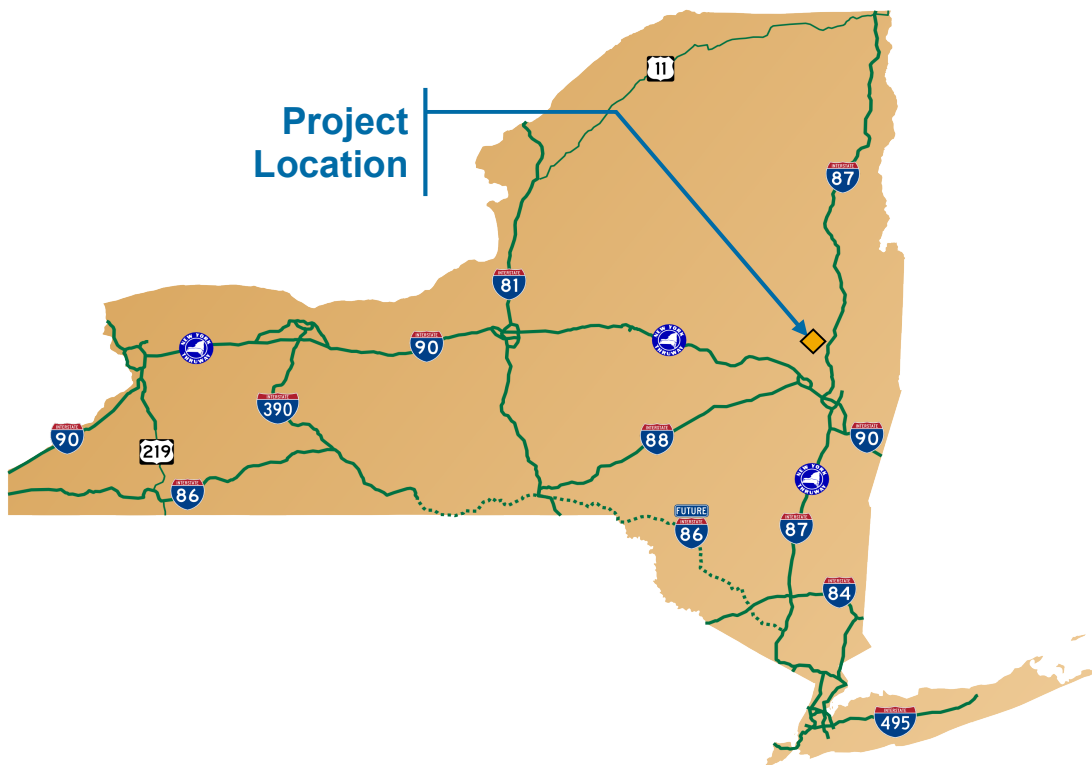


Transportation Project Report

Project Scoping Report/Final Design Report

January 2024

NY Route 29 at Rowland St. (CR 47) Intersection Safety Enhancements
Project Identification Number (PIN): 1236.29
Town of Milton and City of Saratoga Springs
Saratoga County



Department of
Transportation



U.S. Department of Transportation
Federal Highway Administration

Project Approval Sheet**Milestones****Signatures****Dates**

- A.** Recommendation for, Scope and Design Approval:

The project cost and schedule are consistent with the Regional Capital Program.

 /for
Robert E. Rice, PE, Regional Program Manager

1/16/2024
Date

- B.** Recommendation for Scope and Design Approval

All requirements requisite to these actions and approvals have been met, the required independent quality control reviews separate from the functional group reviews have been accomplished, and the work is consistent with established standards, policies, regulations and procedures, except as otherwise noted and explained.

No nonstandard features have been identified, created, or retained.


Michael R. Cukrovany, PE, Regional Design Engineer

01/12/2024
Date

- C.** Public Hearing Certification (Pursuant to 23 USC 128 and 23 CFR 771.111):

A public hearing was held on December 18, 2023.

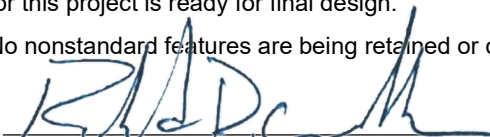

Joseph R. Felice Jr., PE, Project Manager

01/09/2024
Date

- D.** Scope and Design Approval

The required environmental determinations have been made, and the preferred alternative for this project is ready for final design.

No nonstandard features are being retained or created.


Rick D. Wilder, PE, Deputy Chief Engineer, Design

1/19/2024
Date

List of Preparers

Group Director Responsible for Production of this Project Scoping Report/Final Design Report (PSR/FDR):

Michael R. Cukrovany, PE, Regional Design Engineer, NYSDOT Region 1

Description of Work Performed: Directed the preparation of the PSR/FDR in accordance with established standards, policies, regulations and procedures, except as otherwise explained in this document.



01-12-2024

Note: It is a violation of law for any person, unless they are acting under the direction of a licensed professional engineer, architect, landscape architect, or land surveyor, to alter an item in any way. If an item bearing the stamp of a licensed professional is altered, the altering engineer, architect, landscape architect, or land surveyor shall stamp the document and include the notation "altered by" followed by their signature, the date of such alteration, and a specific description of the alteration.

This report was prepared by the following NYSDOT staff:

Joseph R. Felice Jr., PE, Project Manager, NYSDOT Region 1

Description of Work Performed: Directly supervised the preparation of the PSR/FDR Chapters 1 and 2 in accordance with established standards, policies, regulations, and procedures, except as otherwise explained in this document. I visited the project site on August 27, 2022.



01-12-2024

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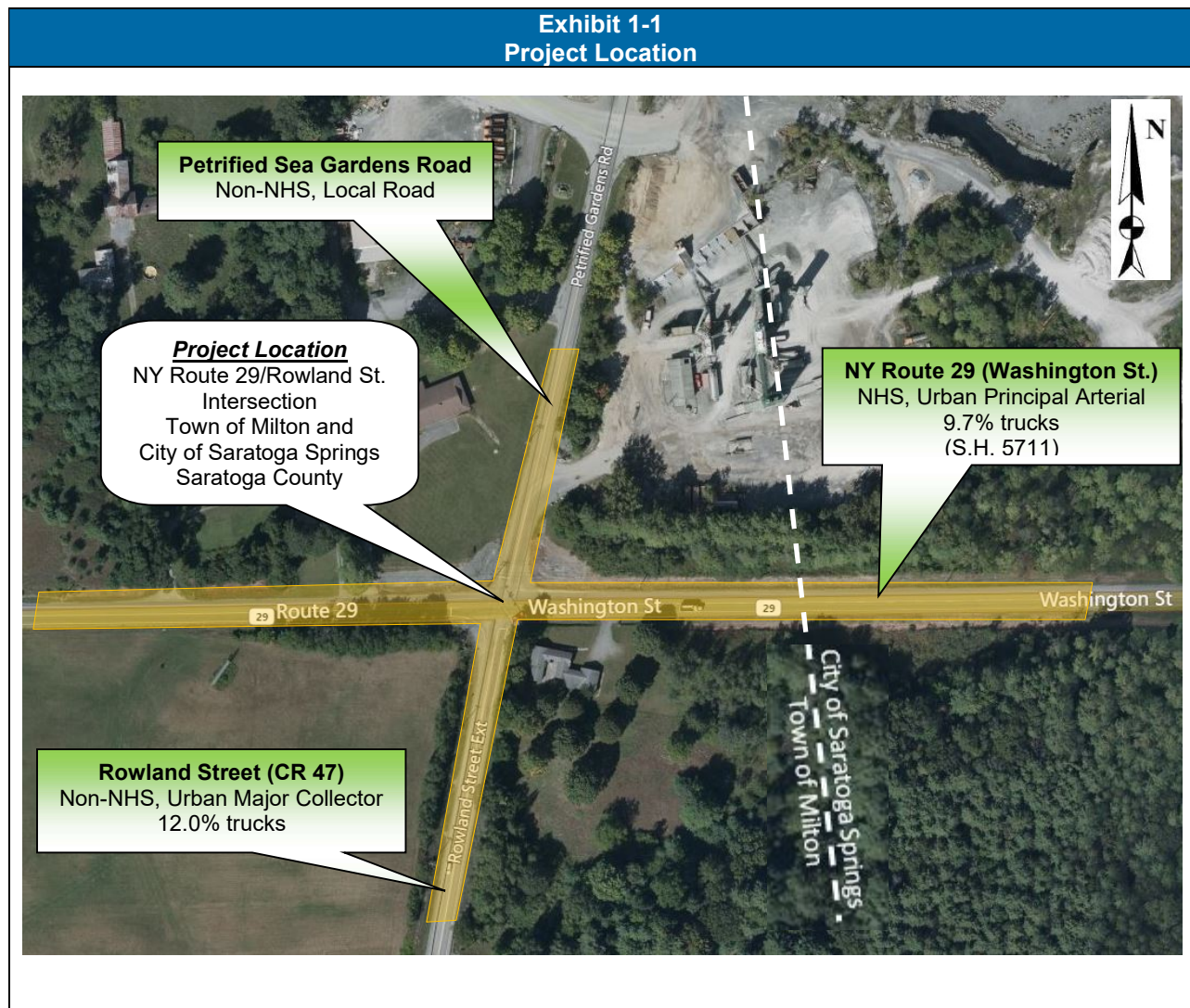
CHAPTER 1 – PROJECT DEVELOPMENT

1.1. Introduction

This report was prepared in accordance with the NYSDOT Project Development Manual, 17 NYCRR (New York Codes, Rules and Regulations) Part 15, and 23 CFR (Code of Federal Regulations) 771.

