
VT 14 East Montpelier Bridge Project Informational Meeting

February 22, 2017



VT14 Bridge
EAST MONTPELIER



Welcome & Introductions

VTrans

- Mark Sargent, Project Manager
- Wayne Symonds, Structures Program Manager
- Chris Barker, Resident Construction Engineer

Project Consultant - Design

- Tom Knight, Stantec Consulting Services, Inc.

Project Consultant – Outreach & Communications

- Jill Barrett, Fitzgerald & Halliday, Inc.
- Michael Levine, Flywheel Communications

Agenda

1. Project description, goals, & challenges
2. Laying the groundwork for success
3. Construction 2017-19
4. Project Communication
5. Questions & Comments



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Project description, goals & challenges



What is the project?

- Replace VT 14 bridge over Winooski River in village of East Montpelier
- Reconstruct 900 feet of US 2 in vicinity of the bridge
- Add turning lanes & traffic signal
- Build sidewalk in village



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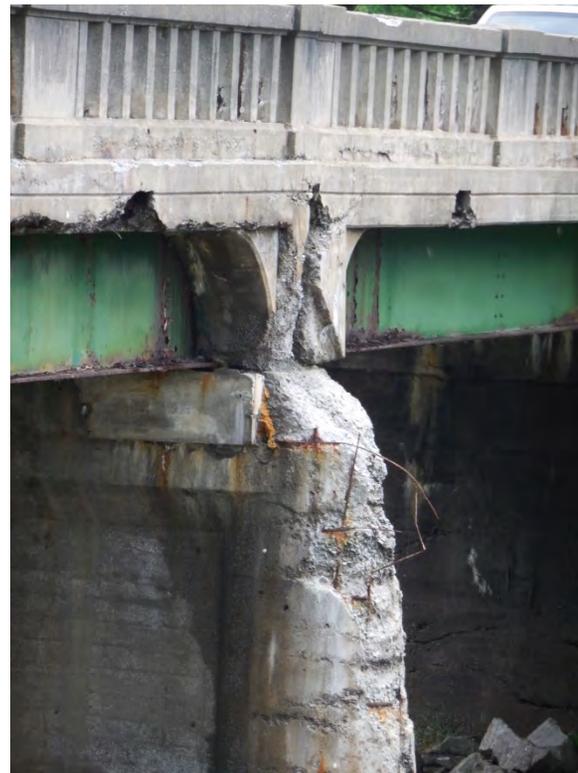
Why is the project needed?

The bridge is...

- Nearing the end of its design life

The VT14/US2 intersection ...

- Meets multiple criteria for safety improvements



What are the major challenges?

- Complicated reconstruction in a village setting:
 - US 2 Traffic (1500 cars/hour at peak)
 - Widening for turning lanes
 - Intersection work
 - Remove concrete slabs
 - New drainage
 - Utility relocation
 - Sidewalk
- Balancing construction impact
 - On residents
 - On businesses
 - On travelers – local & regional



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Laying the groundwork for success

What have we done to lay the groundwork for a successful project?



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Project goals

- Improve safety and mobility
- Minimize disruption to travelers and businesses during construction
- Use cost effective and efficient methods
- Replace the bridge with a low maintenance structure

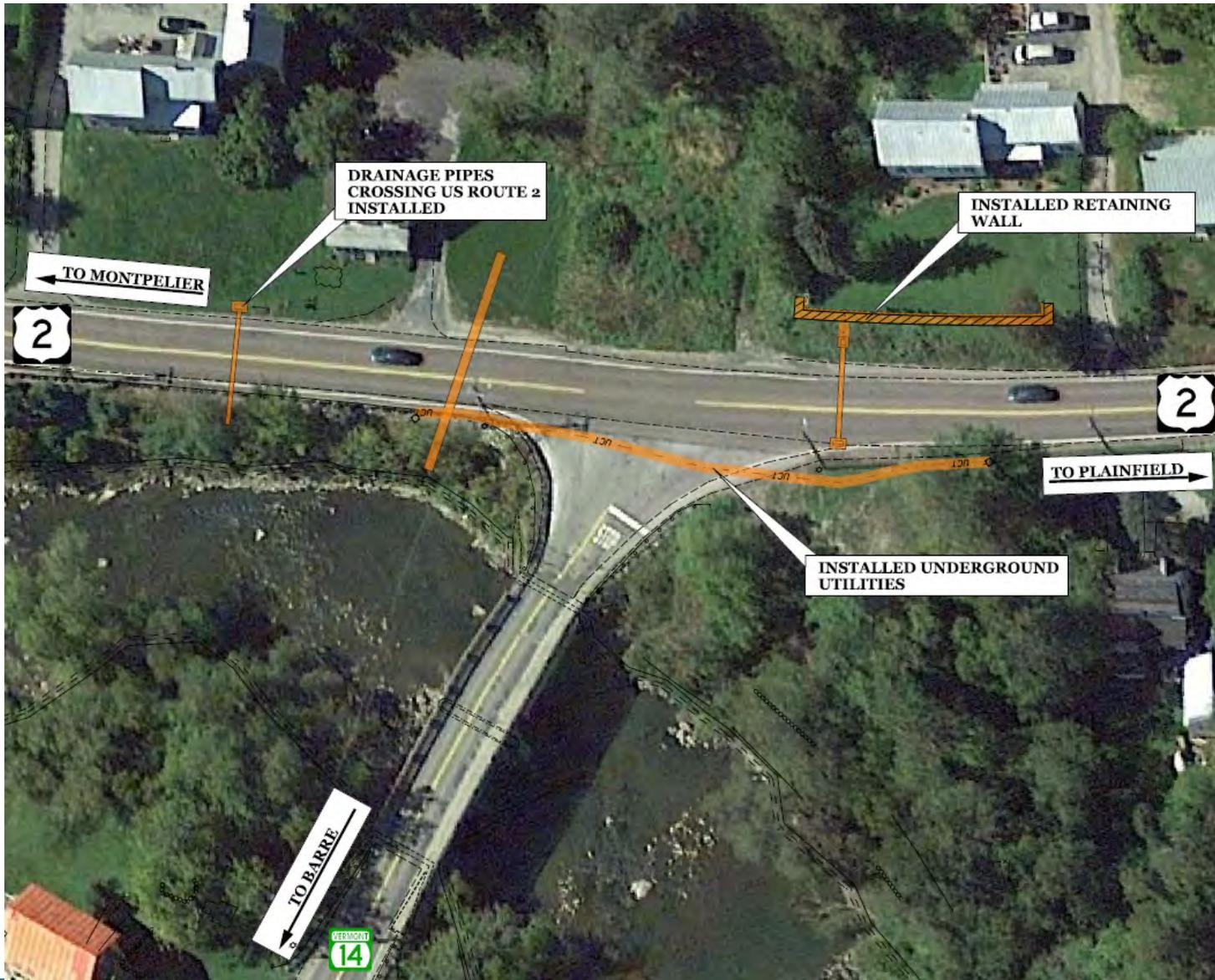


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Fall 2016 Construction



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Trenchless Technology

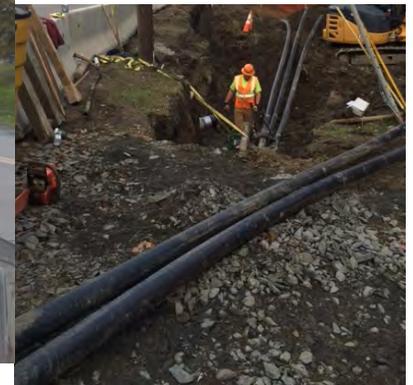
Drainage

- Pipes crossing US 2 including:
42" culvert installed by
underground tunneling/jacking



