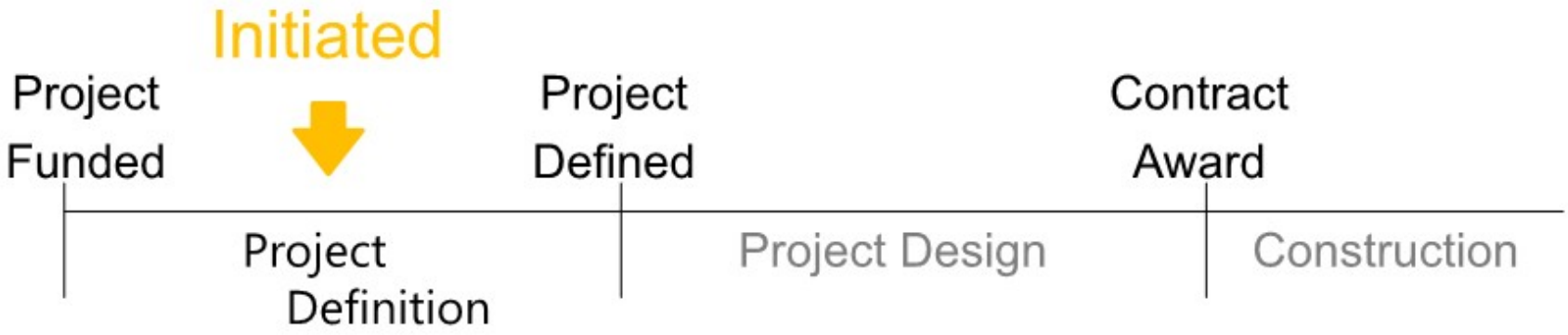
- Provide an Update of Project Status
- Provide an Update of Project Constraints
- Discuss Updated Recommended Alternative
- Provide an Opportunity to Ask Questions and Voice Concerns

LOCATION MAP

Vermont Agency of Transportation
Jamaica BO 1442(42)

Trusted Experts | Innovative Results

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

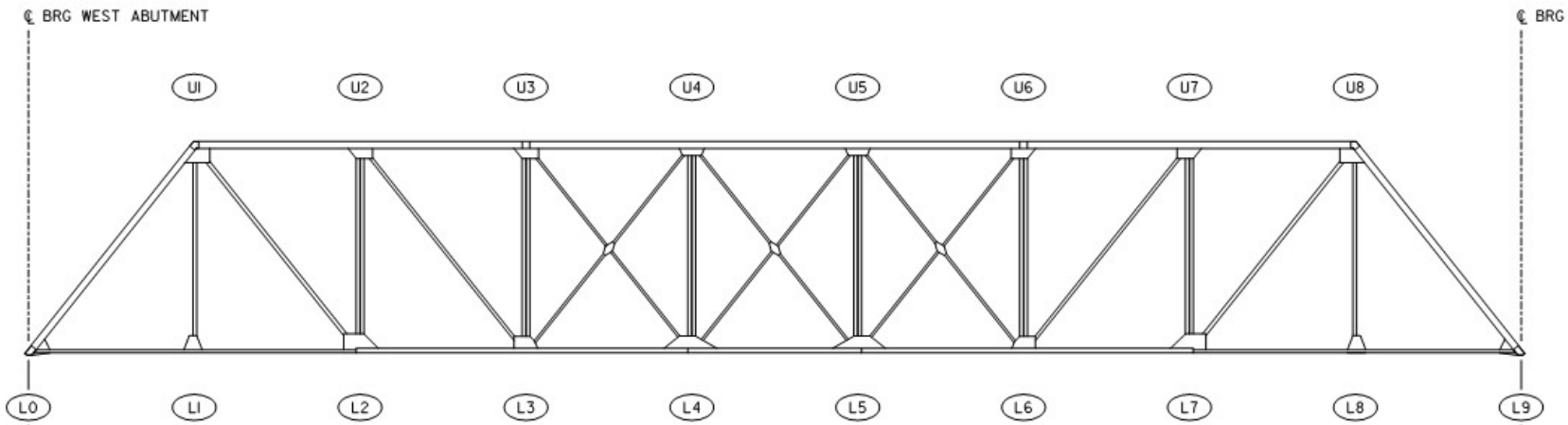
EXISTING BRIDGE INFORMATION

- Bridge No. 32 constructed in 1926
- Fabricated by the Berlin Construction Company
- Kittredge Bridge Company as the contractor
- Pratt Through-Truss
  - 165’ Total Span Length
  - 15’-4” On Center, 13’-6” Between Curbs
  - 14’-7” Vertical Clearance
  - Posted Weight: 8 Tons

