I-91 Hartford
BRIDGES PROJECT
Hartford IM 091-2(79)

Informational Meeting

October 9, 2014

VA Medical Center

White River Junction, Vermont

Kristin Higgins, P.E Project Manager

Jill Barrett, Project Outreach Coordinator

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Meeting Outline

- Hartford IM 091-2(79) Project Planning Overview
- Project Construction
- Traffic Management
- Project Outreach Coordination
- Questions

1-91 Hartford Bridges Project
Project Planning - Overview

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Project Location

- Located on Interstate 91 in Hartford, Vermont – WRJ
- MM 70 just north of Exit 11
- Less than 0.5 miles north of I-89/I-91 interchange
- Over US Route 5
- Located in a high traffic area

US 5 looking Southwest towards VA Cutoff Road


VA
Hospital
McDonalds
Hotels
Wright Reservoir Rd
N Hartland Rd
Winsor Dr
Patriot Dr
N Main St
Oak St
Beech St
Ash St
Lower Hyde Park
Hickory Ridge
Sykes Mountain Ave
Holiday Dr
Beswick
Jasmin Ln
Ballardvale Dr
Arboretum Ln
Dewitt Dr
Bowling Ln
Wellington Dr
Melisi Rd
Kline Dr
10N
10S
11
91
89
5

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Existing Bridge Conditions

- Suspended Span Construction
- Structure is Fracture Critical
- Maintenance Critical and Costly
- Both Bridges need to be Replaced
- Construction April – October 2015

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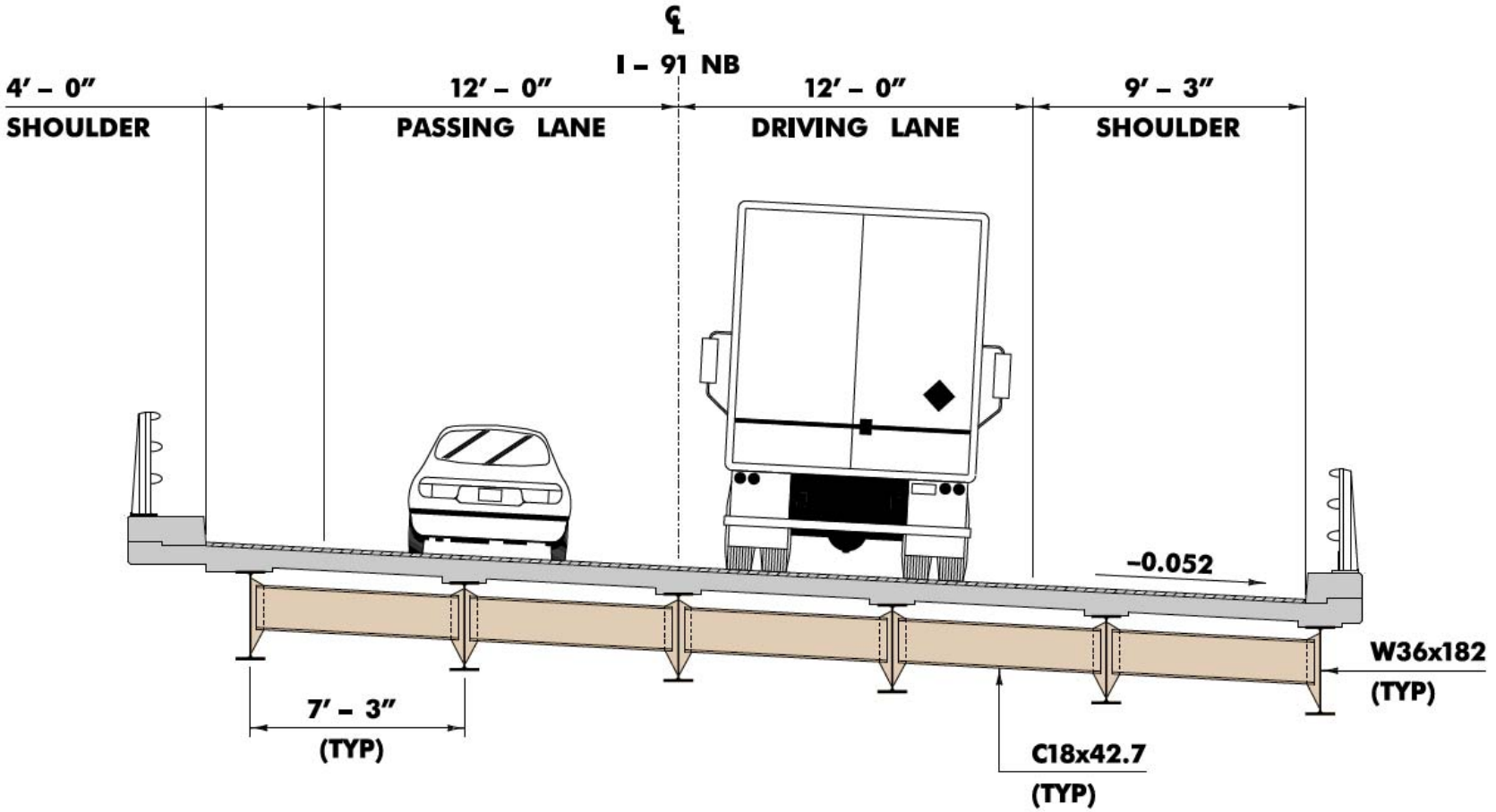
New Bridge Features

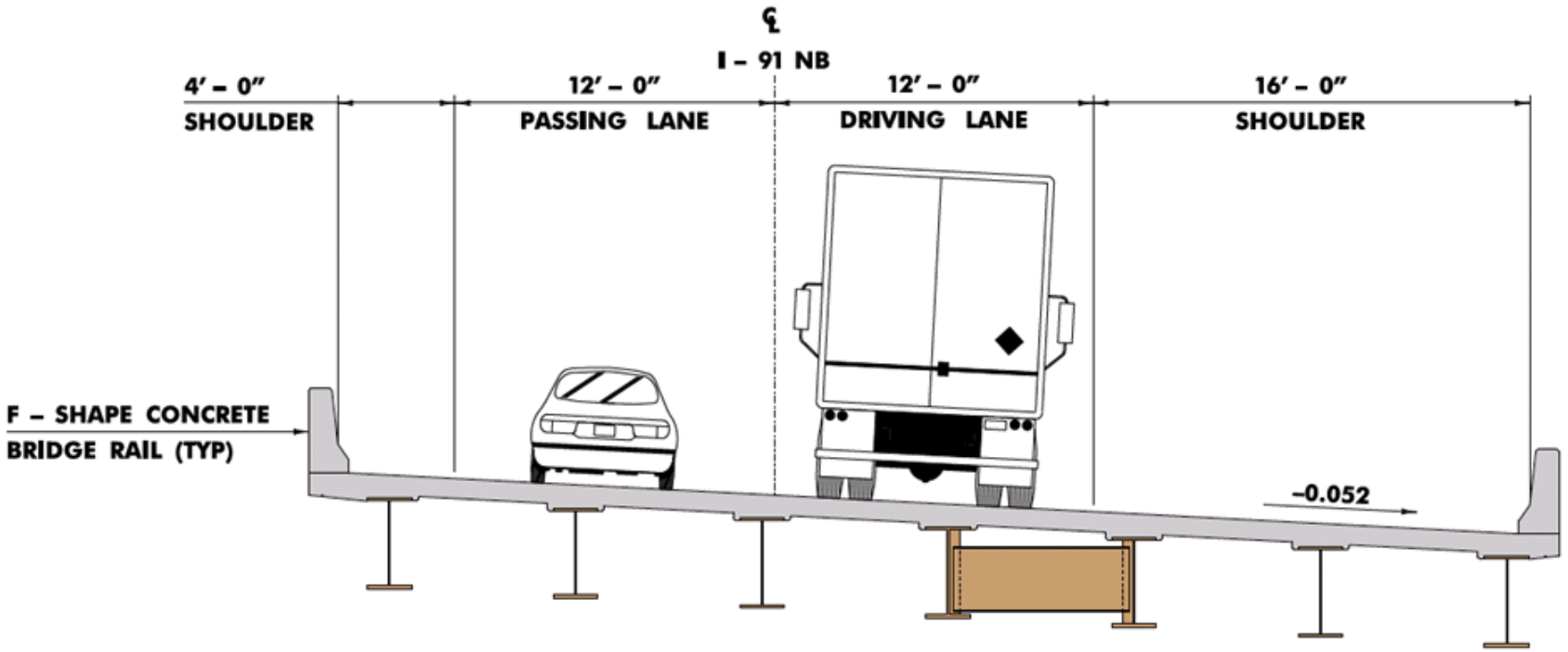
- Wider Bridges
  - Safer for the Traveling Public
  - Better for Maintenance