Utility Conduits

- 5 conduits installed
using directional
drilling under VT 14



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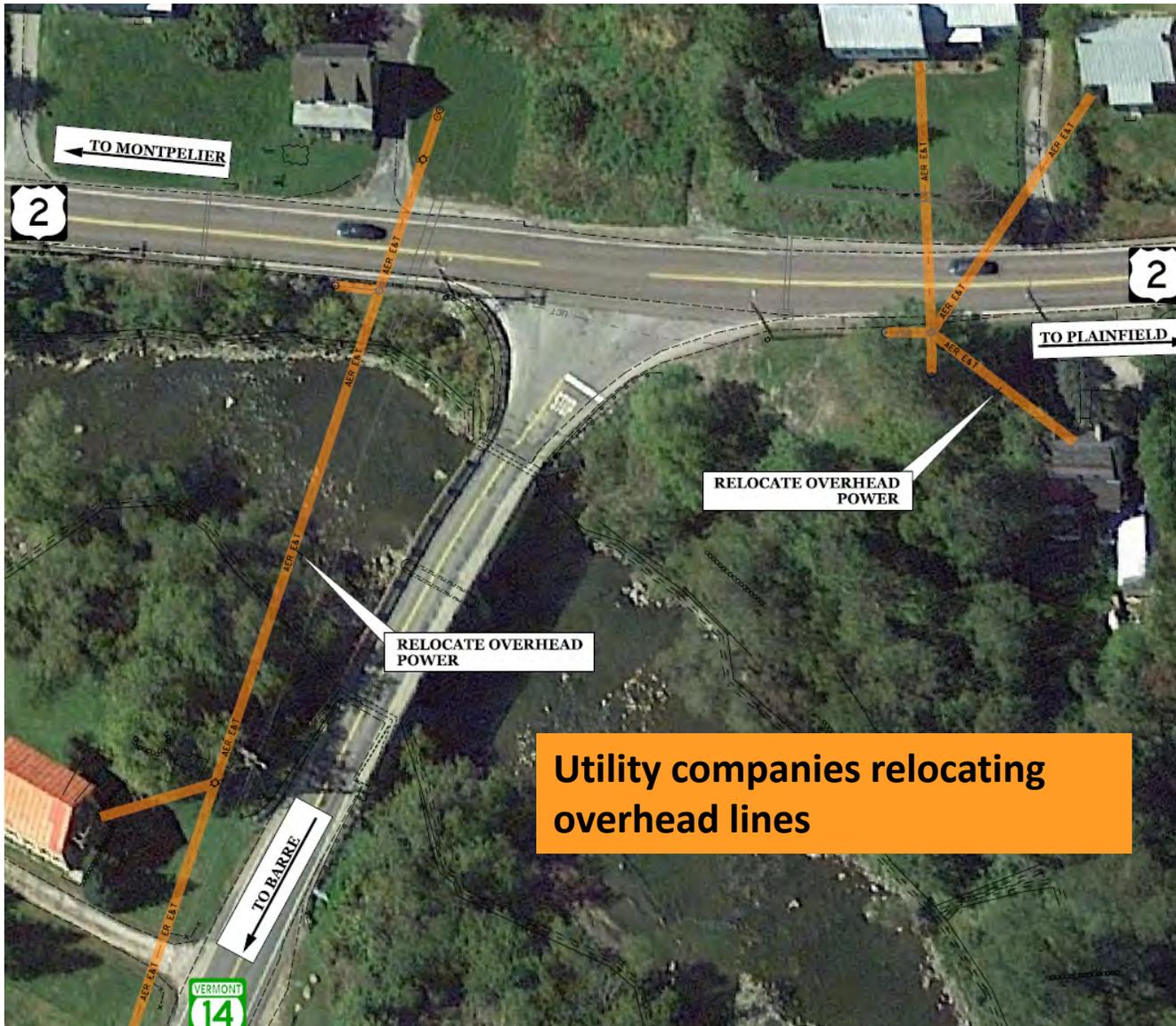
Retaining wall at US 2/VT 14



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Winter/Spring 2017



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Winter/Spring 2017



- Utility poles have been moved.
- Conduit is in place for undergrounding communication
- Splicing data cables will be completed by the utility companies.



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What we learned:

- Work was more productive and traffic impacts were much less after 7 p.m. when Route 2 traffic is very light.
- If Route 2 roadway work is concentrated at night, project can be managed with reduced bridge closure period.
- More obstructions (besides concrete) found under Route 2. Buried granite wall on river side of road.



What has changed?

Old Plan vs. New Plan

April 2016 “Ride & Slide” bridge concept

Build Superstructure Off Alignment



Use the Superstructure as a Temporary Bridge



“Ride”

Slide the Bridge into Place



“Slide”

Ride/Slide Concept

- Build new deck upstream
- Use new deck as a temporary bridge
- Slide new deck on to new piers.
- This made sense when we were planning to do a significant part of the US 2 road work during the day, because we could take advantage of the period when VT 14 was closed to work when the traffic is simplified. With US 2 work at night, there is less advantage.

Prefabricated Temporary Bridge

- To be installed in 2017; opened to traffic in spring 2018



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Fall 2016 construction experience leads to new construction phasing

- Major Route 2 construction will be **done at night**.
- Approximately 14 weeks, completed by Mid-December '17
- New bridge will be built in place (the lateral slide method will not be used)
- A pre-fab temporary bridge will be used.
- Limited road closure of VT 14 is planned; up to maximum of 14 days to complete various tasks (setting precast and steel components).



Overview of Construction Schedule

➤ Summer-Fall 2017

US Route 2 &
temporary bridge
construction

➤ 2018

Replace VT 14 bridge &
construct VT 14

➤ Spring 2019

Finishing touches



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Summer-Fall 2017

2018

Spring 2019

Summer-Fall 2017 Construction



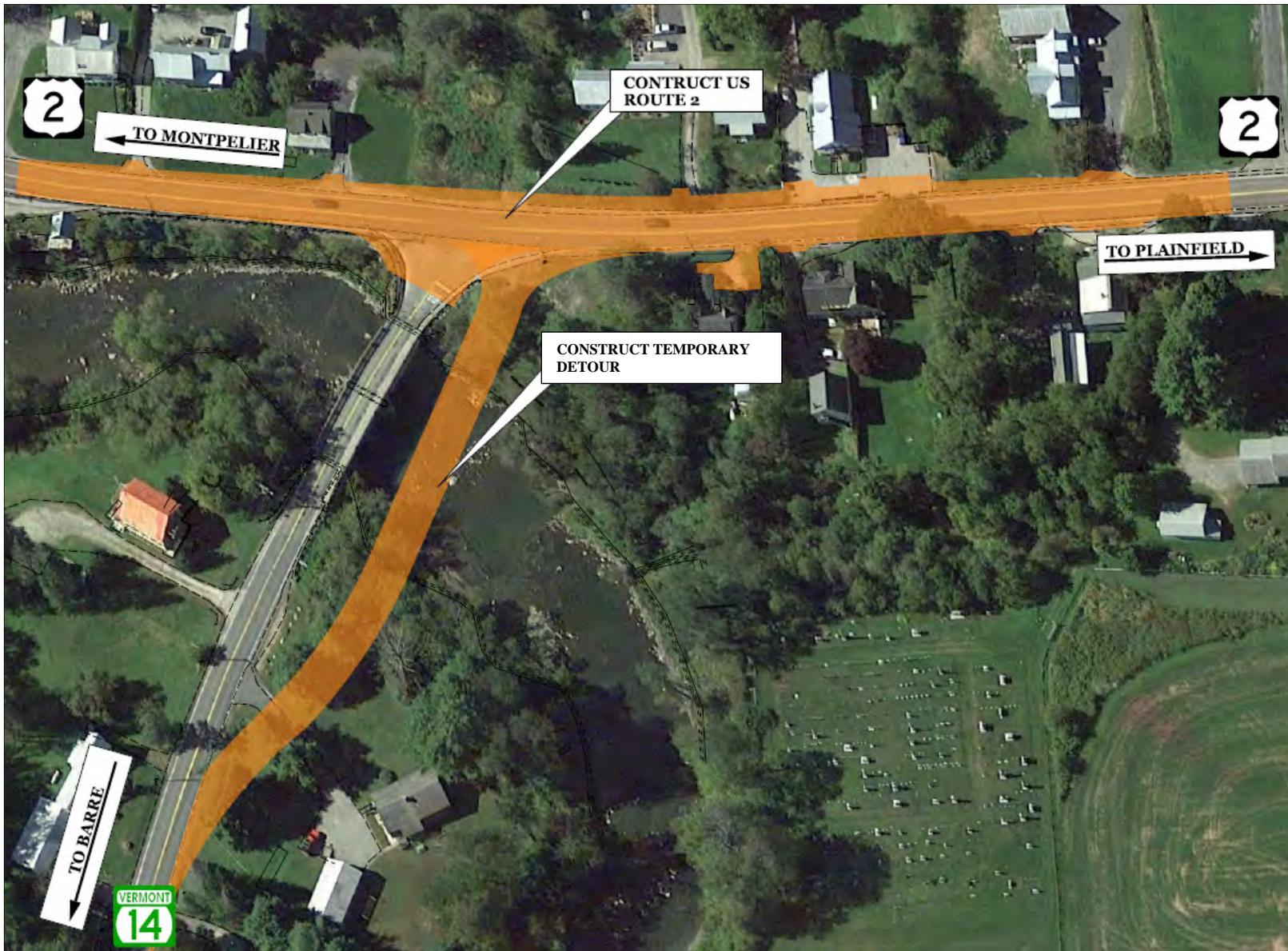
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Summer-Fall 2017

2018

Spring 2019

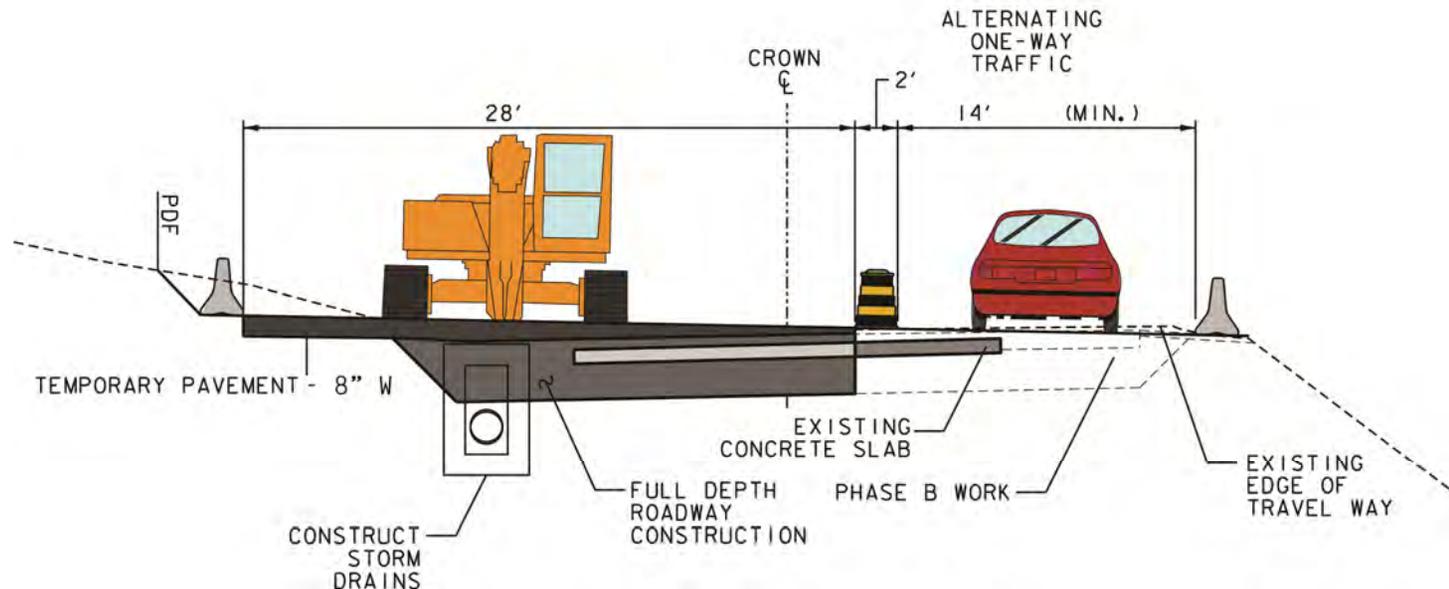


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Late Summer – Fall 2017 Construction Activity