Transportation needs have been identified (section 1.2), objectives established (1.2.3) to address the needs, and cost-effective alternatives developed (1.3). This project is federally funded through Highway Safety Improvement Program (HSIP) and State Dedicated Funds (SDF).

1.1.1. Project Location



1.2. Purpose, Need and Objectives

1.2.1. Project Need

This project was initiated from a Highway Safety Investigation of the NY Route 29, Rowland Street (CR 47), and Petrified Sea Gardens Road intersection. A crash analysis of this intersection revealed a crash rate higher than the statewide average for similar facilities. Typically, this type of intersection would have approximately 0.56 crashes per million entering vehicles. However, during the three-year crash study period between July 1, 2016, and June 30, 2019, there were a total of 30 crashes, 25 at the intersection, which yielded a crash rate of approximately 1.5 crashes per million entering vehicles. The predominant crash types during the study period were rear end crashes and turning movement crashes. Eleven (11) of those crashes involved personal injuries and one (1) crash involved a bicyclist.

This intersection experiences marginal traffic delay during peak hour travel times and operates at a level of service (LOS) B during AM peak travel time, and LOS C during PM peak travel time. Motorist delays at the intersection are approximately 16 seconds during AM peak travel time and 21 seconds during PM peak travel time. These delays result in the buildup of large queues of traffic along NY Route 29 at the intersection during peak hour travel times.

This project is located within the Town of Milton and the City of Saratoga Springs. NY Route 29 serves as an east-west connector between the City of Saratoga Springs and the Cities of Johnstown and Gloversville. Rowland Street and Petrified Sea Gardens Road serve as a connector between the Village of Ballston Spa and the Town of Greenfield.

1.2.2. Project Purpose

The purpose of this project is to provide geometric and operational improvements at the NY Route 29/Rowland Street (CR 47)/Petrified Sea Gardens Road intersection utilizing design features to reduce the severity of crashes and vehicular conflict points.

1.2.3 Project Objectives

Primary Objective(s):

- (1) Correct safety deficiencies using cost effective accident reduction measures such that crash severity and vehicular conflict points are reduced.
- (2) Improve overall traffic conditions using cost effective methods to reduce delay and to provide an acceptable level of service, for a design period of 20 years.

1.3. Project Alternative(s)

Alternatives Under Consideration:

No-Build:

The “No-Build” alternative provides only for the continued maintenance of existing features and offers no safety or operational improvements to the intersection. This alternative does not meet the project objectives but will be carried forward for comparison purposes to the feasible build alternative.

Alternative #1 – Modern Single-Lane Roundabout:

This alternative would replace the existing four (4) way signalized intersection with a modern single lane roundabout. The roundabout would substantially reduce vehicle delay and provide a continuous speed calming effect through the corridor. The roundabout would improve the level of service and would reduce crash severity.

This alternative would require the acquisition of property around the four quadrants of the intersection, as well as razing a vacant house in the southeast quadrant. The existing open drainage at the intersection would be updated and modified as needed to accommodate the roundabout configuration. The proposed drainage would utilize the current outfalls.

This alternative would meet all the project objectives by reducing crash severity, reducing vehicular conflict points, and providing improved level of service.

Alternatives Dismissed from Consideration:**Alternative #2 – Improved Signalized Intersection:**

This alternative would update the existing signalized intersection with added left turn lanes on NY Route 29 incorporated into the intersection. This could potentially reduce the number of accidents by providing dedicated left turn lanes in each direction on NY Route 29. This alternative marginally reduces vehicle delay at the intersection, but also retains the potential for right angle crashes at the intersection which are typically severe resulting in higher probability of personal injury.

This alternative was considered but eliminated during the project scoping phase because it would not meet all the project objectives and would not meet the requirements of significantly reducing crash severity for Highway Safety Improvement (HSIP) funding.

For a more in-depth discussion of the roundabout design parameters for the reasonable alternative(s) under consideration see Section 2.5 of this report.

1.4 Project Effects**1.4.1 Environmental Classification**

Exhibit 1-2 Environmental Classification Summary				
NEPA Classification	Class II CE	BY	Federal Highway Administration (FHWA)	
SEQRA Type:	Type II	BY	NYSDOT	

1.4.2 Comparison of Considered Alternatives

Exhibit 1-3 Comparison of Considered Alternatives			
Category	Alternatives Evaluated		Alternatives Found Not Reasonable
	No Build	Preferred Alternative 1: Modern Roundabout	Alternative 2: Two-Way Left Turn Lanes
Environmental Impacts			
Wetlands	None	0.05 acres	None
Cultural Resources (Section 106)	None	No Effect on Historic Properties	No Effect on Historic Properties
Impervious Area Added	None	0.59 acres	0.47 acres
Dry Swale Added	None	1,410 feet	2,082 feet
Endangered/Threatened Species	None	No Effect	No Effect
Social Impacts			
Property/Relocations	None	8 FEE Acquisitions: (1.23 acres) 8 TE Acquisitions: (1.29 acres) Acquire/raze vacant house	11 FEE Acquisitions: (1.01 acres) 11 TE Acquisitions: (0.43 acres)
Mobility (Pedestrian, bicycle, transit, etc.)	No Effect	No change in pedestrian and bicycle mobility (Rural area with no Pedestrian generators, not a bike route)	No change in pedestrian and bicycle mobility (Rural area with no Pedestrian generators, not a bike route)
Environmental Justice	No Effect	Not within Environmental Justice area community and no minority or low-income populations identified	Not within Environmental Justice area community and no minority or low-income populations identified
General Social Groups	No Effect	No Effect	No Effect
Crash Costs	High	Low	Medium
Crash Severity	High	Low	Medium
User Delay	High	Low	Medium
Economic and/or Operational Impacts			
Economic Impacts	No Effect	No Effect	No Effect

Exhibit 1-3 Comparison of Considered Alternatives			
Category	Alternatives Evaluated		Alternatives Found Not Reasonable
	No Build	Preferred Alternative 1: Modern Roundabout	Alternative 2: Two-Way Left Turn Lanes
Temporary Detours	No Effect	Temporary detours will be required and will be determined during Final Design. This will have a minor effect on businesses.	Temporary detours may be required and will be determined during Final Design. This will have a minor effect on businesses.
Operation at ETC +20 PM peak hour	44.3 second delay	12.6 second delay	24.3 second delay
Utilities	None	Some overhead and underground utilities will be affected and will require relocation	Some overhead and underground utilities will be affected and will require relocation
Construction Cost	None	\$2.37M	\$2.24M

1.4.3 Anticipated Permits/Coordination/Certifications

Exhibit 1-4 Anticipated Permits/Certifications/Coordination	
<u>Permits</u>	
NYS Department of Environmental Conservation (NYSDEC):	
<ul style="list-style-type: none"> State Pollutant Discharge Elimination System (SPDES) General Permit Blanket Water Quality Certification 	
Army Corps of Engineers (USACE):	
<ul style="list-style-type: none"> Nationwide Permit #14 	
<u>Coordination</u>	
NYSDEC (pursuant to the "NYSDEC/NYS DOT Memorandum of Understanding Regarding ECL Articles 15 & 24")	
Federal Highway Administration (FHWA)	
State Historic Preservation Office (SHPO)	
US Fish and Wildlife Service	
Municipalities – Town of Milton and City of Saratoga Springs	
Metropolitan Planning Organization - Capital Region Transportation Council	
Utilities – National Grid Electric, First Light Communication, Charter Communications, Verizon	
<u>Certifications</u>	
NYS Department of Labor: Asbestos Variances	

1.5 Preferred Alternative

Only one reasonable build alternative, Alternative 1, has been identified that meets the project objectives. A decision to enter final design will not be made until after the environmental determination, resolution of the comments on the draft design approval document, and evaluation of comments received from the public hearing. The No Build Alternative will be retained for use as a baseline to measure and evaluate impacts that might accrue from the preferred alternative.

1.6 Project Schedule and Cost

Exhibit 1-5 Project Schedule	
Activity	Date Occurred/Tentative
Scope/Design Approval	January 2024
ROW Acquisition	January 2024
Construction Start	August 2024
Construction Complete	December 2025

Exhibit 1-6 Project Costs - Design Bid Build			
Potential Alternatives		Alt 1: Roundabout (Preferred)	Alt 2: Left Turn Lanes
Earthwork		\$100,000	\$150,000
Clearing and Grubbing		\$100,000	\$150,000
Pavement and Subbase		\$800,000	\$750,000
Drainage		\$50,000	\$50,000
Signs & Pavement Markers		\$50,000	\$25,000
Traffic Signals		\$20,000	\$150,000
Lighting		\$75,000	\$25,000
Misc. Utilities (Water/Sewer)		\$25,000	\$25,000
WZTC		\$200,000	\$50,000
Landscaping		\$25,000	\$10,000
Stormwater/SPDES		\$100,000	\$75,000
Miscellaneous/Incidentals	10%	\$154,500	\$146,000
Field Change	10%	\$170,000	\$161,000
Mobilization	4%	\$74,780	\$70,680
Subtotal in Base Year Dollars		\$1,944,280	\$1,837,680
Contingency/Risk	15%	\$291,642	\$275,652
Subtotal in Base Year Dollars		\$2,235,922	\$2,113,332
<i>Cost Data Year and Midpoint of Construction Year</i>			
	2023	2025	2025
Inflation/Escalation to Midpoint of Construction	3%	\$134,155	\$126,800
Award/Construction Cost		\$2,370,077	\$2,240,132
Preliminary Design (Cost to Date)		\$384,135	\$384,135
Final Design (Resource Cost Estimate)		\$2,311,407	\$2,311,407
QC & Administration of Final Design and Contract	3%	\$71,102	\$67,204
Construction Inspection	7%	\$165,905	\$156,809
ROW		\$160,300	\$130,500
Total Project Cost		\$5,462,927	\$5,290,187
Rounded to nearest \$10K		\$5,460,000	\$5,290,000

This project is estimated to require 14,490 design hours to complete with an estimated resource cost of \$2,695,542. For a more detailed estimate of how the design hours are broken down, see the Design Resource Estimate in Appendix F.

