



Cape Cod Bridges Advisory Group

June 10th , 2025

Project File No. 608020



Agenda

- 01** Program Update
- 02** Sagamore Crossing Update
- 03** Next Meeting



Bourne Bridge circa 1934



Introductions

Advisory Group Members

Program Team	State and Federal Elected Officials	Stakeholders
<ul style="list-style-type: none">• MassDOT• USACE• HNTB• Stantec• Office of Governor Healey	<ul style="list-style-type: none">• Office of Gov. Healey• Office of Sen. Markey• Office of Sen. Warren• Office of U.S. Rep. Keating• Office of U.S. Rep. Lynch• State Sen. Cyr• State Sen. Fernandes• State Rep. Vieira• State Rep. Luddy• State Rep. Diggs• State Rep. Xiarhos• State Rep. Moakley	<ul style="list-style-type: none">• Town of Bourne• Association to Preserve Cape Cod• Barnstable County Regional Board of Commissioners• Barnstable County Sheriff's Office• Bourne Commission on Disabilities• Bourne Police• Bourne Public Schools• Bourne Recreation Authority• Bourne Selectboard• Bourne Town Administrator's Advisory Committee on Pedestrian Bicycle Committee• Cape Cod Canal Region Chamber of Commerce• Cape Cod Chamber of Commerce• Cape Cod Commission• Cape Cod Metropolitan Planning Organization• Cape Cod Regional Transit Authority• Upper Cape Cod Regional Technical High School• US Army Corps of Engineers• Mass State Police• MEMA





Program Update

Public Outreach and Meetings

- BPS Canal Walk
- Cape & Islands Bridge Coalition
- Cape Cod Bridges Advisory Group
- Home Builders and Renovators
- Cape & Islands Municipal Leaders Assoc.
- Town of Bourne
- Bourne Recreation Authority
- Section 4(f) public meeting
- DEIS public meeting





Environmental Update

Environmental Update

Federal Policy

- Executive Orders and Directives at the federal level have affected the development of the NEPA Draft Environmental Impact Statement (DEIS)
 - Executive Order DOT 2100.7 - Ensuring Reliance Upon Sound Economic Analysis in Department of Transportation Policies, Programs, and Activities
 - Rescinding “Environmental Justice” Memoranda
 - Interim Final Rule rescinding the Council on Environmental Quality’s (CEQ’s) regulations

State Policy

- Massachusetts policies require consideration and analysis for projects undergoing MEPA review now inconsistent with those at the federal level
 - MEPA Greenhouse Gas Emissions Policy and Protocol
 - Climate Change Adaption and Resiliency Protocol
 - Executive Order on Environmental Justice (E.O. No.552)

Updated NEPA & MEPA Approach

- Through coordination with FHWA and the MEPA Office, MassDOT determined the development of separate NEPA (EIS) and MEPA (EIR) documents is most effective for ensuring compliance with state and federal policies
- Publication of Draft NEPA and MEPA documents is being coordinated and is expected in the summer of 2025



Right of Way Update

Early Property Acquisitions

- Minimizing impacts to private properties was a major consideration in the evaluation of potential locations for the bridges.
- MassDOT has received approval from FHWA to proceed with early property acquisitions in early 2025.
- Without this early approval, contact with property owners would not occur until the spring of 2026.
- Early notice reduces the period of uncertainty for property owners and provides additional time for MassDOT to work with property owners on their relocation.
- MassDOT has initiated contact with all property owners included in this request.



Early Property Acquisitions - Purpose

- Most acquisitions are necessary for the construction of the new Sagamore Bridge.
- Land needed to safely assemble, position and operate cranes.
- Heavy earthworks and temporary retaining walls will be needed in this area to provide working platforms and access.
- Area will accommodate new bridge and approaches, storm water management basins, shared use paths, and access for maintenance and inspection.



Illustrative photo of bridge piers

Early Property Acquisitions

- MassDOT is seeking FHWA approval for five additional Early Property Acquisitions.
- This second request includes one residential property and one multi-tenant commercial property, resulting in 1 residential and 2 commercial relocations.
- The property owners are aware of the need for the relocation.
- The second request also includes three additional small vacant parcels.





Ongoing and Future Field Work

Ongoing Field Work – Survey, Borings and Utilities





Load Testing Program

MassDOT Load Testing Program Overview

Objective: Confirm construction methods and geotechnical resistance values for both drilled shafts and driven piles to reduce design uncertainty and installation risks.

Drilled Shafts: Test side shear and end bearing in rock sockets; validate construction techniques.

Driven Piles: Assess drivability, estimate geotechnical resistance, and calibrate design assumptions using dynamic and static testing.

Testing Locations: Four locations (2) at Sagamore North and (2) at Sagamore South

Schedule: Work to begin Spring 2026

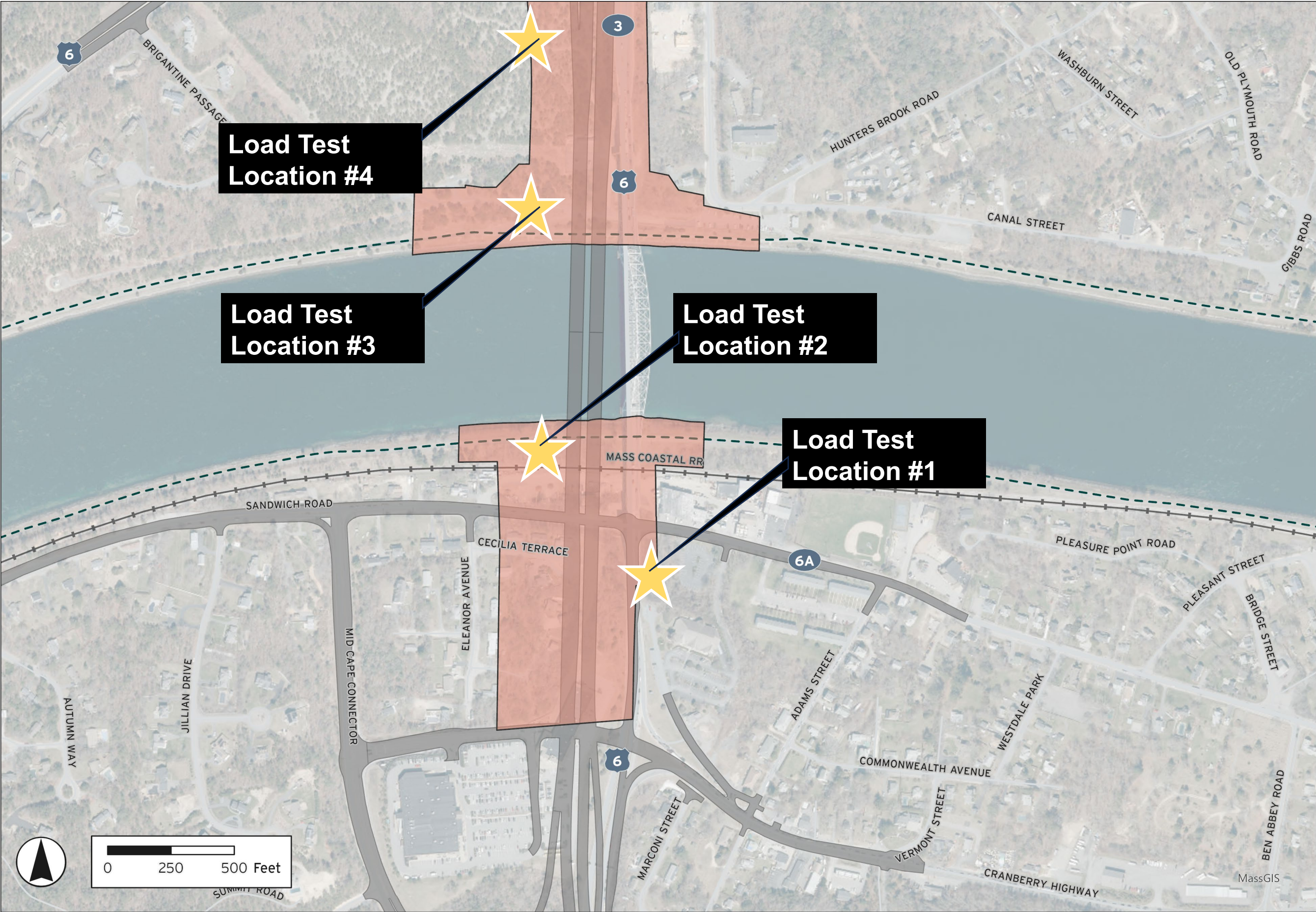


Example Pile Load Test



Example Drilled Shaft Load Test

MassDOT Load Testing Program Locations





Funding Update

Funding Update – Sagamore Bridge Project



- Total cost for the Sagamore Bridge Project is estimated to be approximately \$2.14 Billion.
- In January of 2024, MassDOT was formally notified that the Sagamore Bridge Project was selected to receive \$372 Million in Mega grant funding.
- In July of 2024, MassDOT was informed that the Sagamore Bridge Project was selected to receive \$993 Million in Bridge Investment program Funding.

Funding Update – Bourne Bridge Project

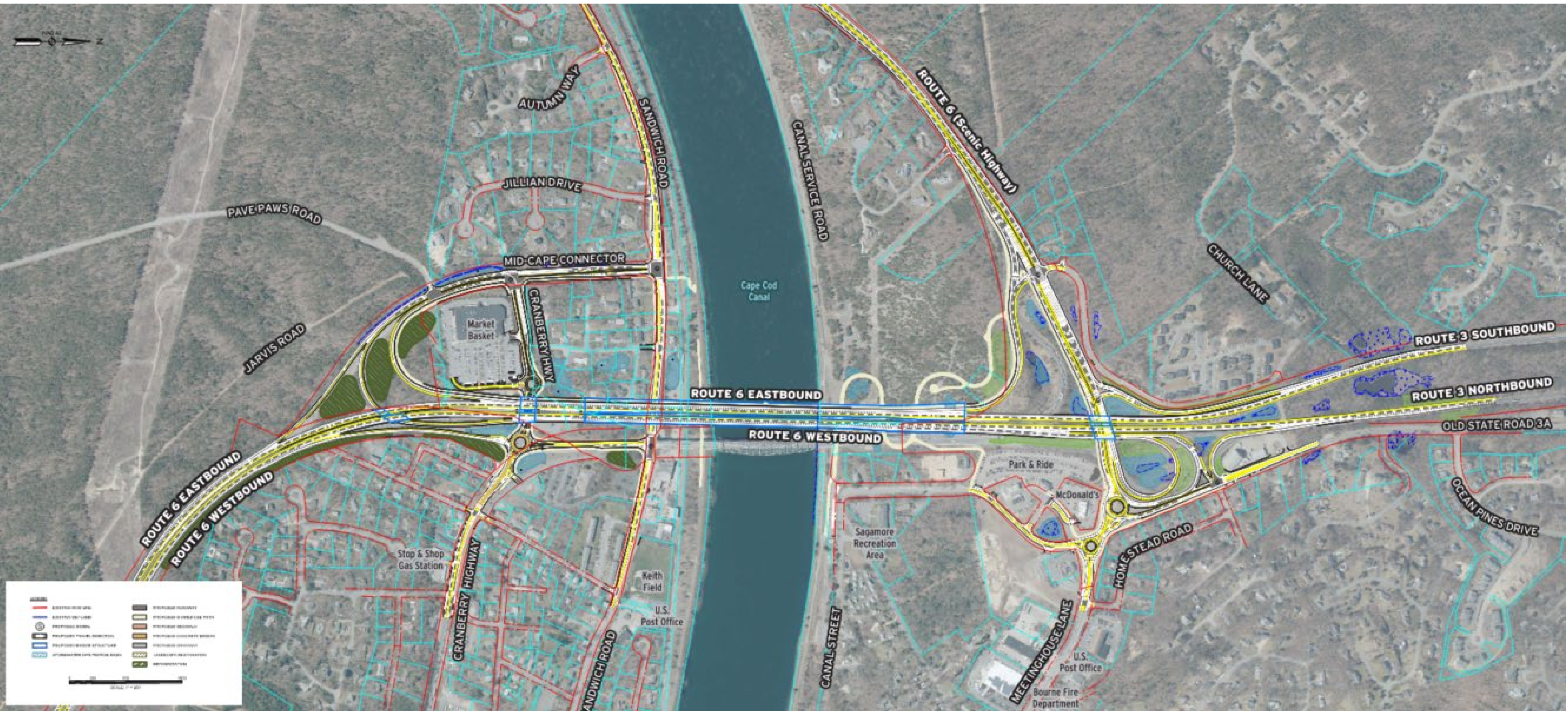


- Total cost for the Bourne Bridge Project is estimated to be \$2.38 Billion.
- US DOT did not approve MassDOT's grant application requesting \$634 Million in Mega funds and \$634 Million in Infra funds for the Bourne Bridge Project in 2024.
- The 2026 BIP Program opened on June 2nd and MassDOT is reviewing the requirements for funding.



Sagamore Crossing Update

Sagamore (Build Alternative)



Sagamore North (Build Alternative)



Sagamore South (Build Alternative)





Sagamore North Roundabout Circulation

Discussion Follow-Up – Sagamore North

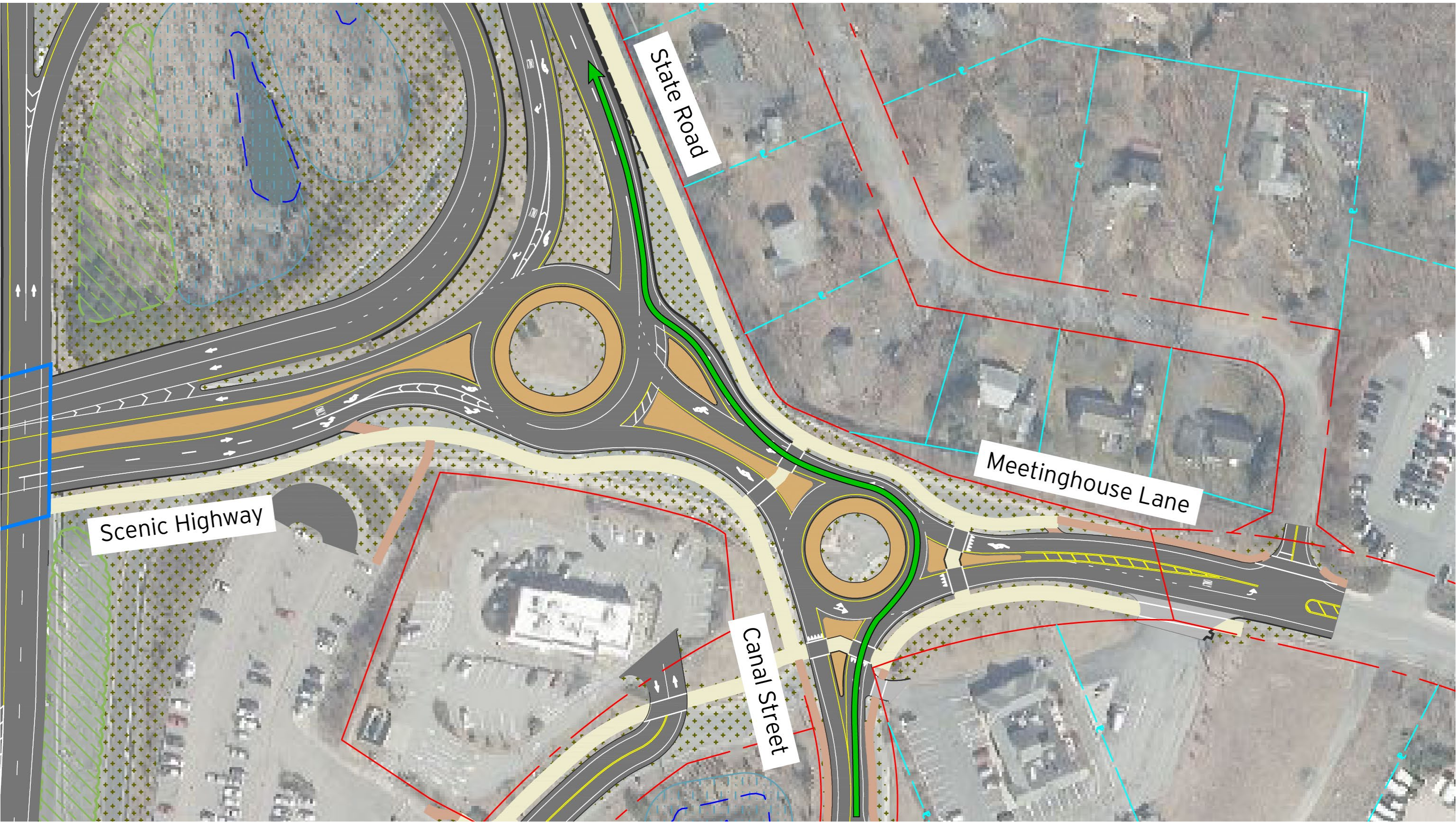
At the last meeting, we reviewed intersection control options at Sagamore North. The Advisory Group expressed an interest in learning more about traffic circulation at the double roundabout.