- Complete reconstruction of US Route 2
- Install Temporary Bridge and Roadway



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Late Summer – Fall 2017 Construction Activity

- Complete reconstruction of US Route 2
 - 900 ft of full depth reconstruction (**5 ft deep**)
 - Widening for turning lane
 - Remove old concrete slabs in roadway under asphalt pavement
 - Phased construction
 - New drainage
 - Curbing, Sidewalk & Driveways
 - Work done at night to minimize impacts



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**WORK AT
NIGHT**

**OPEN IN
THE DAY**



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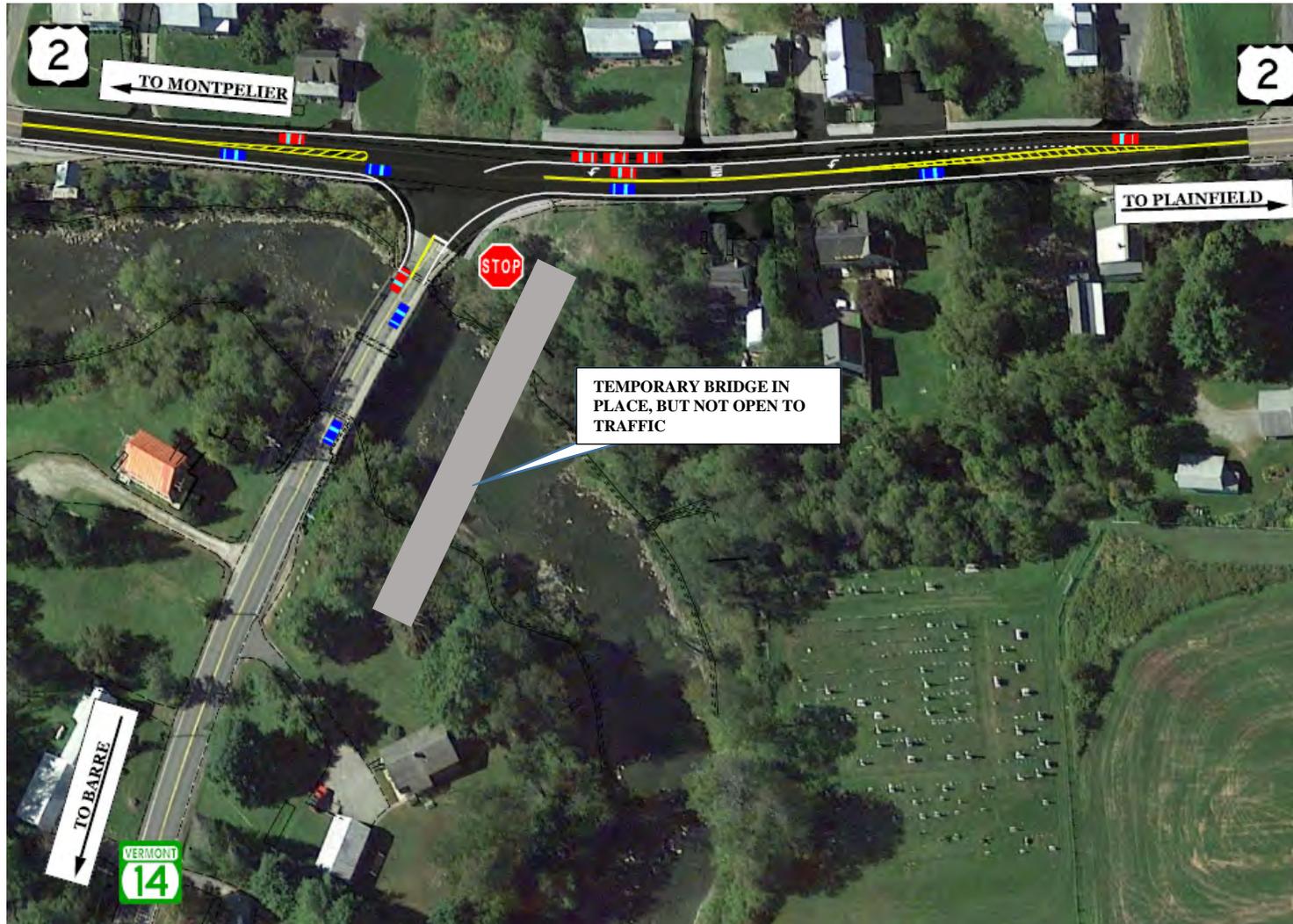
Where do we end up in December 2017?



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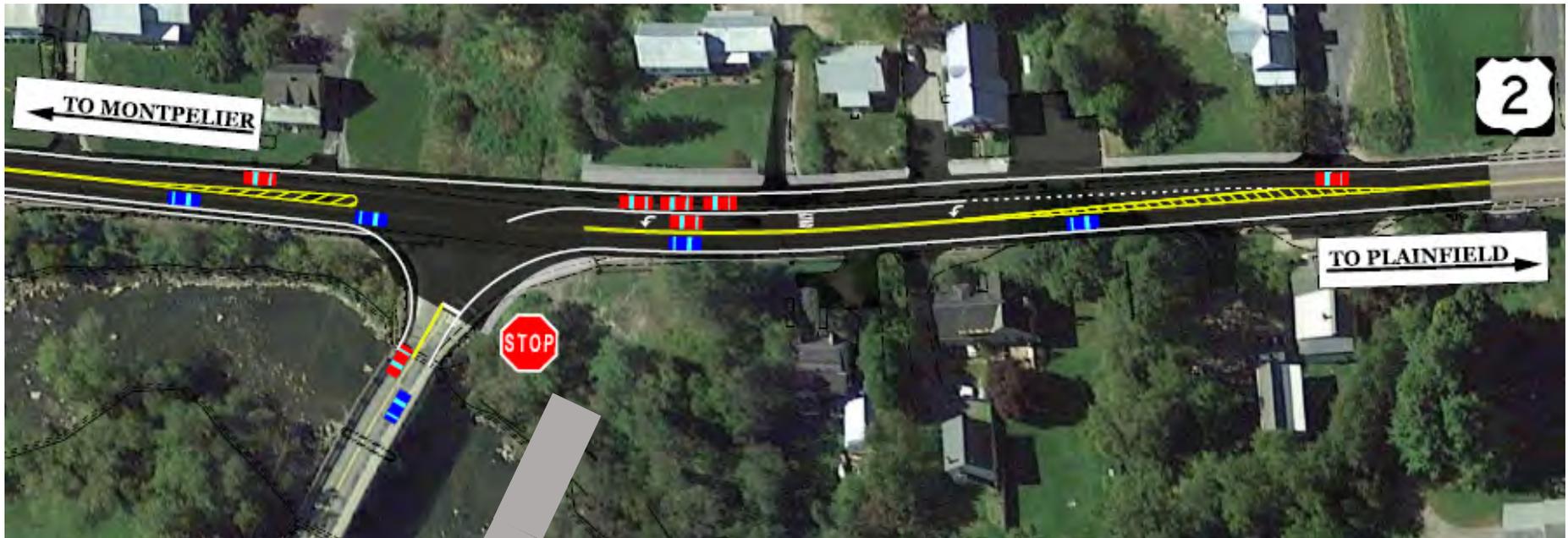
Where do we end up in December 2017?



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Where do we end up in December 2017?