1.7 Public Involvement

New York State Department of Transportation (NYSDOT) has engaged in meetings with representatives from the Town of Milton and Saratoga County. A Public Meeting and Hearing was held on December 18, 2023, at the Town of Milton Community Center where residents spoke with Department representatives, made formal statements for public record, and left written comments or forwarded comment forms prior to the comment deadline. NYSDOT also hosted a virtual public hearing via Webex on December 19, 2023, from 7:30 p.m. to 9:00 p.m. There were six (6) oral statements made during the in-person public hearing. In addition to oral statements made, NYSDOT received 3 statements submitted at the hearing using the

comment form, and ten (10) statements submitted through email. There were no statements received during the virtual hearing.

NYSDOT has met with the property owners that may be directly affected by the project. This includes Pompa Bros., Inc. who are located on all four quadrants of the intersection, and Jointa Lime Company. They were informed of property acquisitions around the intersection which included the acquisition and razing of the vacant house at the southeast quadrant to construct the preferred alternative.

A transcript of the hearing will be available for public examination during normal business hours at the Region One office at 50 Wolf Road, Albany, NY 12232, and copies will be made available upon request.

Refer to Appendix E for the project's Public Involvement Plan and for related project correspondence.

Exhibit 1-7 Public Involvement Plan Schedule of Milestone Dates	
Activity	Date Occurred/Tentative
In-house DOT scoping meeting	03/24/2022
Meeting with Town/City Officials	10/12/2023 and 10/19/2023
Meeting with Stakeholders	Continuous throughout Design Phases
Public Hearing	12/18/2023
Current Project Letting date	06/06/2024

For additional information or to provide comments, please contact:

Mailing Address: Joseph R Felice Jr., PE, Project Manager
New York State Department of Transportation
Region 1 Design
50 Wolf Road
Albany, New York 12232

Email Address: joseph.felice@dot.ny.gov

Telephone: (518) 485-9110

Please include the six-digit Project Identification Number (PIN) 1236.29 in any correspondence.

The remainder of this report is a detailed technical evaluation of existing conditions, anticipated impacts of the one reasonable/preferred alternative and comparison to the null alternative, copies of technical reports and plans and other supporting information.

CHAPTER 2 – EXISTING AND PROPOSED CONDITIONS AND CONSIDERATIONS

2.1 Functional Classification/National Highway System/Truck Access

Exhibit 2-1 Classification Data			
Route(s)	NY Route 29	Rowland Street (CR 47)	Petrified Sea Gardens Road
Functional Classification	Urban Principal Arterial - Other	Urban Major Collector	Rural Local Road
Design / Context Classification	Rural	Rural	Rural
National Highway System (NHS)	Yes	No	No
Designated Truck Access Route	Yes	No	No
Qualifying Highway	No	No	No
Within 1 mile of a Qualifying Highway	No	No	No
Within the 16 ft vertical clearance network	No	No	No

2.2 Planning Considerations

2.2.1 Abutting Highway Segments and Future Plans

The existing intersection is a 4-way intersection with NY Route 29 running in the east-west direction, Rowland Street extending to the south, and Petrified Sea Gardens Road extending to the north.

The abutting segment to the east and west of the project is NY Route 29. This segment has two (2) 11-foot-wide travel lanes, one (1) in each direction, and 4-foot-wide shoulders on each side of the road. The existing travel lanes were constructed in 1926. The lanes were 9 feet wide and consisted of 9 inches of concrete pavement. In 1949, the travel lanes received a 2.5-inch macadam mix overlay and were widened to 11 feet. Since 1949, this segment has received multiple asphalt concrete overlays. The existing pavement section of the travel lanes is 9" of PCC with 9.5-10" of overlaid asphalt concrete. The existing shoulders are full depth asphalt concrete ranging from 8.5-10" depth. This section of NY Route 29 is uncurbed, on a tangent, and has a grade of 1.5%. The posted speed limit is 55 mph. Currently, there are no plans to widen this highway segment within the next 20 years.

The abutting segment to the south of the project is Rowland Street (CR 47). This segment has two (2) 10-foot-wide travel lanes, one (1) in each direction, and 4-foot-wide shoulders on each side of the road. The travel lane and shoulders are constructed of full depth asphalt concrete. The outside edge of pavement has a section of shoulder backup that varies between one and two feet wide. This section of Rowland Street is uncurbed, on a tangent, and has a grade of 4.5%. The posted speed limit is 45 mph. Currently, Saratoga County has no plans to widen this highway segment within the next 20 years.

The abutting segment to the north of the project is Petrified Sea Gardens Road. This segment has two (2) 12-foot-wide travel lanes, one (1) in each direction; shoulders are not present within the project limits. The

outside edge of pavement has a section of shoulder backup that varies between one to two feet wide. The travel lanes are constructed of full depth asphalt concrete. This section of Petrified Sea Gardens Road is uncurbed, on a tangent, and has a grade of 7%. The posted speed limit is 30 mph. Currently, the Town of Milton has no plans to widen this highway segment within the next 20 years.

The proposed project would match the current roadway widths of all abutting highways at the project limits.

2.2.2 Local Plans for the Project Area

This project is on the approved Capital Region Transportation Council (CRTC) (2022 - 2027) Transportation Improvement Program (TIP) as TIP Number SA336. Project funding has been fully allocated on the TIP.

The Regional Planning Group has reviewed the local master plan prepared for the Town of Milton and City of Saratoga Springs. This project is consistent with the local master plans.

There are no approved developments planned within the project area that will impact traffic operations.

2.2.3 Access Control

Access is unrestricted along NY Route 29, Rowland Street, and Petrified Sea Gardens Road. One (1) business and four (4) residential driveways exit onto the highway within the project limits. This project will not change the existing access control.

2.2.4 Access Modification

There will be no access modification as part of this project.

2.3 Traffic Considerations

2.3.1 Traffic Volumes

Exhibit 2-2 Existing and Forecast Traffic Volumes								
	NY Route 29 West of Intersection		NY Route 29 East of Intersection		Rowland Street		Petrified Sea Gardens Road	
Year	AADT	DHV	AADT	DHV	AADT	DHV	AADT	DHV
Existing (2022)	10,653	877	12,671	1,136	7,145	665	~656	~99
ETC (2024)	10,867	894	12,925	1,158	7,288	678	~676	~102
ETC+10 (2034)	12,004	987	14,277	1,279	8,050	749	~742	~112
ETC+20 (2044)	13,260	1,090	15,770	1,413	8,892	827	~822	~124

Note: ETC is the Estimated Time of Completion

Forecast no-build design year traffic volumes – The Estimated Time of Completion (ETC) + 20 design year was selected per HDM Chapter 5.

Traffic counts for Route 29 (West of Intersection) are from a 2014 traffic count hourly report; traffic counts for Route 29 (East of Intersection) are from a 2017 traffic count hourly report; traffic counts for Rowland St are from a 2019 traffic count hourly report; and traffic counts for Petrified Sea Gardens Rd were derived from a 2022 turn count report. These counts were multiplied by a 1% growth factor per year based on historical counts at the intersection until the appropriate year was reached. There are no existing traffic counts for Petrified Sea Gardens Rd, however the DHV was estimated from 2022 turn counts and the AADT was derived from the DHV per HDM Exhibit 5-1a.

Exhibit 2-3 Existing Intersection Turn Counts (# Vehicles)								
	Approach							
	Route 29 WB		Route 29 EB		Rowland St. NB		Petrified Sea Gardens Rd. SB	
Movement	AM	PM	AM	PM	AM	PM	AM	PM
Left	95	218	7	4	21	81	8	1
Right	10	1	47	30	221	151	5	7
Through	188	318	350	295	42	116	99	74

2.3.2 Speed Studies

Exhibit 2-4 Speed Data			
Route	NY ROUTE 29	ROWLAND ST	PETRIFIED SEA GARDENS RD
Year of Speed Count	2023	2023	-
Existing Speed Limit (mph)	55 mph	45 mph	30 mph
85% Operating Speed (mph)	53 mph	47 mph	-
Method Used for Measurement	Radar	Radar	-

- Traffic Volume on Petrified Sea Gardens Road was too low to collect radar data

2.3.3 Level of Service Analysis

Exhibit 2-5 Intersection Level of Service and Delays (sec) – No Build Alternative										
	NY Route 29 EB Approach		NY Route 29 WB Approach		Rowland Street NB Approach		Petrified Sea Gardens Rd. SB Approach		Overall	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Existing (2022)	25.3 (C)	28.3 (C)	16.0 (B)	34.2 (C)	19.6 (B)	25.7 (C)	22.7 (C)	18.5 (B)	21.0 (C)	29.6 (C)
ETC (2024)	26.1 (C)	28.9 (C)	14.4 (B)	32.6 (C)	16.6 (B)	27.9 (C)	23.8 (C)	23.1 (C)	20.3 (C)	29.9 (C)
ETC+10 (2034)	26.3 (C)	31.0 (C)	19.6 (B)	56.7 (E)	21.5 (C)	30.1 (C)	21.5 (C)	24.4 (C)	23.0 (C)	40.6 (D)
ETC+20 (2044)	28.2 (C)	32.1 (C)	16.3 (B)	62.9 (E)	25.2 (C)	35.6 (D)	28.8 (C)	20.3 (C)	24.3 (C)	44.3 (D)