This location is on the north side of the canal at the Scenic Highway/State Road/Meetinghouse Lane intersection

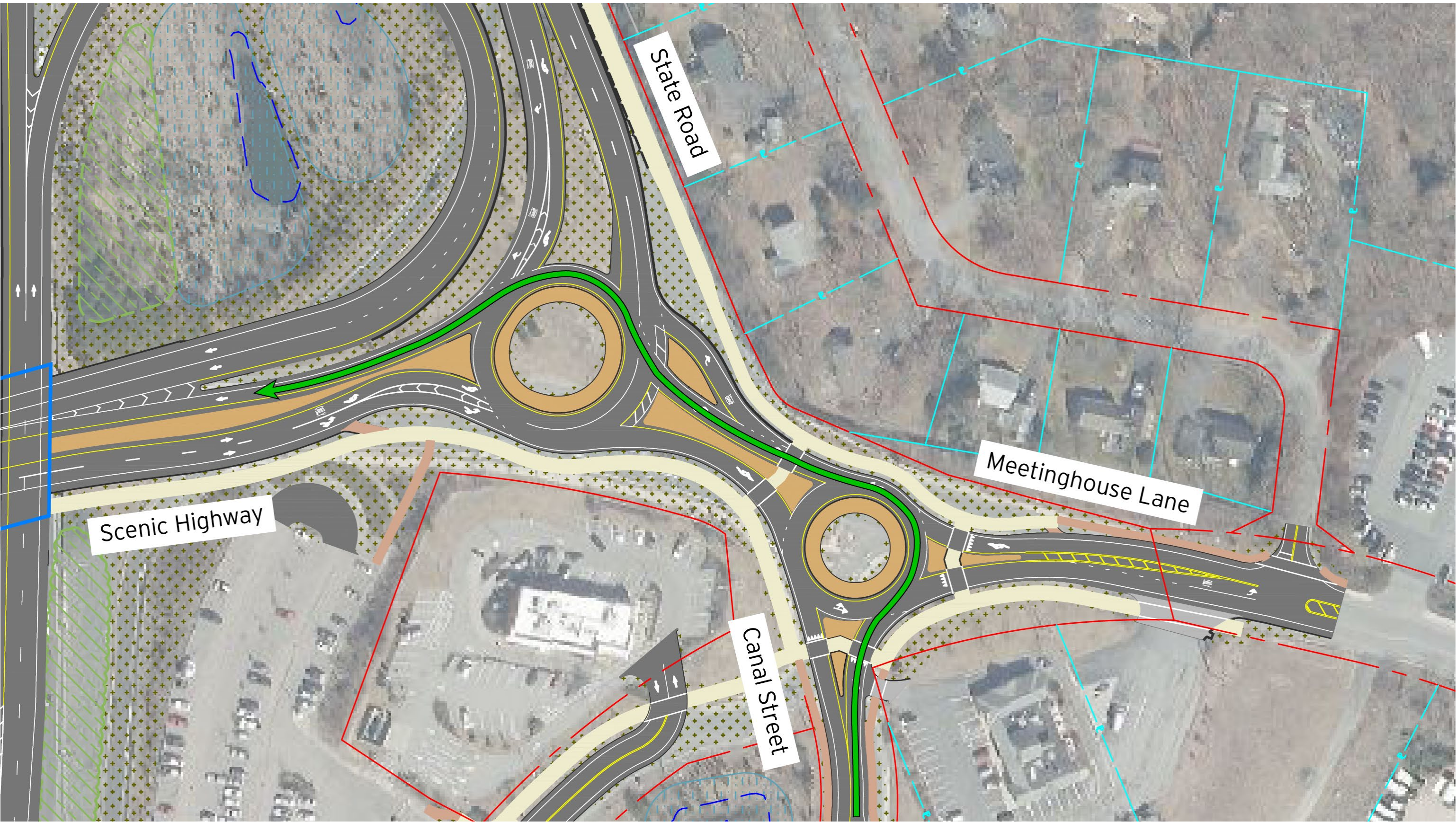
The next group of slides will describe how vehicles will navigate through this location.



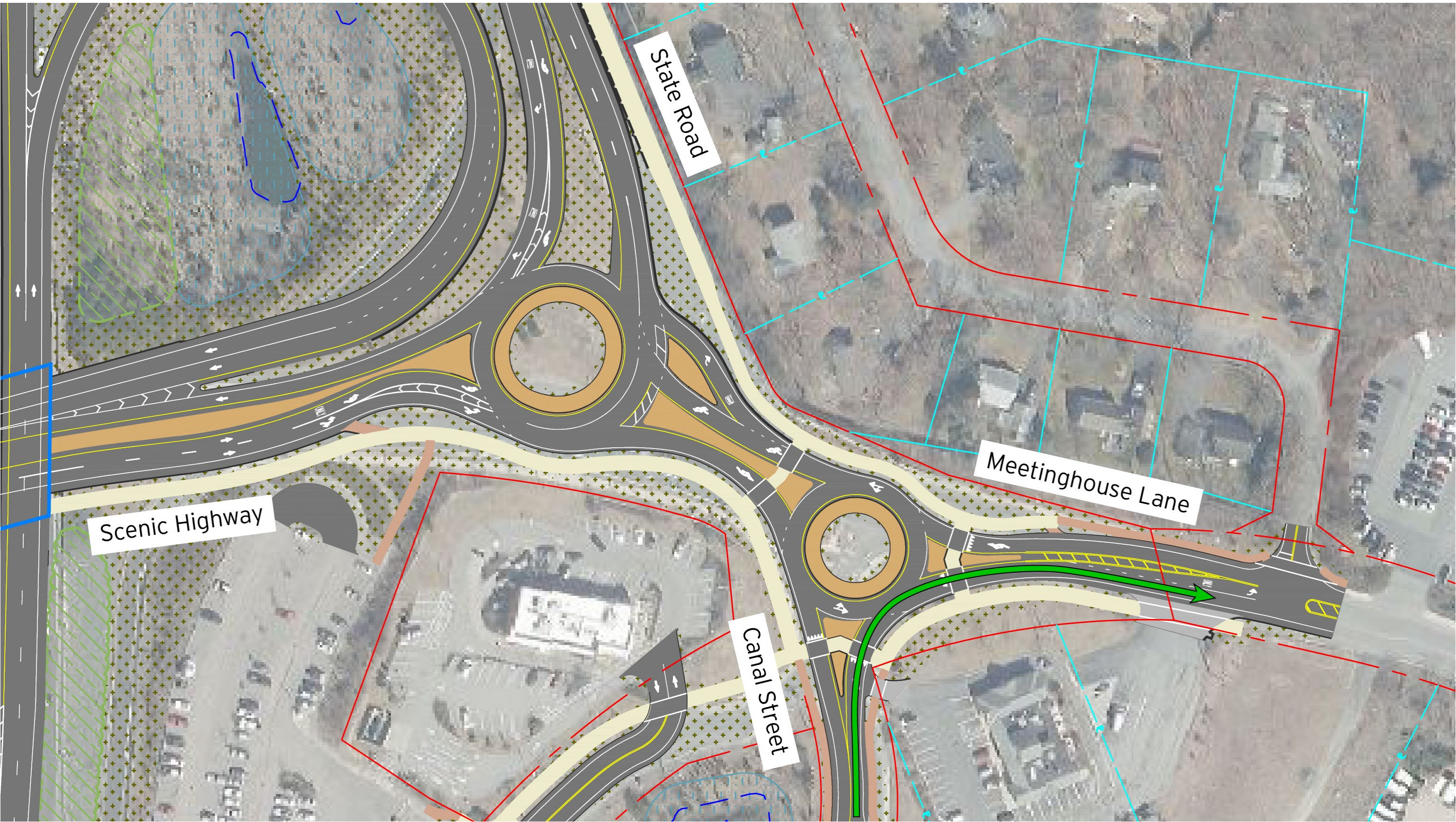
Approach from Canal Street to State Road (North)



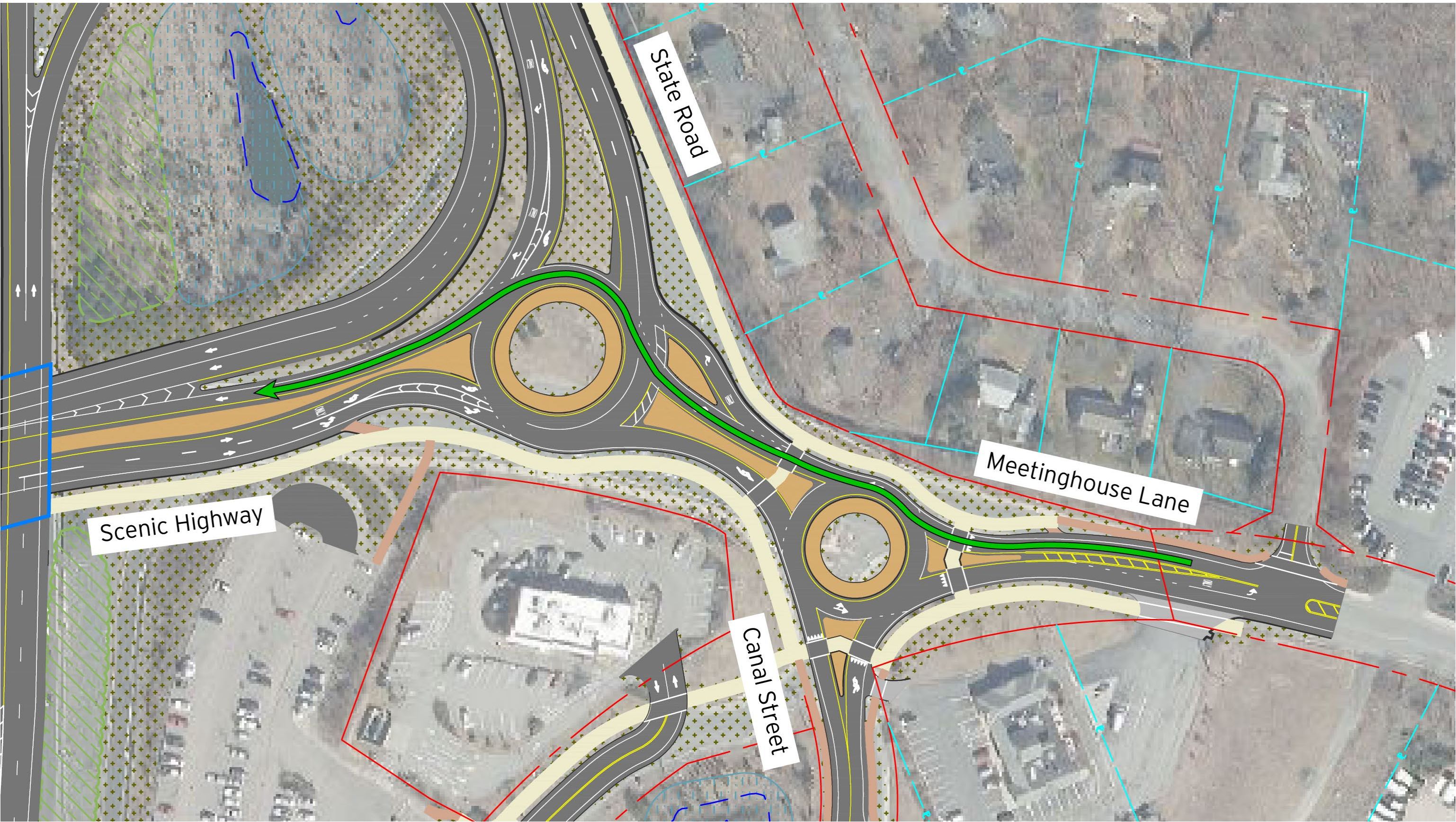
Approach from Canal Street to Scenic Highway (West)