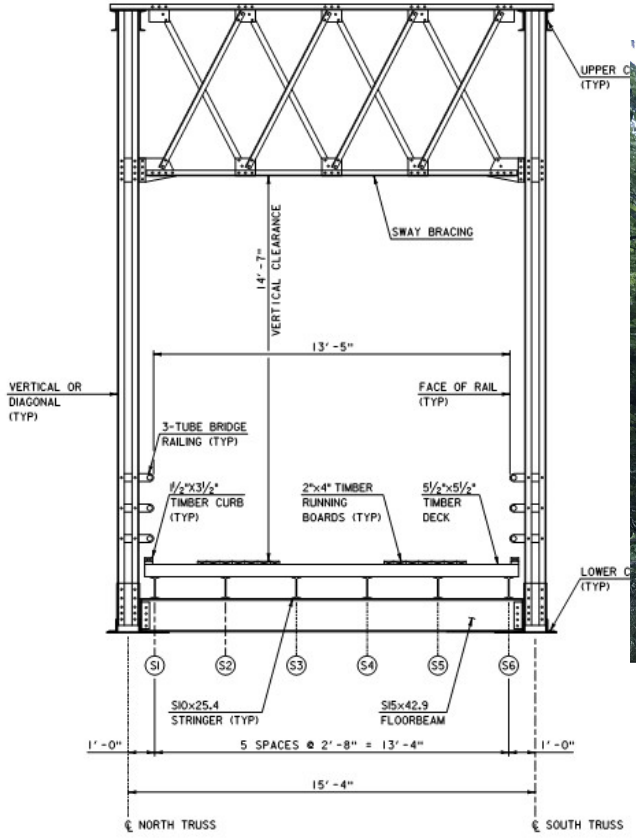
EXISTING BRIDGE INFORMATION

- Precursor to post-1927 standardized Pratt Trusses
- Utilizes built up members rather than rolled I-beams
- Meets registration requirements for inclusion in the National Register of Historic Places (NRHP).
- 1998 Vtrans Historic Bridge Programmatic Agreement
  - Listed as Category A for a limited highway use
  - Change of use would require additional review and agreements
- Substructures: dry-laid stone masonry

ELEVATION VIEW



TYPICAL SECTION



EXISTING BRIDGE SECTION

INSPECTION FINDINGS

- National Bridge Inspection Standard Condition Ratings
  - 9 = Excellent
  - 0 = Failed Condition – Closed
- Overall bridge condition was rated a 6 or satisfactory
  - Deck condition is rated a 6 or satisfactory
  - Superstructure condition is rated a 6 or satisfactory
  - Substructure condition is rated a 6 or satisfactory
  - Channel condition is rated 8 or very good.
- Anticipated Inspection: October 2025

ENVIORNMENTAL RESOURCES

- Resource ID Completed in October 2019 by Others

Table 1. Resource ID Summary Table

TOWN	STRUCTURE ID	WETLANDS	SURFACE WATERS	FLOODPLAIN / FLOODWAY	SIGNIFICANT HABITAT	RTE SPECIES	FARMLAND SOILS	INVASIVE SPECIES
JAMAICA	BRIDGE 32	X	X	X	X	X	X	X

