

Contractor's Informational Meeting

Hartford IM 091-2(79)

Replacement of I-91 Bridge 43 North and South

May 22, 2013
5th Floor Boardroom
VTrans

Presented by

Vermont Agency of Transportation – Structures Section

Introductions

Kristin Higgins, Project Manager
VTrans Structures

Molly Perrigo, CMGC Point-of-Contact
VTrans Contract Administration

Mark Colgan
VHB Engineering

Purpose of Meeting

- Accelerated Bridge Program Update
- Hartford IM 091-2(79) Project Overview
- Introduction to CMGC
- Project Schedule
- Q&A

Accelerated Bridge Program (ABP)

- Formally created in January 2012 – VTrans Structures Section
- Accelerated Project Delivery and Accelerated Bridge Construction (ABC)
- Project Delivery - 2 years from Concept to Construction
- Most projects constructed under short duration road closures
- Utilizing Prefabricated Bridge Elements and innovated construction techniques such as heavy lift or lateral slide
- One in-house Design Squad
- Two Project Managers - Consultant designed projects

ABP Projects

- 2013 – Just over \$11 million projects delivered
- 3 out of 10 being constructed under short duration road closures
- 2014 – Just over \$23 million projects under development
- 13 out of 15 planned short duration road closures
- 2015 – Just over \$15 million projects under development (so far)
- 8 out of 9 planned short duration road closures (so far)

Project Overview - Location

Hartford IM 091-2(79) BR 43N & 43S Over VT Route 5

- Located on Interstate 91 in Hartford, Vermont
- MM 70 just north of Exit 11
- Less than 0.5 mile north of I-89/I-91 interchange
- Over VT Rte 5 – High Traffic







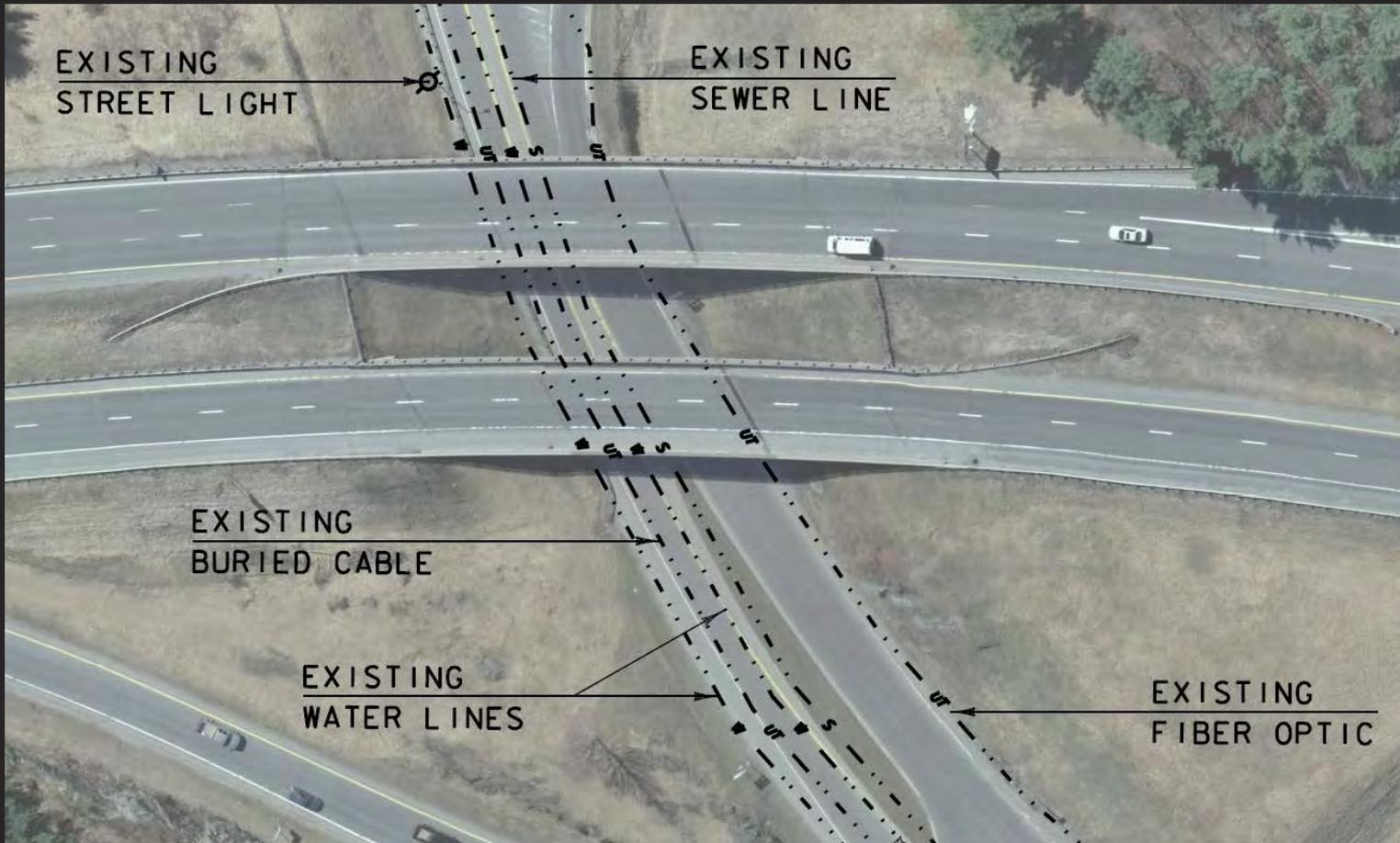
Project Overview – Existing Traffic Information