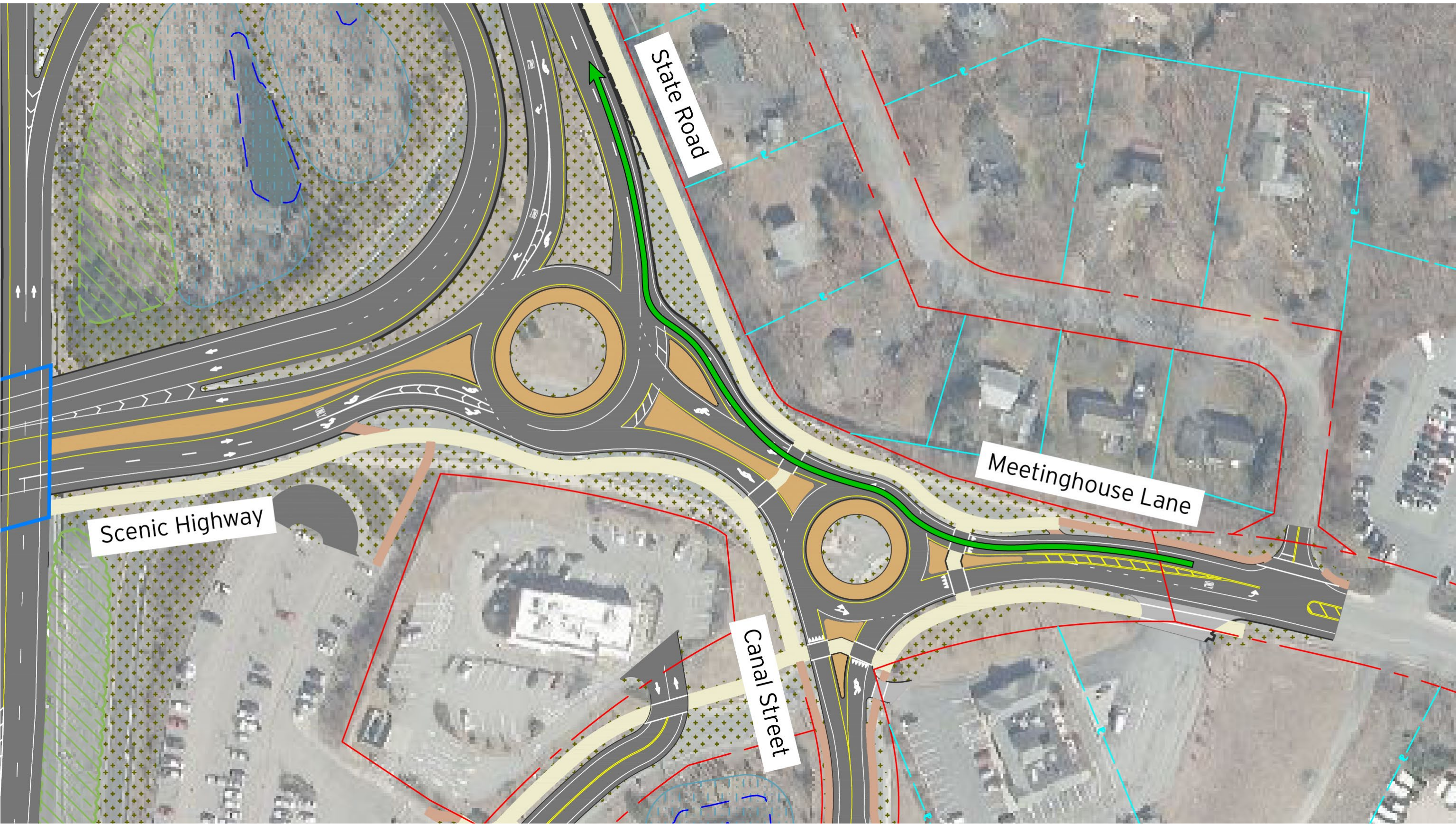
Approach from Canal Street to Meetinghouse Lane (East)



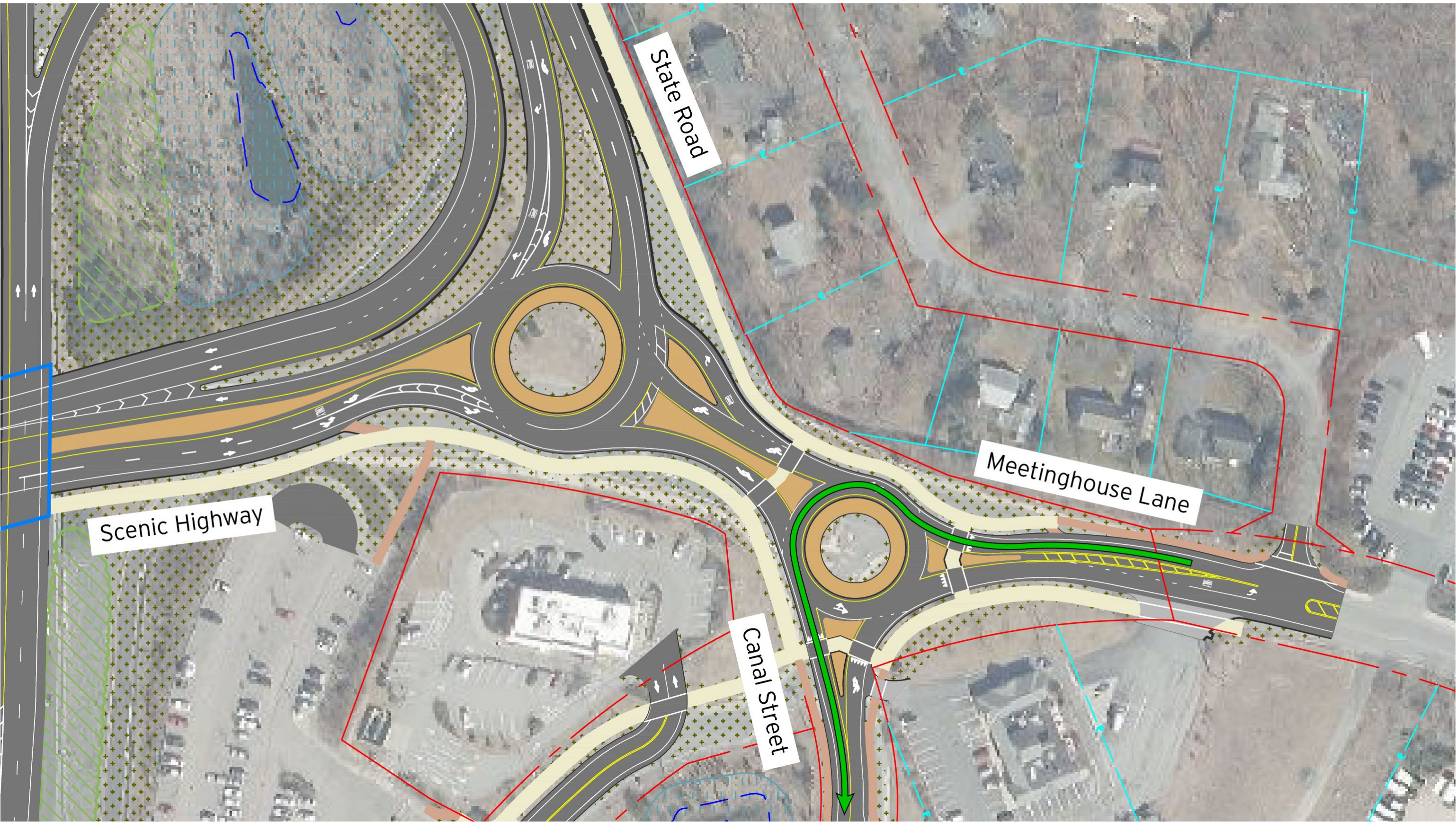
Approach from Meetinghouse Lane to Scenic Hwy. (West)



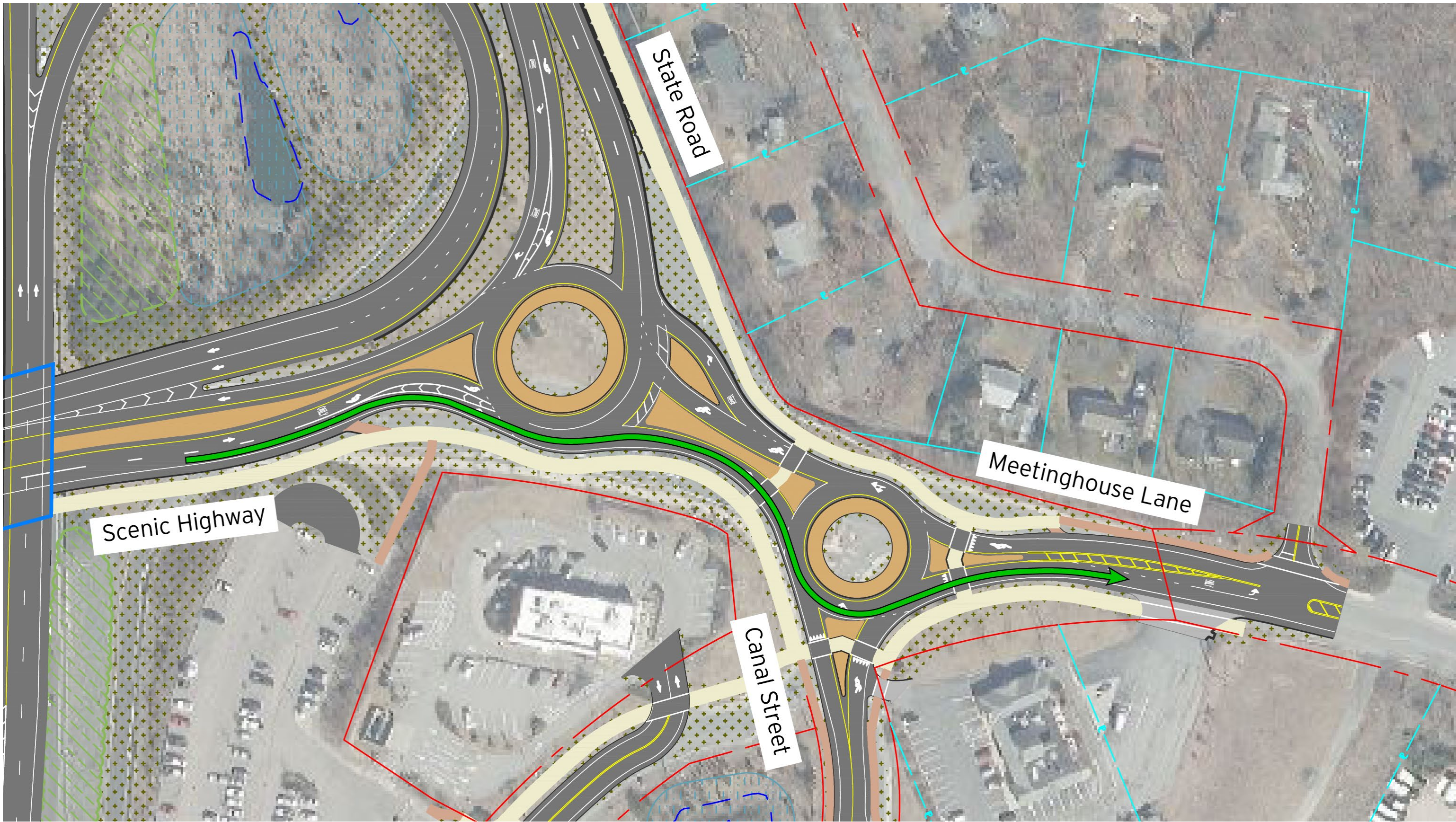
Approach from Meetinghouse Lane to State Road (North)



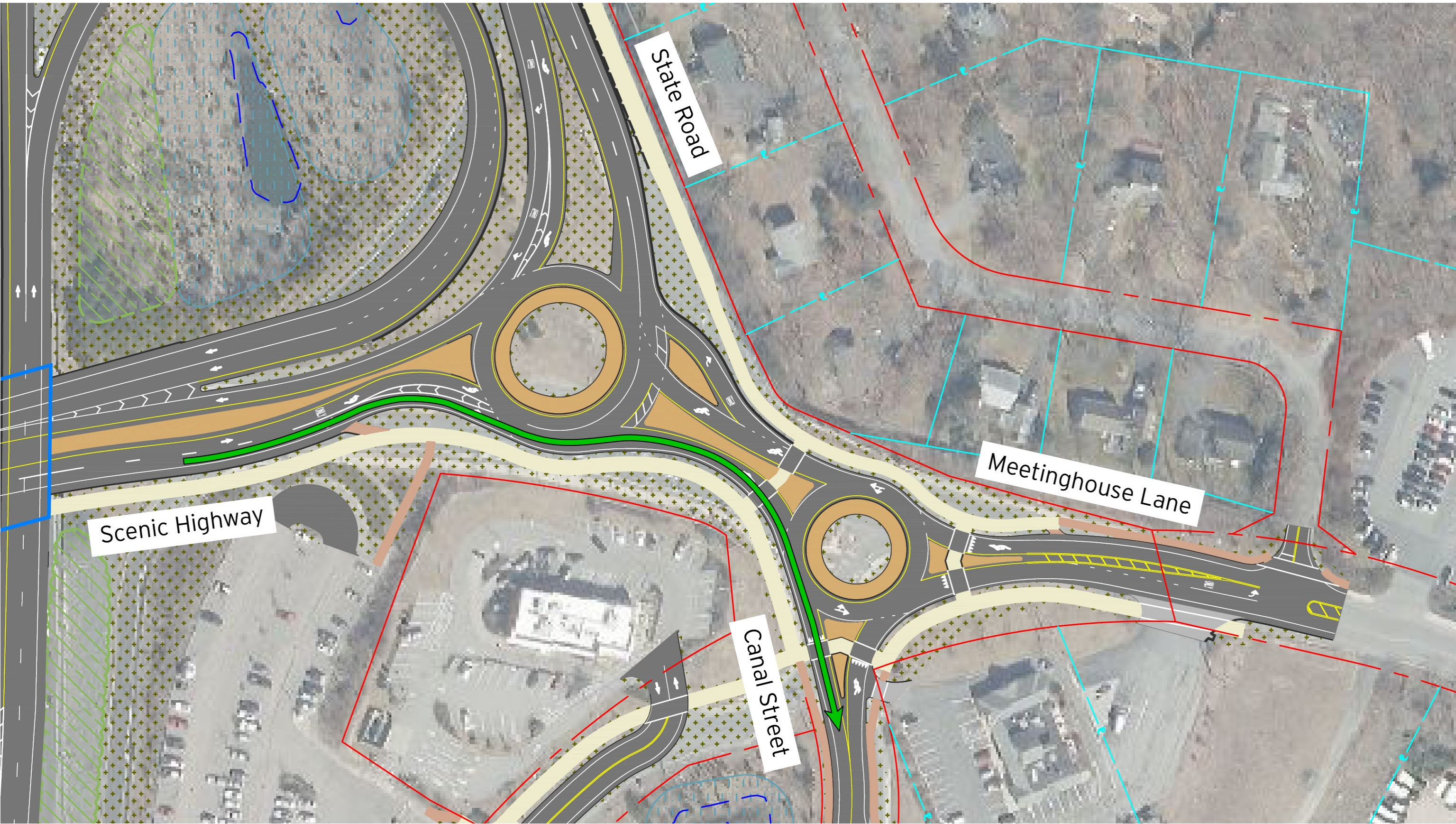
Approach from Meetinghouse Lane to Canal Street (South)