DESIGN CRITERIA AND CONSIDERATIONS

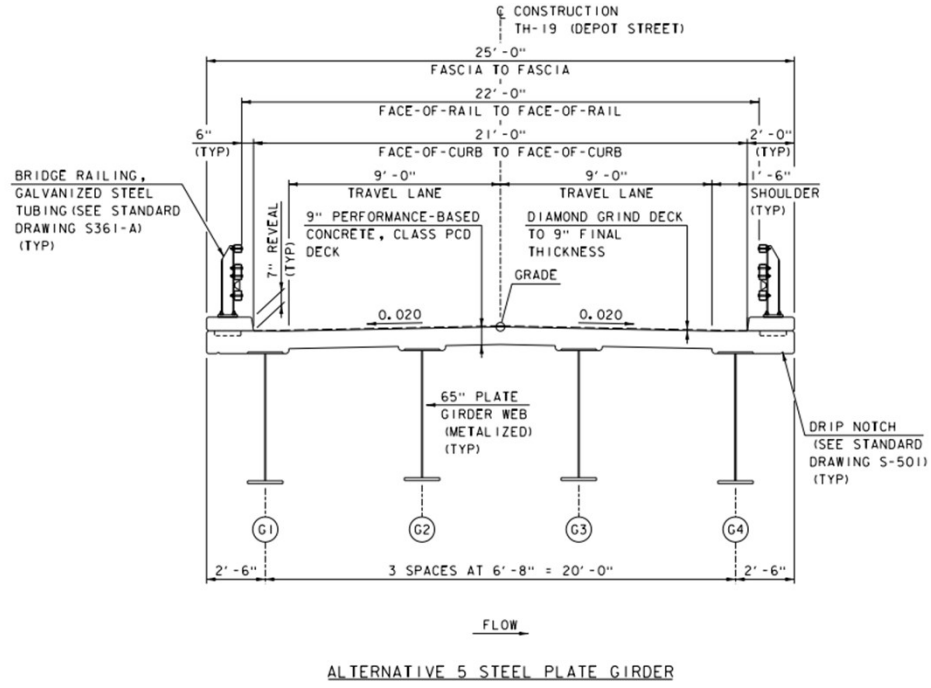
- Updated Purpose and Need
  - US Army Corps of Engineers
    - Access to Ball Mountain Dam for Construction and Maintenance
  - State Parks and Department of Forest
    - Access to Jamaica State Park for Construction
- Time-of-Year and In-Water Work Restrictions
  - June 1-October 1
  - Resulted from Resource Identification

DESIGN CRITERIA AND CONSIDERATIONS

- Average Daily Traffic
  - 2023- 260; 5.8% Trucks
  - 2043- 280; 8.6% Trucks
- Constructability
  - East Side Access
  - Temporary Bridge Construction
  - Demolition of Existing Bridge
  - Construction of Alternative

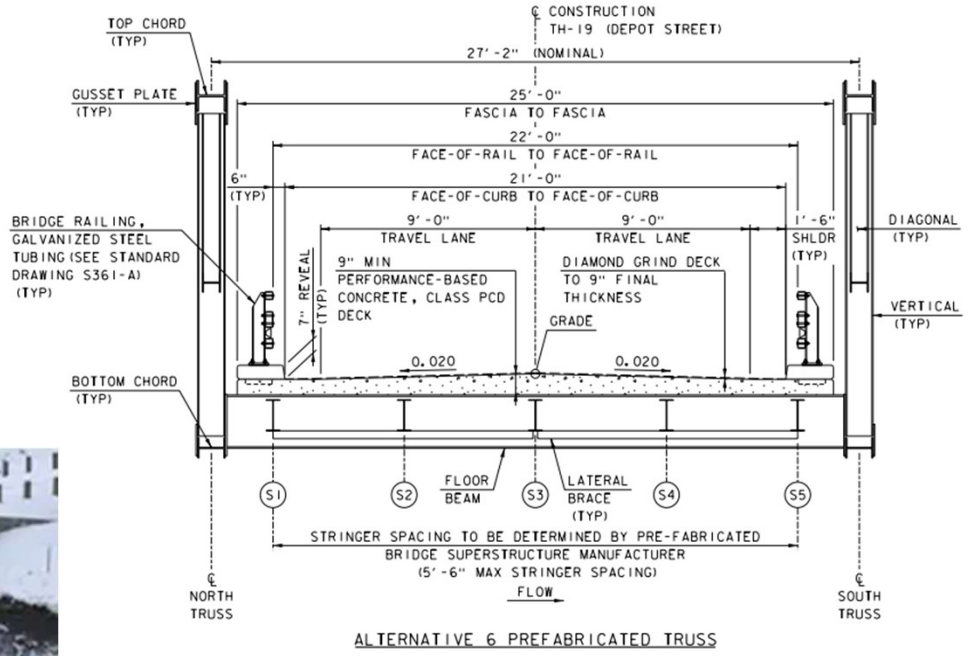
ALTERNATIVES ANALYSIS UPDATE

- Alternative 5: Replace Bridge with New Steel Girder Bridge
  - Temporary Bridge Off-Line
  - Requires Crane/Equipment on West Side to Set Steel
  - HL-93 Design Vehicle