- US 2 Work Mostly Complete
- Stop sign control on VT 14



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Summer-Fall 2017

2018

Spring 2019

2018 Construction



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2018 Construction Activity

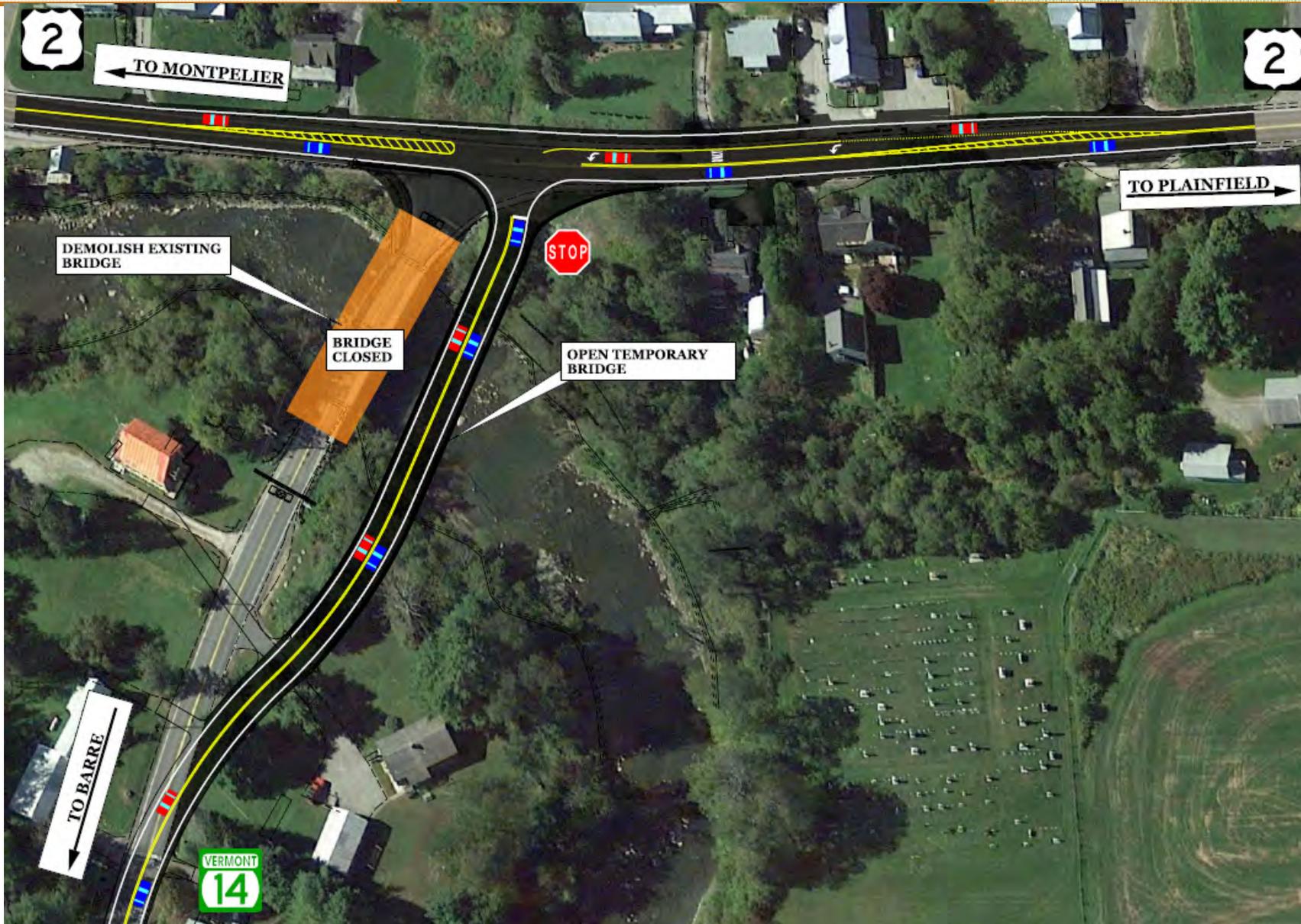
- Maintain VT 14 traffic on temporary bridge
- Construction focused on VT 14 bridge and roadway
 - Demolish existing bridge
 - Build new bridge
 - Substructure (accelerated using precast)
 - Steel beam
 - Deck (accelerated using precast)
 - Re-build VT 14 within project limits
 - Install US 2 traffic signal without pedestrian phase
 - Open bridge to the public
 - Remove temporary bridge



Summer-Fall 2017

2018

Spring 2019



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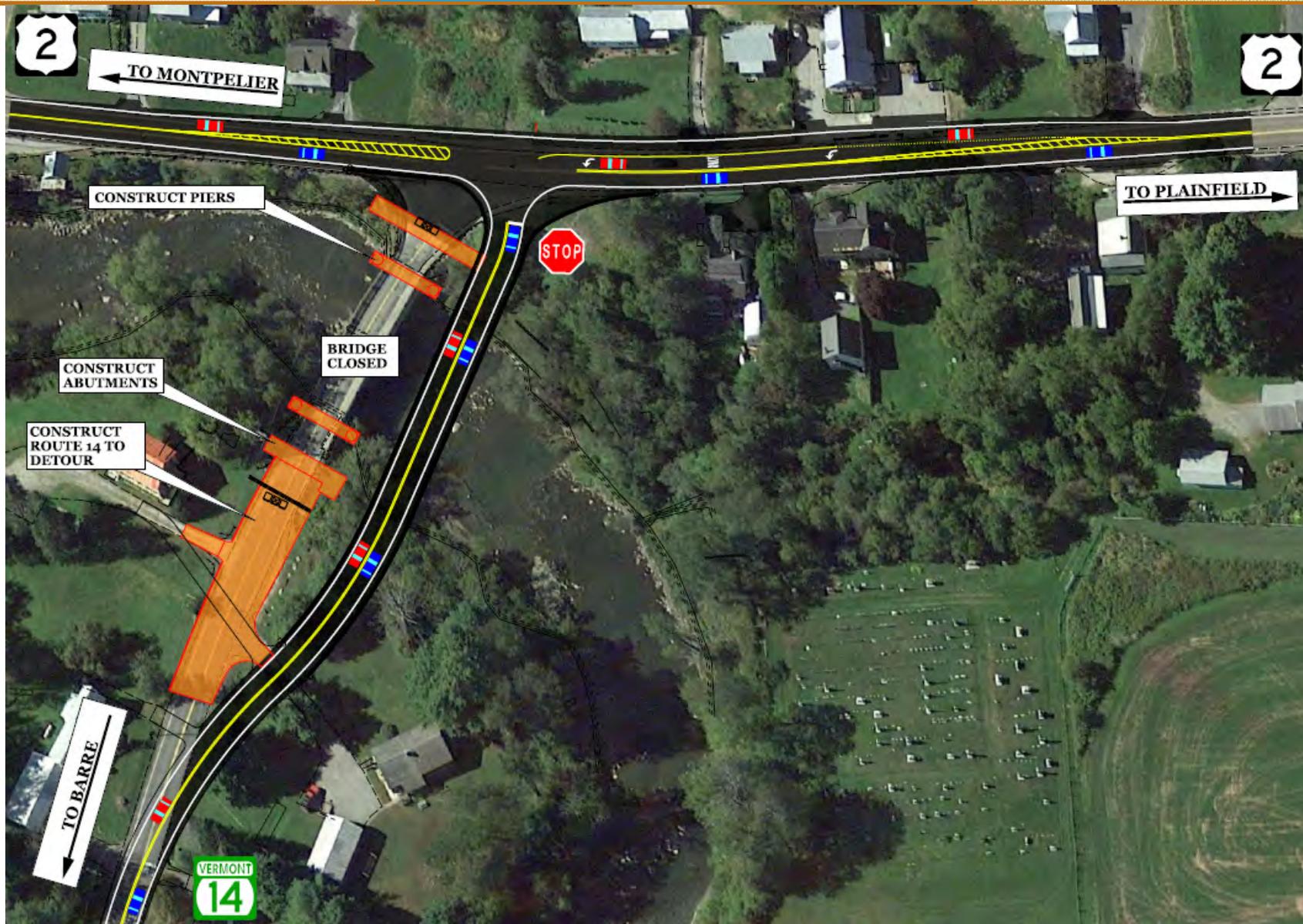
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Summer-Fall 2017