Hartford IM 091-2(79) BR 43N & 43S Over VT Route 5



Project Overview – Existing Utilities

Hartford IM 091-2(79) BR 43N & 43S Over VT Route 5



Project Overview – Existing Bridge Information

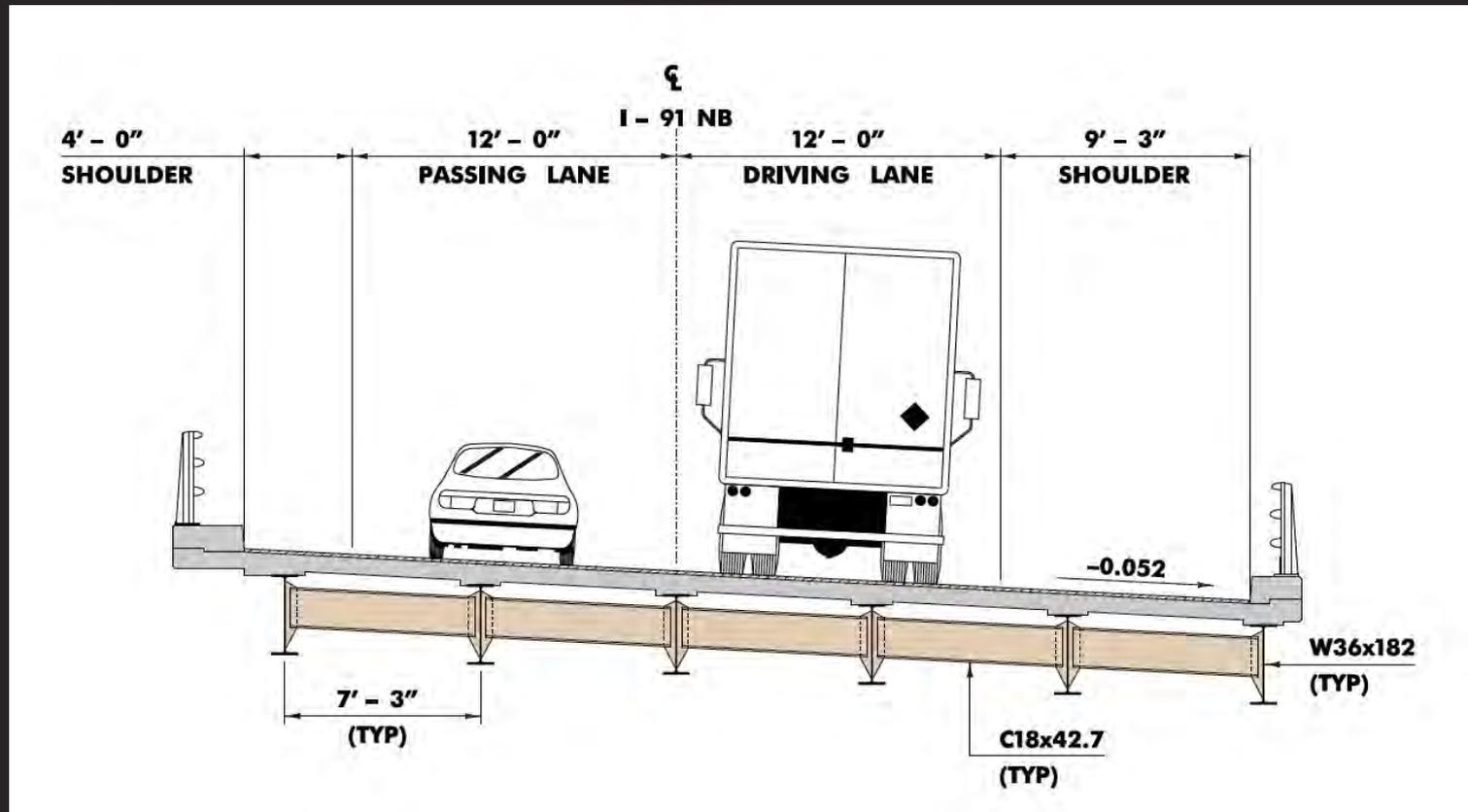
Hartford IM 091-2(79) BR 43N & 43S Over VT Route 5

- Bridges Built in 1966
- 3 Spans over VT Rte 5
- 50' – 100' – 50'
- 30 Degree Skew
- Seated/Suspended Span Structure (similar to Pin and Hanger)
- Vertical Clearance = 15' - 3"



Project Overview – Existing Bridge Information

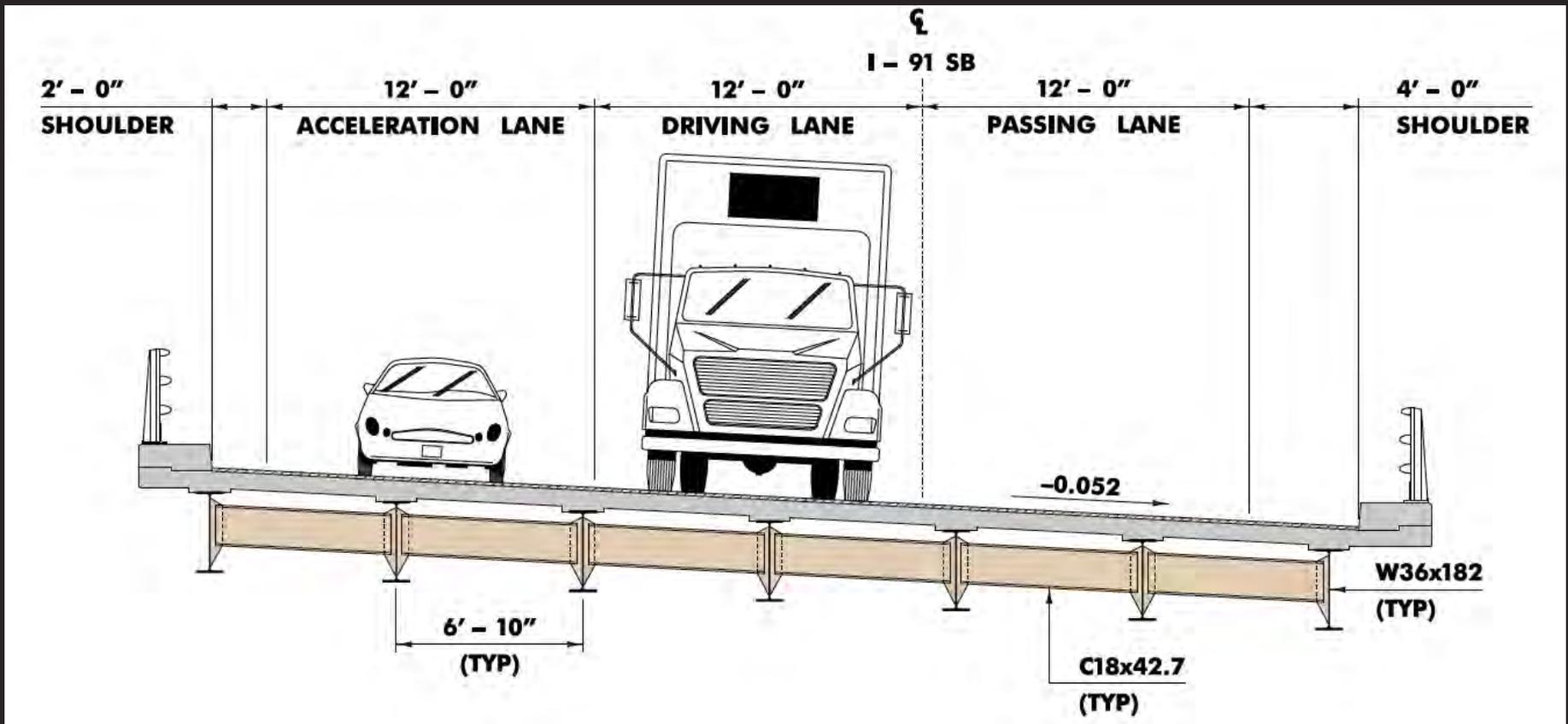
Hartford IM 091-2(79) BR 43N & 43S Over VT Route 5