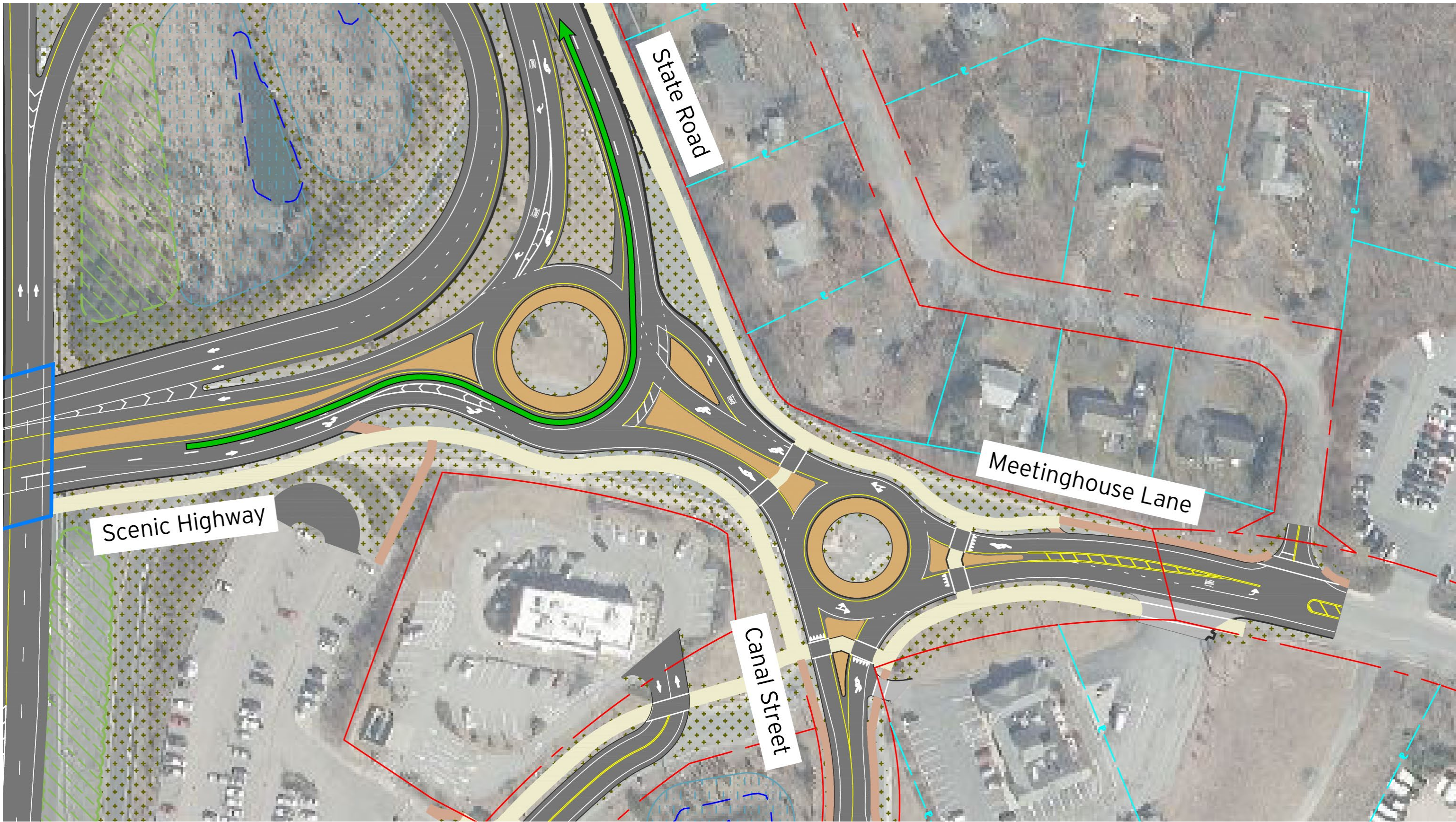
Approach from Scenic Highway to Meetinghouse Lane (East)



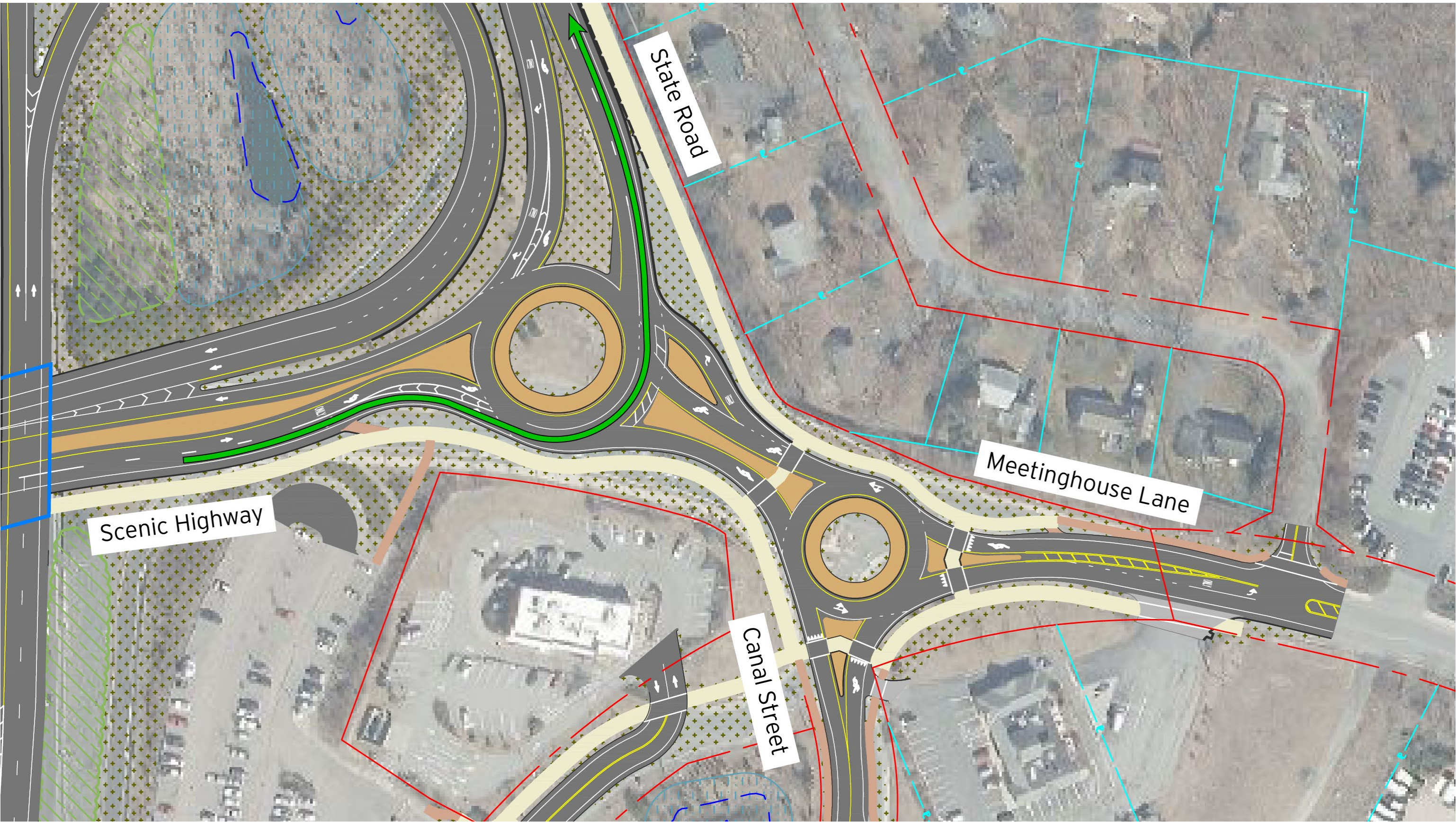
Approach from Scenic Highway to Canal Street (South)



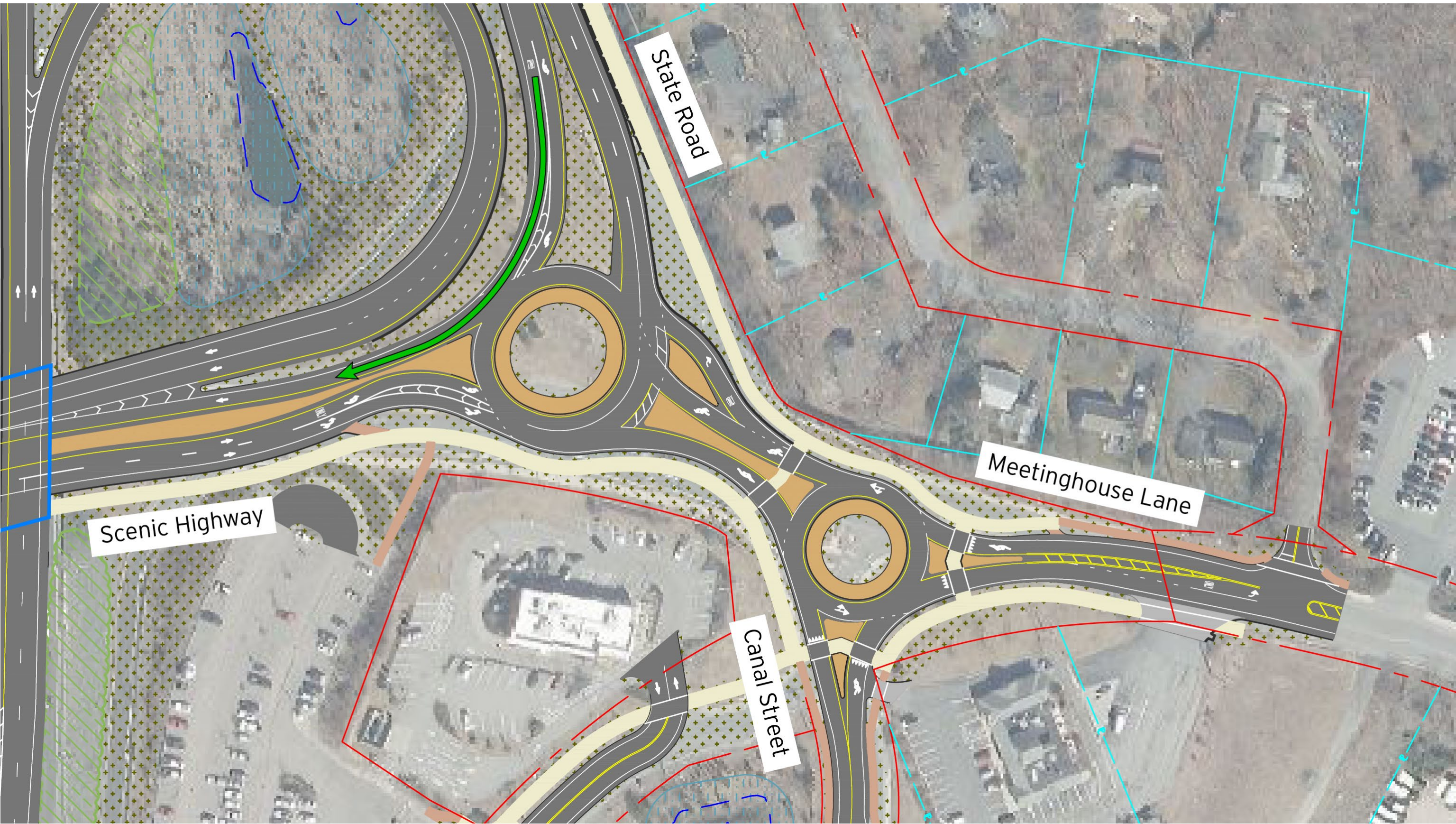
Approach from Scenic Highway (Left Lane) to State Road (North)



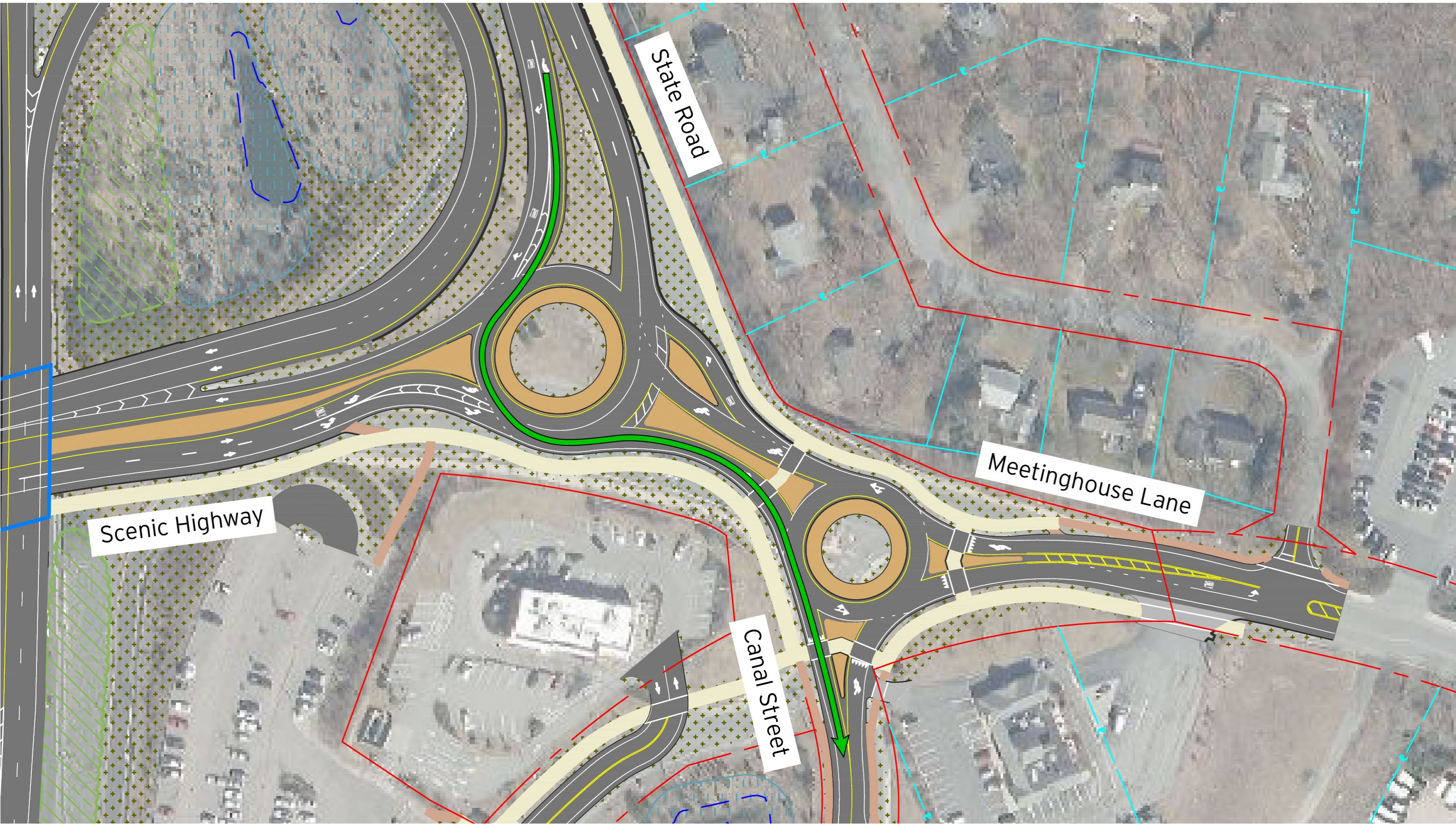
Approach from Scenic Highway (Right Lane) to State Road (North)