ALTERNATIVES ANALYSIS UPDATE

- Alternative 6: Replace Bridge with New Truss Bridge
  - Temporary Bridge Off-Line
  - Requires Temporary Support on West Side to Launch
  - Requires Large Laydown Area to Assemble Trusses
  - HL-93 Design Vehicle



ALTERNATIVE 6 PREFABRICATED TRUSS

ALTERNATIVE ANALYSIS UPDATE

- Existing Truss to be Removed for both Alternatives
  - Preserve and Remove to New Location
    - Becomes Property of the Town
    - New Location Needs to be Determined
    - All Costs of Bridge Become 100% Town Responsibility
  - Document and Destroy
    - Document for Historic Purposes
    - Truss to be Demolished by Contractor and Removed from Site

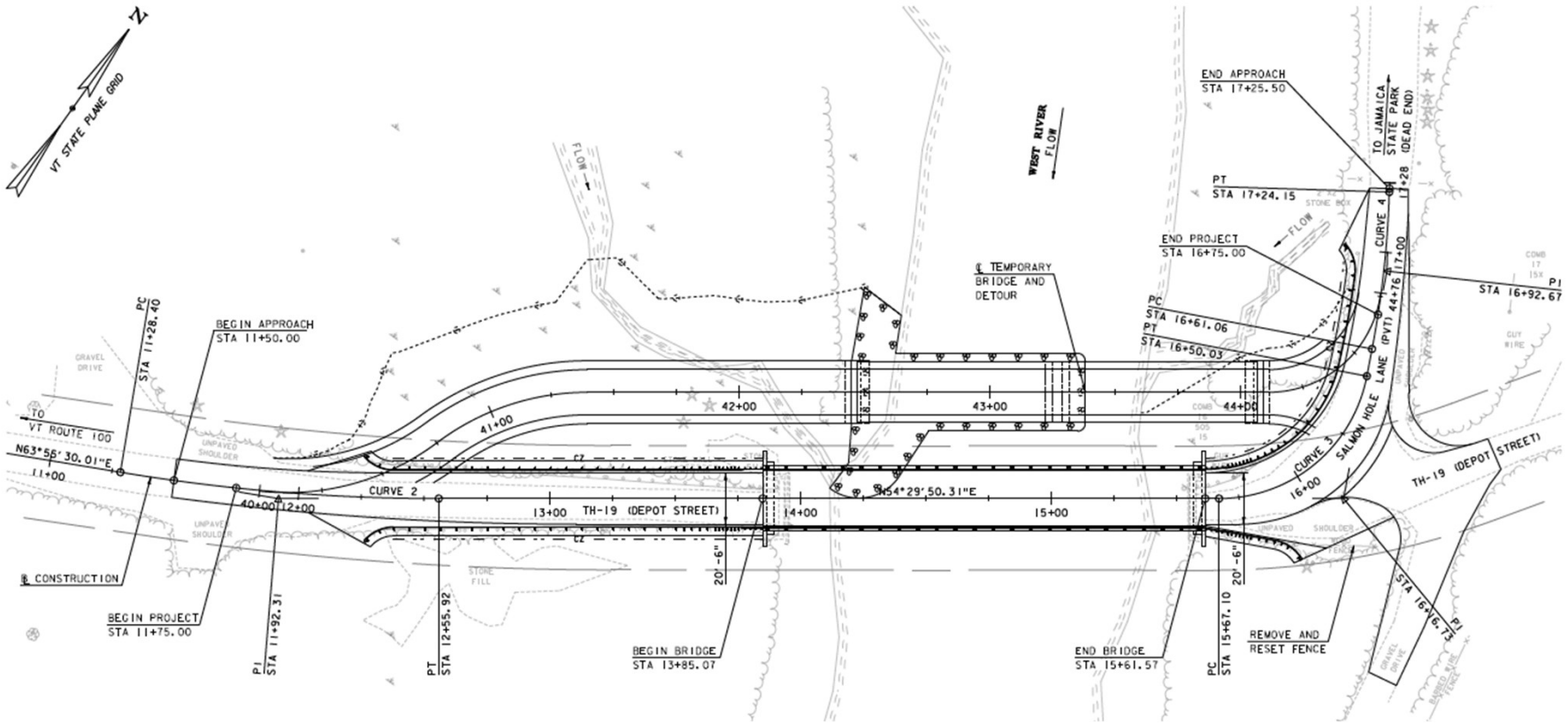
COST MATRIX

Jamaica BO 1442(42)		Alternative 5 New Steel Girder Bridge On-Alignment with Temporary Bridge	Alternative 6 New Steel Truss Bridge On-Alignment with Temporary Bridge
COST	Bridge Cost	$3,231,000	$4,173,000
	Removal of Structure	$650,000	$650,000
	Roadway	$450,000	$450,000
	Maintenance of Traffic	$692,000	$692,000
	Construction Costs	$5,023,000	$5,965,000
	Construction Engineering & Contingencies	$1,015,000	$1,015,000
	Accelerated Premium	$0	$0
	Total Construction Costs w CEC	$6,038,000	$6,980,000
	Preliminary Engineering	$1,522,000	$1,370,000
	Right of Way	$10,000	$10,000
	Total Project Costs	$7,560,000	$8,360,000
	Annualized Costs	$100,800	$111,470
TOWN SHARE		$153,000 + Maintenance Cost	$138,000 + Maintenance Cost
TOWN % Preliminary Engineering Right-of-Way Construction Cost w CE & Contingency Maintenance Cost		 10% 10% 0% 100%	 10% 10% 0% 100%

RECOMMENDED ALTERNATIVE

- Alternative 5: New Steel Girder Bridge
  - Cost
    - Less Expensive
    - More Fabricator Options offer More Competitive Pricing
  - Maintenance of Traffic
    - Less Staging Space Required On-Site