Bridge 43N = 37' - 3" Curb to Curb

Project Overview – Existing Bridge Information

Hartford IM 091-2(79) BR 43N & 43S Over VT Route 5



BR 43S = 42' - 0" Curb to Curb

Project Overview – Existing Bridge Information

Hartford IM 091-2(79) BR 43N & 43S Over VT Route 5

- Seated/Suspended Span Construction
- Structure is Fracture Critical
- Maintenance Becoming Critical and Costly
- Both Bridges Need to be Replaced
- Construction Scheduled for Summer 2015



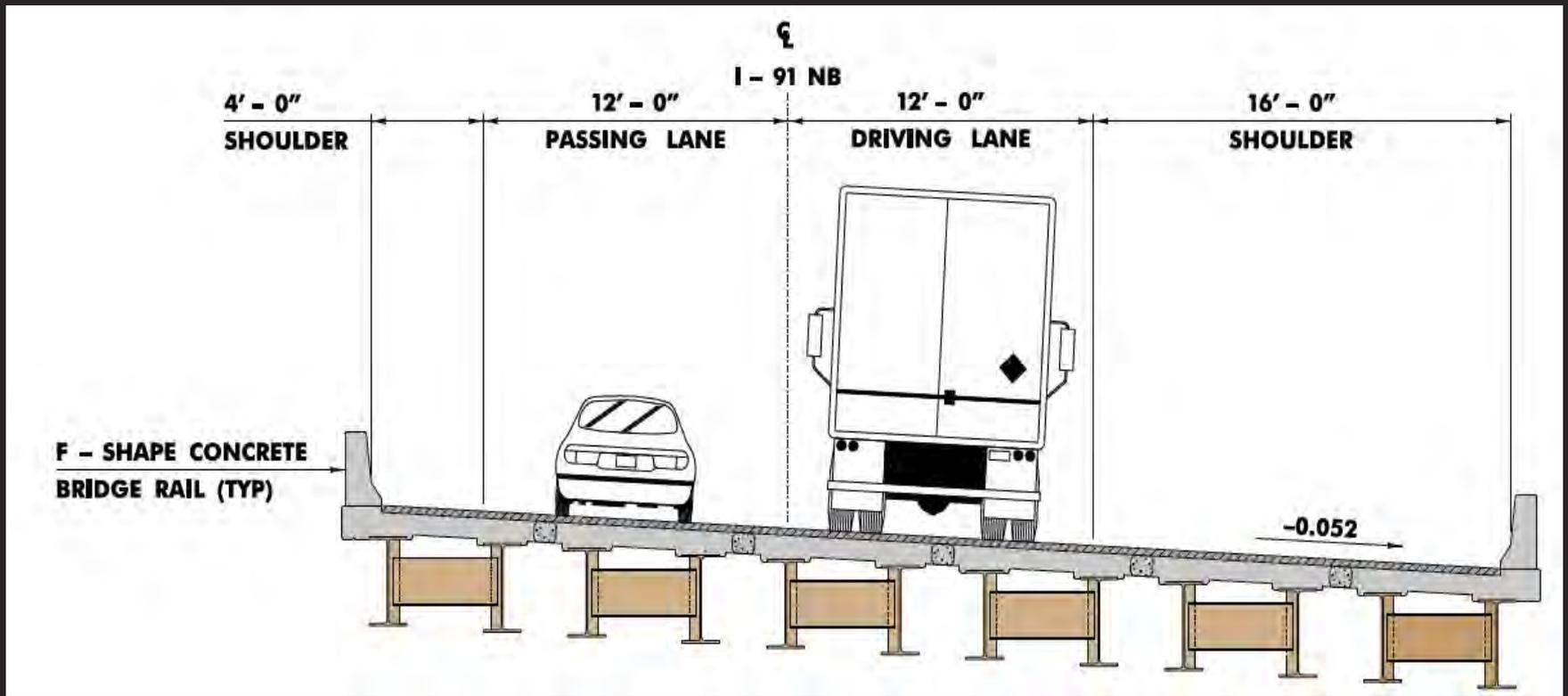
Project Overview – Proposed Structure

Hartford IM 091-2(79) BR 43N & 43S Over VT Route 5

- Wider Typical Sections

Project Overview – Proposed Structure

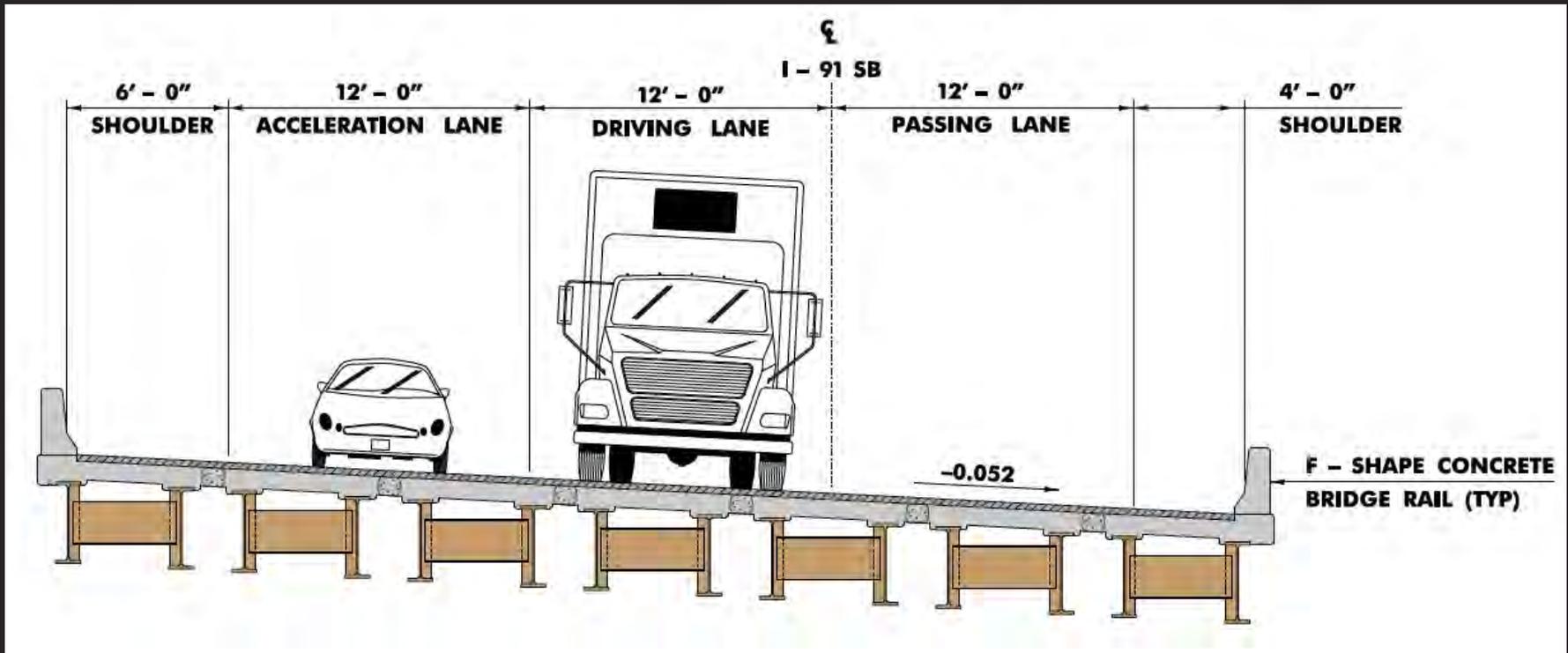
Hartford IM 091-2(79) BR 43N & 43S Over VT Route 5