2018

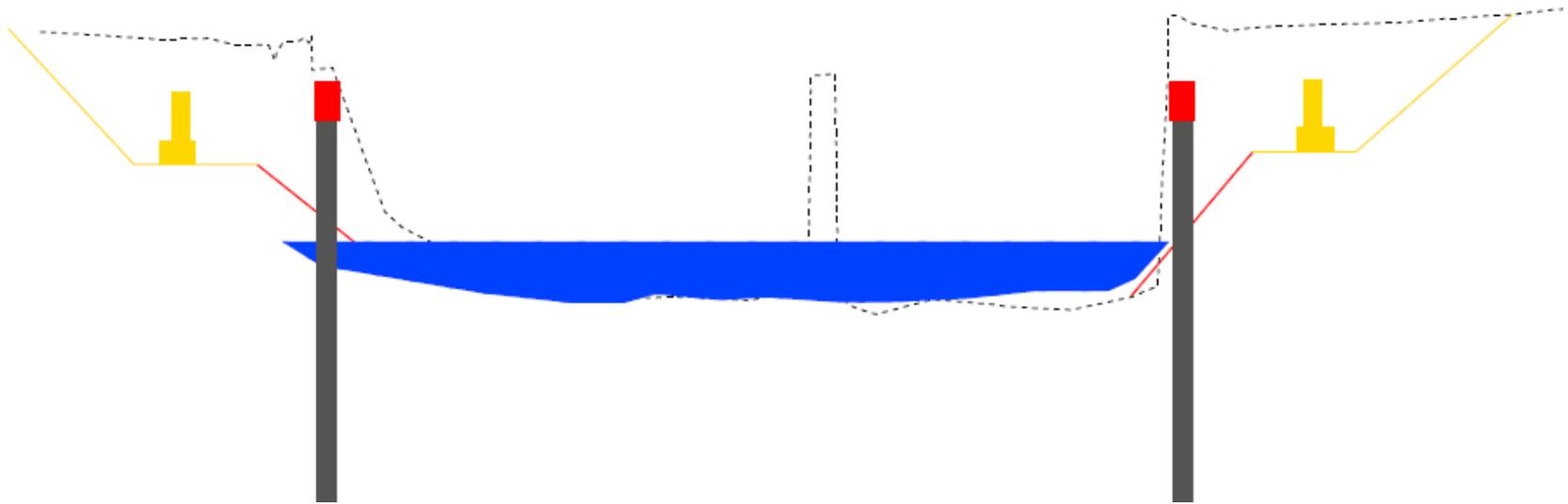
Spring 2019



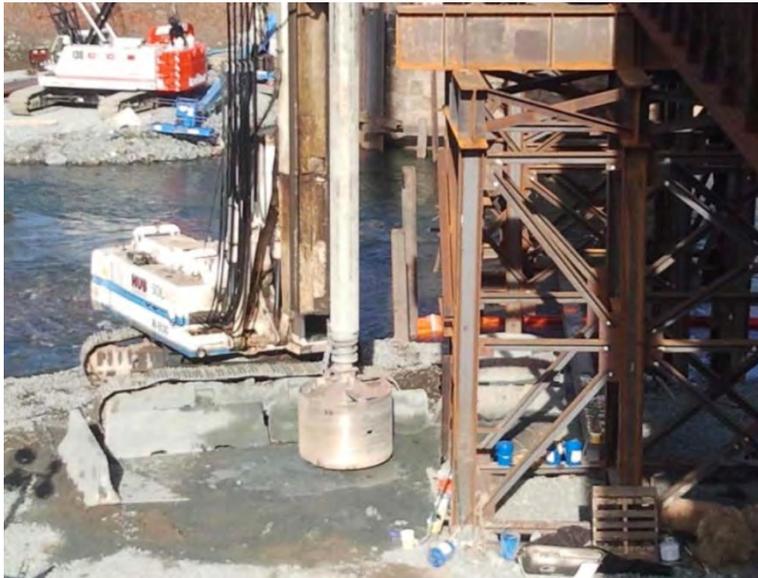
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- Installing piers and abutments



- 6 foot diameter drilled shaft columns extend 80 feet below ground





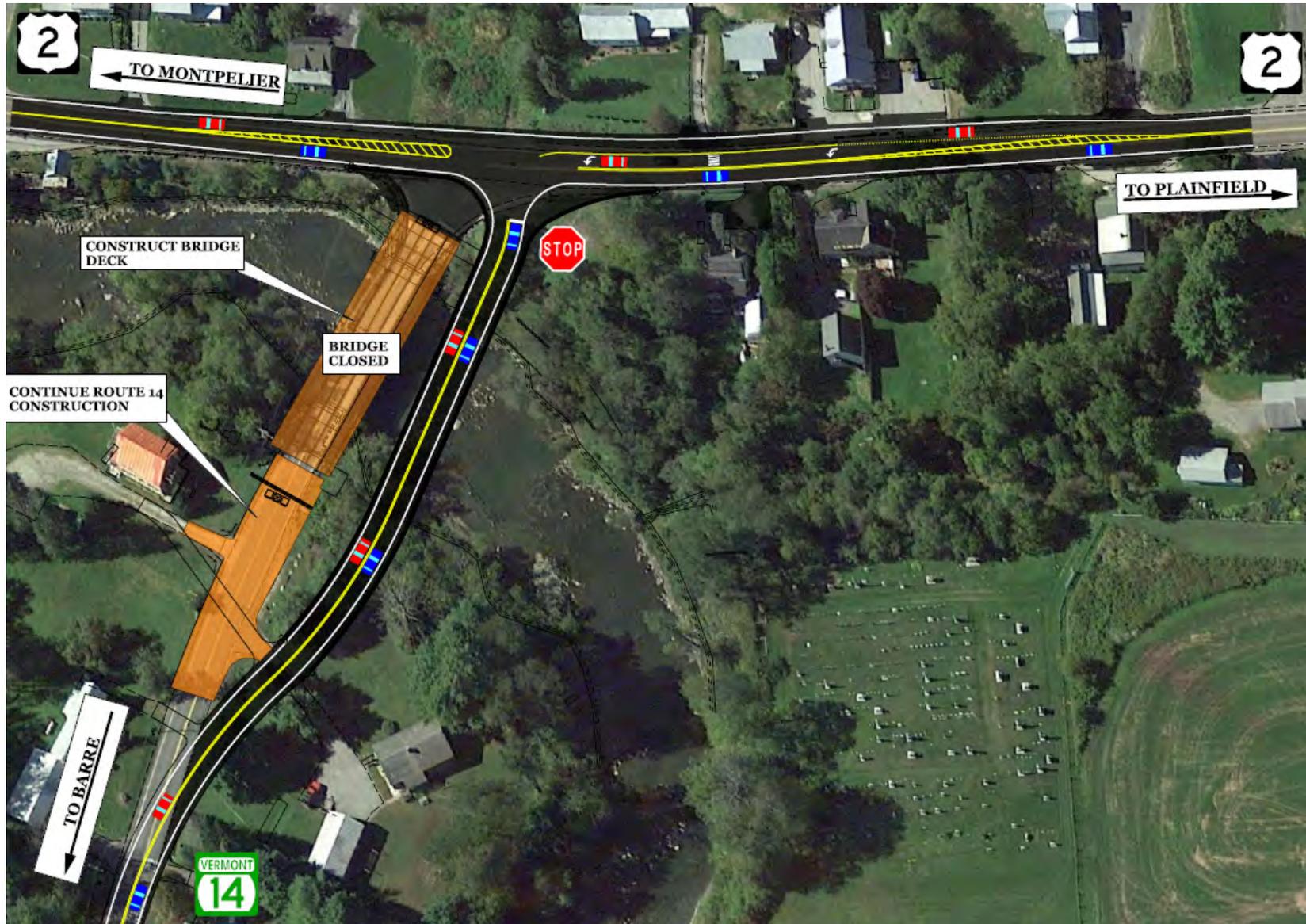
Pre-cast concrete pier caps, for accelerated construction



Summer-Fall 2017

2018

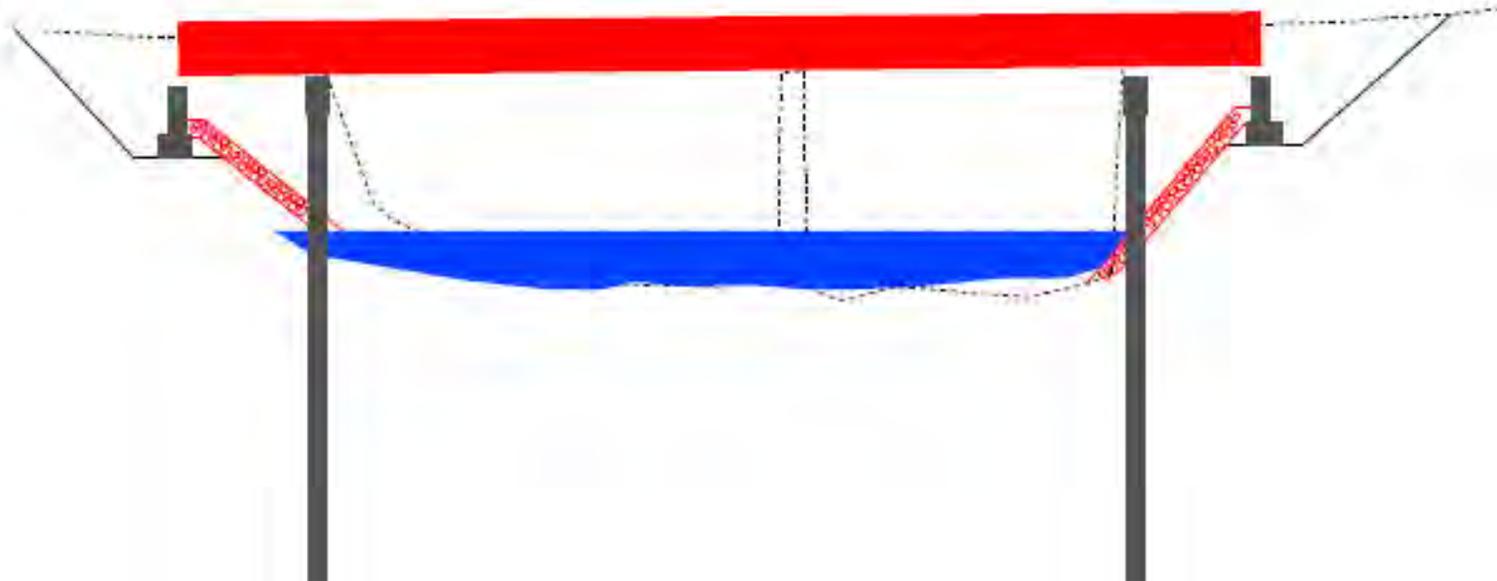
Spring 2019



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- Installing the beams and the deck





Erection of steel beams, may require closure of the temporary bridge for a few days.