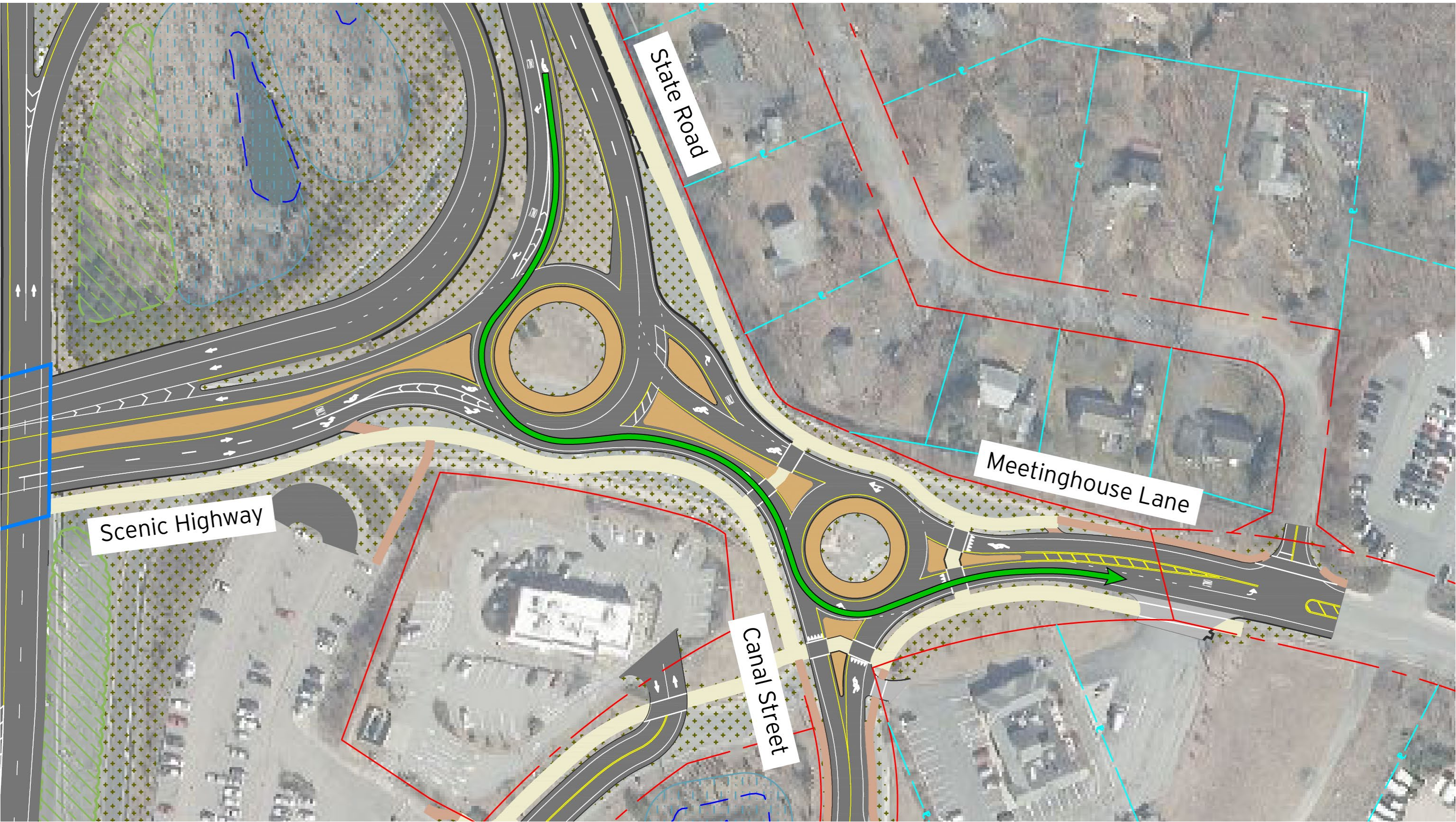
Approach from State Road to Scenic Highway (West)



Approach from State Road to Canal Street (South)



Approach from State Road to Meetinghouse Lane (East)





Traffic Volumes

2050 Future No-Build Traffic Volume Methodology

- Based on socio-economic forecasts with respect to population, households, and employment from the UMass Donohue Institute
 - Forecasts showed a decline in population, households, and employment within Barnstable County
 - Forecasts adjusted to show only a minimal decline to be consistent with other counties in the area and be more realistic with expected growth patterns
- Includes an annual growth rate of 0.70% for visitor trips
 - Based on evaluation of historic growth trends on the bridges and employment trends in specific jobs classifications
- Includes the following future planned and/or permitted projects:
 - Canalside Commons, Cape View Way, Canal Street Crossing, Buzzards Bay Growth Incentive Zone, Residences at Elbow Pond Road, Redbrook, Sandy Pines

Average Daily Traffic	Existing 2019	No-Build 2050
Bourne Bridge		
Northbound	21,520	27,790
Southbound	24,980	27,750
TOTAL	46,500	55,540
Sagamore Bridge		
Northbound	33,120	36,810
Southbound	28,870	36,850
TOTAL	61,990	73,660

19% growth in canal crossings

2050 Future Build Traffic Volume Methodology

- Utilizes the same historical volume trends, socio-economic data, future planned/permitted projects, and visitor trips as the 2050 No-Build conditions
- Incorporates roadway improvements associated with the recommended alternative for the bridges and interchanges
- Traffic volumes shift within the network based anticipated fastest travel path

Average Daily Traffic	No-Build 2050	Build 2050
Bourne Bridge		
Northbound	27,790	29,970
Southbound	27,750	20,530
TOTAL	55,540	50,500
Sagamore Bridge		
Northbound	36,810	34,630
Southbound	36,850	44,070
TOTAL	73,660	78,700
TOTAL Canal Crossing	129,200	129,200

Total daily Canal crossings are the same between No-Build and Build

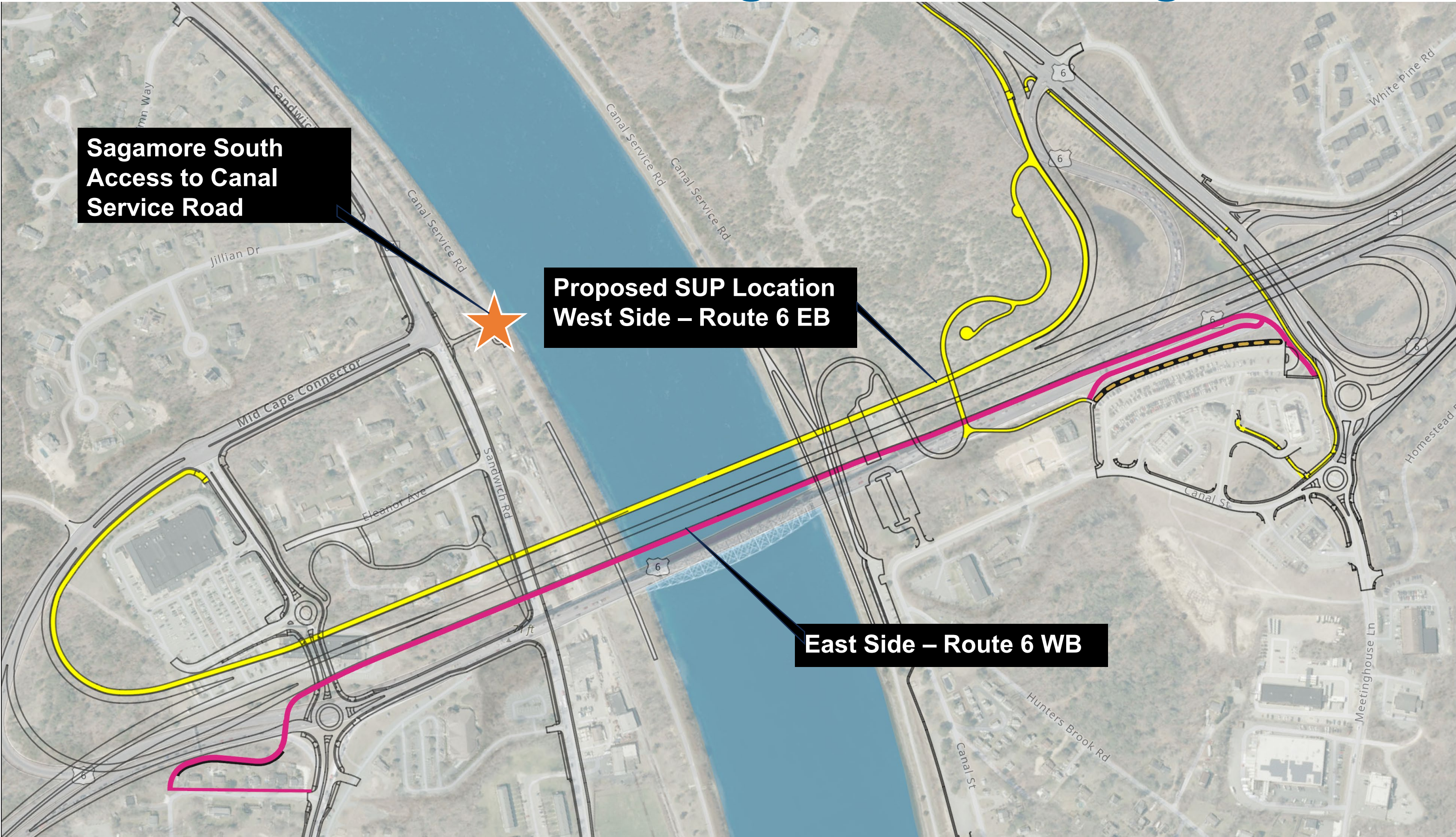
Design Hour – Fall PM Peak Hour

- Design Hour is typically based on the hour that corresponds to the 30th highest hourly volume of the year, per FHWA guidance.
 - This means that 70% of the time, volumes are equal to or less than the Design Hourly volume
- Based on the seasonality of traffic across the Canal, the Design Hour chosen corresponds to the 15th highest hourly volume of the year
- For this program, traffic analysis was performed for six different time periods:
 - Fall AM Peak Hour
 - Fall PM Peak Hour
 - Fall Saturday Peak Hour
 - Summer AM Peak Hour
 - Summer PM Peak Hour
 - Summer Saturday Peak Hour
- Alternatives were designed based on the Fall PM Peak Hour (the Design Hour)
- Alternatives also analyzed for the Summer Saturday Peak Hour to uncover any critical issues and to understand traffic operations during the worst-case scenario



Shared Use Path Location at Sagamore Crossing

Shared-Use Path Location at Sagamore Crossing



Shared-Use Path Location at Sagamore Crossing

The West Side was selected for its ability to better meet the programs goals, particularly in minimizing impacts. The path is designed for all users—including recreational users, students, commuters, and those accessing local businesses.

Right-of-Way (ROW): The West Side alignment avoids additional property acquisitions, while the East Side would require multiple property acquisitions.

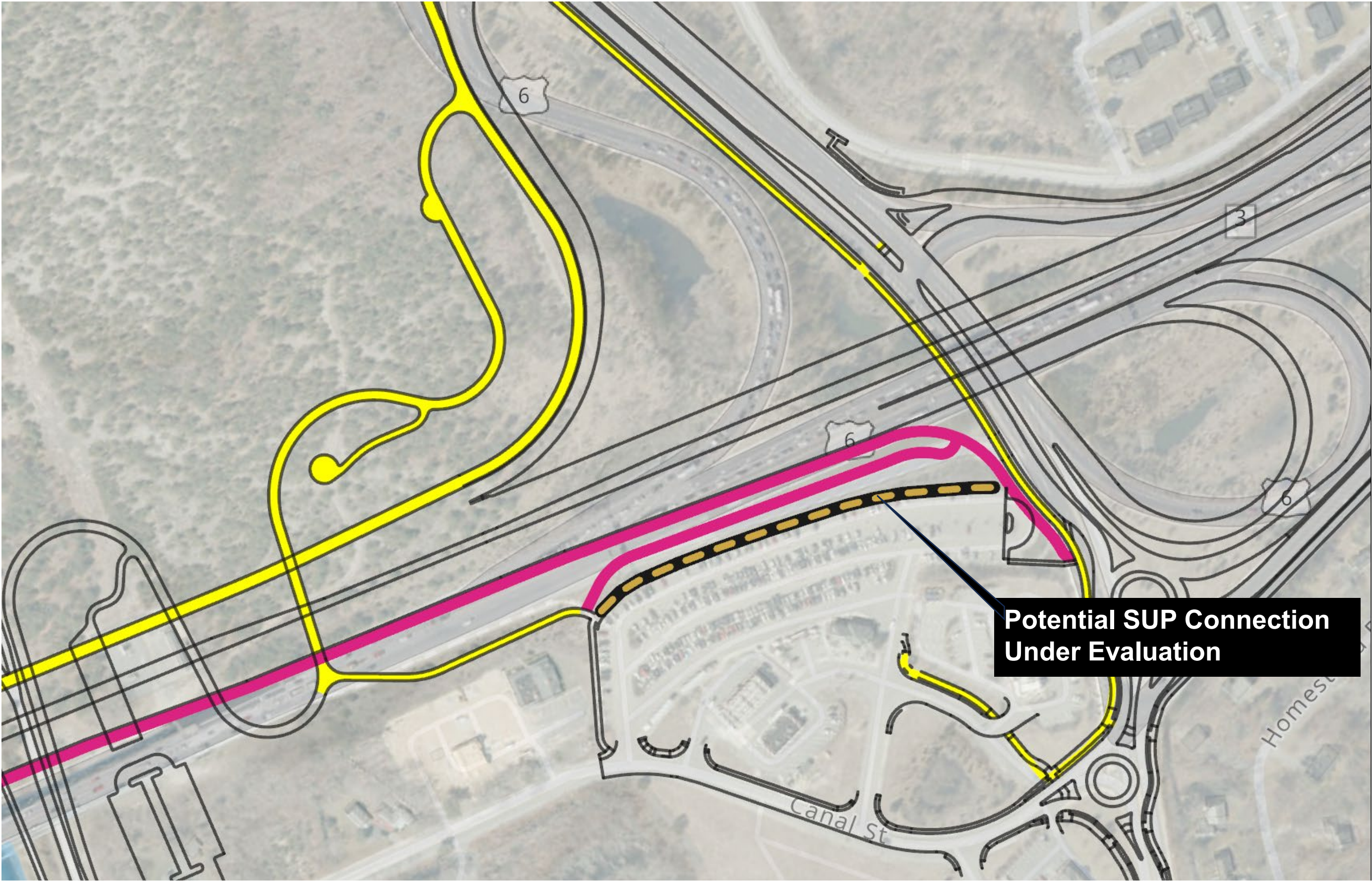
Better Connectivity: The West Side provides a more direct connection to the Canal Service road access point via the Mid-Cape Connector crossing.

Earlier SUP Connection over Canal: The West Side alignment allows the Shared-Use Path to open early for multimodal use, while the East Side would not open until near the end of construction.