Bridge 43N = 44' - 0" Rail to Rail (Widened +6.75' to the East)

Project Overview – Proposed Structure

Hartford IM 091-2(79) BR 43N & 43S Over VT Route 5



Bridge 43S = 46' - 0" Rail to Rail (Widened +4' to the West)

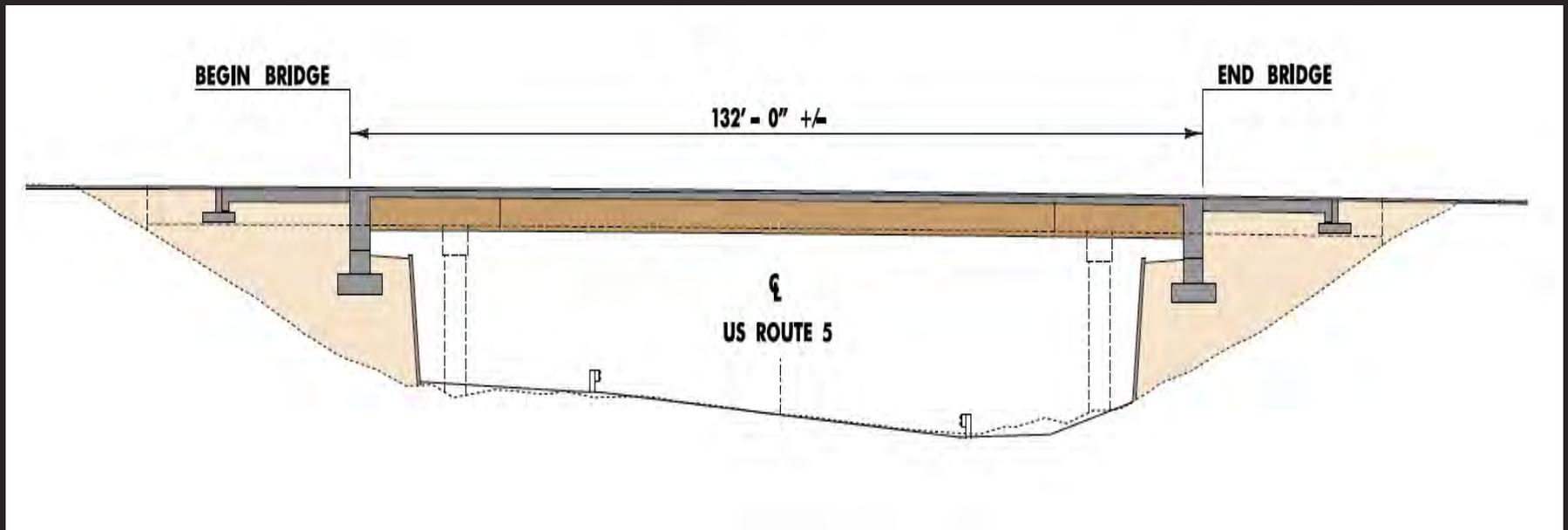
Project Overview – Proposed Structure

Hartford IM 091-2(79) BR 43N & 43S Over VT Route 5

- Wider Typical Sections
- 132 ' +/- Single Span Bridges
- New abutments constructed behind piers under live traffic

Project Overview – Proposed Structure

Hartford IM 091-2(79) BR 43N & 43S Over VT Route 5



Project Overview – Proposed Structure

Hartford IM 091-2(79) BR 43N & 43S Over VT Route 5



Project Overview – Proposed Structure

Hartford IM 091-2(79) BR 43N & 43S Over VT Route 5

- Wider Typical Sections
- 132' +/- Single Span Bridges
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- Both Structures constructed adjacent to Existing Bridges on temporary supports