Existing Northbound Bridge Geometry



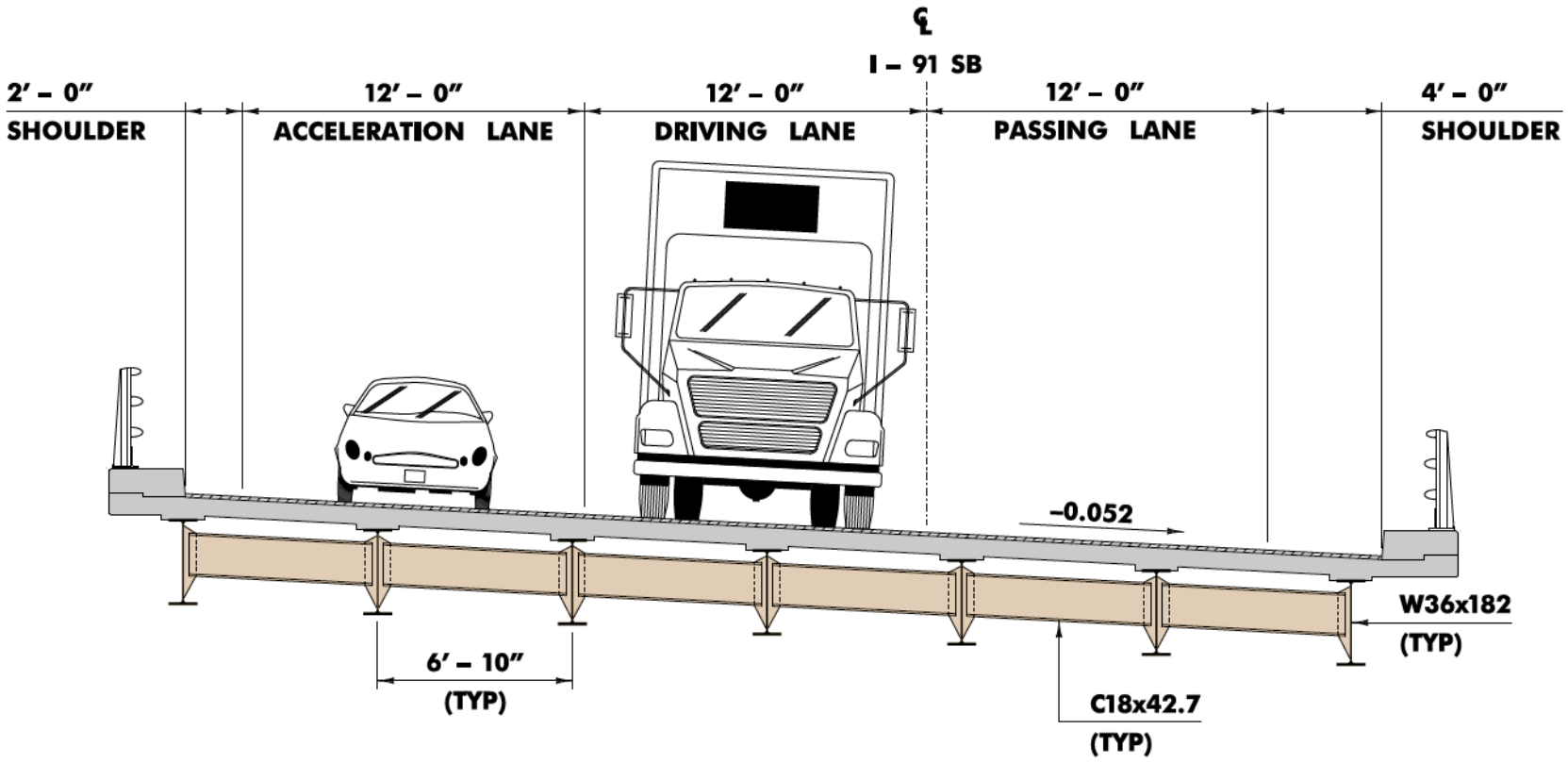
Bridge 43N = 37’ – 3” Curb to Curb

New Northbound Bridge Width



44’-0” Rail to Rail (Widened 6.75’ to the East)

Existing Southbound Bridge Geometry



BR 43S = 42’- 0” Curb to Curb

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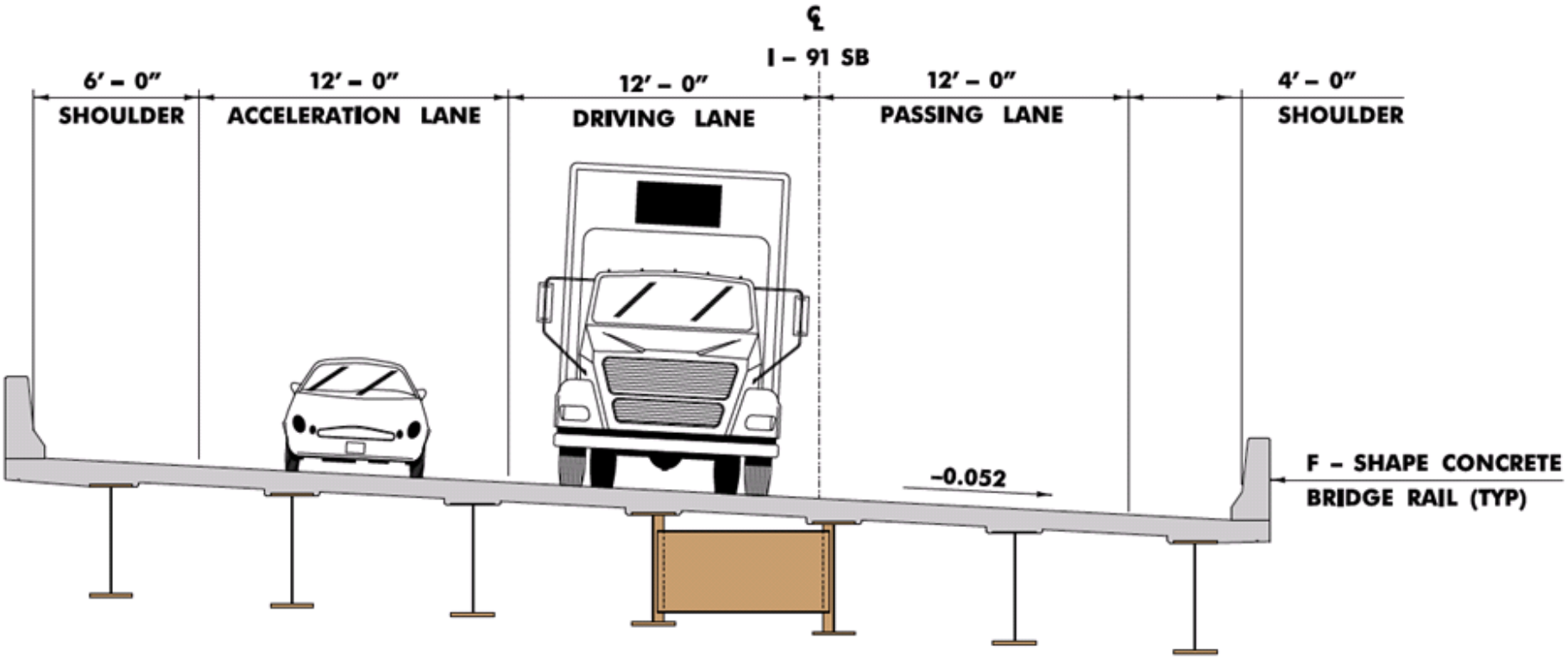
New Southbound Bridge Width



46’-0” Rail to Rail (Widened 4’ to the West)

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New Bridge Features

- Wider Bridges
  - Safer for the Traveling Public
  - Better for Maintenance

- Single Span Structures
  - Eliminate two piers
  - Reduced Maintenance

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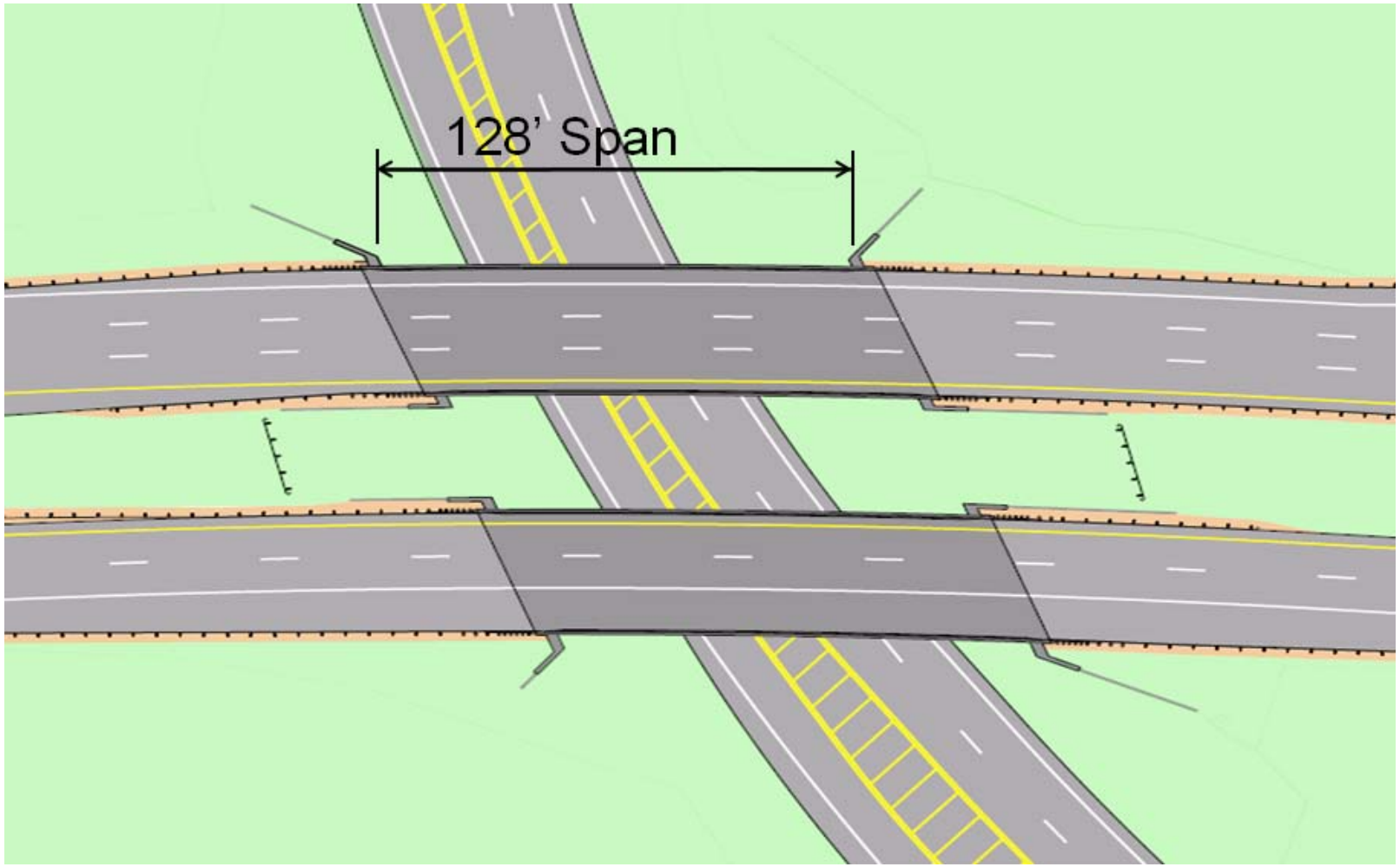
New Bridge Layout