    - More Space Between Structures to Aid in Construction
    - Provides same level of service as Truss Bridge
    - Temporary Bridge Off-Line

RECOMMENDED ALTERNATIVE



PRELIMINARY PROJECT SCHEDULE

- Construction Start- 2027
  - Total Project Cost Estimate - $7,560,000
    - Town Share - $153,200

FINANCE & MAINTENANCE AGREEMENT

The Finance and Maintenance Agreement is an overarching project agreement required for all municipally owned assets to define responsibilities and for VTrans to perform activities on behalf of the Town. E.g. Acquire Right-of-Way.

Bridge Rehabilitation: (Executed Agreement)

- Scoping / Preliminary Engineering
  - (80% Fed, 15% State, 5% Town)
- Right-of-Way
  - (80% Fed, 15% State, 5% Town)
- Construction Cost
  - (100% Fed, 0% State, 0% Town)

Bridge Replacement: (Amendment Required)

- Scoping / Preliminary Engineering
  - (80% Fed, 10% State, 10% Town)
- Right-of-Way
  - (80% Fed, 10% State, 10% Town)
- Construction Cost
  - (100% Fed, 0% State, 0% Town)

PROJECT COST ESIMATE

	Estimated Cost	Town Share		Town Estimate Cost
Preliminary Engineering	$1,522,000	10%	=	$152,200
Right-of-Way	$10,000	10%	=	$1,000
Construction, CE, 5% Contingency	$6,038,000	0%	=	$0
Total	$7,570,000			$153,200

The estimated cost, as shown in the table above, is the current estimate including construction engineering and construction contingency. While developing each construction estimate, the most recent bid data is utilized and compared to the items in this project.

Please note, price escalations have been impacting project costs across the country. Also, unknown inflationary pressures and the competitive bidding climate cannot be accounted for. Construction cost estimate may fluctuate from this design phase **(Scoping)** to the next **(Preliminary).**

Questions?

HOYLE TANNER

THANK YOU