Project Overview – Proposed Structure

Hartford IM 091-2(79) BR 43N & 43S Over VT Route 5





**BUILD NEW
SUPERSTRUCTURE**

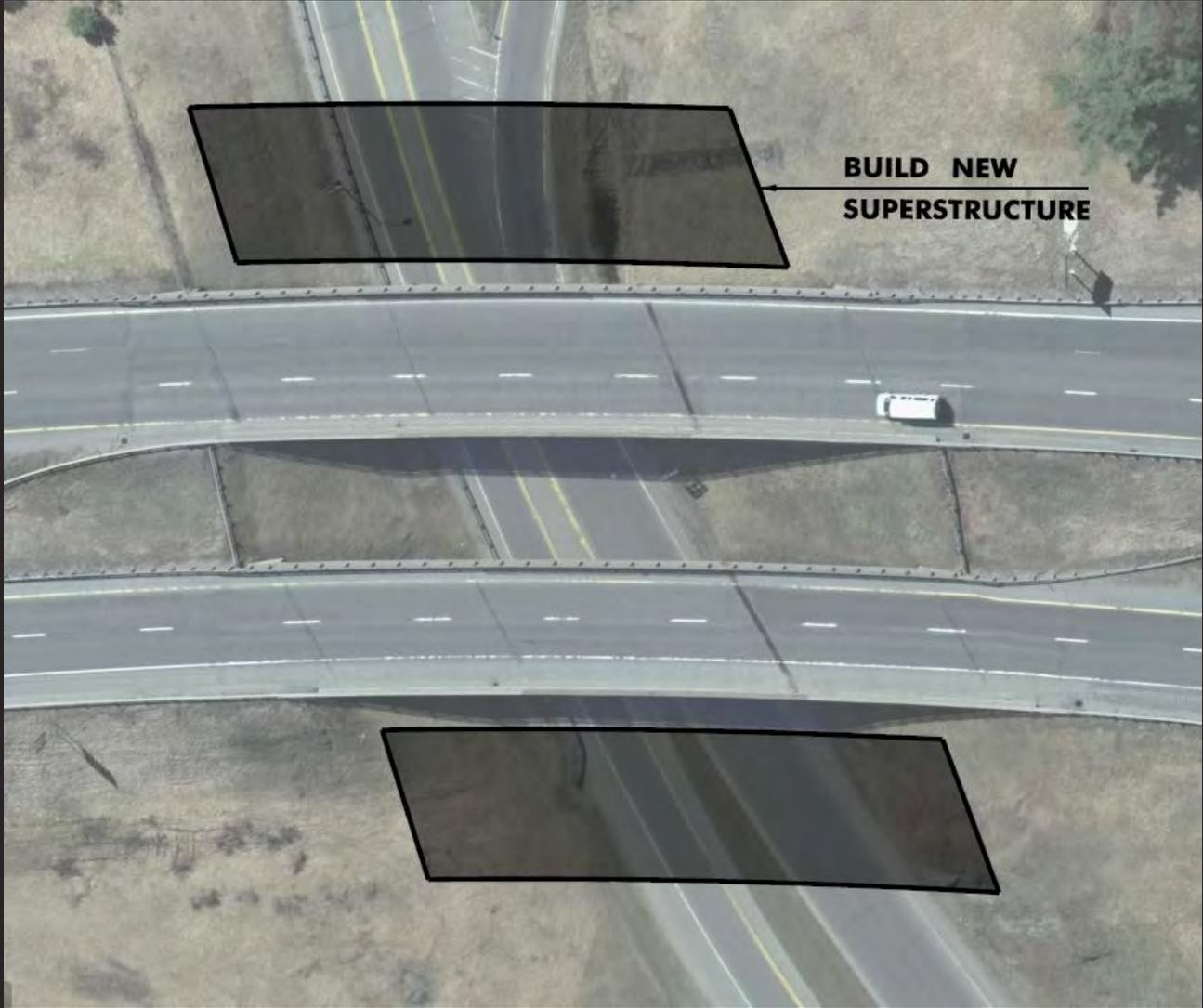
Construction Area for Northbound Bridge



Looking North



Looking South



**BUILD NEW
SUPERSTRUCTURE**

Construction Area for Southbound Bridge



Looking North

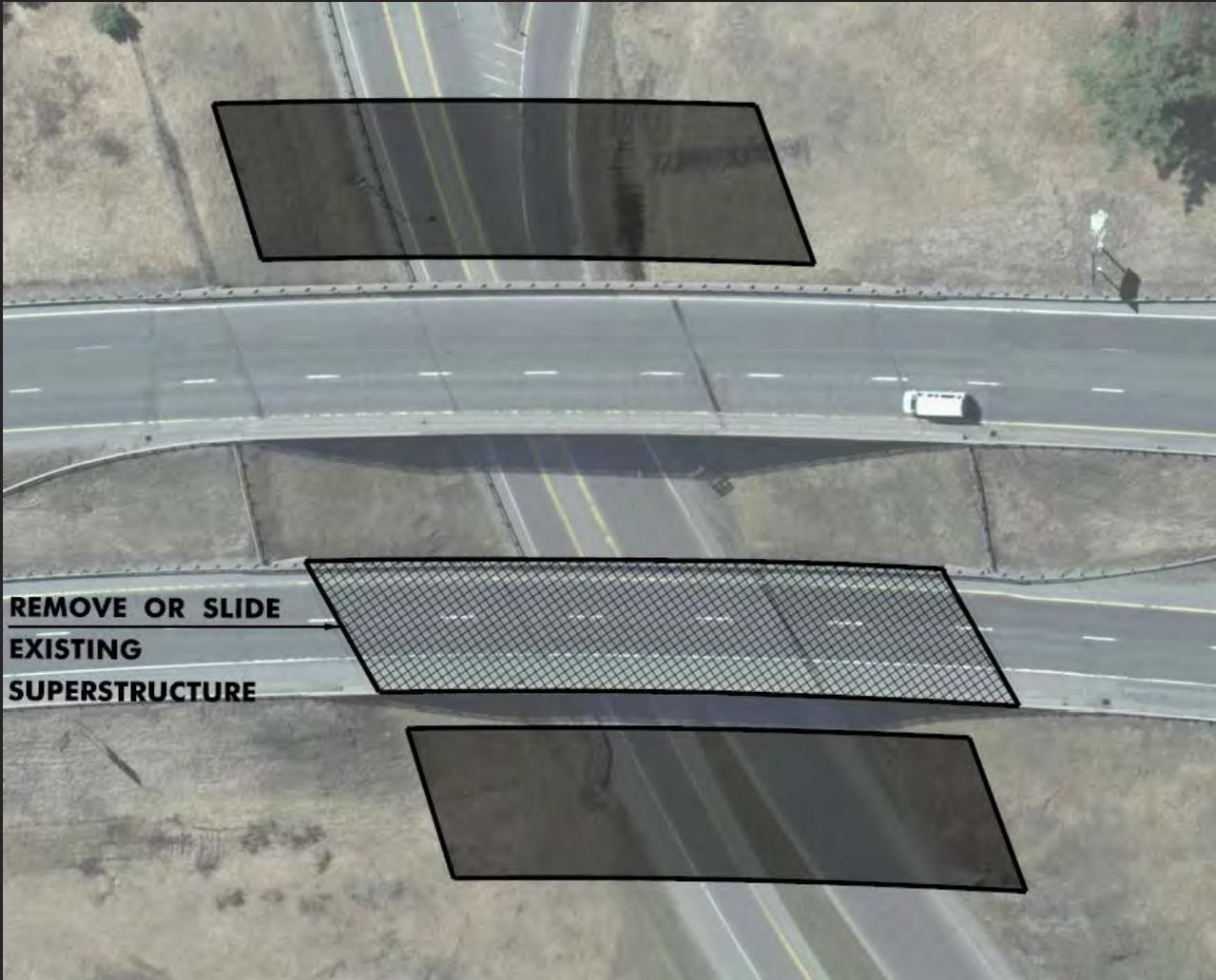


Looking South

Project Overview – Proposed Structure

Hartford IM 091-2(79) BR 43N & 43S Over VT Route 5

- Wider Typical Sections
- 132' +/- Single Span Bridges
- New abutments constructed behind piers under live traffic
- Both Structures constructed adjacent to Existing Bridges on temporary supports
- Existing structures prepared for removal under live traffic
- Remove existing structure during closure