US Route 5 Improvements

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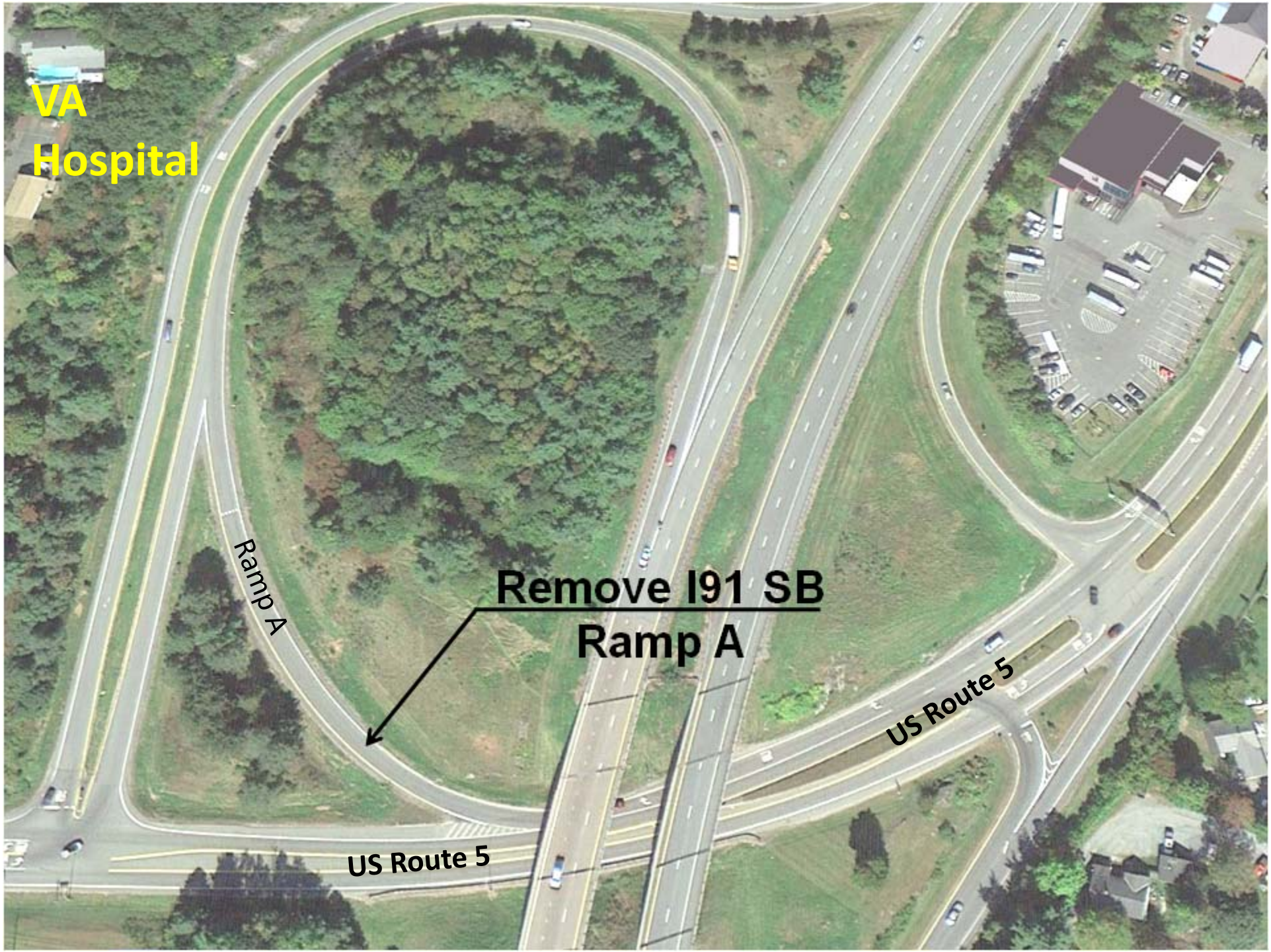
US Route 5 Improvements

- Removal of Southbound Ramp A ("On" ramp from US 5 South to I-91)


VA
Hospital
Ramp A
Remove I91 SB
Ramp A
US Route 5
US Route 5

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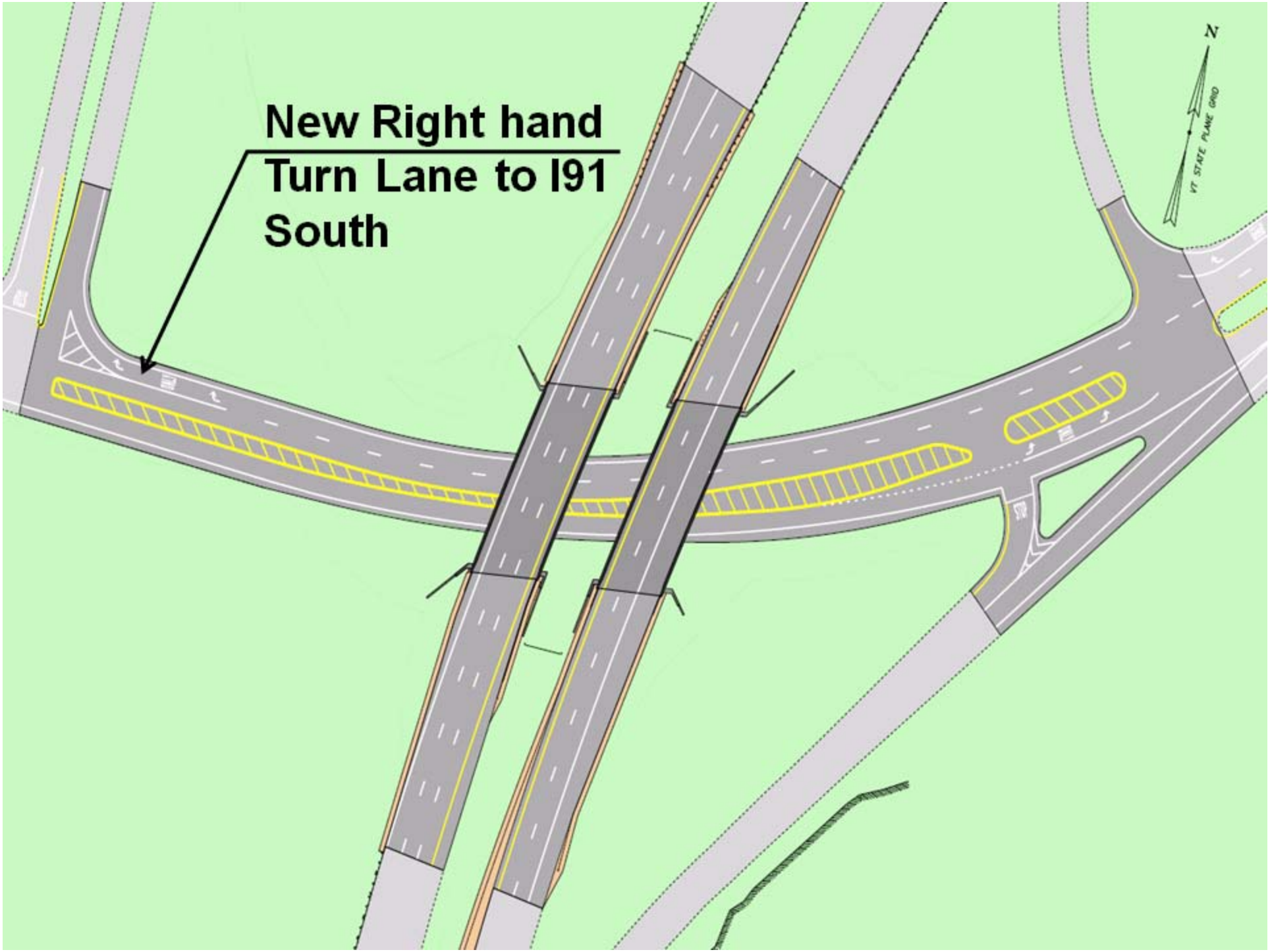
US Route 5 Improvements

- Removal of Southbound Ramp A
- New right hand turn lane on US Route 5 at I-91 South on ramp


New Right hand
Turn Lane to I91
South
N
VT STATE PLANE GRID

Project Challenges

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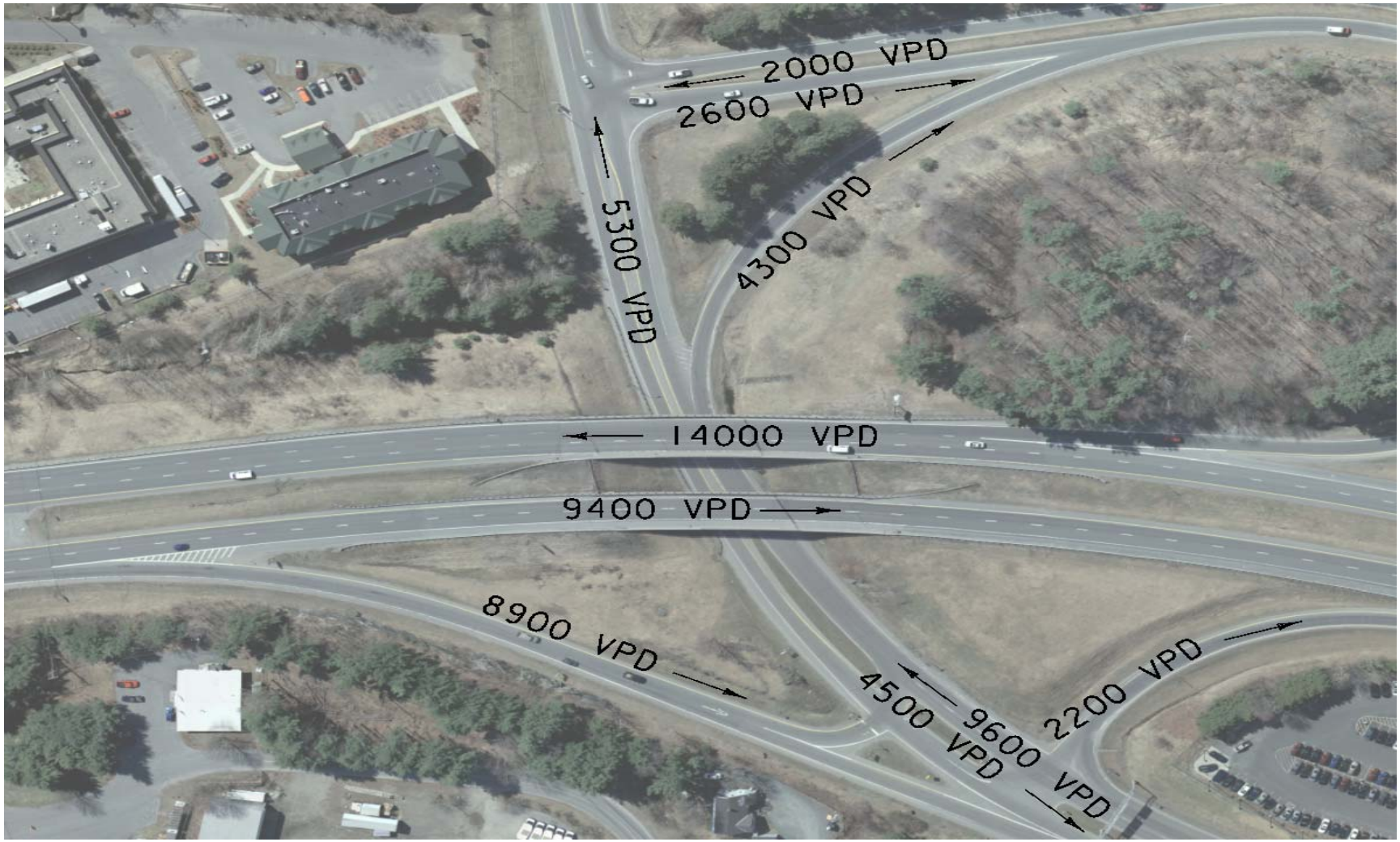
Traffic Volume – During the Week