Exhibit 2-6 Intersection Level of Service and Delays (sec) – Alternative 1: Modern Roundabout										
	NY Route 29 EB Approach		NY Route 29 WB Approach		Rowland Street NB Approach		Petrified Sea Gardens Rd. SB Approach		Overall	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
ETC (2024)	2.8 (A)	4.2 (A)	4.1 (A)	10.5 (B)	7.2 (A)	7.8 (A)	4.0 (A)	4.8 (A)	4.3 (A)	7.6 (A)
ETC+10 (2034)	2.7 (A)	4.6 (A)	4.6 (A)	16.5 (C)	8.7 (A)	9.7 (A)	4.2 (A)	7.0 (A)	4.7 (A)	10.7 (B)
ETC+20 (2044)	3.7 (A)	5.4 (A)	4.4 (A)	19.3 (C)	11.2 (B)	10.6 (B)	4.9 (A)	8.8 (A)	6.0 (A)	12.6 (B)

Exhibit 2-7 Intersection Level of Service and Delays (sec) – Alternative 2: Two-Way Left Turn Lanes										
	NY Route 29 EB Approach		NY Route 29 WB Approach		Rowland Street NB Approach		Petrified Sea Gardens Rd. SB Approach		Overall	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
ETC (2024)	23.6 (C)	25.6 (C)	8.5 (A)	11.2 (B)	18.6 (B)	32.8 (C)	20.3 (C)	25.0 (C)	17.8 (B)	21.7 (C)
ETC+10 (2034)	24.5 (C)	26.3 (C)	9.1 (A)	15.6 (B)	19.1 (B)	31.6 (C)	25.1 (C)	21.9 (C)	18.7 (B)	23.3 (C)
ETC+20 (2044)	24.8 (C)	27.8 (C)	9.7 (A)	13.4 (B)	22.9 (C)	37.5 (D)	21.6 (C)	22.2 (C)	20.1 (C)	24.3 (C)

The RPPM does not anticipate capacity improvements within 20 years.

The preferred alternative (modern roundabout) will increase the capacity of the facility. The level of service will also improve with the preferred alternative as opposed to the no-build analysis.

2.3.4 Safety and Crash History Analysis

A crash analysis was performed in accordance with NYS Highway Design Manual Chapter 5. The analysis extends from RM 29-1503-1144 to RM 29-1503-1147 and was performed from 07/01/2016 to 06/30/2019. The crash rate for this intersection of Route 29 is 1.545 crashes per million entering vehicles. This is above the statewide crash rate for similar facilities, which is 0.56 crashes per million entering vehicles for a 4-leg urban signalized intersection.

NY Route 29 is a Priority Investigation Location (PIL) from RM 1144 to 1147, as well as a Priority Investigation Intersection (PII) at the Rowland St intersection. There are no High Accident Locations (HALs) within the study area. 25 of the 30 crashes listed in the Collision Summary can be attributed to the signalized intersection. Common listed reasons for the accidents were due to driver neglect, vehicles turning left, and sun glare. The remaining five (5) crashes were due to animals and fixed objects. There are no non-standard or non-conforming features that contribute to the PIL / PII.

The predominate crash types are:

Exhibit 2-8 Collision Summary NY Route 29 From RM 29-1503-1144 to RM 29-1503-1147		
Type of Collision	Number	Percentage
Rear end	10	33.3%
Right Angle	9	30.0%
Left Turn	6	20.0%
Animal	3	10.0%
Fixed Object	2	6.7%

The crash analysis is contained in the Regional Traffic Safety Group's Memo in Appendix C. The crash analysis recommends consideration of the following crash reduction measures: install left turn lanes in both directions along Route 29. A Modern Roundabout would alleviate most, if not all the common reasons for the high accident rate.

2.3.5 Pedestrians, Bicyclists and Transit (Complete Streets)

Pedestrians

There are no existing separate provisions for pedestrians within the project limits. No pedestrian-specific accommodations are warranted. This is consistent with HDM Chapter 18 and the Capital Projects Complete Streets Checklist in Appendix C.

Bicyclists

The existing level of and potential for bicycling is characterized as low due to the rural nature of the project area. The route is not a designated bicycle route.

Transit

There are no existing transit facilities or routes within the project limits. No new facilities are proposed.

2.4 Structures

2.4.1 Structures Data

There are no existing bridges or large culverts within the project limits and no new bridge is proposed.

A Coast Guard Checklist is not required.

2.4.2 Hydraulic Considerations

This project does not cross a waterway, there are no existing bridge(s) or large culvert(s) within the project limits, and no new bridge is proposed; therefore, there are no hydraulic considerations.

2.5 Design Standards

2.5.1 Critical Design Elements

Roadway design criteria does not apply at roundabout intersections. For approaches with posted speed limits ≥ 45 mph, the roundabout design criteria begins 500 feet prior to the edge of circulatory roadway. For approaches with speeds posted at 40 mph or less, the roundabout design criteria begin 250' prior to the edge of circulatory roadway. Proposed reconstruction limits remain within these limits.

2.5.2 Other Design Parameters

Exhibit 2-9 Single Lane Roundabout Controlling Features						
Element		Parameter ¹	Petrified Sea Gardens Rd	Rowland St	Route 29 East	Route 29 West
1	Design Vehicle	See HDM § 5.7.1 ⁷	WB-67	WB-67	WB-67	WB-67
2	Maximum Entry Speed <25 mph 1 lane	Entry Path Radius Method	23.0 mph	23.1 mph	22.1 mph	23.5 mph
		Per Equation 6.3 ²				
3	Entry Width	12' - 23' - 1 lane	16.5 ft	16.5 ft	17.5 ft	16.5 ft
		17' - 21' typical 1 lane				
4	Entry Radius	65' – 150'	100 ft	100 ft	100 ft	100 ft
		90'-110' typical				
5	Entry Angle ^{4, 5}	Crit. #1 - 20°-60° (30°-40° des.)	22° 19'	22° 58'	32° 53'	22° 19'
6	Entry Angle of Visibility	$\geq 75^\circ$ per Section 6.7.4 ³	90°	90°	90°	90°
7	Splitter Island Length					
	Approach ≥ 45 mph	$\geq 50'$ ($\geq 100'$ des.) 1 lane	-	58 ft	84 ft	86 ft
	Approach <45 mph	$\geq 30'$ ($\geq 50'$ des.) 1 lane	42 ft	-	-	-
8	Approach Stopping Sight Distance	Per Section 6.7.3 ³	> 248 ft	> 428 ft	> 570 ft	> 570 ft
9	Circulating Roadway Sight Distance	Per Section 6.7.3 ³	117 ft	117 ft	117 ft	117 ft
10	Intersection Sight Distance	Per Section 6.7.3 ³	172 ft	172 ft	172 ft	172 ft

Exhibit 2-9
Single Lane Roundabout Controlling Features

Element		Parameter ¹	Petrified Sea Gardens Rd	Rowland St	Route 29 East	Route 29 West
11	Sight Distance to Crosswalk	Per Section 6.7.3 ³	N/A	N/A	N/A	N/A
12	Inscribed Circle Diameter	100' - 180' - 1 lane 110' - 150', typ. - 1 lane	136 ft			
13	Circulatory Roadway Width	12'-23', 16'- 20' typ. - 1 lane	18 ft			
14	Minimum Exit Radius ⁶	Single lane - 65' – ∞, 300' - 800' typ.	100 ft	100 ft	100 ft	100 ft
15	Americans with Disabilities Act Compliance ¹⁰	Comply with HDM Chapter 18	N/A	N/A	N/A	N/A
16	Truck Access Highway or Oversize/Overweight Route	See HDM § 5.7.1	No	No	Truck Access Route	Truck Access Route

- Parameters per NCHRP Report 672, "Roundabouts: An Informational Guide (Second Edition)" and/or Main Office Intersection Design Squad, as applicable.
- Equation 6-3 on page 6-58 incorrectly contains an addition sign (+) as an operator. The correct operator should be a subtraction sign (-).
- Section numbers and equations listed in the table above refer to NCHRP Report 672, "Roundabouts: An Informational Guide (Second Edition)"
- Criterion #1 for the entry angle shall be the angle (in degrees) that represents the degree of curvature of the approach entry radius. It is understood that this may be contrary to what is illustrated on Figure 1 in EI 00-021.
- To determine Criterion #2 for the entry angle, the designer shall project the tangent portions of the right approach lane's left and right lane lines into the circulating roadway. At the splitter island's bull-nose in the vicinity of the projection (between the approach and circulating roadways), it is preferred that 2/3 or more of the width of the projection at the bull-nose, measured perpendicular to the projections, is taken up by the splitter island.
- Exit radius is measured along the right curb line at exit.
- Consult with the Regional Traffic safety and Mobility Office if the highway is designated as a Truck Access Route. A larger design vehicle may be needed.
- Not typical, desired or preferred, but within the general range of acceptance.
- Not typical, desired, or preferred and outside the general range of acceptance. These are nonconforming features.
- Noncompliant pedestrian facilities that must be retained or created are nonstandard and will be justified as nonstandard in final design.