**REMOVE OR SLIDE
EXISTING
SUPERSTRUCTURE**

Median



Looking North

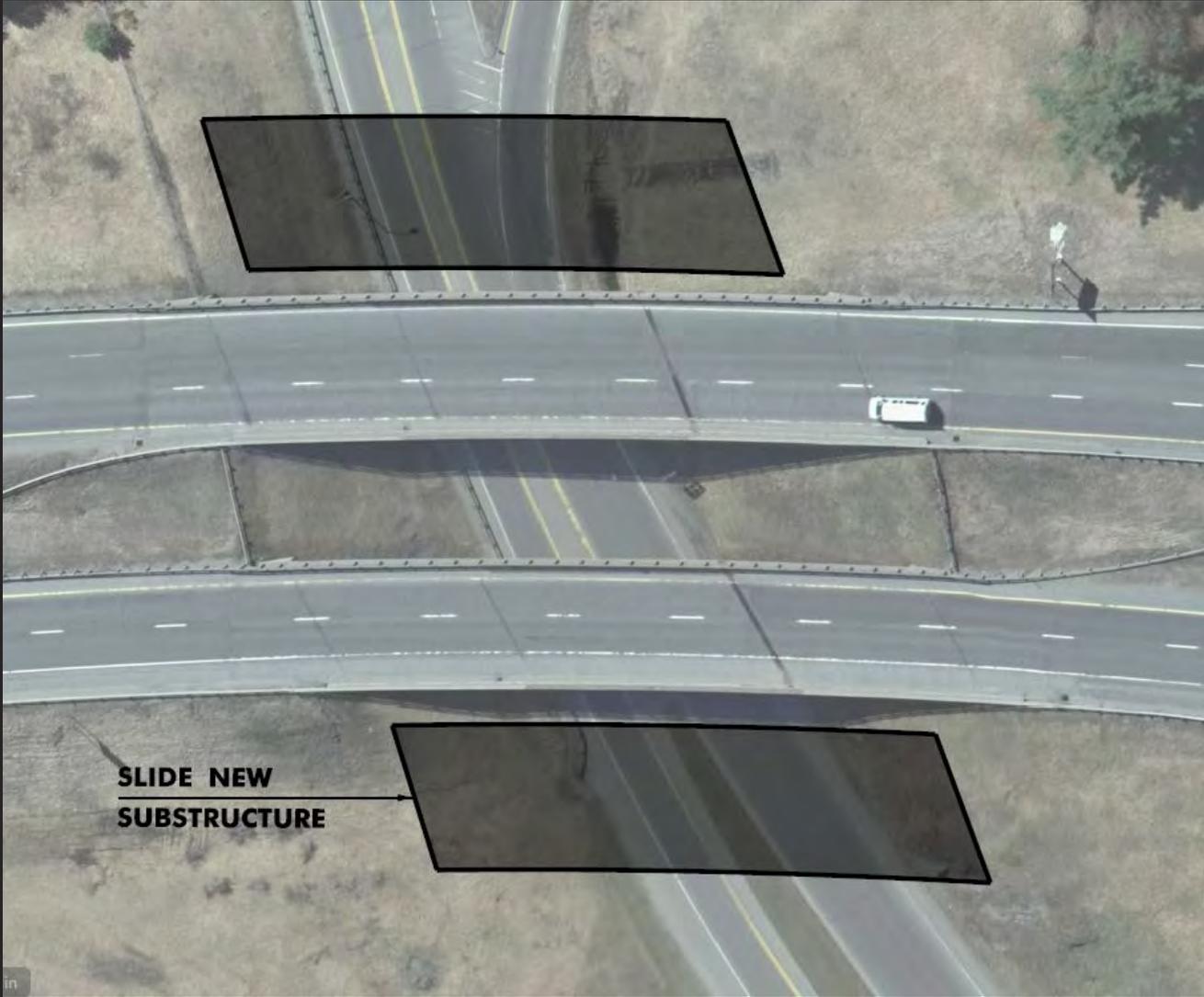


Looking South

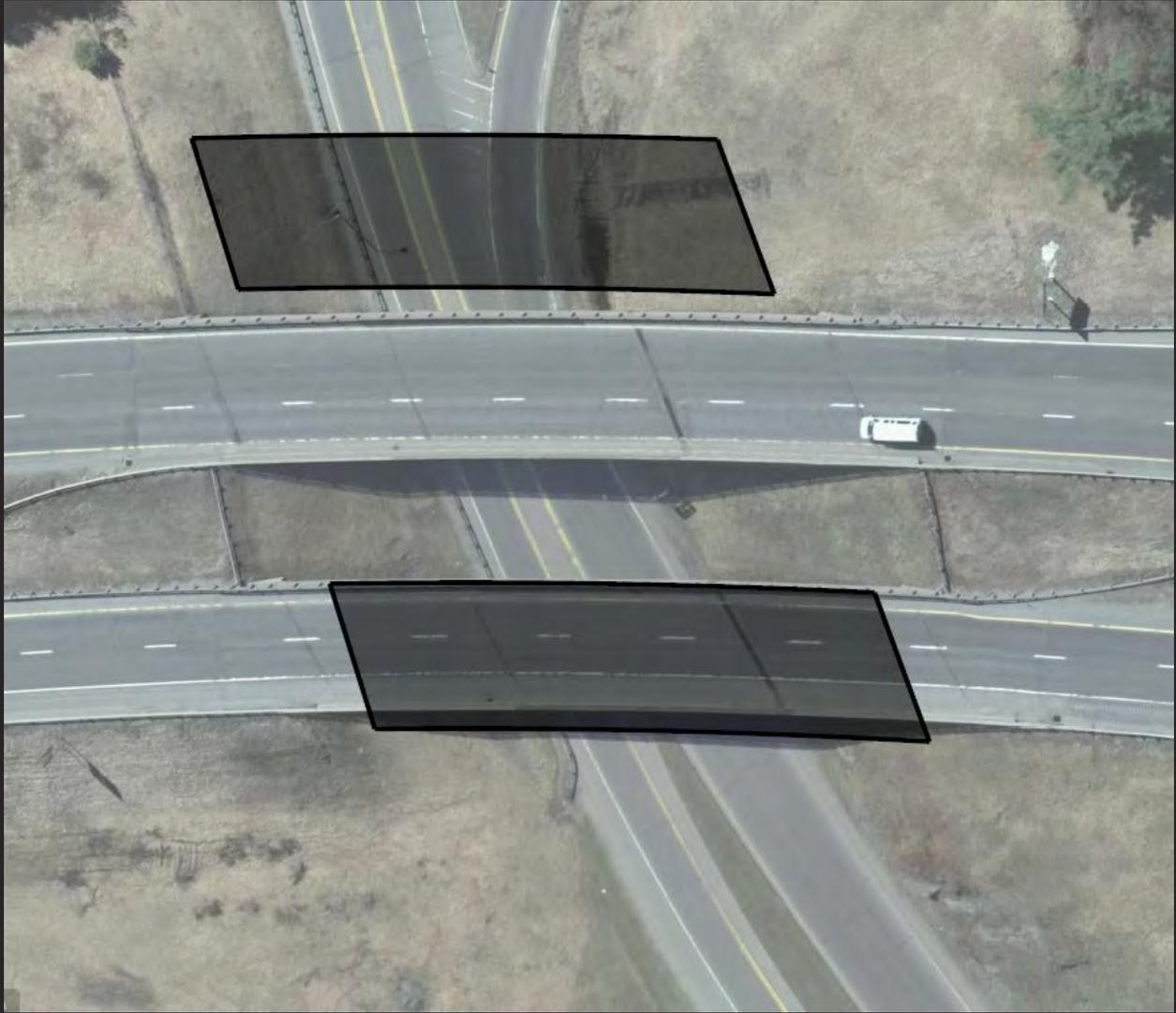
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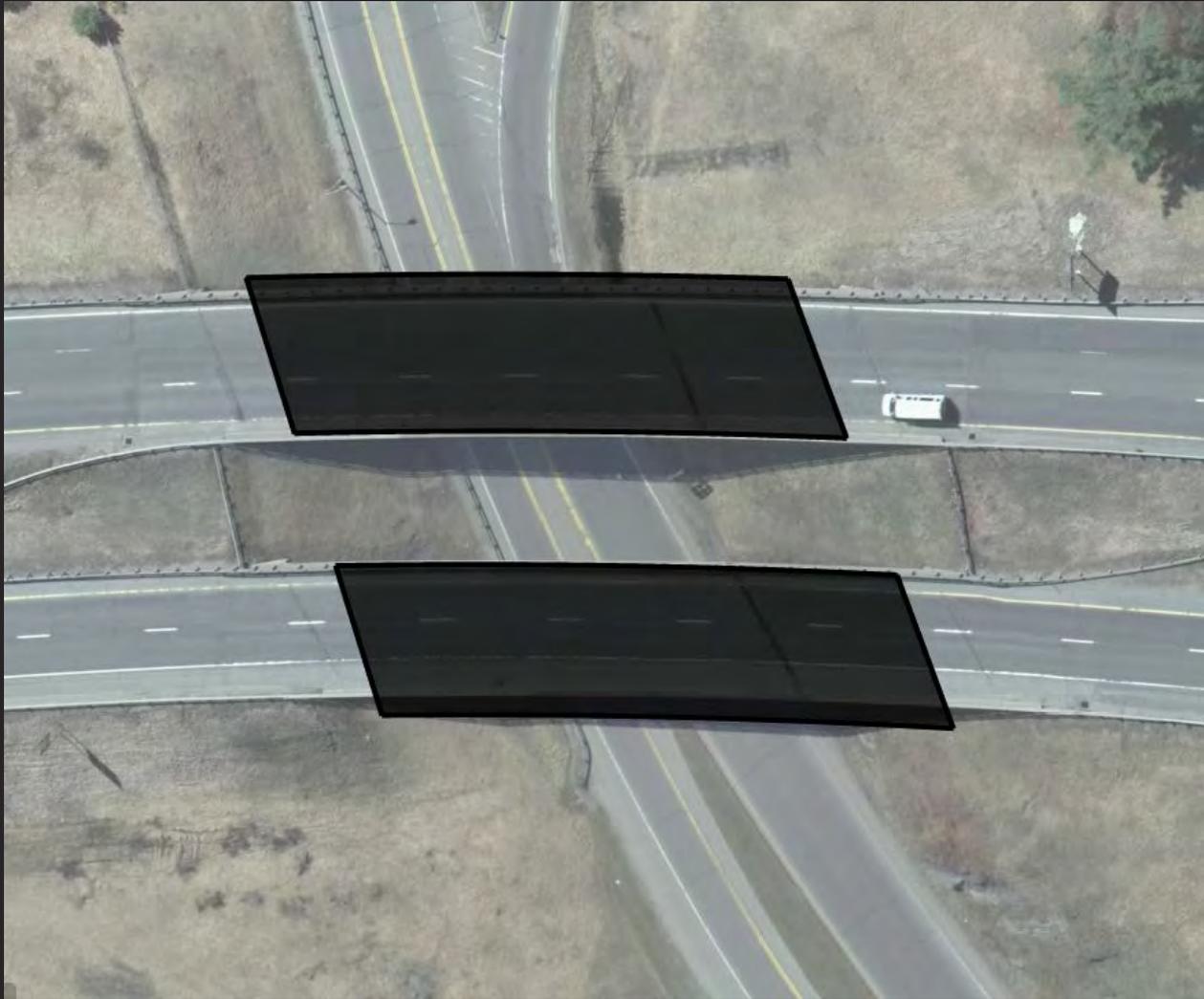
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- Wider Typical Sections
- 132' +/- Single Span Bridges
- New abutments constructed behind piers under live traffic
- Both Structures constructed adjacent to Existing Bridges on temporary supports
- Existing structures prepared for removal under live traffic
- Remove existing structure during closure
- Lateral Slide to install new bridges during closure



**SLIDE NEW
SUBSTRUCTURE**





Project Overview – Proposed Structure

Hartford IM 091-2(79) BR 43N & 43S Over VT Route 5

- Wider Typical Sections
- 132' +/- Single Span Bridges
- New abutments constructed behind piers under live traffic
- Both Structures constructed adjacent to Existing Bridges on temporary supports
- Existing structures prepared for removal under live traffic