VPD = Vehicles Per Day

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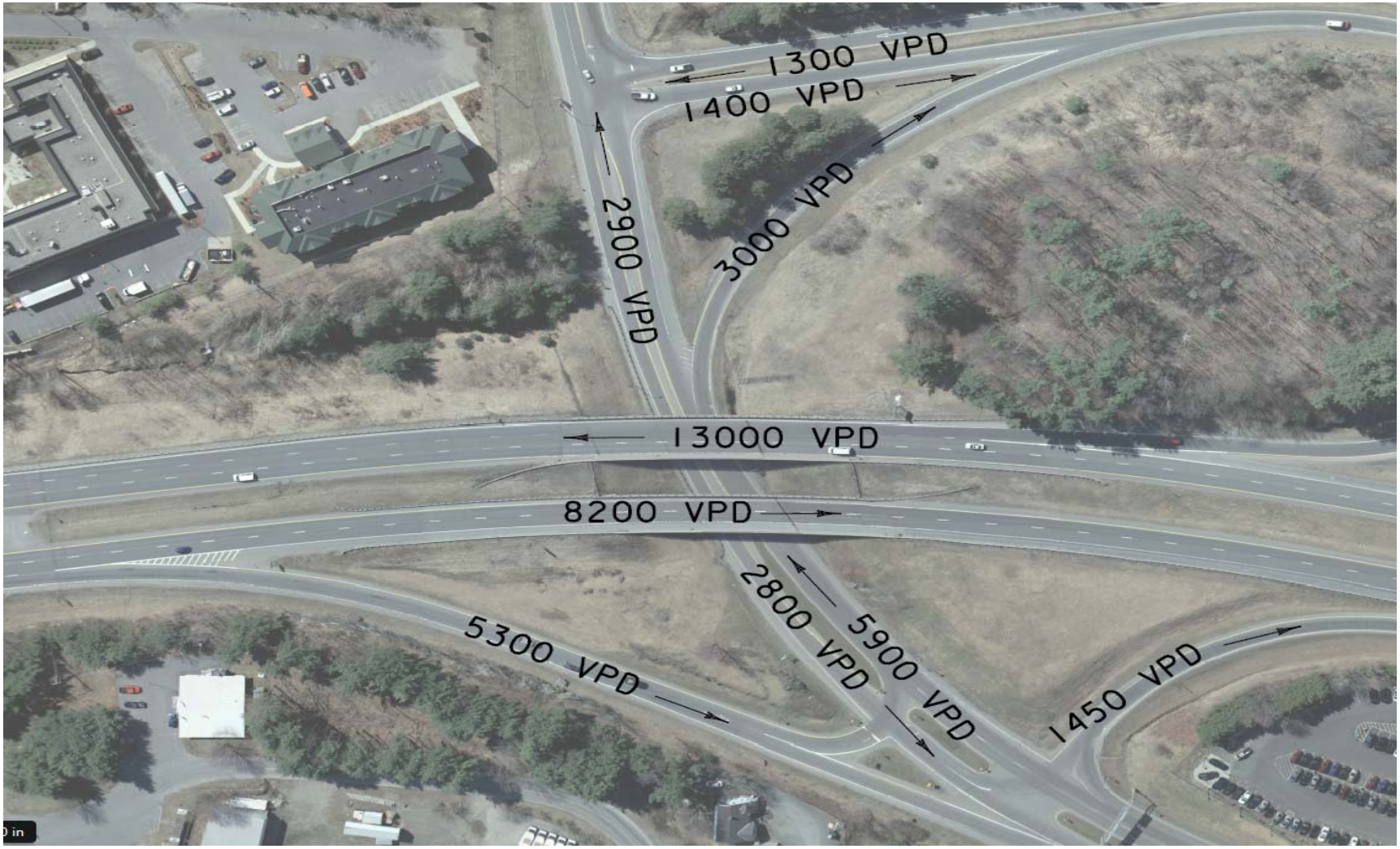
Traffic Volume – Weekends



VPD = Vehicles Per Day

Construction & Maintenance of Traffic

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US Route 5 Traffic Control Plan at Construction Site:

- Traffic reduced to 2 lanes on US Route 5 to provide construction access
  - Remove raised Island north of bridges
    - Island will be reconstructed at the end of the project
  - Transition two lanes on US Route 5 South to one lane from Sykes Mountain Avenue to 1-91 Northbound Ramp
  - Single Lane in both directions through the project area to provide room for contractor to build new structures
  - Provide safe pedestrian passage through project area

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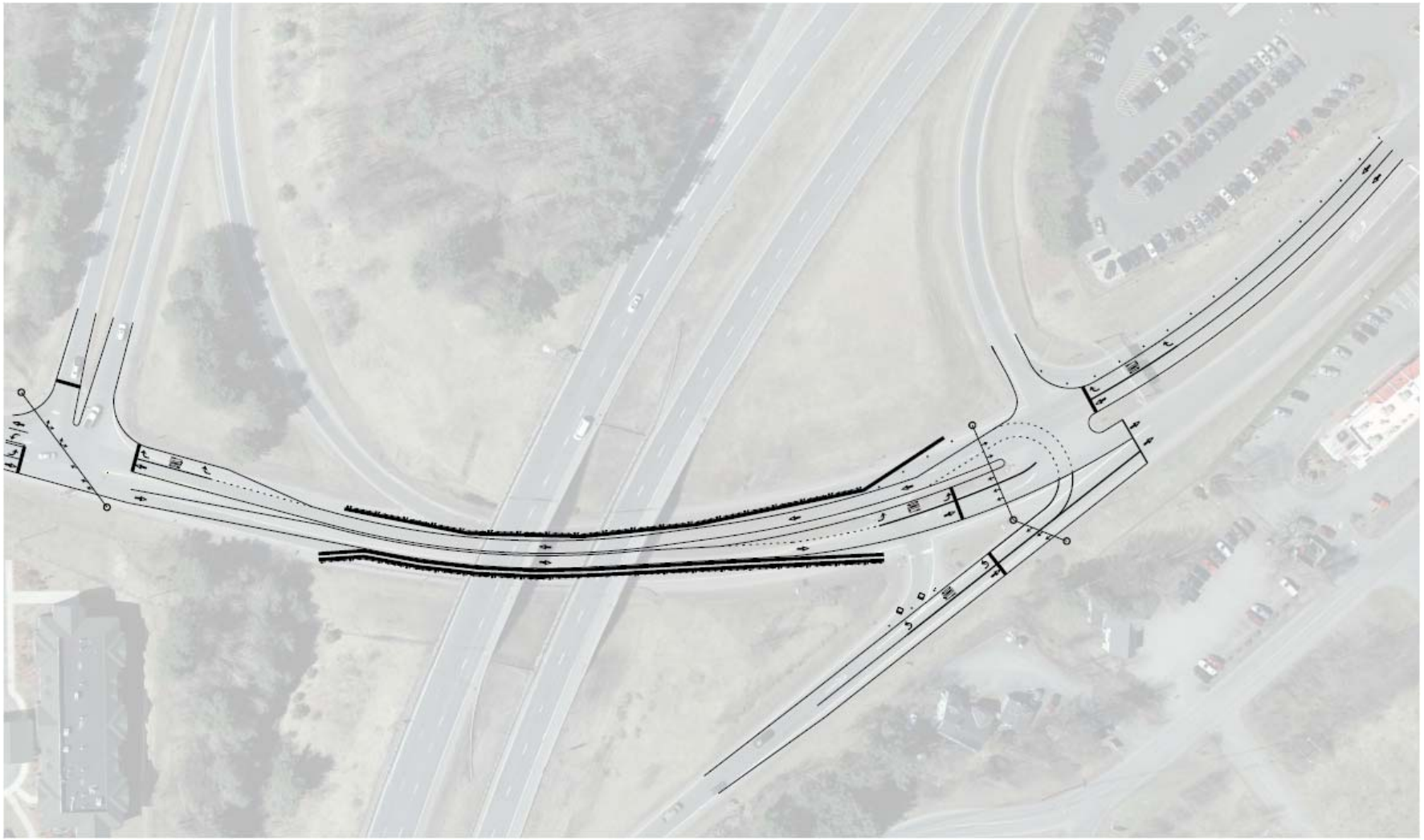
US Route 5 Traffic Control Plan (April – October)