Exhibit 2-10 Other Design Parameters			
Element	Parameter	Existing Conditions	Proposed Condition
Level of Service (LOS)	LOS (Minimum C for Design Year) HDM Section 5.2.3.4	LOS C/D (No build alternative Design Year)	LOS A/B
Storm Drainage System	10-year storm HDM Exhibit 8-3	10-year storm	10-year storm
Culvert	50-year storm HDM Exhibit 8-3	50-year storm	50-year storm
Driveway Culvert	25-year storm HDM Exhibit 8-3	25-year storm	25-year storm
Ditches	25-year storm HDM Exhibit 8-3	25-year storm	25-year storm
Lighting Warrants	Proposed Roundabout NCHRP Report 672	None	Lighting to be installed

*Nonconforming feature

Exhibit 2-11a Other Design Parameter: Design Vehicle		
Location	Design Vehicle	Vehicle Accommodated
NY Route 29	WB-67 (Interstate Semi-trailer Truck)	Interstate Semi-trailer Truck
Rowland St	WB-67 (Interstate Semi-trailer Truck)	Interstate Semi-trailer Truck
Petrified Sea Gardens Rd	WB-67 (Interstate Semi-trailer Truck)	Interstate Semi-trailer Truck

Exhibit 2-11b Other Design Parameter: Design Vehicle for Vertical Clearance		
Location	Design Vehicle	Vehicle Accommodated
NY Route 29	Lowboy Trailer	Lowboy Trailer
Rowland St	Lowboy Trailer	Lowboy Trailer
Petrified Sea Gardens Rd	Lowboy Trailer	Lowboy Trailer

2.5.3 Existing and Proposed Highway Plan and Section

NY Route 29 has two (2) 11 foot wide travel lanes in each direction and 4 foot wide shoulders on each side of the road.

Rowland Street (CR 47) has two (2) 10 foot wide travel lanes in each direction and 4 foot wide shoulders on each side of the road.

Petrified Sea Gardens Road has two (2) 12 foot wide travel lanes in each direction and no shoulders on either side of the road.

Under the proposed modern roundabout alternative, Route 29, Rowland St and Petrified Sea Gardens Rd would have 12-foot-wide travel lanes, 1-foot-wide left shoulders, and 4-foot-wide right shoulders. The edge of pavement would remain uncurbed with a 2-foot-wide shoulder backup section. The roundabout entrance widths will vary between 16.5 and 17.5 feet and exit widths will vary between 15 and 16.5 feet. The splitter islands and truck apron will consist of mountable curbing and have a surface treatment to be determined in final design. Beyond the reconstructed intersection and approaches, the travel lanes and shoulders on all abutting segments will match the existing lane and shoulder widths.

For more information, the existing and proposed typical sections are located in Appendix A.

2.5.4 Nonstandard/Nonconforming Features

According to HDM Chapter 26 the design parameters for a roundabout apply 250 ft prior to the edge of circulatory roadway for posted speeds of 40 mph or less, and 500 ft with posted speeds of 45 mph and above. Work to be performed outside of these limits will follow a 1R treatment and therefore does not require listing critical design elements or non-standard features. Work to be performed within the limits expressed in Chapter 26 will follow the Single Lane Roundabout Controlling Features.

There are no nonconforming features within the project limits.

2.6 Other Infrastructure Considerations

2.6.1 Pavement and Shoulder Conditions

Route 29 was originally constructed in 1926 (under contract SH 5711) using a pavement section of 9" of metal reinforced cement concrete pavement along the two (2) 9'-0" wide travel lanes. The highway also had 5'-0" broken earth graded shoulders installed. In 1949, 1960, and 1971 there were several special maintenance projects where the pavement treatments included a 2.5" overlay, travel lanes widened to 11'-0", box out widened shoulders, 1" overlay, and other unknown pavement treatments. Also, a resurfacing project was performed at this location in 2019 (under contract D263980). In this contract pavement rutting was addressed and a 1.5" HMA overlay was applied. On a scale of 0-10 based on the NYSDOT Pavement Viewer, with 0-5 being Poor and 9-10 being Excellent, the pavement condition on US Route 29 is 10 (Excellent). However, even after performing various pavement repair projects, rutting is still an issue. Currently the rutting along Route 29 eastbound and westbound is 1" deep approaching the intersection, and 0.5" deep while exiting the intersection. This is primarily due to the heavy truck volume. A modern roundabout should reduce this wear on the pavement as traffic will constantly be flowing at the unsignalized intersection, as opposed to the stand still traffic at a signalized one.

Rowland Street is a county road for which pavement history and data is unavailable.

Petrified Sea Gardens Road is a local road for which pavement history and data is unavailable.

The proposed treatment within the project limits will fix pavement rutting as needed, adjust cross slopes as needed, box out widen where new pavement is required, and mill and overlay the existing pavement with asphalt concrete to reach the desired final grade.

2.6.2 Right of Way

The existing right-of-way width along Route 29, Rowland St and Petrified Sea Gardens Rd varies between 48 ft and 55 ft, equidistant from the centerline(s). Approaching the intersection these widths expand to approximately 70 ft along the western portion of Route 29 and 60 ft along Rowland Street.

Acquisitions and releases will be required to perform the work. FEE takings will be used to shift travel lanes off their existing alignments (to make room for splitter islands), ensure 12 ft travel lanes and 4 ft

shoulders are present within the project limits, construct the circulatory roadway, construct dry swales and toe of slope ditches for drainage and SPDES purposes, and provide areas for utility relocation(s) and lighting locations. Temporary Easement (TE) takings will be used for construction and temporary traffic maintenance purposes. A Temporary Easement is required to construct a new driveway necessary to provide access to Pompa Bros. Inc. during construction. Releases will be used to grade driveways within the project limits. There will be no grading releases in this project as all proposed ditches will be owned and maintained past the toe of slope.

There is one vacant residential structure in the southeastern corner of the intersection that will need to be acquired and razed to make room for the proposed improvement. The driveway to this parcel will also need to be relocated to the east to avoid the proposed splitter island. Several large trees and some vegetation in the southwestern and southeastern quadrants will also be removed, however, there will be replanting plans for areas that experience a significant loss of vegetation. There are several wells within the project limits, but these will not be affected.

The Regional Right of Way Officer has reviewed the proposed acquisitions and determined them to be non-deminimis.

Acquisitions will be done in accordance with the requirements of the Uniform Relocation Assistance Act and NYS Eminent Domain Procedure Law.

Exhibit 2-12 Anticipated Right-of-Way Acquisitions Preferred Alternative 1: Modern Roundabout					
Owner	Tax Map No.	Type of Acquisition	Estimated Acquisition Area	Parcel Size	Percentage of Acquisition
Polar Management, LLC	164.-1-35.2	-	0.0000 Ac	10.97 Ac	-
Palette Stone Corp	164.-1-20	-	0.0000 Ac	100.57 Ac	-
Palette Stone Corp	164.-1-19	TE FEE	0.151 Ac 0.118 Ac	2.20 Ac	7.23% 5.45%
Pompa Bros., INC	164.-1-18	TE FEE	0.025 Ac 0.097 Ac	0.5199 Ac	4.81% 18.66%
Pompa Bros., INC	164.-1-16	TE FEE	0.021 Ac 0.203 Ac	30.1507 Ac	0.07% 0.67%
Pompa Bros., INC	164.-1-17	TE FEE	0.128 Ac 0.273 Ac	4.2574 Ac	3.00% 6.41%
Pompa Bros., INC	164.-1-31	TE FEE	0.515 Ac 0.038 Ac	55.48 Ac	0.93% 0.06%
Polar Management, LLC	164.-1-35.1	TE FEE	0.151 Ac 0.101 Ac	37.96 Ac	0.40% 0.27%
Pompa Bros., INC	164.-1-34*	TE FEE	0.328 Ac 0.342 Ac	9.7233 Ac	3.37% 3.52%
Pompa Bros., INC	164.-1-28	TE FEE	0.012 Ac 0.026 Ac	12.9931 Ac	0.09% 0.19%

Exhibit 2-12 Anticipated Right-of-Way Acquisitions Preferred Alternative 1: Modern Roundabout					
Owner	Tax Map No.	Type of Acquisition	Estimated Acquisition Area	Parcel Size	Percentage of Acquisition
Edward H. Pompa & Marianna P. Laroche	164.-1-29	-	0.0000 Ac	0.7188 Ac	-
D.A. Collins Construction Co., INC	164.-1-24.11	-	0.0000 Ac	63.65 Ac	-

* Need to acquire vacant residential building

2.6.3 Geotechnical

There are no special geotechnical concerns with the soils or rock slopes within the project area.

2.6.4 Access Management

Access to businesses and residences located within the project limits would be slightly affected by the project.

Currently, one (1) commercial driveway (owned by Pompa Bros., Inc.) within the project limits is located on the eastern side of Petrified Sea Gardens Rd, three (3) residential driveways are located on the north side of Route 29 west of the intersection, and one (1) residential driveway is located on the south side of Route 29 east of the intersection.

