Applicability and Installation Methods

PRE-FABRICATED STEEL TRUSSES -

Presented by:

Jeremy M. Bourdeau, P.E.
AGENDA

- Three Projects
  - HVRT over Vineyard Avenue (NYS 44/55)
  - Powerhouse Road over Hoosic River
  - Falls View Park Pedestrian Bridge

- Project Objectives and Site Constraints

- Truss Applicability

- Installation Methods
HUDSON VALLEY RAIL TRAIL

Project Location
- Town of Lloyd, Ulster County, NY
- NYSDOT Region 8
- Extends HVRT from Walkway over Hudson

Project Description
- Locally Administered Federal Aid/ARRA Stimulus
- 1.25 miles of trail along railroad corridor
- Two new bridge structures
- Owner – Town of Lloyd
- Contractor – Merritt Construction
Project Objectives

- Establish safe crossing of Vineyard Ave.
- Avoid on-road segment of trail
- Aesthetics – Gateway into Hamlet

Site Constraints

- Overhead utilities
- Existing abutment
- Vertical clearance restrictions
- Road closure restrictions
Truss Applicability

- Re-establish safe crossing of Vineyard Ave.
  - Span length – 125 feet
  - Abutments outside NYSDOT ROW
- Aesthetics – gateway into Hamlet
  - Curved top chord, weathering steel, black fence, timber handrail
- Overhead utilities
  - Two small cranes
- Existing abutment & Vertical Clearance
  - Abutment left in place
  - Superstructure depth – 2’-6”
- Road closure restrictions
  - Road closure < 4 hours

HUDSON VALLEY RAIL TRAIL
Project Location
- Town of Schaghticoke, Rensselaer Co., NY
- Privately owned road and bridge
- Access to power house on “island”

Project Description
- Bridge inspection
- Temporary bridge repairs/load posting
- Design-build bridge replacement project
- Owner – Brookfield Renewable Power
- Contractor – Tuscarora Construction Co.
POWERHOUSE RD. OVER HOOSIC RIVER

Project Objectives
- Bridge replacement to provide operator/emergency access to power house
- Structural capacity - removal of equipment
- Cost

Site Constraints
- Existing bridge – historic register eligible
- Long span (>250 feet)
- Only access to power house
- Difficult site access
- Hydraulics
Bridge Location

Power House

Difficult Access Point
Truss Applicability

- Bridge replacement
- Structural capacity for removal of equipment
  - Max. equipment load – HS-25 Equivalent
- Cost – Best Value Proposal Selected
- Existing bridge – historic register eligible
  - Existing bridge left in place
- Long span (>250 feet)
- Two span – 270 foot total length
- Only access to power house
- Pedestrian crossing during construction
- Difficult site access
  - Panelized construction method
FALLS VIEW PARK

Project Location
- City of Cohoes, Albany County, NY
- Adjacent to Cohoes Falls
- School Street hydro-power facility

Project Description
- Create new park – FERC re-licensing
- Privately owned – numerous public stakeholders
- Owner – Brookfield Renewable Power
- Contractor – D.A. Collins
Project Objectives

- New bridge for pedestrian access
- Falls viewing and recreation areas
- Aesthetics - historic context of area

Site Constraints

- Long span (200 feet)
- Hydraulics
- Constructability
  - Overhead utilities
  - Deep water
<table>
<thead>
<tr>
<th><strong>Truss Applicability</strong></th>
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<tbody>
<tr>
<td>▪ New bridge for pedestrian access</td>
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<td>▪ Aesthetics - historic context of area</td>
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<td>▪ <strong>Weathering steel, black fence, timber handrail</strong></td>
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<tr>
<td>▪ Long span</td>
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<tr>
<td>▪ Hydraulics</td>
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<tr>
<td>▪ Single span – 195 feet</td>
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<td>▪ Abutments out of water, no pier</td>
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<td>▪ Superstructure depth – 3 feet</td>
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<td>▪ Constructability</td>
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<td>▪ Pre-fabricated structure</td>
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<td>▪ Assumed erection procedure</td>
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1. List three parameters that led to the selection of prefabricated trusses.
   - Hydraulics, superstructure depth, constructability, aesthetics

2. List three aesthetic enhancements that were used on the pedestrian trusses.
   - Weathering steel, curved top chord, black vinyl fence, timber handrail

3. What were the three construction methods used to erect the trusses?
   - Conventional (cranes), Panelized (launched with rollers), Floated
QUESTIONS?