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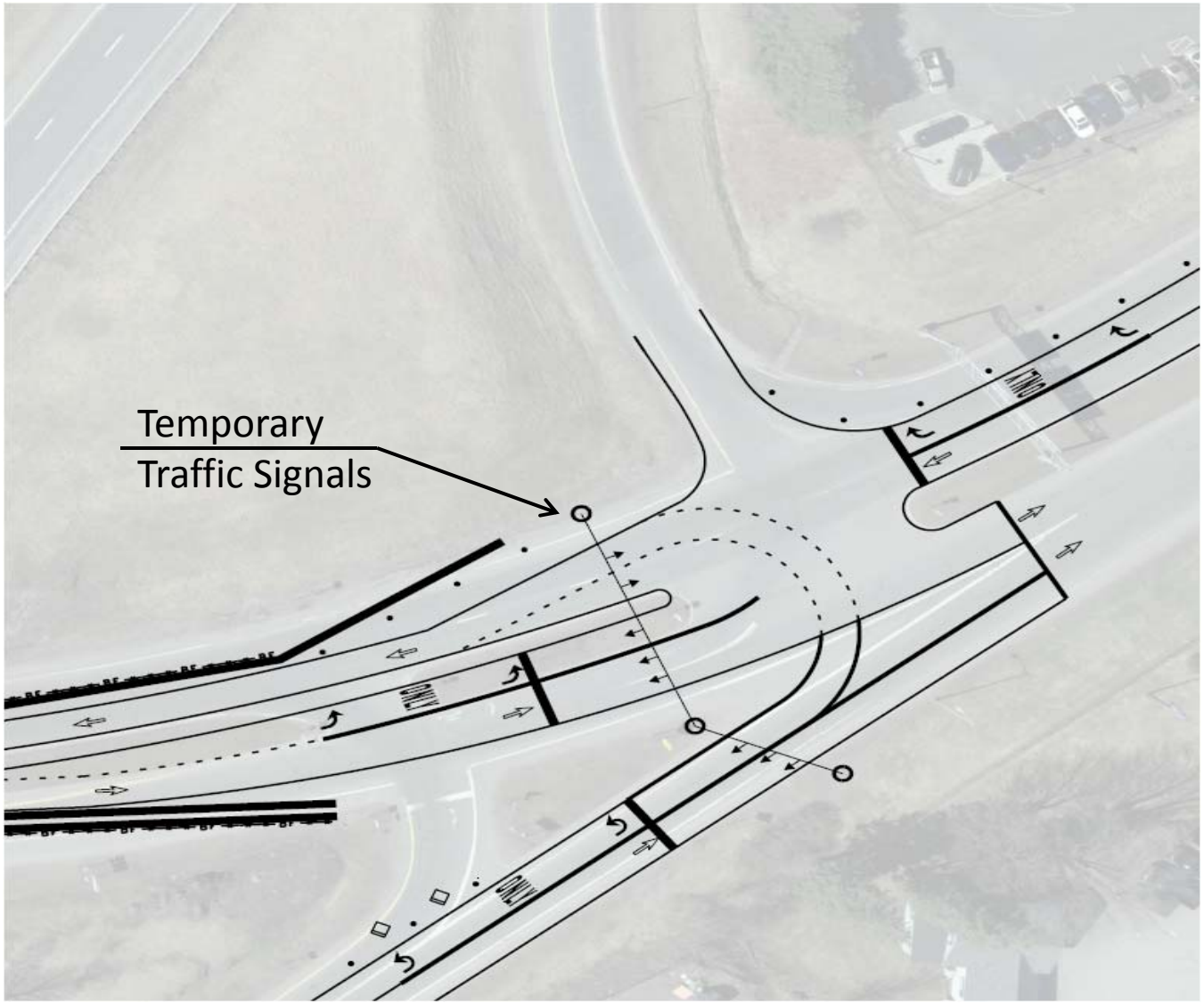
I91 NB Ramp/US 5 Intersection



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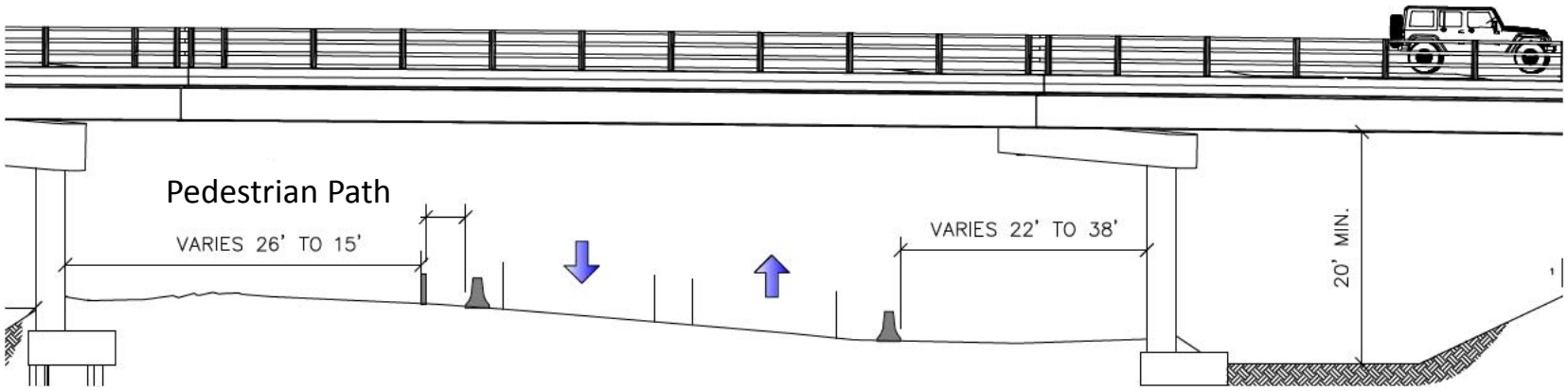
Traffic and Pedestrian passage under bridges



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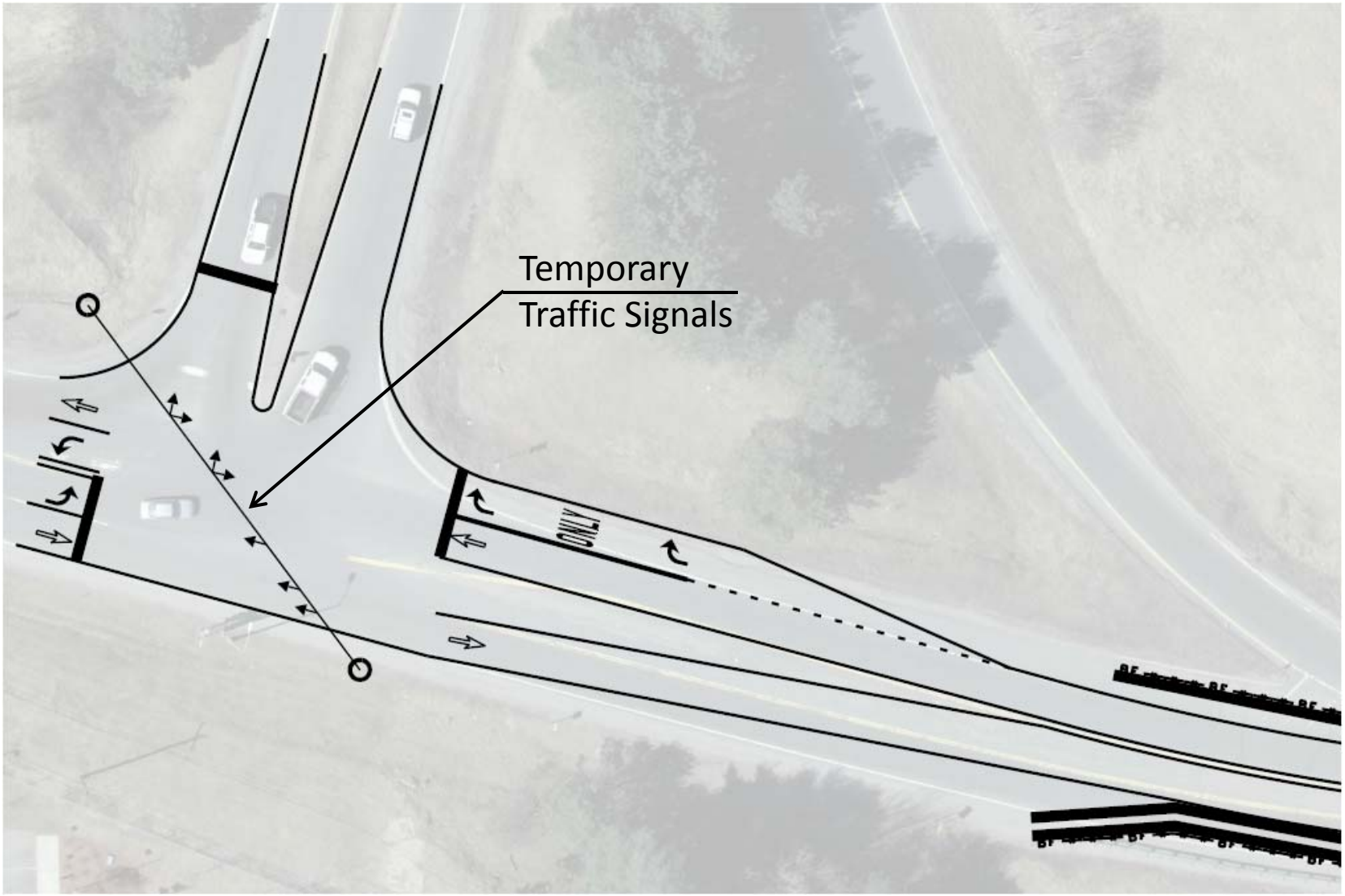
I-91 SB Ramps/US 5 Intersection



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Accelerated Bridge Construction – Lateral Slide

- Construct new abutments (supports) under existing Bridges

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Bridge Construction – Abutment Construction

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Accelerated Bridge Construction – Lateral Slide

- Construct new abutments (supports) under existing Bridges
- Construct the new Bridges on temporary supports next to the Existing Structures