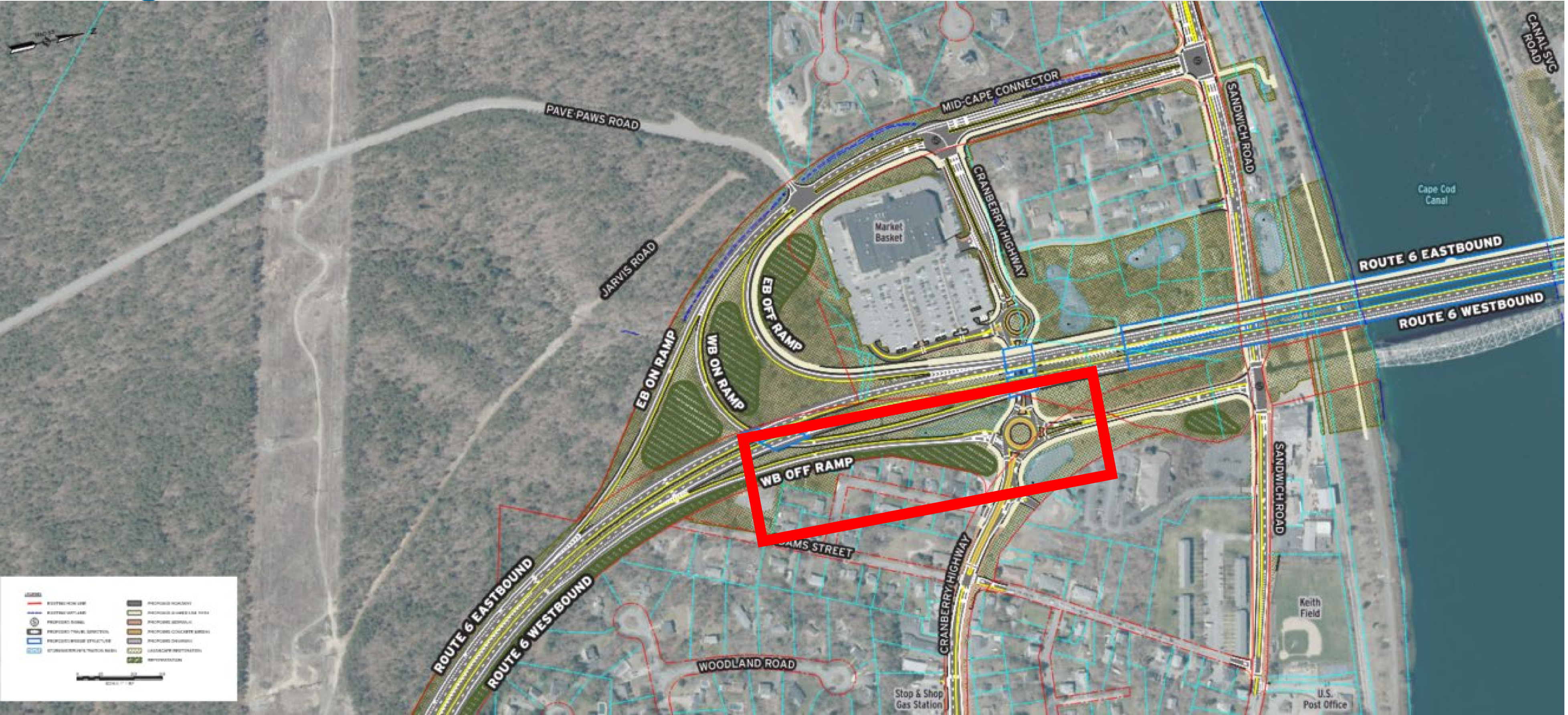
Sagamore North – East Side Connection Location Area