- Remove existing structure during closure
- Lateral Slide to install new bridges during closure
- Project Goal = Minimize I-91 closure duration (60 hours max)

Sample Lateral Slide – Single Span Bridge plus Approach Slabs



Detour, Demolish Existing Bridge, Place Precast Approach Slab Supports



Slide New Bridge



Slide in New Bridge, Raise Approaches, Reopen



Construct Walls, Complete Approach Widening



Project Summary:

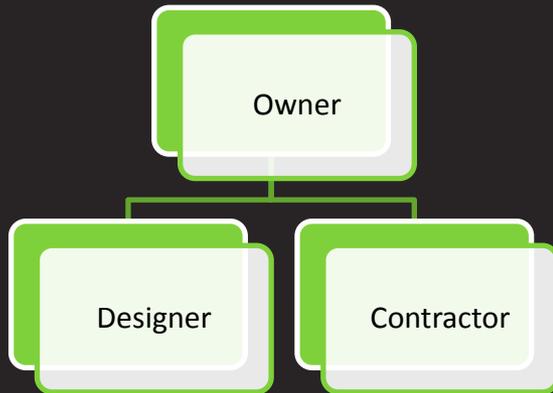
- Accelerated Bridge Construction - Lateral Slide Technology to install bridges.
- 2 short duration I-91 closures to remove existing bridges and slide in the new structures (1 closure for each structure).
- VT Route 5 to remain open. Possible night time only short closures or rolling road blocks for critical construction operations.
- Removal of existing structures will be difficult and will require innovation. Lane shifts and partial removal anticipated.
- Professional to work with VTrans engineering team to develop project plans and Maintenance of Traffic plans.