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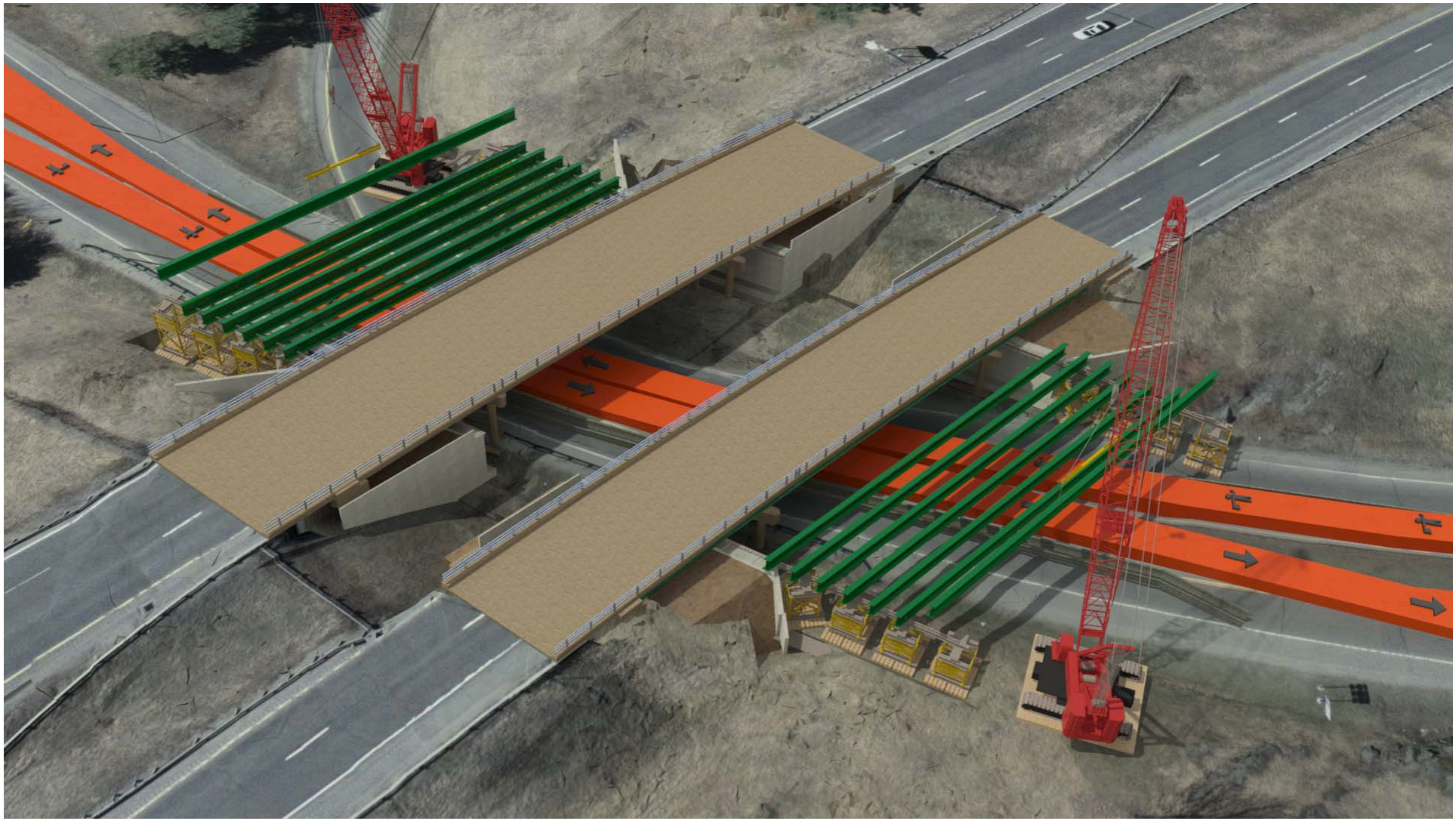
Bridge Construction – Construction of New Superstructures



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Accelerated Bridge Construction – Lateral Slide

- Construct new abutments (supports) under existing Bridges
- Construct the new Bridges on temporary supports next to the Existing Structures
- Activate I-91 NB Detour (Close Bridge Friday evening 6:00 PM)

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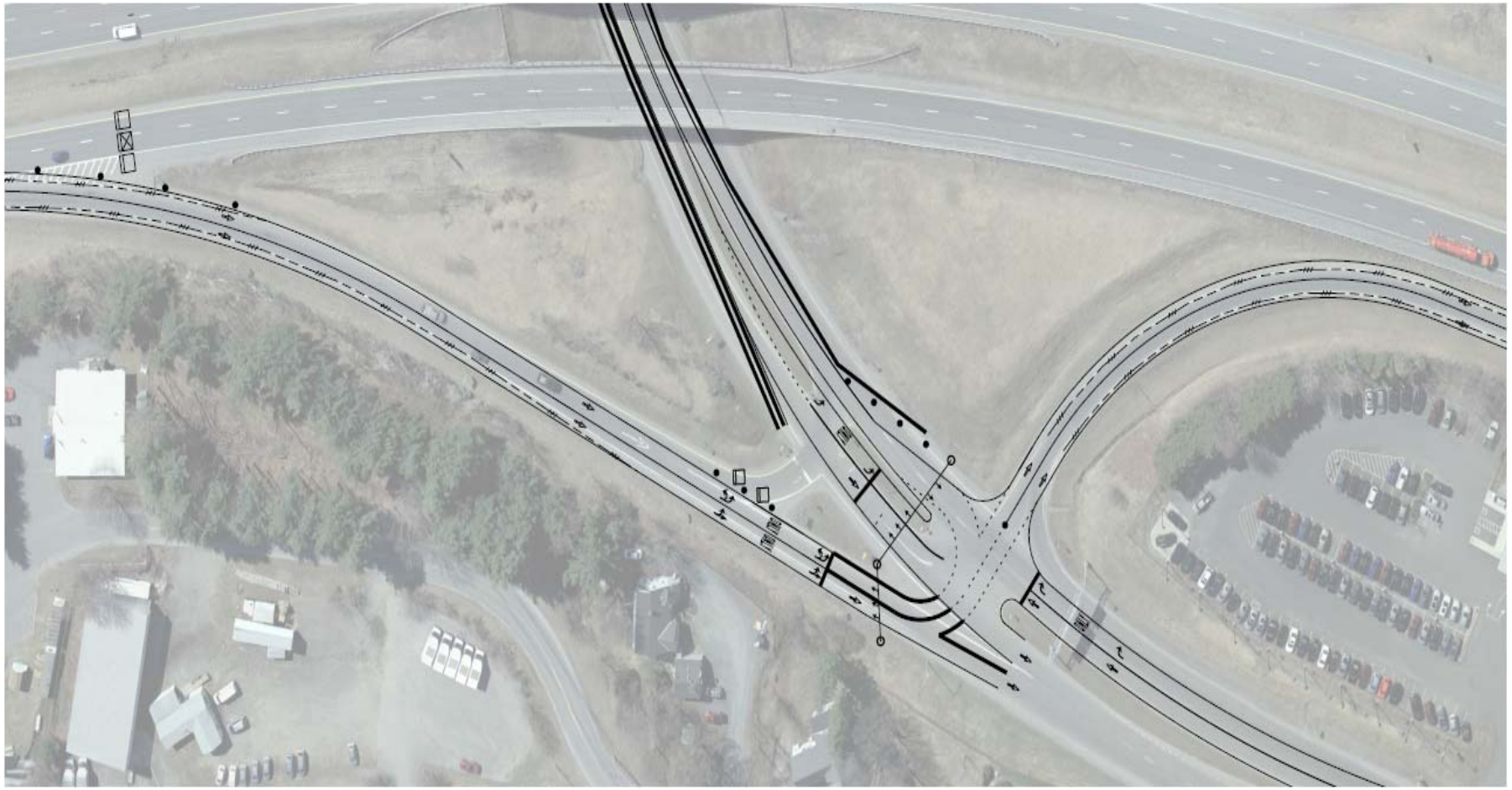
I-91 Northbound Detour



All I-91 Traffic off at exit 11 on at exit 11

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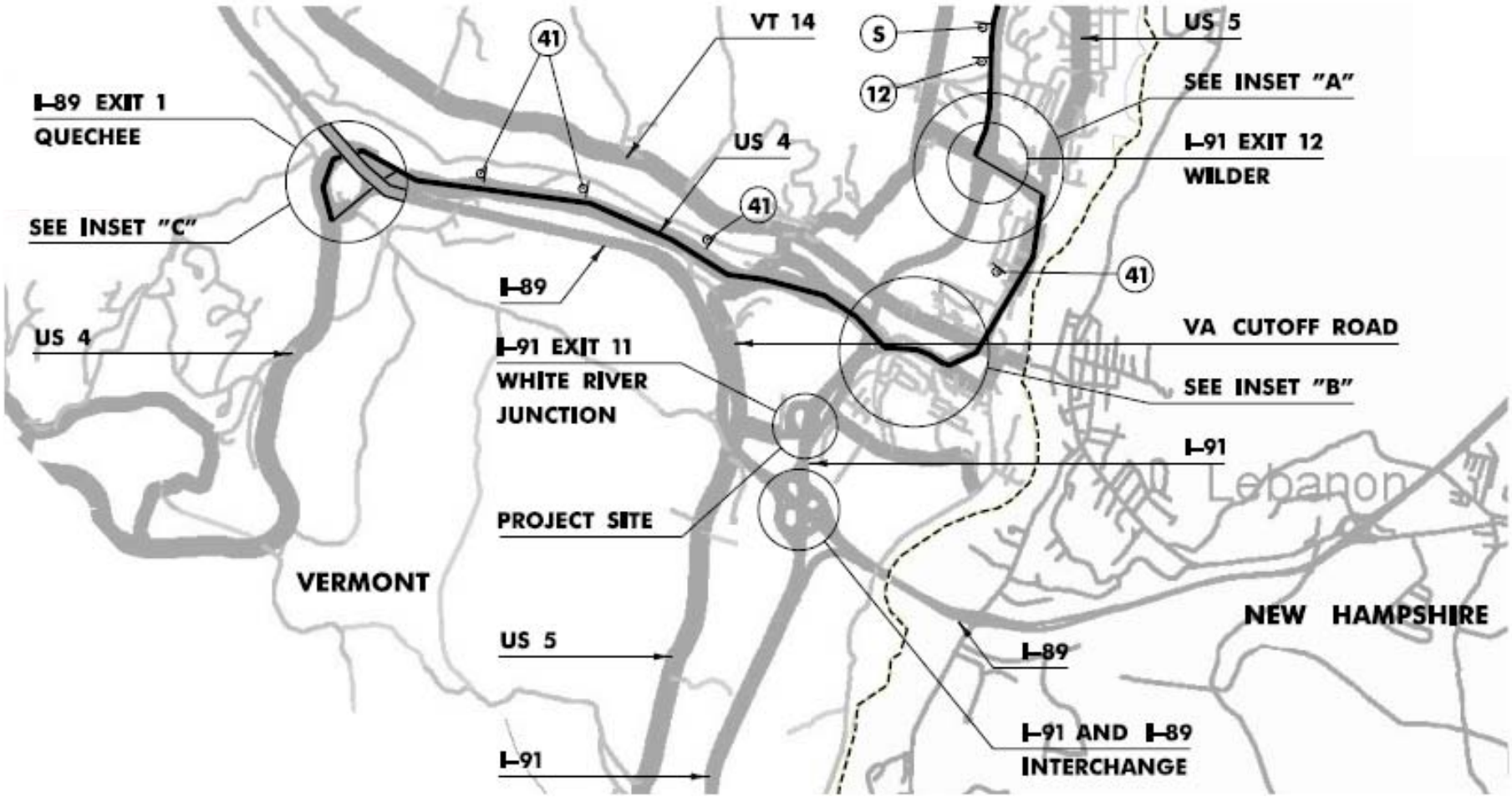
I-89 South Bound heading for I-91 North Bound