The commercial driveway and the three (3) residential driveways located west of the intersection will need to be regraded to meet the final grade of the highway. The residential driveway east of the intersection will need to be relocated slightly east to avoid a left turn movement conflict with the splitter island. As part of this project, and in accordance with NYSDOT's Policy and Standards for the Design of Entrances to State Highways, this driveway will be moved to outside of the intersection and the Department will work with the property owner on the new location of their driveway. This project will also construct a new commercial driveway located on the north side of Route 29 east of the intersection to maintain access to Pompa Brothers Inc. while Petrified Sea Gardens Road is closed to construct the roundabout. This driveway will remain upon construction completion

2.6.5 Traffic Control Devices

The existing traffic control device at the Route 29 and Rowland St intersection is a five (5) phase, fully actuated controller that conforms to the latest guidelines and warrants for such devices. The base of the traffic signal is in the southeastern quadrant. Other information about the signal includes:

- Three (3) Color Signal
- Type of Controller: 2070
- Type of Activation: Microwave
- Not Coordinated
- 5 Phase, lead left on Route 29 westbound
- Signal Meter Number: 31222951
- No Backup Power
- Date Installed: 12/31/1986
- Date Rebuilt: 12/31/2005

Heavy truck traffic from the north approach necessitated the use of microwave detection on all approaches; the result was a less efficient processing of vehicles. When implemented on side streets, this detection method tends to place false calls because it does not have the capability to skip a phase if a vehicle turns right on red.

The proposed project would remove the existing traffic signal with the construction of the roundabout. Each approaching leg of the roundabout would be yield controlled. All roadway signage and pavement markings located within the project limits will be upgraded to meet Departmental standards.

2.6.6 Drainage Systems

There are no records of flooding issues being present within the project limits, however water tends to pond in certain areas. Stormwater flows eastbound along Route 29, northbound along Rowland St, and southbound along Petrified Sea Gardens Rd. The existing drainage condition is sheet flow off the roadways where open drainage transports water along the edge of roadway. Stormwater flowing east along Route 29 crosses under Rowland St via a 15" HDPE (High-Density Polyethylene) pipe, and Petrified Sea Gardens Rd via a 21" CMP (Corrugated Metal Pipe). West of the intersection but north of Route 29 water flows under a driveway in a 15" SICPP (Smooth Interior Corrugated Polyethylene Pipe), and east of the intersection but south of Route 29 water flows under a driveway in a 21" CMP. At the western limits of the project water crosses from the south side of Route 29 to the north side via a 21" CMP. Beyond the eastern limits of the project water crosses from the north side of Route 29 to the south side. Open flow drainage ditches varying in slope convey water to and from the pipes on both side of all roads.

The existing pipes are in fair or poor condition. Rusting is prevalent at many inlets and outlets, metal pipes should be lined or replaced, headwalls need to be repaired or removed, and most inlets, outlets and the pipes should be cleaned. The footprint of the proposed modern roundabout is such that all small culverts within the intersection will be replaced. Additionally, larger dry swales will be added to help offset the increase of impervious area.

2.6.7 Utilities and Lighting

Exhibit 2-13 Utilities				
Owner	Type	Location/Side	Length	Condition/Conflict
National Grid	OH Power Line	North side NY 29 & West side of Rowland/Petrified Sea Garden Rd.	1,400'	4 of the 9 Utility poles will need to be relocated to avoid roundabout construction.
National Grid	UG Power Line	North side NY 29 and 160' east of the intersection.	20'	Utility pole with underground service to Quarry relocated. Reestablish service.
Charter Communications	Aerial fiber optic	North side NY 29 & West side of Rowland/Petrified Sea Garden Rd	1,400'	4 of the 9 Utility poles will need to be relocated to avoid roundabout construction.
FirstLight	Aerial fiber optic	North side NY 29	1,000'	4 Utility poles will need to be relocated to avoid roundabout construction.
Verizon	Aerial fiber optic	North side NY 29 & West side of Rowland St.	1,200'	4 Utility poles will need to be relocated to avoid roundabout construction.
Verizon	Aerial Copper	North side NY 29 & West side of	1,400'	4 Utility poles will need to be relocated to avoid roundabout

Exhibit 2-13 Utilities				
Owner	Type	Location/Side	Length	Condition/Conflict
		Rowland/Petrified Sea Garden Rd.		construction.
Verizon	UG Conduit	North side NY 29	300'	Abandoned underground lines, facility will be removed in full depth segments when it is encountered

There are overhead and underground utilities located within the existing Right-of-Way of the proposed project. The overhead utility companies include National Grid (Electric), FirstLight (Fiber Optic), Verizon (Fiber Optic and Copper), and Charter Communications (Fiber Optic). The underground utility owners include National Grid (Electric) and Verizon (Fiber Optic, abandoned). The existing traffic signal is powered by National Grid. There is no existing lighting within the project limits.

The proposed project would require utility relocations to accommodate the construction of the modern roundabout. Four (4) overhead utility poles would need to be relocated. The underground National Grid (Electric) line which provides power to Pompa Brothers Inc. will need to be re-established as it is on a pole to be relocated. The underground Verizon (Fiber Optic, abandoned) will be removed during construction where full depth construction occurs either by Verizon or the NYSDOT Contractor.

All utility companies have been notified by the Region 1 Utility Engineer and given guidance for making the necessary relocations. Coordination between the Region 1 Utilities Engineer and the affected utility companies will continue during final design.

There is no existing street lighting within the intersection. Standalone light poles will be installed to illuminate the roundabout in accordance with Chapter 26 of the Highway Design Manual.

2.6.8 Guide Railing, Median/Roadside Barriers and Impact Attenuators

There is no guide railing, median/roadside barrier, or attenuators within the project limits. No new rail, barriers or attenuators are proposed.

2.6.9 Intelligent Transportation Systems (ITS)

There are no ITS systems located within the project limits and there are no plans to install any as part of this project.

2.6.10 Landscape and Community Enhancement Considerations

The project will improve and enhance the aesthetics of the highway corridor by cleaning up overgrown brush which hinders sight distance. Currently, roadside vegetation along the berm in the southwest corner shades the road; thinning or removal of vegetation, and replacement plantings to serve as living snow fence will be considered in final design. Plantings will be considered in the center of the roundabout. The types of plantings will be determined after coordination with the Town of Milton, considering maintenance capacities and aesthetics. The town will be responsible for maintaining plantings.

2.7 Work Zone Safety and Mobility

2.7.1 Transportation Management Plan

The Region has determined that the subject project is not significant per 23 CFR 630.1010.

A Transportation Management Plan (TMP) will be prepared for the project consistent with 23 CFR 630.1012. The TMP will consist of a Temporary Traffic Control (TTC) plan. Transportation Operations (TO) and Public Information (PI) components of a TMP will be considered during final design.

2.7.2 Proposed Work Zone Traffic Control

The planned construction would be accomplished in stages. The first stage would construct the temporary driveway on the north side of Route 29 east of the intersection in order to maintain access to Pompa Bros., Inc. During this stage, a temporary signal would be installed, and the existing signal removed to make room for a lane shift on Route 29. The second stage would construct the lane shift for Route 29 traffic to shift traffic south of the existing intersection. The third stage would construct the center island, circulatory roadway, and splitter islands along Route 29 and Petrified Sea Gardens Road. This stage would include a long-term closure and detour of Petrified Sea Gardens Road. The Detour Route for Petrified Sea Gardens Road would use County Route 21, NY Route 9N, and County Route 23. This detour would divert traffic 1.5 miles and add 2 minutes to the trip duration. Stage four would shift traffic onto the new pavement to construct the Rowland Street splitter island and approach. This work would occur over a weekend and include a short-term weekend closure of Rowland Street at the intersection with a detour. The detour for Rowland Street would use County Route 43, County Route 59, and NY Route 29. This detour would divert traffic 4.1 miles and add 5 minutes to the trip duration. This detour has been used the entire summer season by the County for a culvert replacement project on Rowland Street, making this a familiar diversion.

There will be a combination of maintaining two-way traffic along Route 29, utilizing a long-term detour for Petrified Sea Gardens Road, utilizing a weekend detour of Rowland Street, and night work associated with this project. The construction traffic speed will be reduced by 15 mph along all legs of the intersection.

Routes for emergency vehicles will be maintained and open during construction, except when a detour is implemented. Initial notification to emergency services has occurred, and further contact will be made in advance of the implementation of detours. There were no concerns identified by emergency services.

The details for the work zone traffic control will be prepared and evaluated during final design.

2.8 Additional Considerations

2.8.1 Constructability Review

A preliminary constructability meeting was held in January 2023 with Region 1 staff representing Design, Construction, and Traffic to discuss the project and develop a preliminary construction sequence for the construction of the roundabout. This design will need to be reviewed and supported by NYSDOT support groups prior to the completion of construction sequencing for the project. Constructability review meetings will continue to occur throughout the final design phase of the project.

2.8.2 Ownership and Maintenance Jurisdiction

NY Route 29 is owned and maintained by NYSDOT. Rowland Street (CR 47) is owned and maintained by Saratoga County. Petrified Sea Gardens Road is owned and maintained by the Town of Milton.

The proposed roundabout would introduce additional features to the highway corridor. NYSDOT would continue to own and maintain NY Route 29 including the proposed splitter islands, and lighting required for the roundabout. Saratoga County would continue to own and maintain Rowland Street (CR 47) beyond the southern limits of the roundabout. The Town of Milton would continue to own and maintain Petrified Sea Gardens Road beyond the northern limits of the roundabout. All existing utilities, both public and private, would be owned and maintained by their current owner.

A Maintenance and Jurisdiction Plan and Table will be provided in the contract plans to further detail the ownership and maintenance responsibilities throughout the project limits as well as address snow and ice control responsibilities.