Construction Manager/General Contractor (CMGC)

- FHWA Every Day Counts Initiative
- Based off Vertical CMAR Delivery
- Contractor Involved with Design and Construction
 - Phase 1 - Pre-Construction Services
 - Phase 2 - Construction Services

Construction Manager/General Contractor

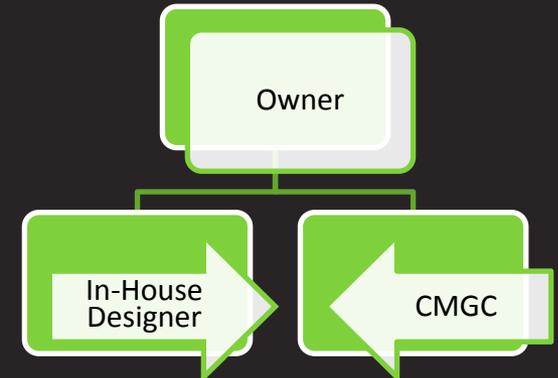
Design-Bid-Build



Design-Build



Hartford CMGC



Construction Manager/General Contractor

- Two Contracts
 1. Owner Pre-Construction Contract with CMGC
 - Assist with Design
 2. Owner Construction Contract with CMGC
 - Build Project

CMGC Implementation

- Design-Bid-Build and Design-Build
 - D-B-B: Low Bid Selection Based on 100% Design Plans
 - D-B: Quals Based/Best Value Selection - 30% Design
- CMGC Combines Both Methods
 - Qualifications Based Selection
 - Constructability Evaluation in Design
 - Owner Maintains Control for Decision-Making

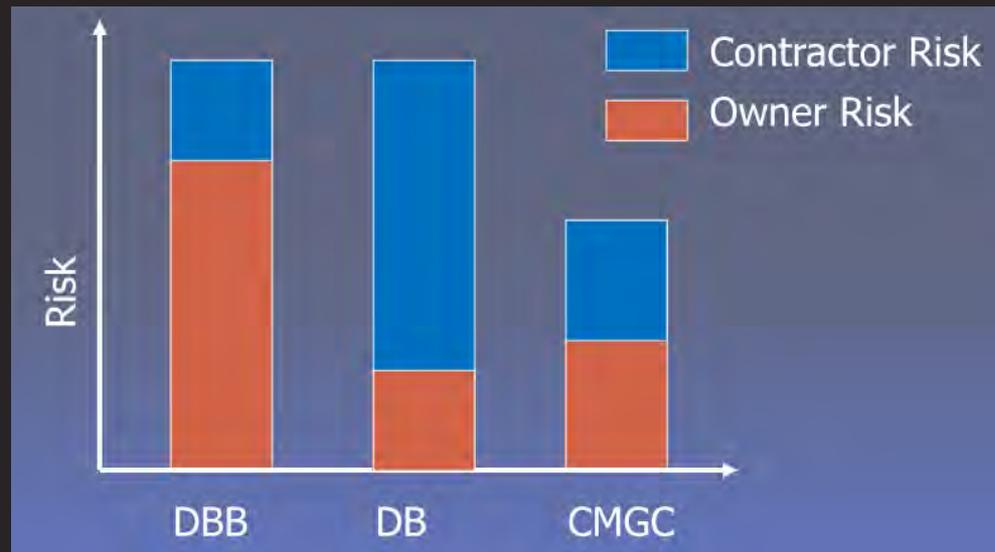
What the Owner Gets with CMGC

- Pre-Construction Services
 - Cost Estimating During Design
 - Constructability Input & Reviews
 - Value Engineering Components
 - Schedule Preparation
- Construction Services
 - Manage Construction Phase and Build Project

CMGC Basics

■ Risk Allocation

- Difference Between D-B-B, D-B, and CMGC?
- CMGC Shared Risk Approach



The Process - Sample Procurement

- Contractors' Informational Meeting
- Advertisement & RFP Release
- Technical Proposal Evaluations
- Select Shortlisted Firms
- Conduct Interviews
- Final Evaluations, Scoring, CMGC Selection

Sample RFP Content

- Project Overview & Schedule of Milestones
- Proposal Submittal Requirements & Content
- Interview Requirements
- Required Availability of Key Personnel
- Design & Permitting Technical Information
- Evaluation and Scoring Criteria
- CMGC Pre-Construction Scope of Work

Sample Proposal Requirements

- Letter of Submittal
- Team Organization and Key Personnel Expertise
- Past Performance and Experience
- Project Approach
- CMGC Process Approach
- Acknowledgement of RFP Changes
- Appendices

Sample Interview Requirements

- CMGC Team Presentation – 25 Min.
 - All Key Personnel Required
- CMGC Team Challenge – 20 Min.
 - Pre-Defined Team Challenge
- Questions and Answers – 45 Min.
 - Pre-Defined Questions
 - Open Q&A

Sample Interview Points of Emphasis

- Address Selection Criteria
- Team Organization & Experience
- Project Approach & Recognition of Key Points
- Team Collaboration and Roles
- Communication Skills
- Understanding of CMGC Delivery

Sample Interview – Presentation

- No right approach to the presentation format:
 - PowerPoint
 - Boards
 - Graphics
- Contractor assembles the interview team and presentation

Sample Interview – Team Challenge

- Written Challenge for Contractor
- Contractor Proposes Course of Action
- Realistic Approach to Solving Problem
- Identify Key Personnel to Lead Efforts
- Identify Owner and Designer Team Members to Include in Solution

Sample Interview – Question and Answers

- Standard Questions for all Shortlisted Contractors
- Open Q&A Session

Sample CMGC Evaluation Criteria

- Pass/Fail Criteria
- Sample Scoring
 - Team Organization and Key Personnel Experience
 - Past Performance and Experience
 - Project Management
 - Project Approach
 - CMGC Process Approach

Pre-Advertise / Pre-Proposal Efforts

- Understand the Project
- Planning:
 - Strategies on Proposal Key Points
 - Organize Team and Identify Key Personnel
 - Develop Project Approach
 - Understand CMGC Delivery
 - Identify Relevant Past Performance & Experience

Anticipated Schedule

- RFP Release – July 2013
- Pre-Proposal Site Visits – July 2013
- Proposals Due – August 2013
- Notification of the Short-List – September 2013
- Anticipated Interviews – October 2013
- Anticipated Award Date – November 2013

Important Links

- <http://www.aot.state.vt.us/conadmin/CMGCHartford.htm>
- <http://acceleratedbridge.vermont.gov>
- http://acceleratedbridge.vermont.gov/highlighted_projects/HartfordI91Br43

Questions?