I-89 South headed to I91 off at Exit 1
Route 4 to Route 5N to Exit 12 (Wilder)

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Accelerated Bridge Construction – Lateral Slide

- Construct new abutments (supports) under existing Bridges
- Construct the new Bridges on temporary supports next to the Existing Structures
- Activate I-91 NB Detour (Close Bridge Friday evening 6:00 PM)
- Demolish Bridge
  - Pedestrian Walkway closed during I-91 weekend closure

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Bridge Construction – Bridge Removal

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Accelerated Bridge Construction – Lateral Slide

- Construct new abutments (supports) under existing Bridges
- Construct the new Bridges on temporary supports next to the Existing Structures
- Activate I-91 Detour (Close Bridge Friday evening 6:00 PM)
- Demolish Bridge
  - Pedestrian Walkway closed during I-91 weekend closure
- Slide new Bridge into place

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Bridge Construction – Lateral Slide

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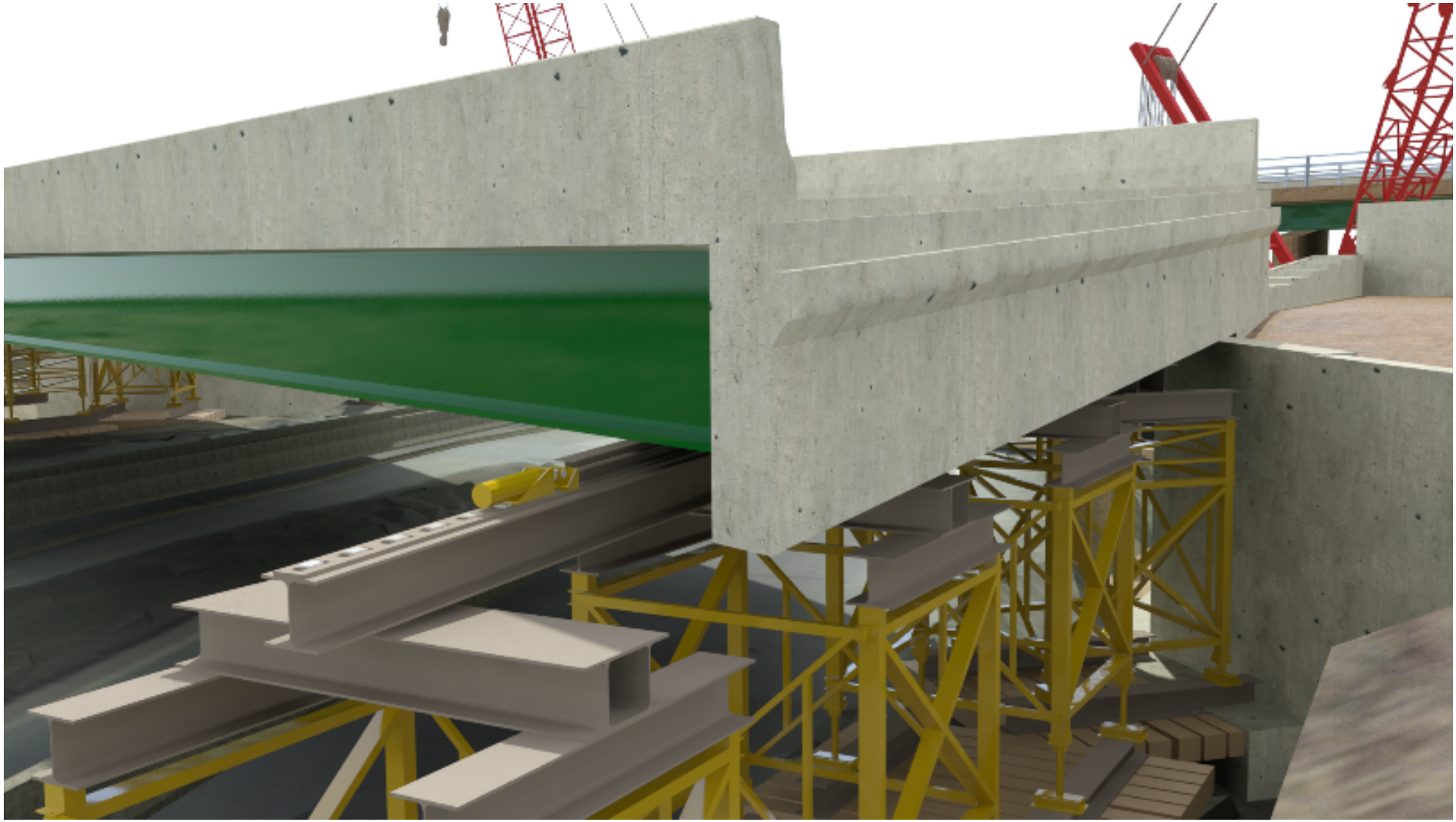
Bridge Construction – Lateral Slide



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Accelerated Bridge Construction – Lateral Slide

- Construct new abutments (supports) under existing Bridges
- Construct the new Bridges on temporary supports next to the Existing Structures
- Activate I-91 Detour (Close Bridge Friday evening 6:00 PM)
- Demolish Bridge
- Slide new Bridge into place

- Complete approaches to bridge
- Open Bridge
- Route 5 under bridges open to traffic but with delays during critical activities (demolition and bridge slide)

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Bridge Construction – Approach and Roadway Work

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Bridge Construction

- Repeat process for Southbound Bridge Replacement
- Southbound Bridge will be replaced on a separate weekend (one weekend closure for each structure)
- Different traffic control plan

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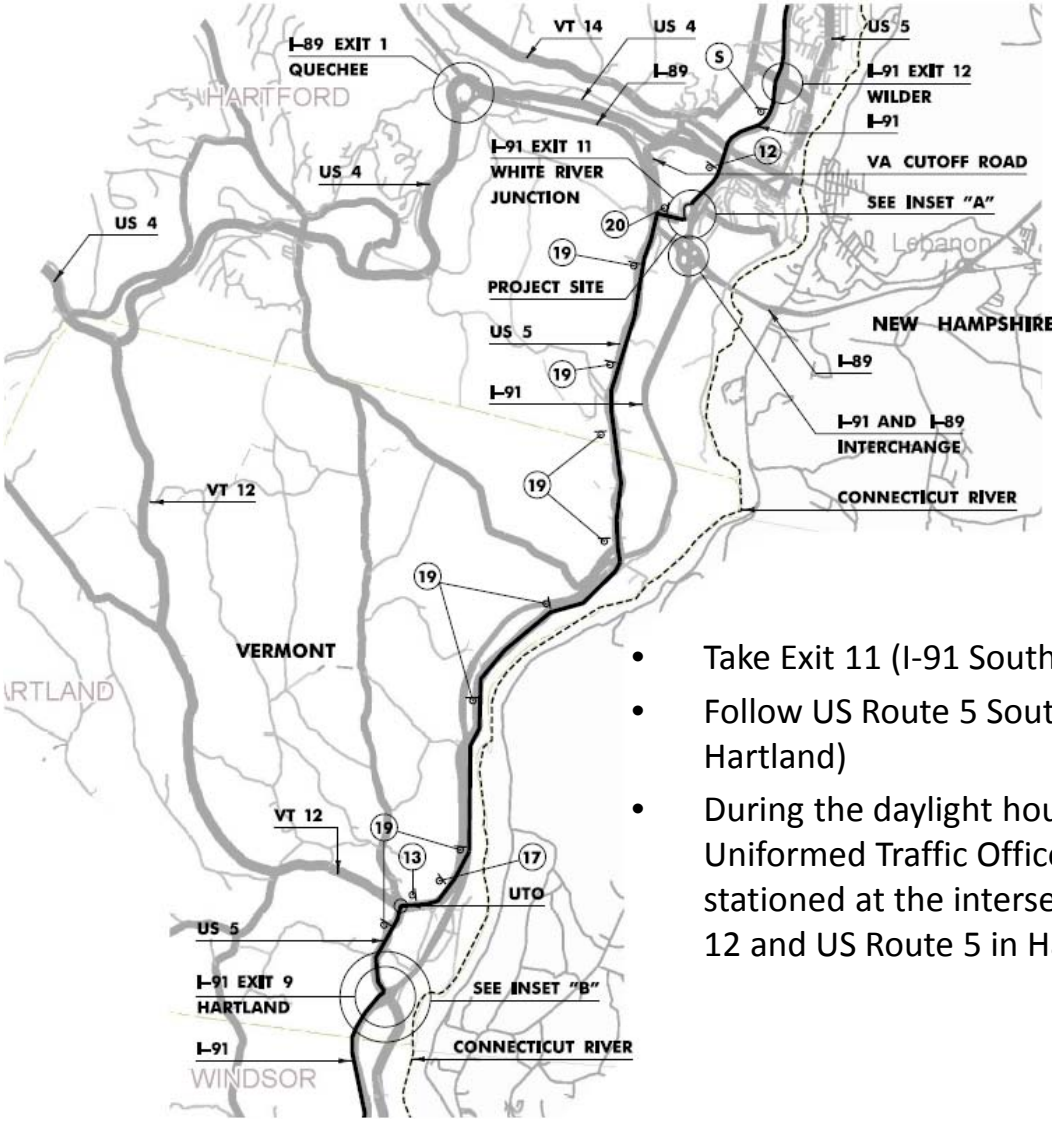
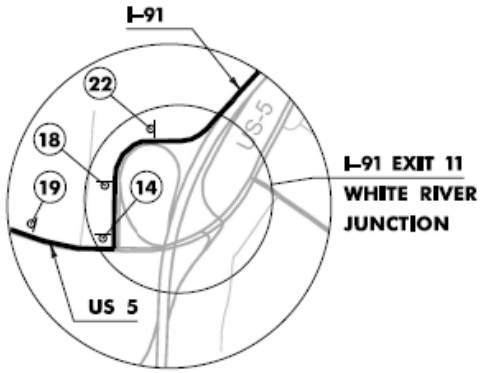
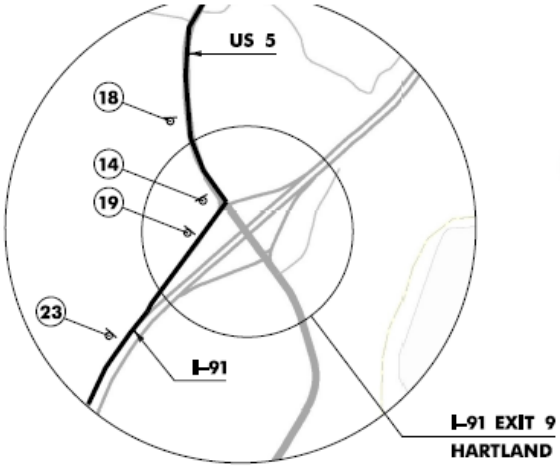
Bridge Construction – I-91 Southbound Detour







- Take Exit 11 (I-91 Southbound off-ramp)
- Follow US Route 5 South to Exit 9 (I-91 in Hartland)
- During the daylight hours of the closure, Uniformed Traffic Officers will be stationed at the intersection of VT Route 12 and US Route 5 in Hartland.