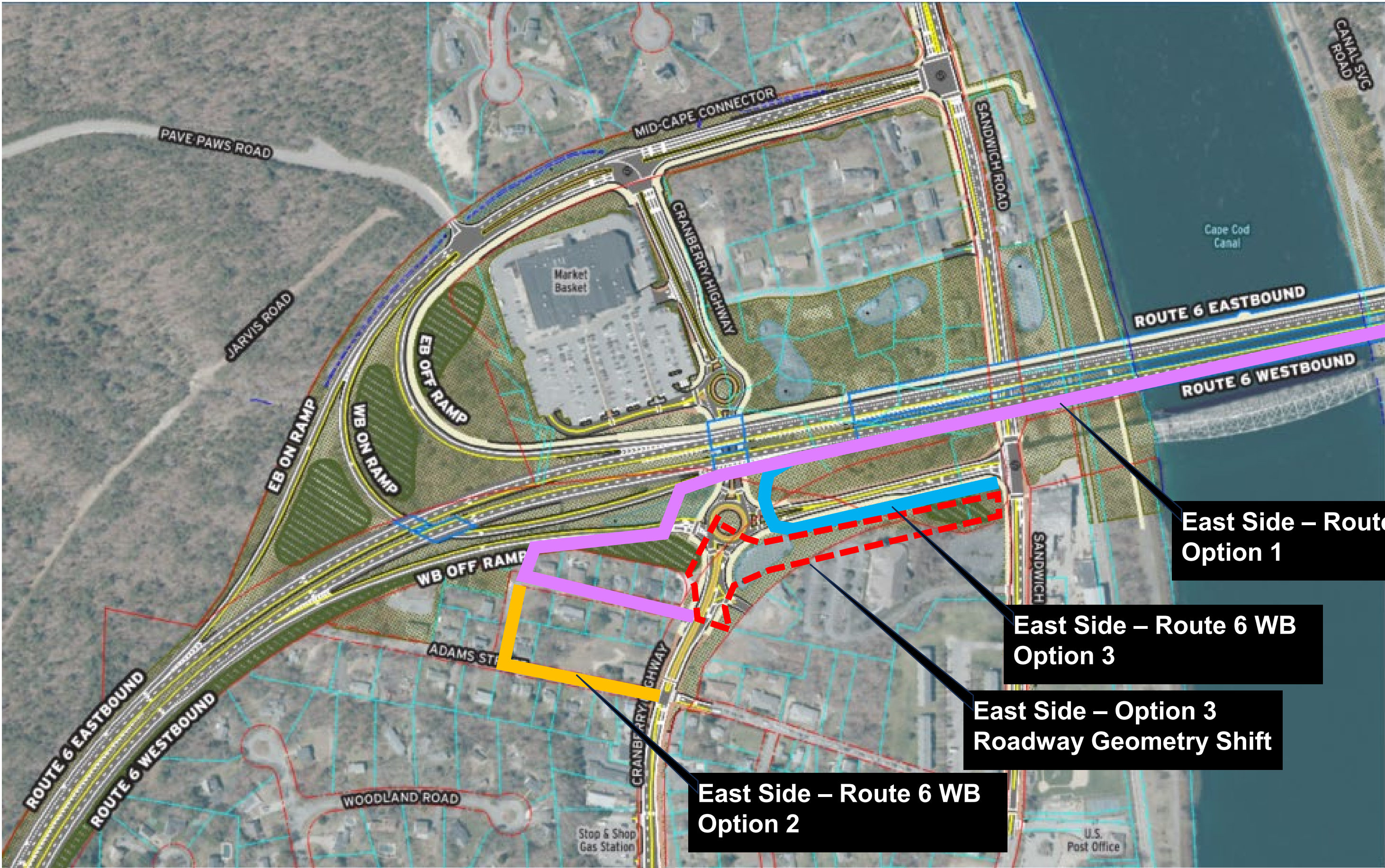
Shared-Use Path Improvements



Sagamore South – East Side Connection Location Area



Sagamore South – East Side Connection Location Area



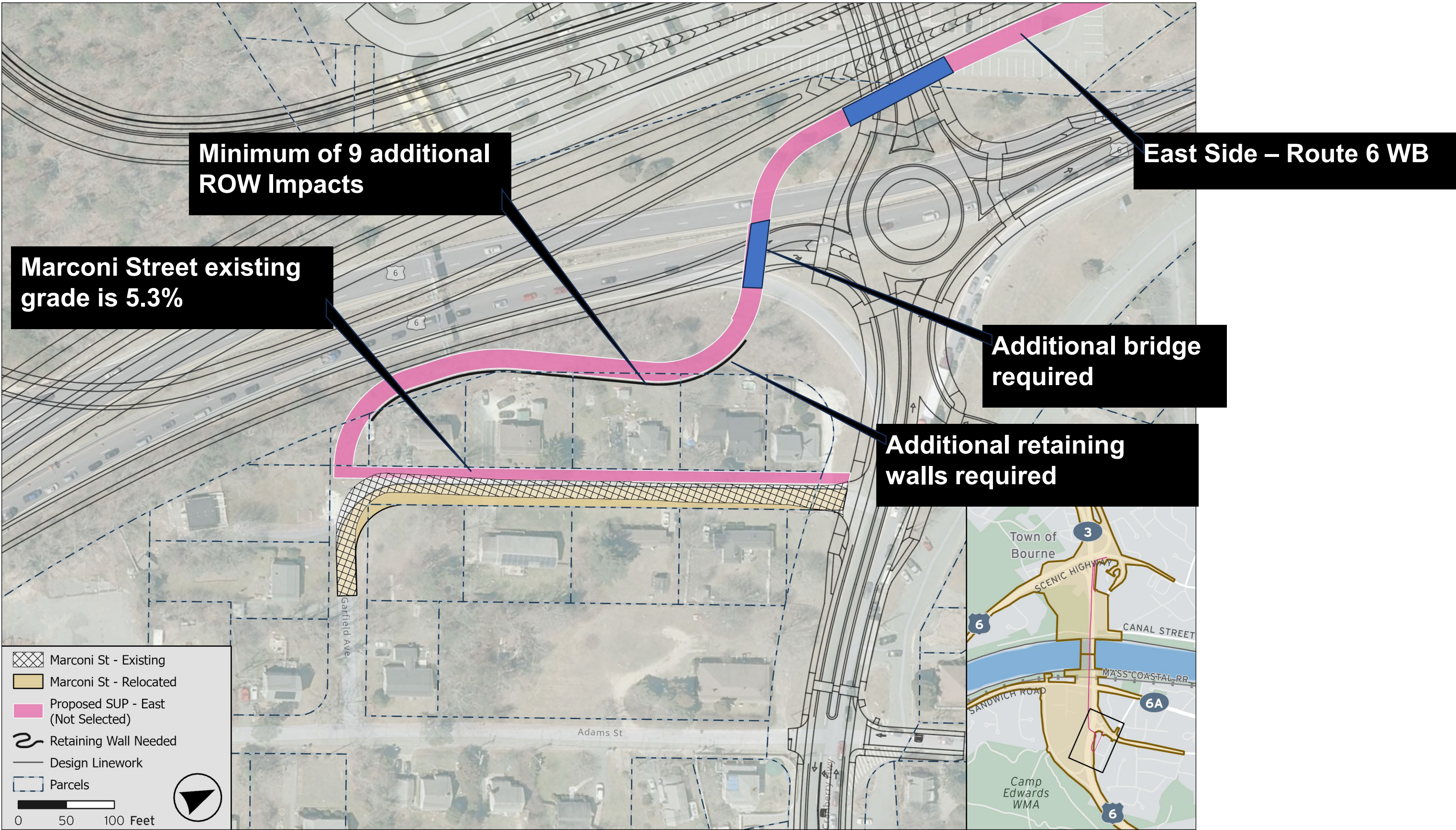
East Side – Route 6 WB
Option 1

East Side – Route 6 WB
Option 3

East Side – Option 3
Roadway Geometry Shift

East Side – Route 6 WB
Option 2

East Side – Sagamore South Design – Option 1



Marconi Street – Existing Conditions



View looking North

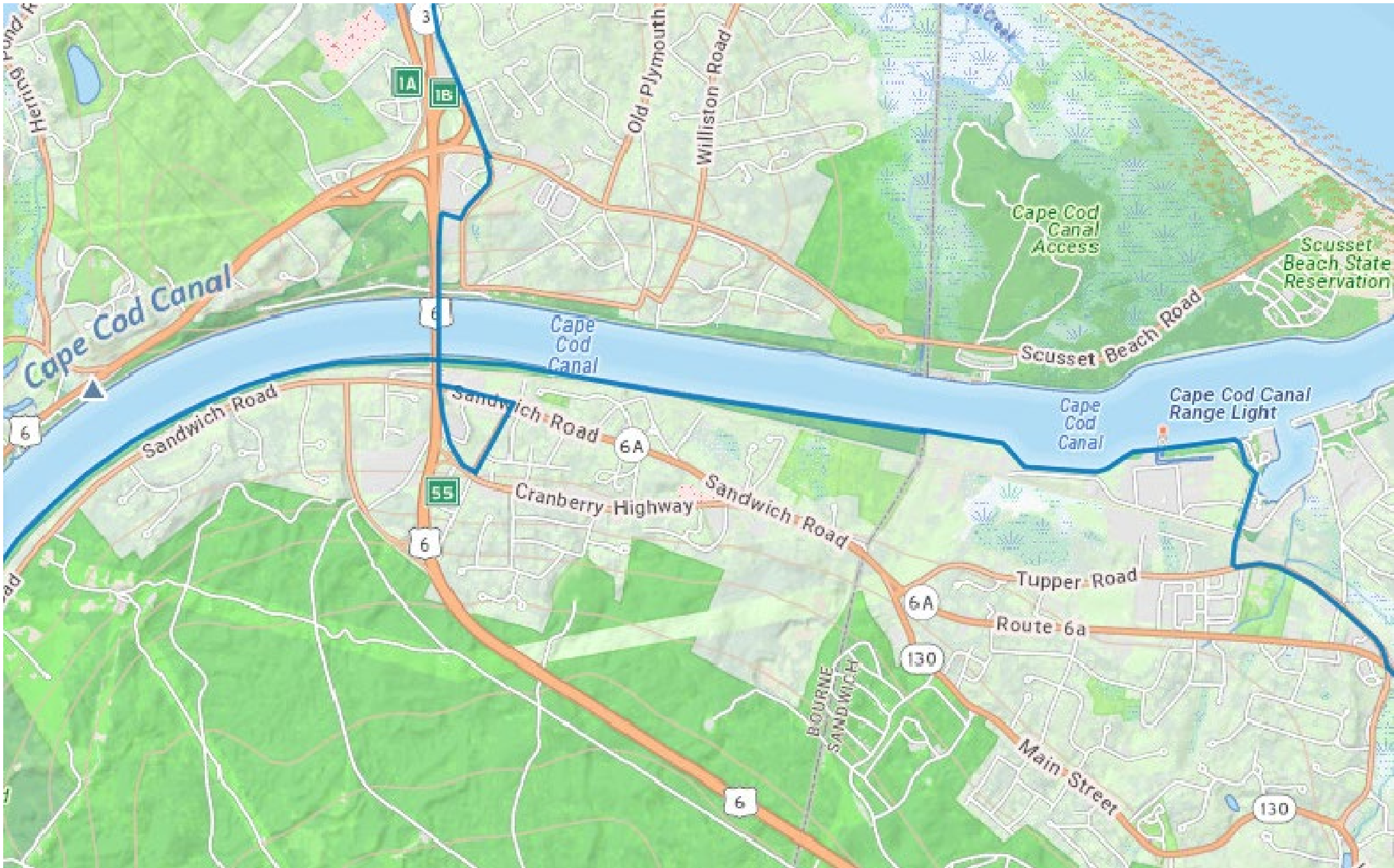


View looking South



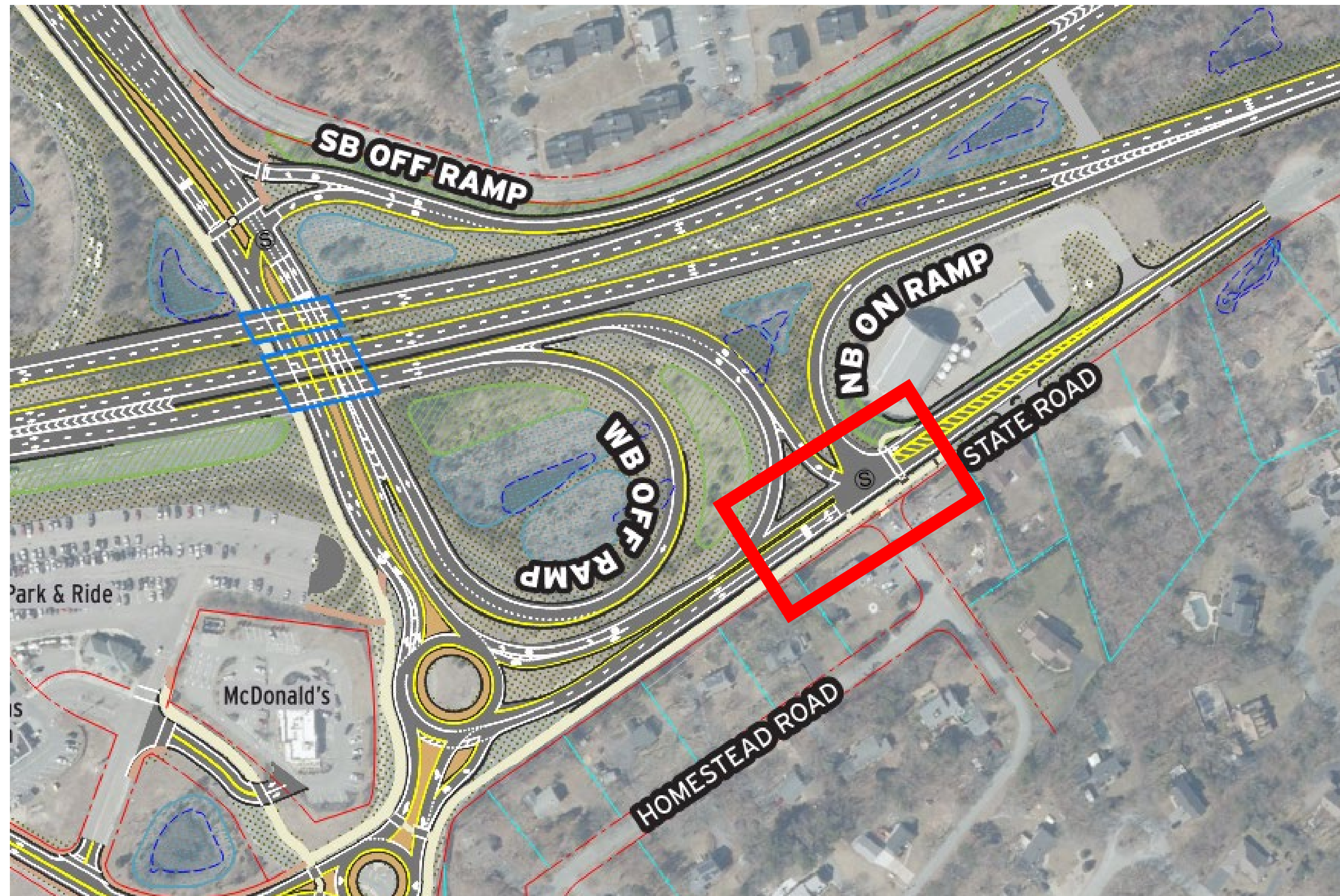
**Connecting to
the Claire
Saltonstall
Bike Path**

Existing Claire Saltonstall Bike Path Network



MassGIS Data Hub – Cape Cod Commission - Data Set 12/28/2023

Sagamore North – Claire Saltonstall Connection Location Area



Proposed Claire Saltonstall Bikeway Connection

Single stage crossing for bicyclists

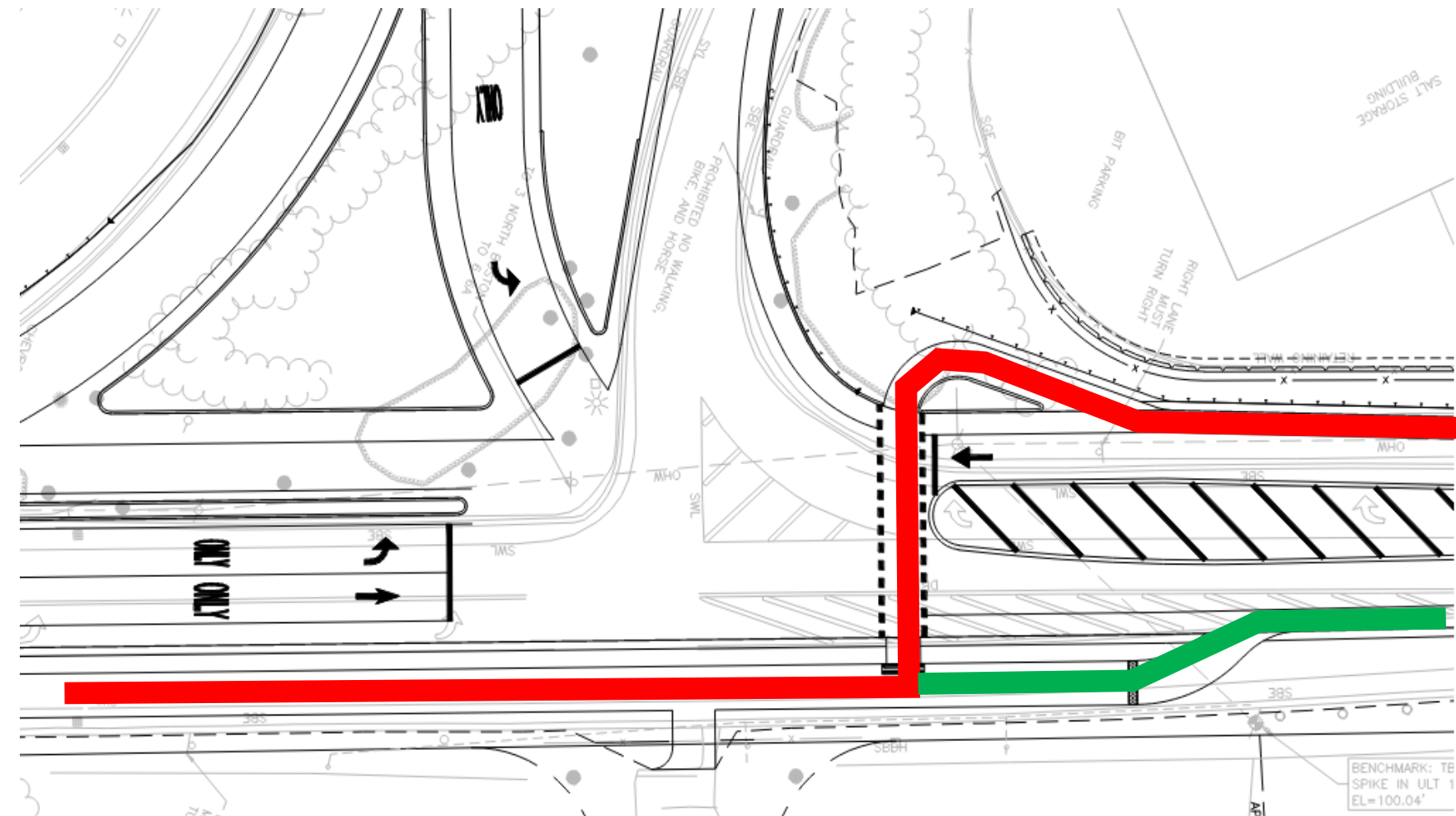
- Pushbutton activated crossing of State Road concurrent with left to ramp
- Provides off-road jug handle to improve cyclist alignment and safety
- Avoids cyclists from crossing ramps

Traffic operations

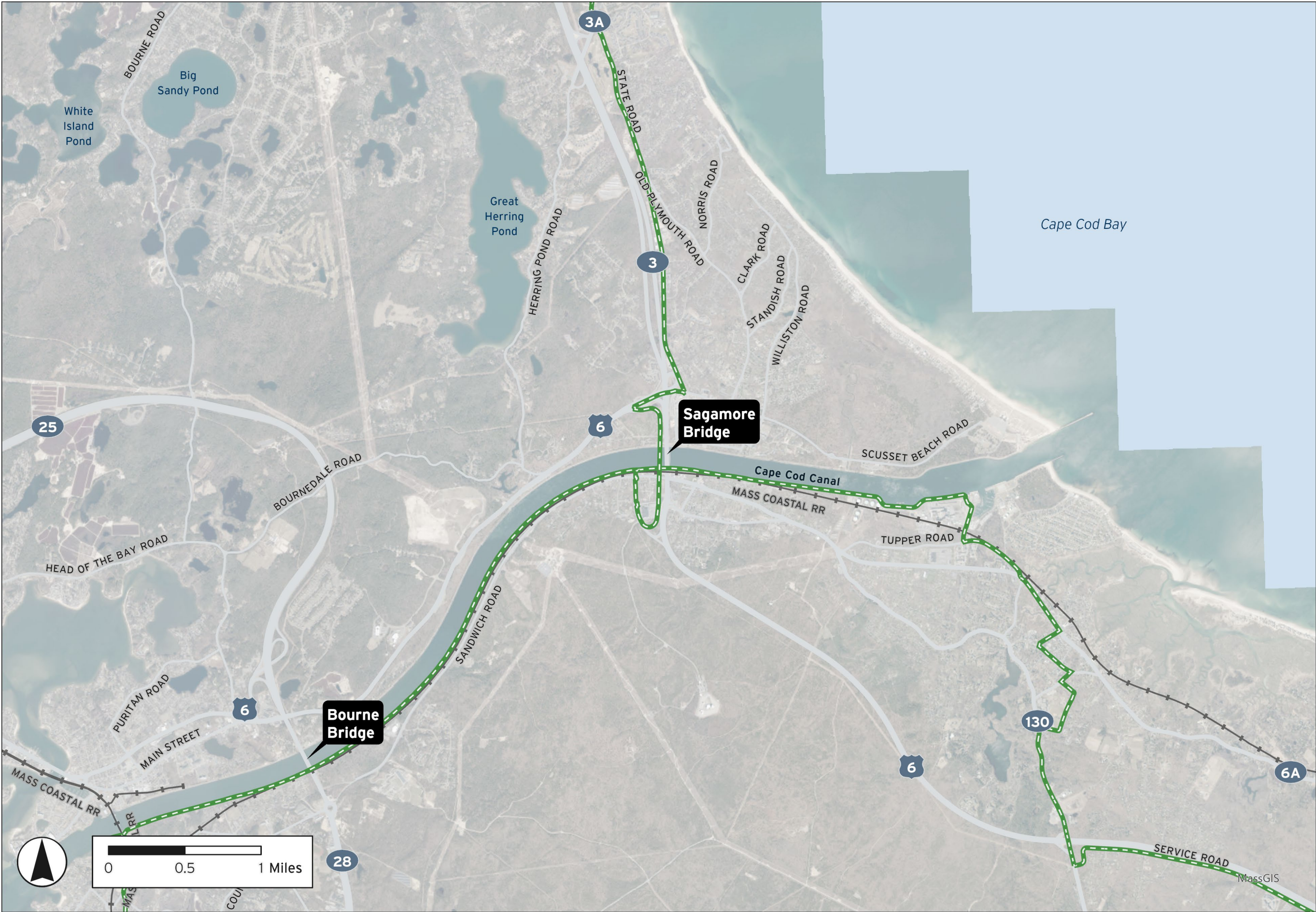
- Fall PM – LOS C
- Summer Sat – LOS B

Max Queues (Fall PM)

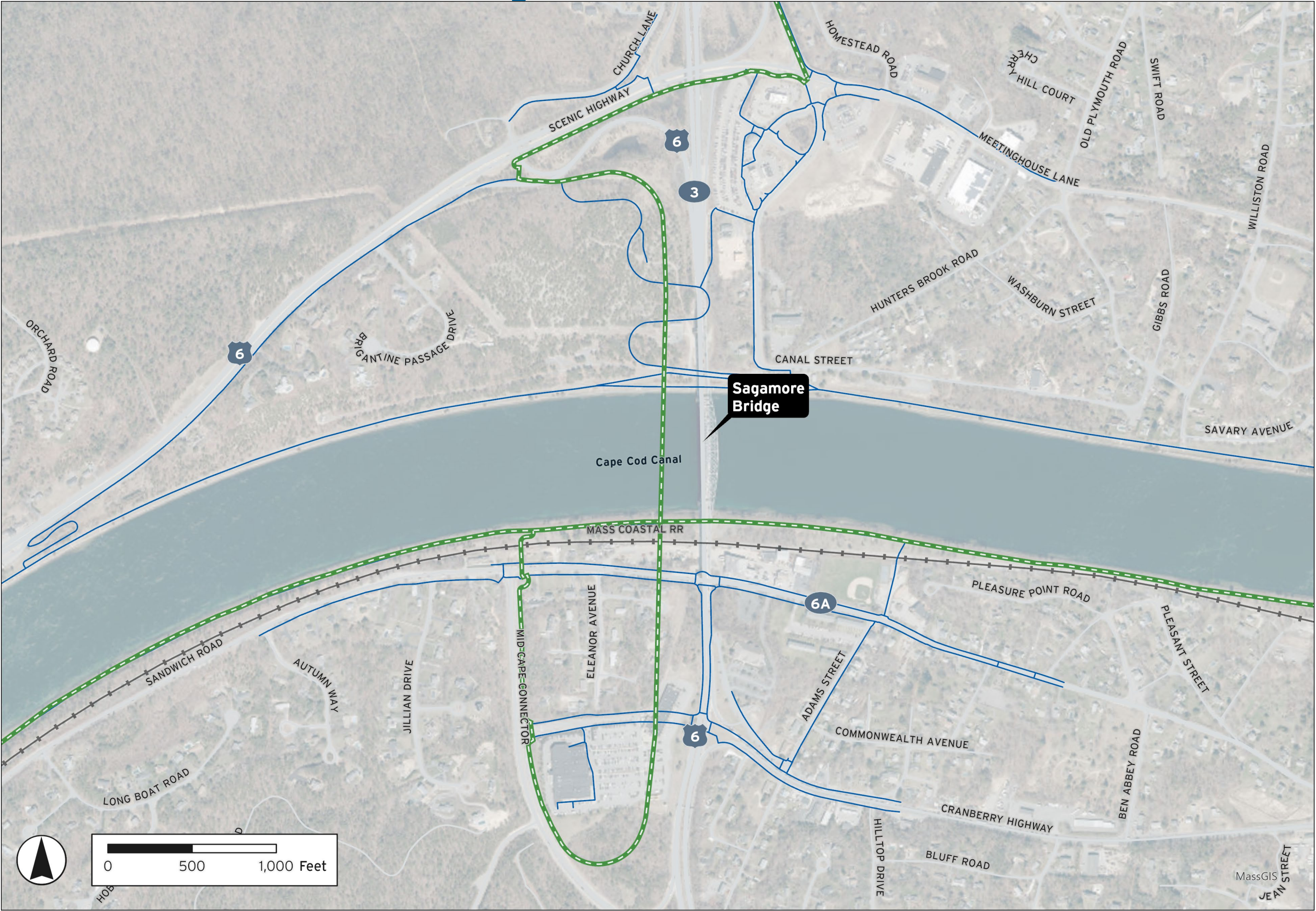
- Left from ramp – 325 feet
- State Road NB through – 465 feet