2.8.3 NYS Smart Growth Public Infrastructure Policy Act (SGPIPA)

Pursuant to ECL Article 6, this project is compliant with the New York State Smart Growth Public Infrastructure Policy Act (SGPIPA) since the project:

- makes operational improvements to the intersection of NY 29/Rowland Street/Petrified Sea Gardens Road.
- will improve the safety and reduce the crash rate of the intersection.
- Will not negatively affect environmental or cultural resources.

To the extent practicable this project has met the relevant criteria as described in ECL § 6-0107. The Smart Growth Screening Tool was used to assess the project's consistency and alignment with relevant Smart Growth criteria; the tool was completed by the Region's Planning and Program Management group on 08/25/2023 and reflects the current project scope. The Smart Growth Screening Tool is included in Appendix F.

2.8.4 Miscellaneous Information

There is no additional, pertinent information regarding the proposed alternative.

CHAPTER 3 – SOCIAL, ECONOMIC AND ENVIRONMENTAL CONSIDERATIONS

Refer to the Social, Economic and Environmental Resources Checklist (SEERC) included in Appendix B for information on all environmental issues for which the project was screened.

3.1 National Environmental Policy Act (NEPA)

Per the result of the Federal Environmental Approvals Worksheet (FEAW) provided in Appendix B, this project is being progressed as a NEPA Class II action (Categorical Exclusion or CE) because it does not individually or cumulatively have a significant environmental impact. As a CE, it is excluded from the requirement for the preparation of an Environmental Impact Statement (EIS) or Environmental Assessment (EA).

Per the Federal Highway Administration's (FHWA) regulations in 23 CFR 771.117, this project qualifies as a CE. The project is primarily a federally funded project that received less than \$5 million of federal funds (23 CFR 771.117(c)(23i)) and does not significantly impact the environment. In accordance with the NYSDOT/FHWA Programmatic Agreement Regarding Categorical Exclusions (PARCE), the FHWA, in a letter dated September 14, 2023, made the NEPA environmental determination due to the project exceeding the temporary and/or permanent property acquisition threshold (See Section 2.6.2). Refer to the FEAW in Appendix B for the details of this determination.

3.1.1 NEPA Participating Agencies

The following agencies have been identified as participating in an environmental review or authorization associated with this action and are considered Participating Agencies under NEPA. These agencies are also considered as involved agencies under SEQRA:

- New York State Department of Environmental Conservation
- New York State Historic Preservation Office
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service

3.2 State Environmental Quality Review Act (SEQRA)

New York State Department of Transportation is the SEQRA lead agency as per 17 NYCRR Part 15 "Procedures for Implementation of State Environmental Quality Review Act", Section 15.5. In accordance with 17 NYCRR Part 15, the Department has determined that this project meets the requirements of a SEQRA Type II Action. A Type II Action is one that is of a class or type of action which has been determined in 17 NYCRR 15.14 to not have a significant effect on the environment. No further SEQRA processing is required. The project is identified as Type II per 17 NYCRR Section 15.14, Subdivision (e), Item 37, Paragraph – (i) "minor improvements to existing highways, such as adding or widening shoulders, adding auxiliary lanes for weaving, climbing, turning or speed change, or correction of substandard intersections." The project does not violate any of the criteria contained in subdivision (d) of Section 15.14.

3.3 Additional Environmental Information

Review of the project area was performed by qualified NYSDOT Landscape Architecture/ Environmental Services (LAES) unit staff via GIS data; aerial photographs; March 2022, September 2022, and May 2023 site visits; and project documentation. For topics checked yes on the SEERC or applicable on the FEA in Appendix B, resolution is as follows:

3.3.1 Emergency Services

As discussed in Section 2.7.2, the proposed project will require the use of detours depending on the stage of the project. Routes for emergency vehicles will be maintained and open during construction, except when a detour is implemented on Rowland Street and Petrified Sea Gardens Road. Initial notification to emergency services has occurred, and further contact will be made in advance of the implementation of detours. This coordination would minimize the potential impacts to emergency services during construction.

3.3.2 Property Acquisitions

As discussed in Section 2.6.2, the proposed intersection improvement would require eight (8) FEE and eight (8) temporary easement acquisitions. The FEE takings will be used for the proposed roundabout and associated stormwater structures. The temporary easements will be used for construction and work zone traffic measures. One vacant residential structure in the southeastern corner of the intersection will need to be acquired and razed to make room for the proposed intersection improvement. This vacant property has not been an active residential structure for many years. The anticipated 0.0964-acre acquisition of one parcel, 164.-1-18, consists of more than 10 percent (18 percent) of the parcel, which exceeds the PARCE threshold and requires the FHWA to make the NEPA determination. The proposed takings will not require the relocation of any persons or businesses. The parcel owner's rights and ability to use their land will not be impeded because all of their property access will remain, and any temporary impacts will be re-graded to previous elevations and re-vegetated as necessary. Therefore, the proposed acquisitions were determined to be minor and would not impact the overall neighborhood character and stability.

3.3.3 Low Income, Minority and Ethnic Groups (Environmental Justice)

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, signed by the President on February 11, 1994, directs Federal agencies to take the appropriate and necessary steps to identify and address disproportionately high and adverse effects of Federal projects on the health or environment of minority and/or low-income populations to the greatest extent practicable and permitted by law.

In accordance with Executive Order 12898 and Title VI of the Civil Rights Act of 1964, the project was assessed to determine if the project area was within an existing minority and/or low-income (environmental justice) communities. NYSDOT reviewed various data sources including the NYS Department of Environmental Conservation's (DEC) potential environmental justice area mapping, the 2020 census data, and the Environmental Protection Agency's *EJScreen* mapping tool. It was determined that the project area is not within an environmental justice area community and no minority or low-income populations have been identified that would be adversely impacted by the proposed project. Therefore, no further analysis regarding Disproportionate High and Adverse Effects is required.

3.3.4 Specific Business Impacts

The proposed project area is adjacent to one private commercial business (Pompa Brothers, Inc.). The business has one commercial driveway on the eastern side of Petrified Sea Gardens Road just north of the Route 29 and Rowland Street intersection. During construction, access to this driveway will be limited due to proposed work zone traffic control. Therefore, as part of the proposed action, NYSDOT will be constructing a commercial driveway on the north side of Route 29 east of the intersection. The newly constructed driveway will allow the business to have continued access to their property and allow minimal disruption of operations during construction. With the construction of this driveway there will be minor temporary impacts and no permanent impacts to businesses under the implementation of the proposed intersection improvement activities.

3.3.5 Wetlands

On September 23, 2022 and May 1, 2023, NYSDOT conducted wetland surveys at the proposed project site and identified two (2) federal jurisdictional wetlands as shown in the map in Appendix B. The wetlands were delineated in accordance with the criteria defined in the 1987 US Army Corps of Engineers (USACE) Wetland Delineation Manual and 2012 Interim Supplement.

Wetland A is an approximate 6.0-acre emergent scrub/shrub wetland located adjacent to Route 29 in the southeastern quadrant of the project area (See wetlands map in Appendix B). A portion of the wetland includes a National Wetland Inventory (NWI) mapped wetland (PSS1E). The wetland is dominated by cattail (*Typha latifolia*) and silky dogwood (*Cornus amomum*). Other wetland species include purple loosestrife (*Lythrum salicaria*), jewelweed (*Impatiens capensis*), purple-stemmed aster (*Symphostrictum puniceum*), meadow horsetail (*Equisetum pratense*), sensitive fern (*Onoclea sensibilis*), and arrow-leaved tearthumb (*Persicaria sagittata*). The wetland cover type transitions into forested as it moves South away from the project area.

Wetland B is a 1.0-acre forested/scrub-shrub wetland located adjacent to Route 29 in the northeastern quadrant of the project area (See wetlands map in Appendix B). The boundaries of the wetland were created by past construction of Route 29 and the neighboring private commercial business. The development created berms along the western and northern boundaries of the wetland creating a small basin with highly saturated clay soils. The wetland continues east along the roadside ditches and existing topography. The wetland is dominated by red maple (*Acer rubrum*), Eastern cottonwood (*Populus deltoides*), American elm (*Ulmus americana*), common reed (*Phragmites australis*), silky dogwood, and heart-leaved willow (*Salix eriocephala*). Other wetland species include sensitive fern, Canada goldenrod (*Solidago canadensis*), meadow horsetail, wild madder (*Galium obtusum*), and purple-stemmed aster.

State Jurisdictional Wetlands

Based on a review of NYSDEC's Environmental Resource Mapper (ERM) and verified by site visits, there are no NYSDEC regulated freshwater wetlands within the project area. Therefore, no impacts to state jurisdictional wetlands are anticipated with the implementation of the proposed action.

Federal Jurisdictional Wetlands

It is anticipated that the proposed project will require impacts to wetlands as noted in Exhibit 3-1. There is no alternative to construction in wetlands since avoidance is not practicable due to the proximity to the road and necessary design standards. Potential impacts to Wetland B were avoided during design by shifting the proposed business driveway West towards the intersection.

Final temporary and permanent impacts will be determined during the final design phase of the project. All practicable measures to minimize impacts to wetlands will be utilized during final design. The estimated temporary impacts are related to grading activities and placement of roadside fill for the temporary southern realignment of Route 29 during construction. The estimated permanent impacts are related to the placement of roadside fill associated with the proposed realignment of the eastern portion of Route 29 due to the construction of the proposed roundabout. It is expected that any impacts associated

with this work will be authorized under Clean Water Act Section 404 Nationwide Permit # 14 – Linear Transportation Projects. Work will not commence until the permit is acquired, and work will adhere to all permit conditions. A Blanket Section 401 Water Quality Certification (WQC) will likely apply to this project, since the work required will meet the requirements of Nationwide Permit # 14 and it will comply with the NYSDEC General WQC Conditions.