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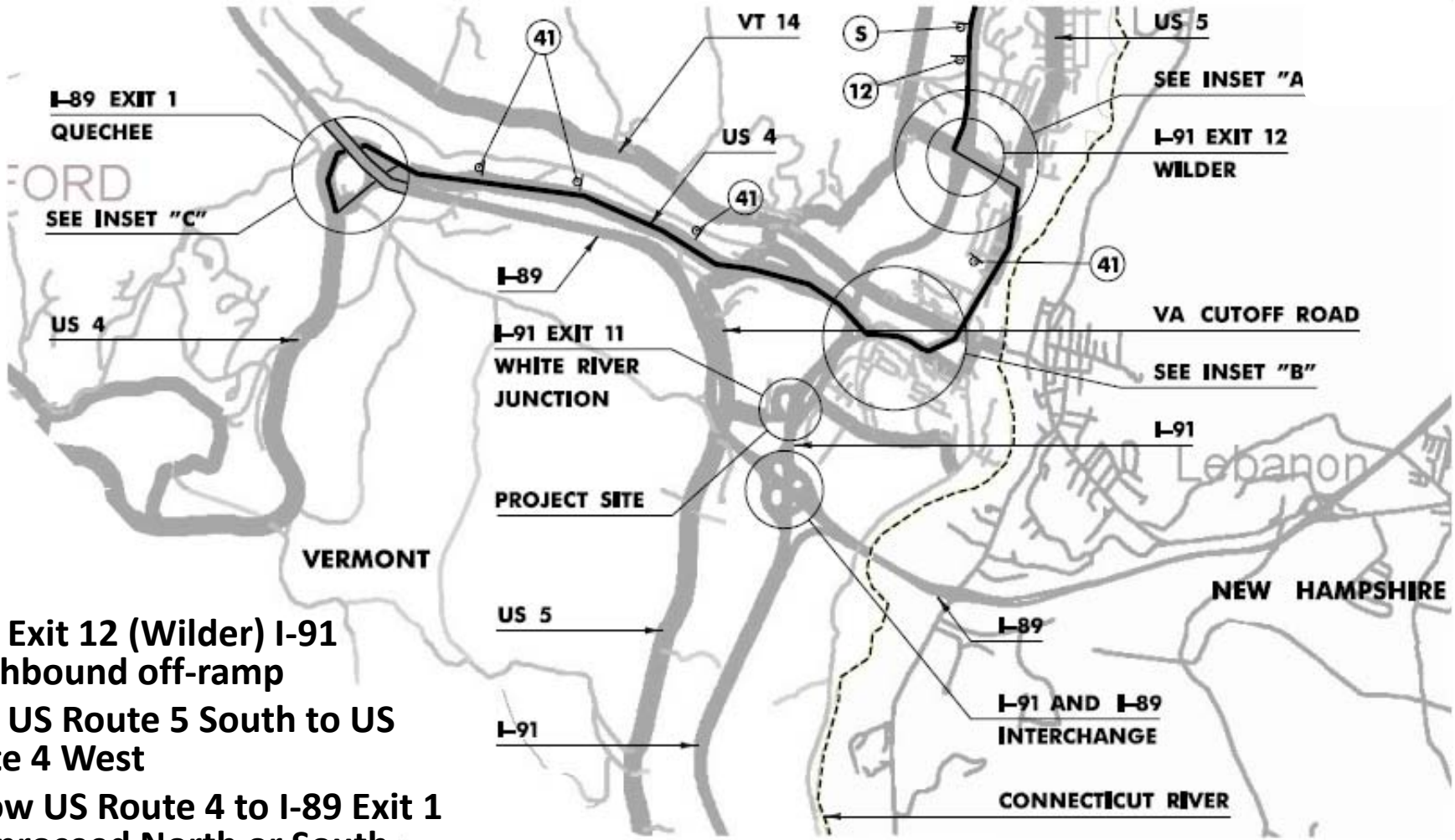
Bridge Construction – I-91 Southbound Detour to I-89 N/S



- **Take Exit 12 (Wilder) I-91 Southbound off-ramp**
- **Take US Route 5 South to US Route 4 West**
- **Follow US Route 4 to I-89 Exit 1 and proceed North or South**

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Bridge Construction – Final Condition

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What if Scenarios for Traffic Planning:

- What if something happens at the bridge site and US 5 is forced to close?
  - Traffic will be rerouted around the bridges using uniformed traffic officers.
    - 5 South will use US 4 to VA cutoff road
    - 5 North will use VA Cutoff Road to US 4

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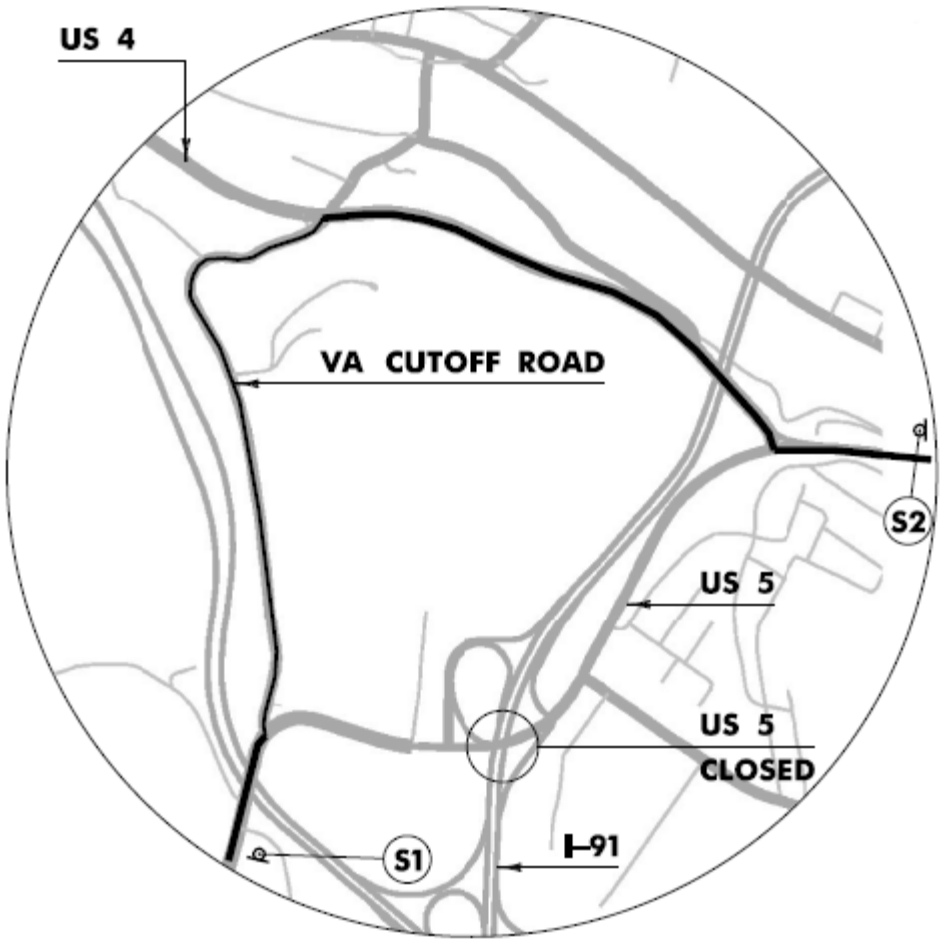
What if Scenarios for Traffic Planning:



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What if Scenarios for Traffic Planning:

- What if something happens at the bridge site and US 5 is forced to close?
  - Traffic will be rerouted around the bridges using uniformed traffic officers.
    - 5 south will use US 4 to VA cutoff road
    - 5 North will use VA Cutoff Road to US 4

- What if a vehicle breaks down or there is an accident in the North bound detour?
  - Tow truck will be stationed in the median of I-91 to clear any mishap that occurs during the closure weekend

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Maintenance of Traffic Summary

- Reduce Traffic to 2 lanes along US Route 5
- Construct protected pedestrian walkway
- Maintain traffic through construction site on US5
- Limit Traffic Delays:
  - Two way traffic always during peak hours
    - 7:00 AM – 9:00 AM
    - 4:00 PM – 6:00 PM
  - Delays not to exceed 10 minutes per VTrans Specification
    - 9:00 AM – 4:00 PM
    - 6:00 PM – 9:00 PM
  - Delays exceeding 10 minutes but not to exceed 20 minutes
    - 9:00 PM – 6:00 AM
- Use VA Cutoff road in case of unexpected emergency

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Bridge Construction:

- Construct New Abutments Under Existing Bridges
- Construction New Superstructures next to the Existing Bridges
- Close I-91 at Bridges for one weekend for each Bridge (Closure from Friday Evening to Monday Morning)
- Laterally slide bridges into place
- Complete approach work on I-91
- Open I-91
- Restore US Route 5

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Project Schedule

- Final Plans – November 10, 2014
- Begin Construction – April 1, 2015
- Bridge Closures Scheduled for:
  - Northbound August 21 - 24, 2015
  - Southbound August 28 - 31, 2015
- Back up closure dates:
  - Northbound September 11 - 14, 2015
  - Southbound September 18 - 21, 2015
- End Construction – October 30, 2015

Public Outreach Coordination

- Project Web Address

  www.i91wrj.vtransprojects.vermont.gov

- Public Outreach Coordinator

  Jill Barrett

  802-272-1248

  jbarrett@fhiplan.com