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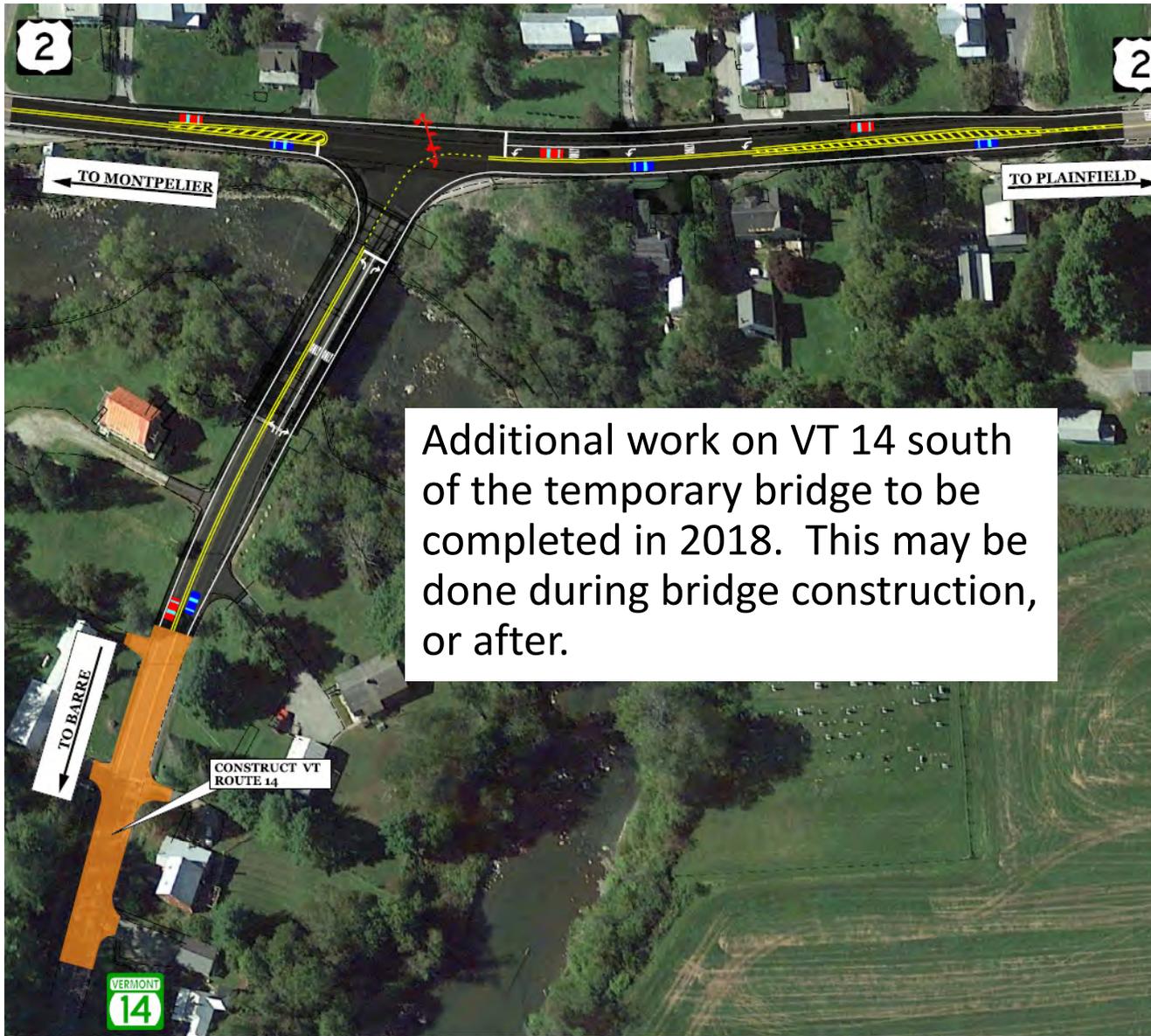


Pre-cast concrete deck panels, built off site in advance, the contractor may elect to close the temporary bridge for a few days to complete this work.



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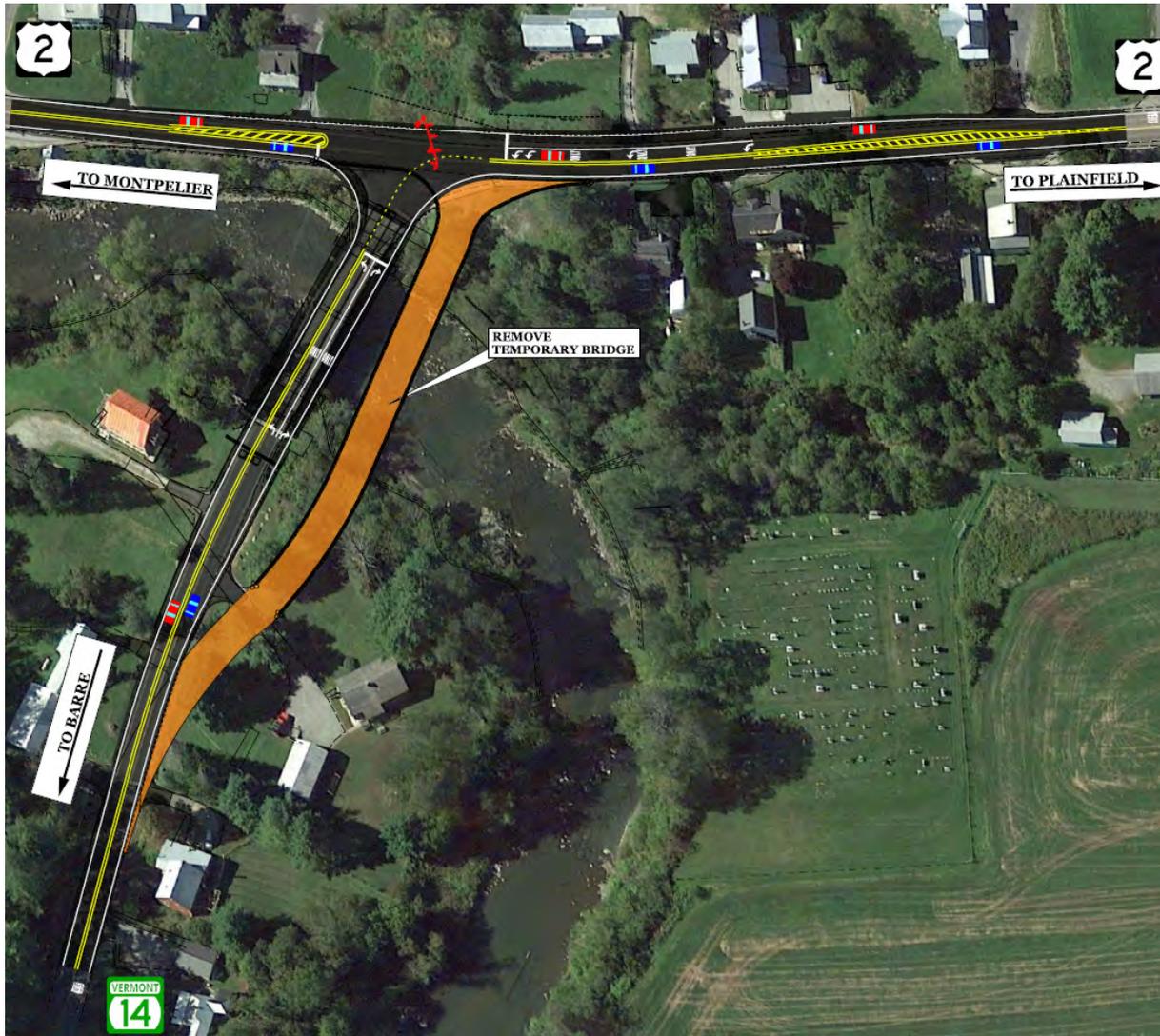




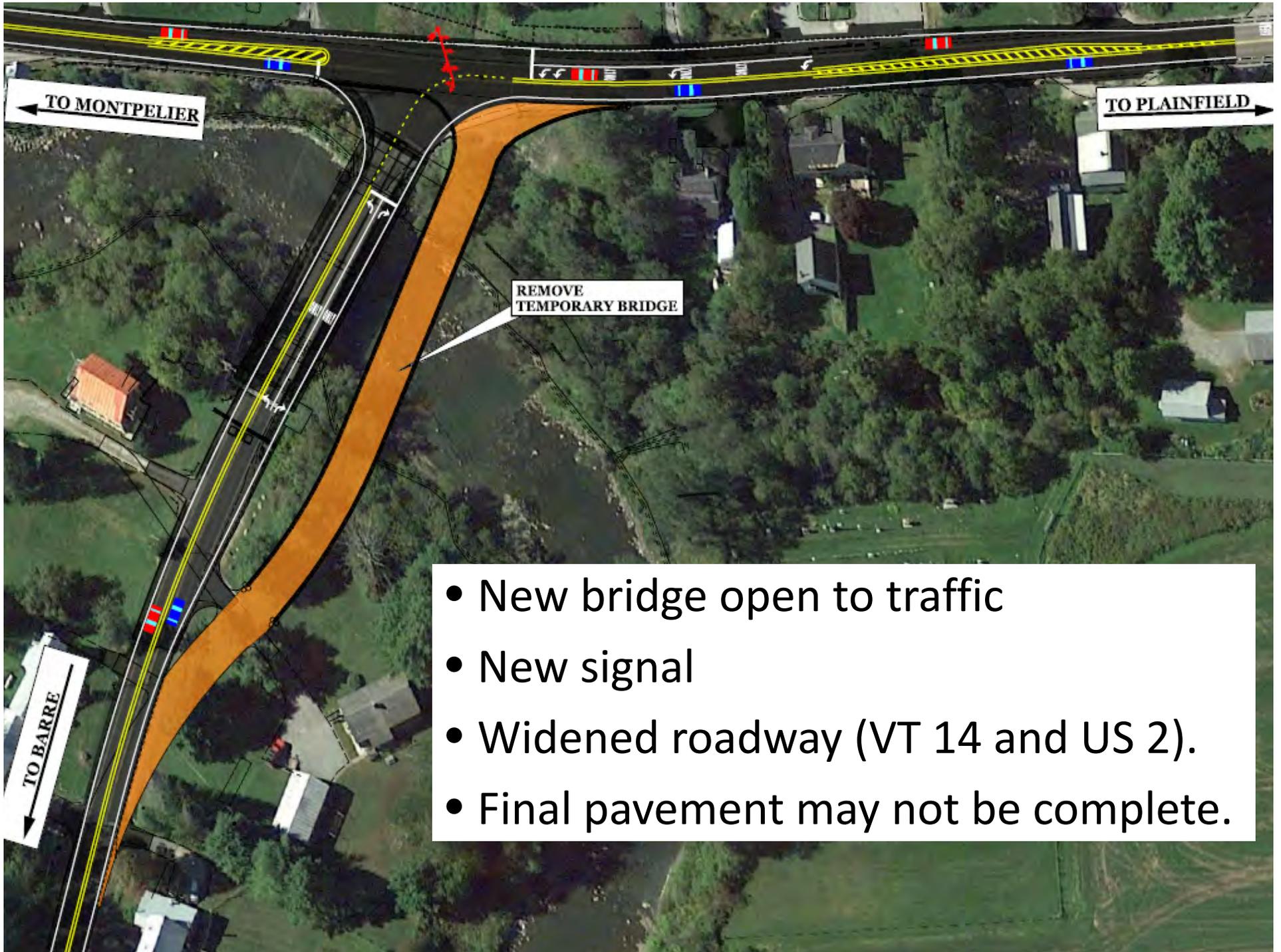
Additional work on VT 14 south of the temporary bridge to be completed in 2018. This may be done during bridge construction, or after.