Claire Saltonstall Bikeway Future Connection



Claire Saltonstall Bikeway Future Connection - Network





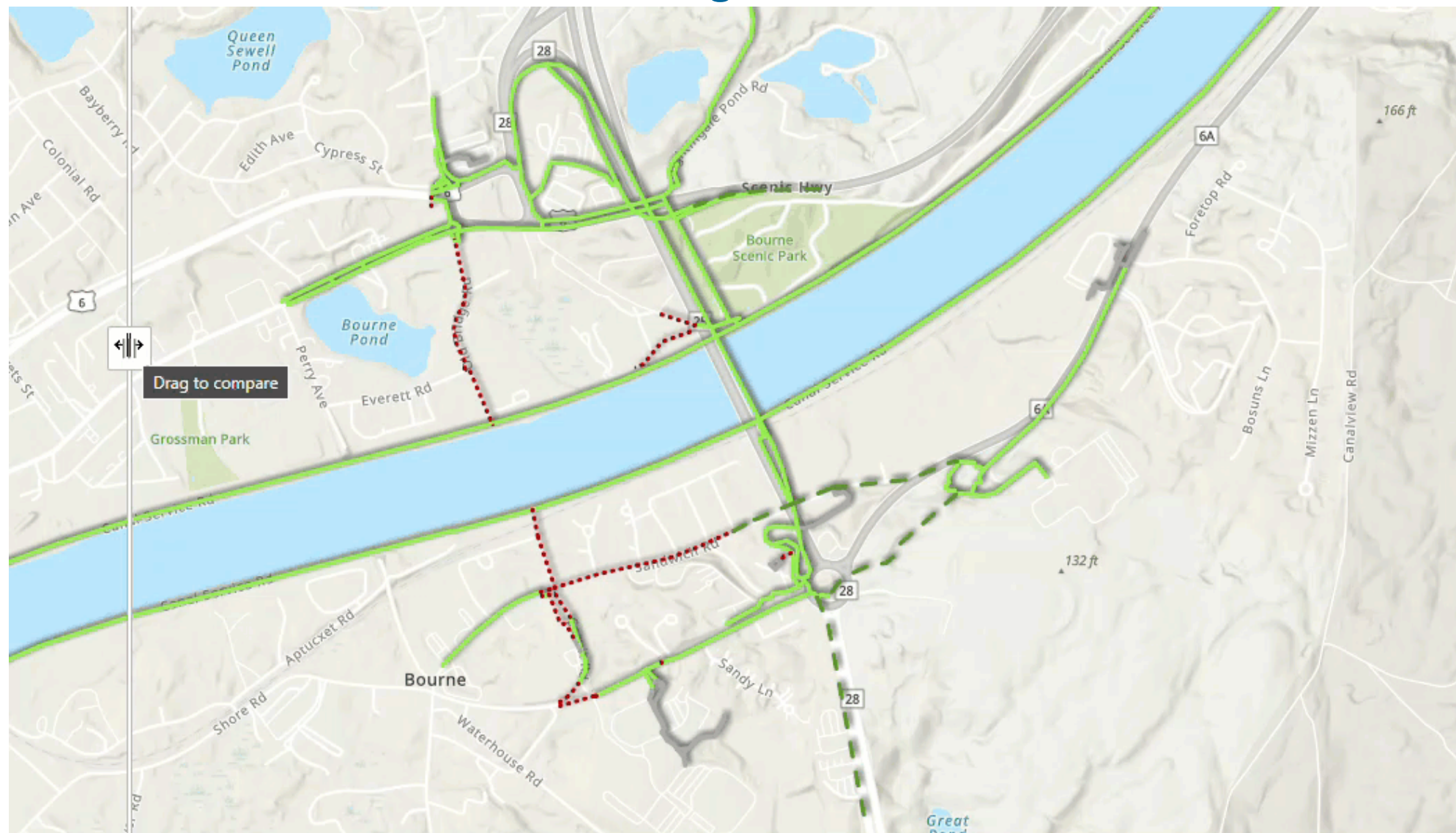
Next Advisory Group Meeting

Next Advisory Group Meeting on September 9, 2025

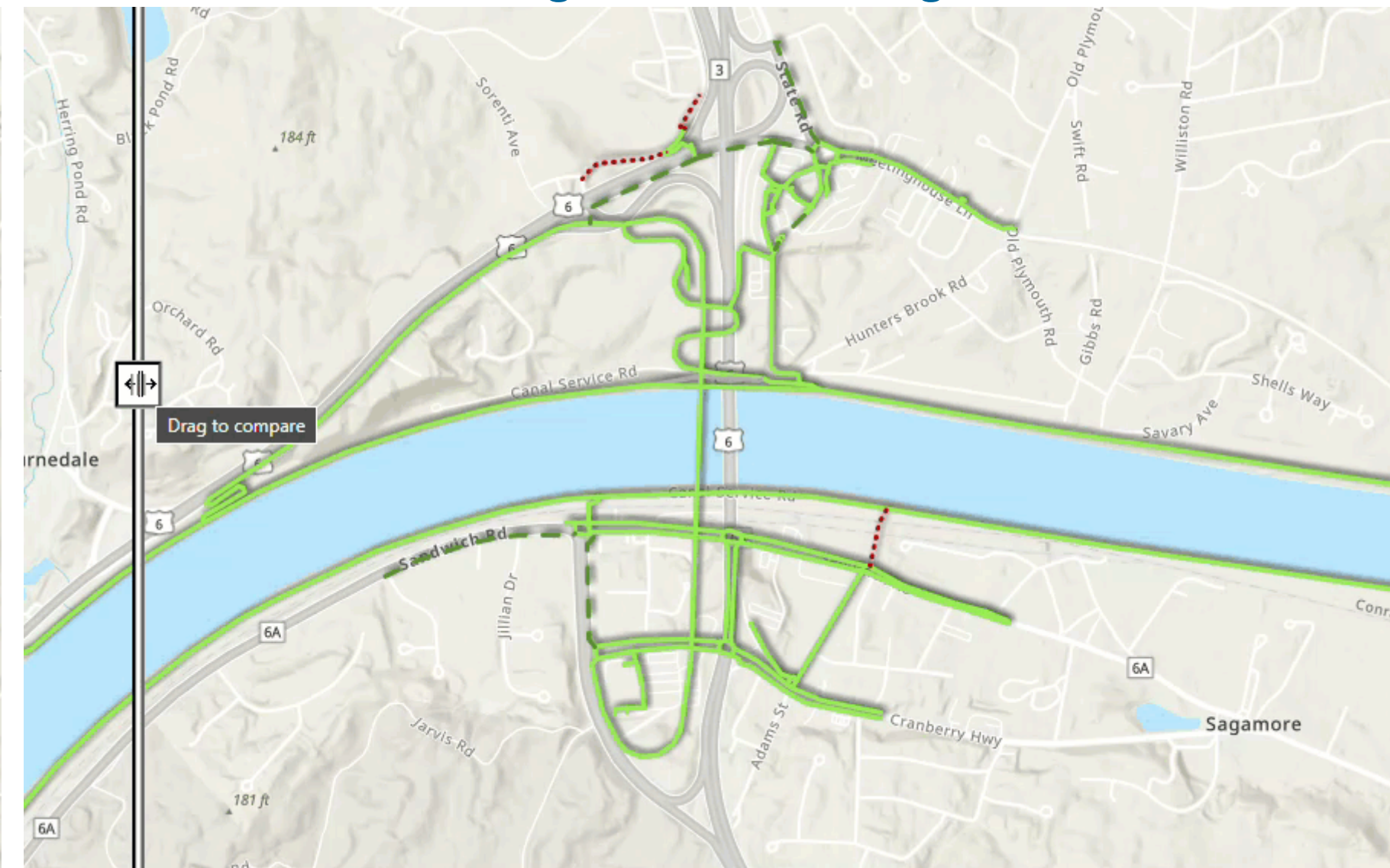
- Program Update
- Focus on Bourne Crossing Updates
- Focus on multimodal connectivity for the program

The Following Advisory Group Meeting on December 9, 2025

Bourne Crossing



Sagamore Crossing



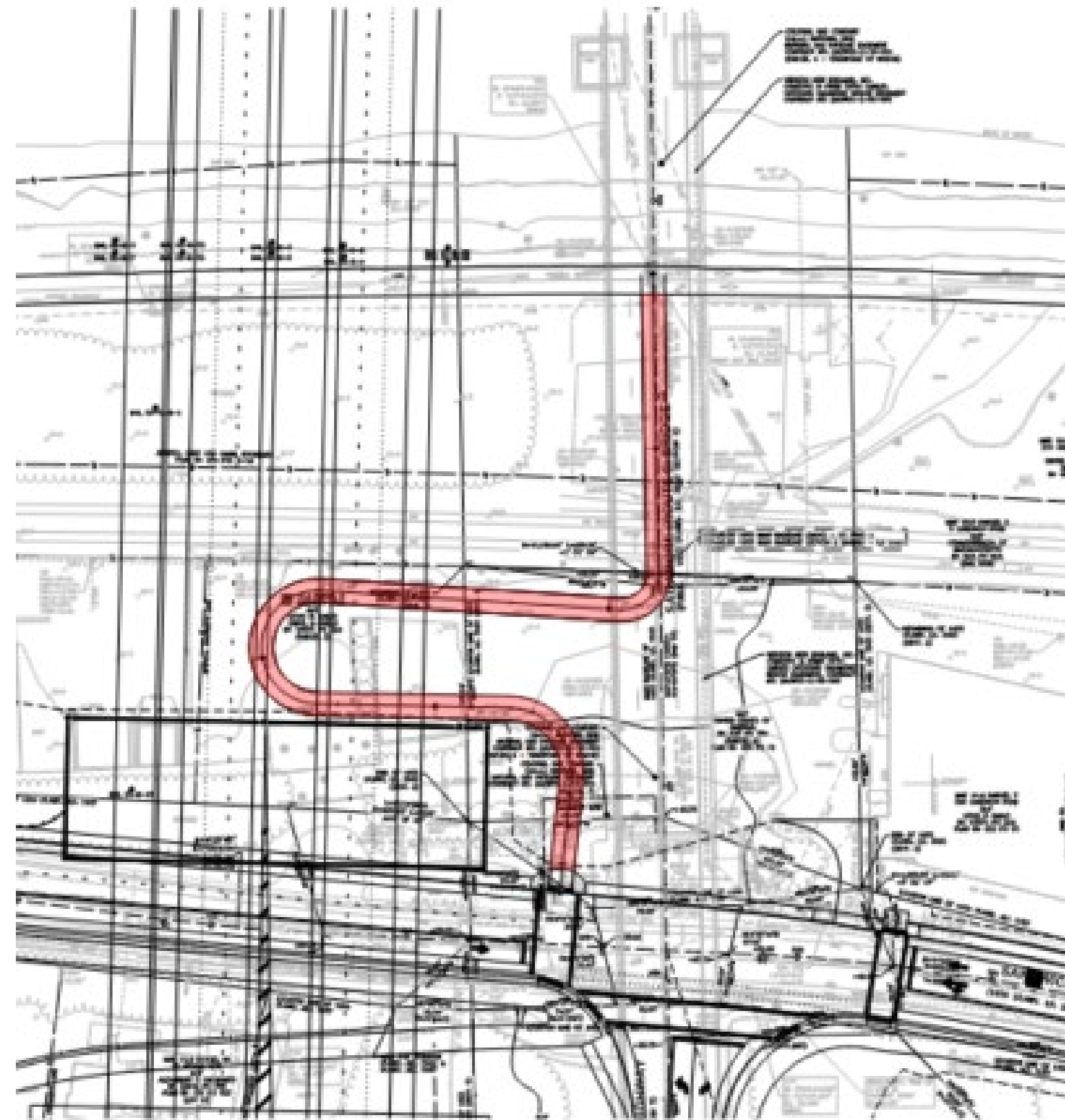
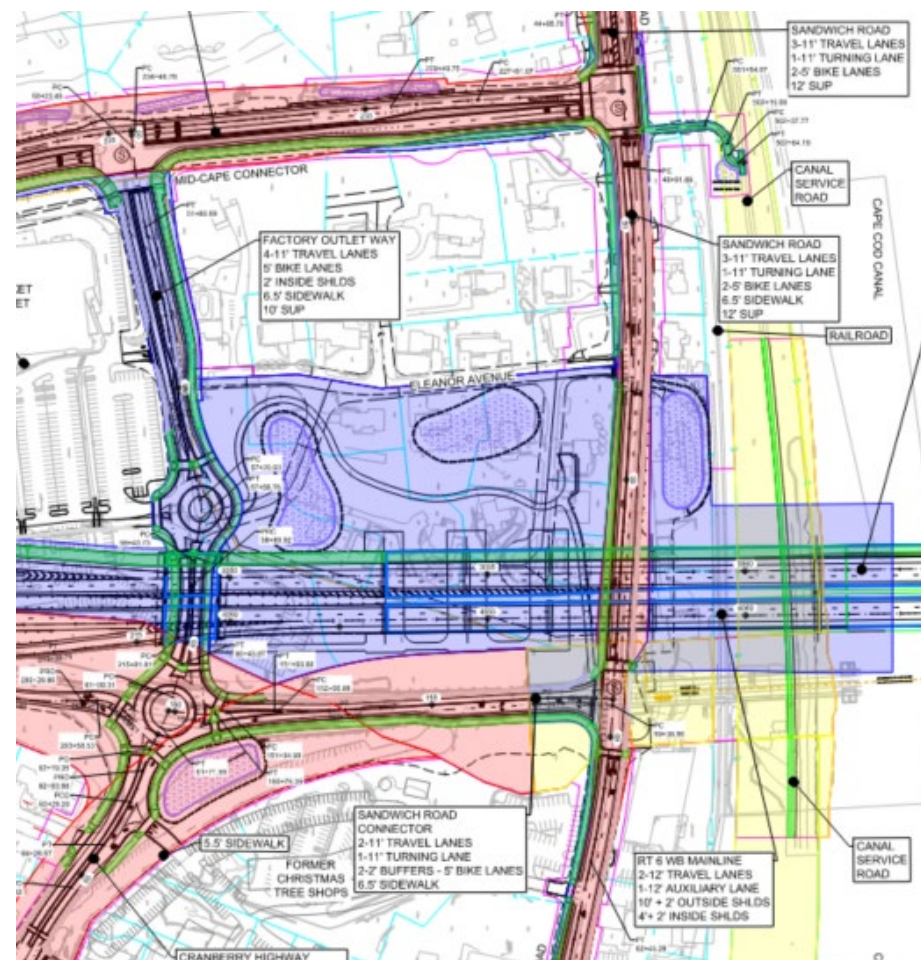


Appendix

Additional constraints for an East Side Shared-Use Path

Relocating Rail Crossing to Under Bridge

- Impacts to:
 - USACE-owned land — federal coordination/permitting
 - Private property — potential easements/acquisition
 - Challenging topography — significant earthwork or structural solutions needed



East Side – Sagamore North Design