Exhibit 3-1 Wetland Impacts					
Wetland		Identified Functional Values	Approximate Total Size (acre)	Impacts	
ID	Type			Alternative 1 - Preferred	
				Temporary	Permanent
W-A	Emergent/ Scrub- Shrub / Forested	<ul style="list-style-type: none">• Highway & Roadside drainage/filtering• Storm water drainage/storage• Wildlife Habitat	6.0	0.03 acre	0.03 acre
W-B	Forested/ Scrub- Shrub	<ul style="list-style-type: none">• Highway & Roadside drainage/filtering• Storm water drainage/storage• Wildlife Habitat	1.0+	0	0
Total Impacts				0.03 acre	0.03 acre

Executive Order 11990

A programmatic Executive Order (EO) 11990 applies to this project, based on its classification as a CE under 23 CFR 771.117 and its qualification for a USACE Section 404 Nationwide Permit. Minor impacts to federal jurisdictional wetlands are proposed; however, there is no practicable alternative to construction in the wetlands, and all practicable measures to minimize harm to the wetland will be incorporated. The project satisfies the requirements of EO 11990. No further approval from FHWA is required.

3.3.6 Stormwater Management

A State Pollution Discharge Elimination System (SPDES) General Permit, GP 0-20-001, will be required because the project will cause more than one acre of soil disturbance. A Stormwater Pollution Prevention Plan (SWPPP) with the appropriate sediment and erosion control measures will be developed. Based on the SWPPP, permanent stormwater management practices may be required depending on the total amount of disturbance and changes in total impervious area.

3.3.7 Threatened and Endangered Species

Following NYSDOT screening protocols, an official species list was created from the US Fish and Wildlife Service's (USFWS) online Information for Planning and Consultation (IPaC) and is included in Appendix B. The project area was also screened using the New York Natural Heritage Program (NYNHP) Database for known occurrences within a 1.5-mile radius of the project area.

Federally Listed Species

The proposed project activities were assessed for potential impacts to federally listed endangered and threatened species. NYSDOT environmental staff reviewed the USFWS IPaC website and determined that there is the potential for one federally-listed endangered species to occur within the project area, the Northern long-eared bat (NLEB, *Myotis septentrionalis*). The official species list also indicated that the federally candidate species monarch butterfly (*Danaus plexippus*) has the potential to occur in the project area. As a candidate species, the monarch butterfly does not have any protection under Endangered Species Act (ESA) Section 7. Consultation or conference (formal or informal) with USFWS is not required.

at this time. The project takes place in previously disturbed areas and currently maintained right-of-way. Removal of pollinator habitat is not anticipated. A review of the NYNHP database indicated the presence of the federally-listed as endangered Karner blue butterfly (KBB, *Lycaeides melissa samuelis*) within 1.5 miles of the project area.

Northern Long-eared Bat

According to the NYNHP, the NLEB is “typically associated with mature interior forest and tend to avoid woodlands with significant edge habitat” and may be “found in cluttered or densely forested areas including in uplands and at streams or vernal pools.” During summer, NLEB roost in cavities, underneath bark, crevices, or hollows of both live and dead trees and/or snags typically in trees that are ≥ 3 inches diameter at breast height (dbh). This species can roost singly or in colonies. They may also roost in buildings or behind shutters. A variety of tree species are used for roosting. Roosts of female bats tend to be large diameter, tall trees, and located within less dense canopy. Suitable winter habitat (hibernacula) for the NLEB include caves and mines where air temperature is relatively constant, preferring cooler temperatures with high humidity. There are no underground mines or caves within the project area. The nearest hibernaculum is 6 miles northwest of the project site and the nearest known maternity roost trees are 118 miles south of the project site.

The proposed project footprint will require the removal of vegetation along Route 29 for the construction of the proposed roundabout, temporary lane, and a temporary driveway for the adjacent commercial business. Approximately 50 trees ≥ 3 inches dbh were identified within the vegetation removal areas. These areas were reviewed by NYSDOT LAES staff for their ability to provide habitat for the NLEB. The proposed temporary driveway location contains dead snags and trees exhibiting peeling bark, which would all provide suitable habitat for the NLEB.

The location of the NLEB is within the consultation range but outside of the scientific range. According to the amended February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion (dated March 23, 2023), it was determined that the proposed action will have “No Effect” on the federally-listed NLEB via a Consistency Letter generated in IPaC (See Appendix B). No further ESA consultation is required.

Karner Blue Butterfly

The KBB is a state and federally listed as endangered butterfly that is found in certain parts of the Hudson Valley sand belt which extends from the Albany Pine Bush north to the Glens Falls area. Within this range, this species is restricted to dry sandy areas with open woods and clearings supporting wild blue lupine (*Lupinus perennis*). KBB caterpillars feed only on the leaves of the wild lupine and adults feed on the nectar of flowering plants. This type of habitat is usually associated with pitch pine/scrub oak or oak savannah communities that are maintained by fire at an early stage of plant succession.

The KBB did not show up on the IPaC Official Species List. However, a review of the NYNHP database indicated that there is a known KBB population approximately 1.0-mile South of the project area. The project area consists of maintained mowed roadside, drainage ditches, forested areas, and wetlands. In open areas, mowing practices limit the potential for suitable habitat. No KBB suitable habitat, or plant remnants such as lupine seed pods, were observed within the project limits during NYSDOT’s March 2022, September 2022, and May 2023 field visits. Based on field visits and lack of suitable habitat, there will be “No Effect, No Suitable Habitat” to the KBB from the implementation of the proposed action. FHWA concurred with this determination on June 12, 2023 by letting the required 7-day consultation window pass without a response.

State Listed Species

A review of the NYNHP database also indicated the presence of two state-listed species within 1.5 miles of the project area. These include the Frosted elfin (*Callophrys irus*) and the KBB. Potential impacts to the KBB are discussed above under ‘Federally Listed Species.’ The NYSDEC has also indicated that the NLEB has the potential to be encountered anywhere in New York State. To comply with NYSDEC’s guidance, tree cutting will be restricted in the pup-rearing season (June 1 to July 31).

Frosted Elfin

The Frosted elfin is a state-listed as threatened butterfly that can be found in habitat associated with remnant pine barrens, oak savannas, or dry oak forests. According to the NYNHP, the most typical habitats for this species are grassland/herbaceous areas within utility right-of-ways and, airport approach zones, not natural grasslands. The New York population of this species feeds mostly on the flowers or seed pods of wild blue lupine, similar to the KBB. No suitable habitat, or plant remnants such as seed pods, were observed within the project limits during NYSDOT's March and September 2022 field visits. Therefore, no impacts to this listed species are anticipated by the implementation of the proposed action.

3.3.8 Historic and Cultural Resources; Section 106 and Section 14.09

The NYSDOT Regional Cultural Resources coordinator has reviewed the project scope and location for an assessment of obligations under the National Historic Preservation Act of 1966, Section 106 and NY State Historic Preservation Act of 1980, Section 14.09 for this federally permitted project. The project area was screened for historic resources and archaeological sensitivity using the NY State Historic Preservation Office's Cultural Resources Information System (CRIS) database. An archaeological survey was conducted by the New York State Museum's Cultural Resource Survey Program in June of 2023. No Historic properties were identified as a result of this survey.

Based on review of the project scope, NYSDOT determined that No Historic Properties would be affected by this undertaking and submitted this finding to SHPO, The Saint Regis Mohawk Tribe, and the Stockbridge-Munsee Community Band of Mohican Indians on August 4, 2023. SHPO concurred with this determination on August 4, 2023. On September 5, 2023, NYSDOT requested that FHWA determine that no historic properties will be affected by this undertaking. The FHWA provided their determination via signed letter dated September 7, 2023. There are no further obligations for compliance to the National Historic Preservation Act of 1966, Section 106 and NY State Historic Preservation Act of 1980, Section 14.09.

3.3.9 Asbestos Containing Material

A survey for the potential presence of Asbestos Containing Materials (ACM) within the acquired structure and an investigation into potential presence of ACM within an abandoned utility line within the project area is required. The survey of the acquired structure has been conducted by the asbestos term agreement consultant, and laboratory results indicate the presence of ACM. Therefore, the asbestos term agreement consultant will provide items and Special Notes for asbestos abatement. Results of investigation into potential presence of ACM within the abandoned utility line is still pending, and if necessary, will be incorporated into appropriate items and Special Notes for asbestos abatement.

3.3.10 Contaminated and Hazardous Materials

Investigation of the building interior for hazardous waste/contaminated materials is warranted and a preliminary screening has been conducted by the asbestos term agreement consultant during the survey of the acquired structure. Results of this preliminary screening are outstanding, and will inform whether or not a Phase I and Phase II environmental site assessment would be required to be conducted by the hazardous materials term agreement consultant.

3.3.11 Transportation Air Quality Conformity

This project is located in Saratoga County which is subject to transportation air quality conformity. The project is considered an exempt project as per Table 2 in 40 CFR Section 93.126 and is exempt from

Regional Emissions Analysis as per Table 3 in 40 CFR Section 93.127. Additionally, an air quality analysis is not necessary since the project will not increase traffic volumes, reduce source-receptor distances, or change other existing conditions to such a degree as to jeopardize attainment of the National Ambient Air Quality Standards.