Where do we end up in December 2018?



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- New bridge open to traffic
- New signal
- Widened roadway (VT 14 and US 2).
- Final pavement may not be complete.

2018 Project Impacts

- Construction activities focused on VT Route 14 and new bridge
- Daytime construction
- US 2 will be open to 2-way traffic
- VT 14 will be open except for intermittent closures (maximum 14 cumulative days, for various tasks occurring over period of weeks)
- Increased construction traffic
- VT 14 intersection to be stop sign controlled during construction in 2018.



Detour Route

VT 14 Bridge, East Montpelier



2019 Construction – Spring



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Spring 2019 Construction Activity

- Complete removal of temporary bridge
- Install sand filter to reduce stormwater impacts
- Install cross walk, sidewalk ramps
- Turn on pedestrian phase of the traffic signal
- Complete stone fill/grading of stream banks
- Final paving of US 2 and VT 14 (night time work)



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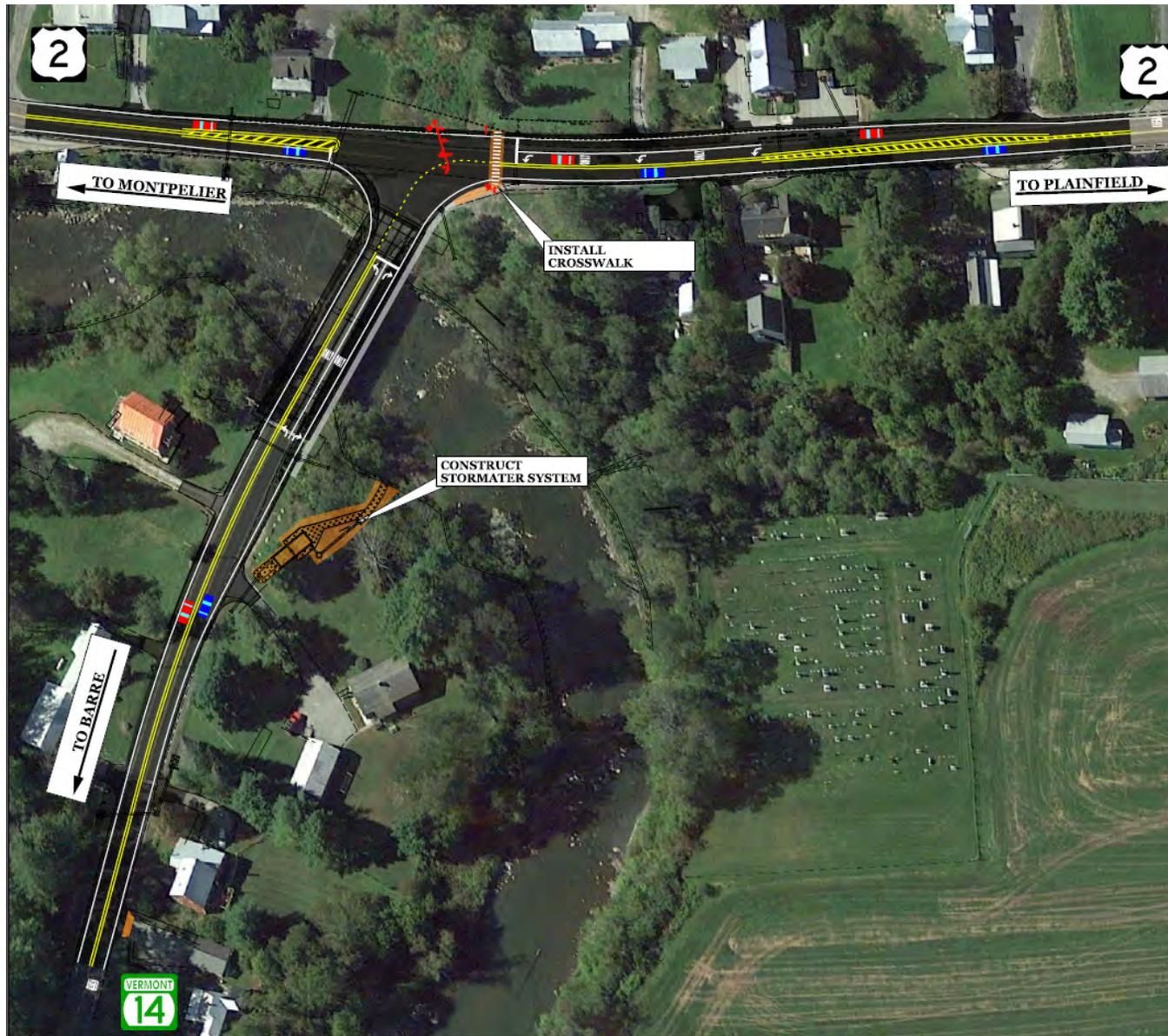


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Summer-Fall 2017

2018

Spring 2019



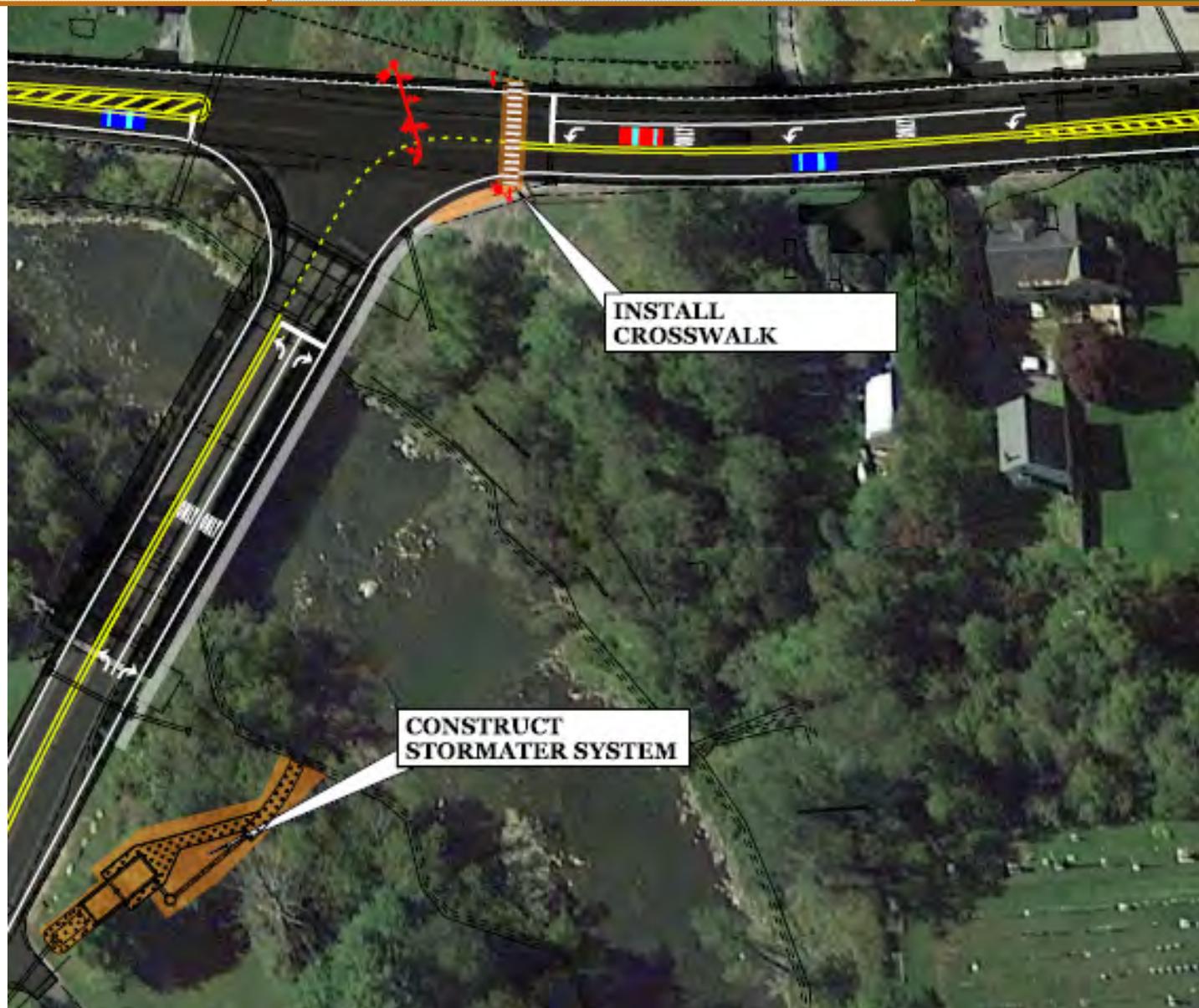
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Summer-Fall 2017

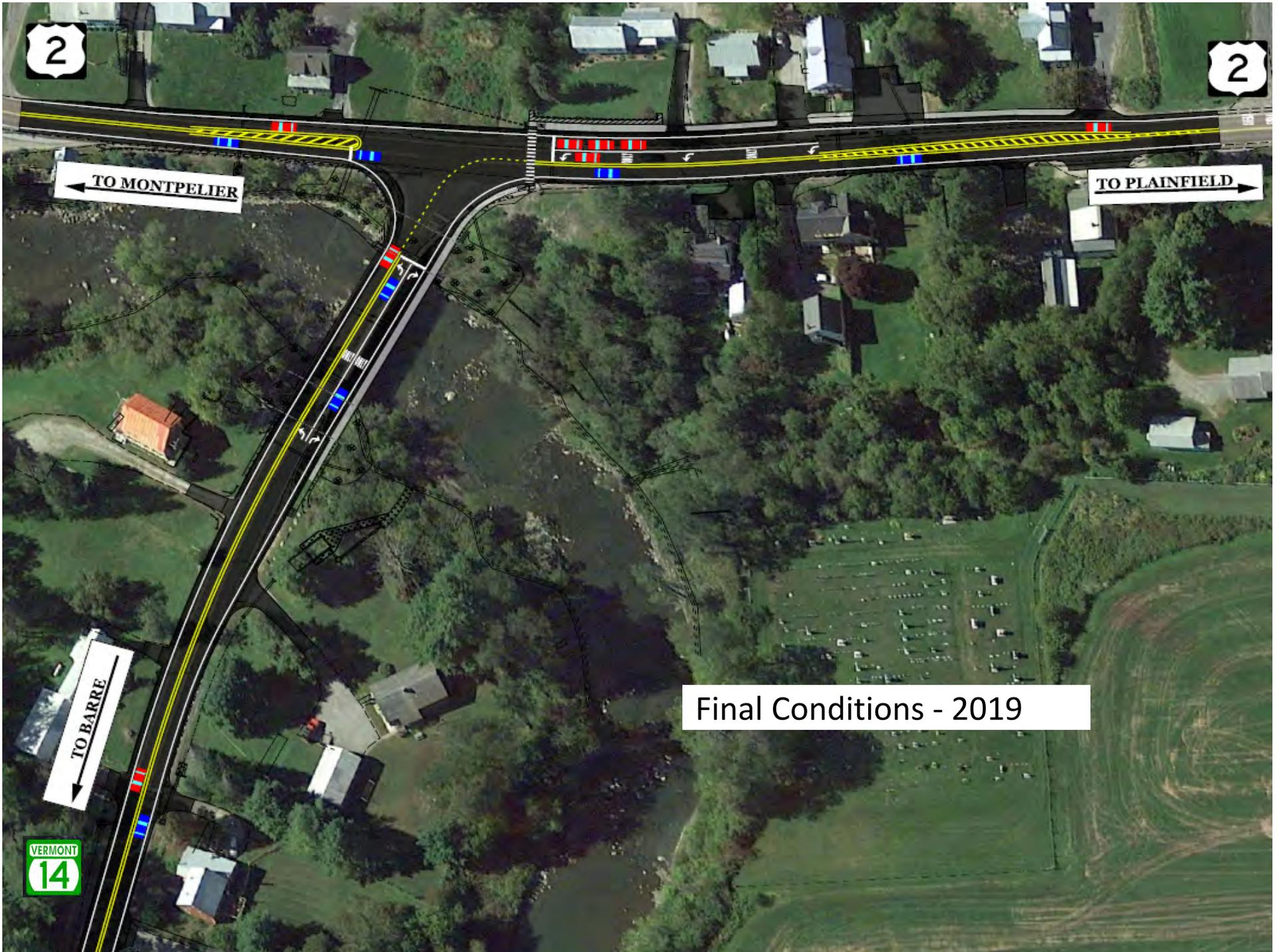
2018

Spring 2019



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Final Conditions - 2019

Spring 2019 Project Impacts

- Very minor travel impacts
- Final paving done at night (1-2 nights)
- Work April through May/early June



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Other Impacts and Considerations



Emergency response

- During road closure, EMFD proposes 24 hour staffing of the fire department in order to maintain response times.
- Traffic control at site will coordinate with EMFD and EMES to give priority to Emergency Response in the work zone.



School bus routes

- Limited road closure period (14 days maximum)
- The school system will notify parents of changes in advance.

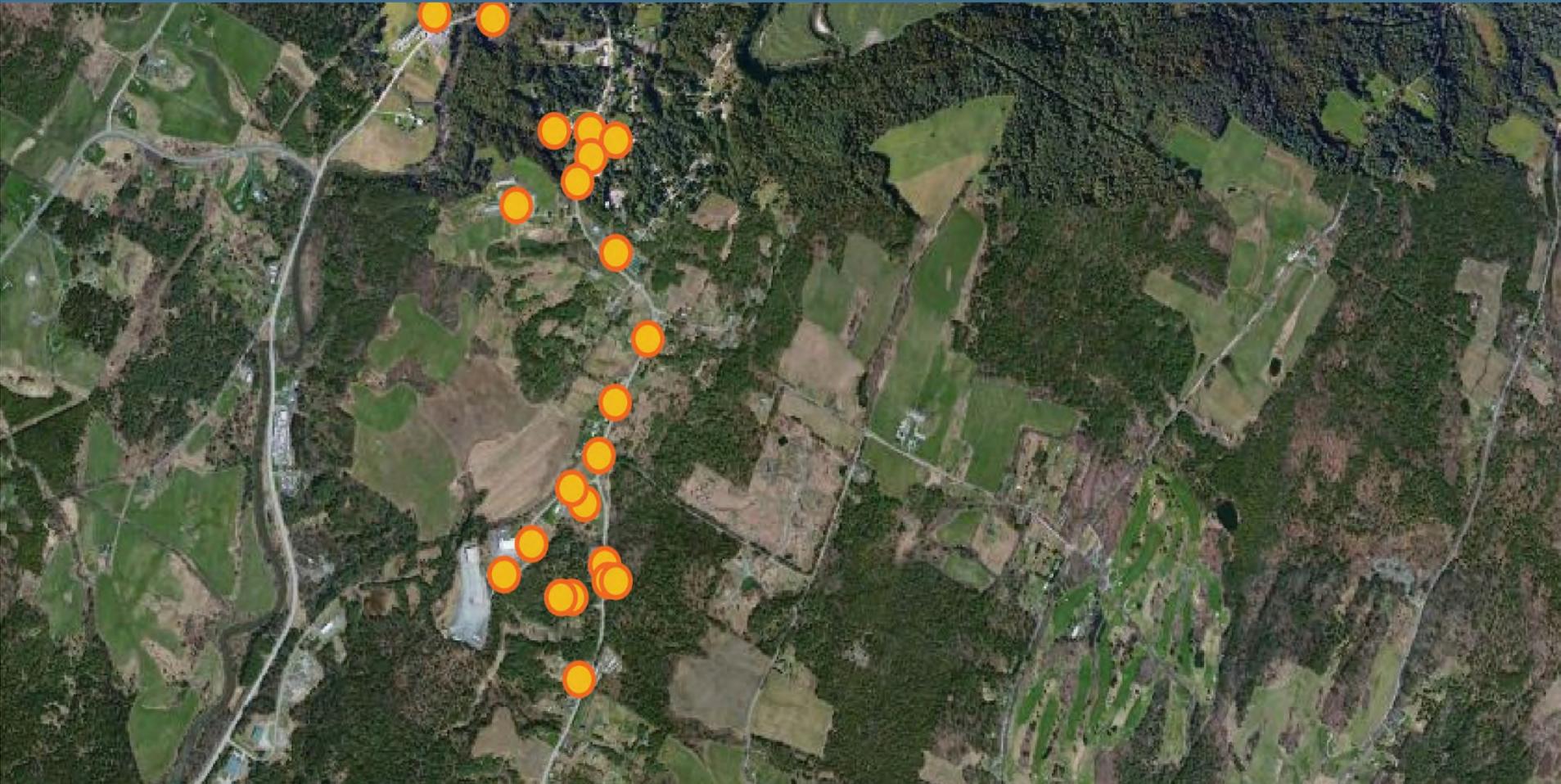


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An aerial photograph of a rural landscape, showing a mix of green fields, brown patches, and dense forest. A green banner is overlaid across the middle of the image.

Communicating with the public



How will the public know what's happening?

- Signs (Variable Message and detour routes)
- Newspaper
- Front Porch Forum
- E-mail alerts (weekly during construction)
- WDEV radio



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Direct outreach

- Businesses
- Affected property owners
- Emergency responders
- Other towns



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Public Outreach Coordinator

Jill Barrett

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Project Goals

- Improve safety and mobility
 - Minimize disruption to travelers and businesses during construction
 - Use cost effective and efficient methods
 - Replace the bridge with a low maintenance structure
- Safer intersection with improved traffic flow.
 - Night construction for the US 2 work, the temporary bridge on VT 14 and the accelerated schedule will minimize the burden on travelers and businesses.
 - The new bridge will utilize efficient, low maintenance materials including weathering steel and stainless reinforcement
 - There will be no open joints in the bridge deck which reduces maintenance.
 - Removing the underlying concrete slabs will improve the longevity of the pavement.



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5. Questions & Comments

