

VT Route 15 Sidewalk / Path Study, Athens to VT Route 289 Essex Junction, Vermont

Scoping Report



Prepared by:



Prepared for:



July 31, 2018

VT ROUTE 15 ATHENS DRIVE TO VT ROUTE 289



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1.0 INTRODUCTION

The Chittenden County Regional Planning Commission (CCRPC), working with the Town of Essex, the Village of Essex Junction, and Stantec Consulting Services, Inc. developed a scoping study evaluating sidewalk/path improvements for VT Route 15 between Athens Drive and VT Route 289. The goal of the scoping project was to identify options for an important missing link between the Town and Village pedestrian and bicycle network.

The scoping process involves identifying existing roadway and traffic conditions and then developing a purpose and need for the project. Alternative improvement strategies are then identified and evaluated leading to the selection of a preferred alternative.

The scoping process includes working closely with a project advisory committee made up of community leaders, Village/Town staff, CCRPC staff, and others. Advisory committee members for this project are listed below.

Essex Junction Village Staff
Essex Town Staff
CCRPC

Robin Pierce, Rick Jones
Dennis Lutz, Darren Schibler
Christine Forde, Marshall Distel

The advisory committee is charged with recommending a preferred improvement alternative to the Village Trustees and Town Selectboard.

2.0 PROJECT BACKGROUND

The VT Route 15 corridor has long been recognized as a primary transportation corridor that lacks sufficient pedestrian and bicycle facilities. Much progress has been made in recent years to address this. In Essex Junction, as development and roadway projects have occurred along VT Route 15, sidewalks, a shared use path and bike lanes have been provided. These end at Athens Drive and near the Village/Town border. With the significant development in the VT Route 289 area of the Town, additional segments of sidewalks and shared use paths were constructed along VT Route 15. The 3600-foot section along VT Route 15, from Athens Drive to VT Route 289, has not seen significant development and is where the linkage of pedestrian and bicycle facilities to the east and west is missing.

This study focuses on this area and its limits are shown in Figure 1.

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Figure 1: Project Study Area



2.1 EXISTING PLAN AND STUDY REVIEW

Plans and studies have been developed for this area that considered traffic and pedestrian concerns. Plans and studies reviewed for the preparation of this scoping study and are listed below.

- *VT 15 Corridor Study, 2008*
- *Essex Town Plan, 2016*
- *Essex Junction Comprehensive Plan, 2014*
- *Town of Essex, Village of Essex Junction Bicycle and Pedestrian Plan, 2014*
- *Chittenden County Active Transportation Plan, 2017*

Key elements relevant to this project are discussed below.

2.1.1 VT 15 Corridor Study, 2008

This study included the section of VT Route 15 from Winooski to Jericho and contain the following goals, objectives, and strategies pertinent to this project:

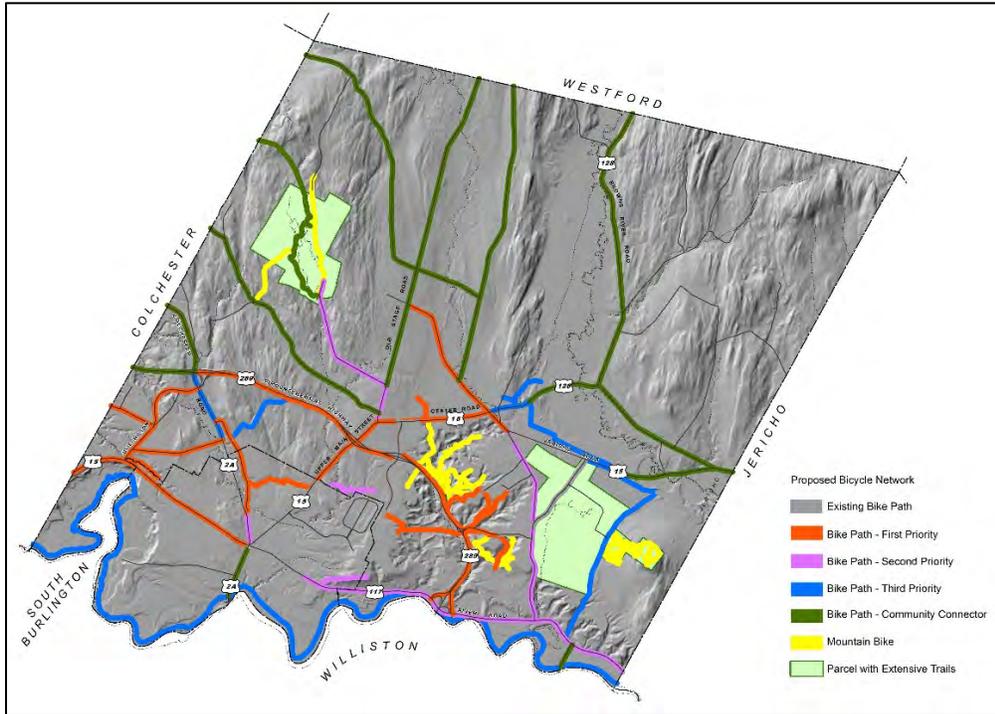
1. Enhance corridor safety for vehicular, pedestrian and bicycle traffic.
2. Create a safe bicycle network designed for transportation purposes
3. Improve bicycle and pedestrian facilities in the corridor and eliminate all gaps to create a continuous and efficient bicycle and pedestrian network.
4. East of the Five Corners sidewalks are recommended on both sides of VT 15 up to VT-289 where they will become shared use paths across the bridge over VT-289.
5. A continuous 5-foot shoulder or designated bicycle lanes is recommended (in the long term) along corridor segments that currently do not have on-road bicycle facilities, including VT Route 15 in the project area.

2.1.2 Essex Town Plan, 2016

The *Essex Town Plan* outlines the Town's goals, policies, and recommended actions. The goals and actions applicable to this study are listed below.

1. Multiple modes of transportation that connect residents to schools, work places, shopping centers and recreational areas shall be supported.
2. The proposed Bicycle network includes this section of VT Route 15 as a first priority.

Figure 2 Essex Town Plan 2016



2.1.3 Essex Junction Comprehensive Plan 2014

This plan includes the following objectives that pertain to this project.

1. Continue improving access to and safety of bicycle and pedestrian facilities, and public transit. Support the work of the Bike-Walk Advisory Committee.
2. Continue reducing local energy demand by providing further expansion of sidewalks, bike paths, park & rides, and public transportation.
3. Continue to increase the number of sidewalks and other facilities to support bike and pedestrian travel, making it easier for residents to visit downtown businesses.
4. Engage in climate mitigation strategies to reduce the region's contribution of greenhouse gases. For example, continue to implement policies that promote investment in transportation options that reduce emissions - such as sidewalks and bike lanes.
5. Encourage alternative access to all educational facilities through the use of sidewalks, bike paths and mass transportation as appropriate.
6. Well-marked bike and pedestrian lanes will encourage safety by allowing residents to comfortably and securely navigate the community.

7. Promote and implement strategies to encourage the use of bicycles as alternate transportation modes.

The Transportation section of the Comprehensive Plan states the following:

1. The Bike-Walk Advisory Committee has adopted the following vision statement: "Essex Junction strives to be recognized as a friendly village of connected neighborhoods and destinations in which convenient and safe bicycle and pedestrian facilities are integrated into a seamless and accessible year-round transportation system. This system will promote the enjoyment and health of all citizens, a more vibrant local economy, and a cleaner environment."

2.1.4 Town of Essex, Village of Essex Junction Bicycle and Pedestrian Plan, 2014

This plan identified the projects that need to be implemented to develop Direct Route and Neighborhood Bicycle and Pedestrian Networks. VT Route 15, south of VT 289, was listed as a high priority.

2.1.5 Chittenden County Active Transportation Plan, 2017

This plan updated the Chittenden County Active Transportation Plan, which defines its goal as creating a safe, comfortable, and connected regional network of pedestrian and bicycle routes that appeal to all ages and abilities. The Active Transportation Plan (ATP) supports CCRPC's regional ECOS plan and was developed in coordination with other concurrent local, regional, and state planning efforts. The result of this planning process was a series of proposed infrastructure and non-infrastructure recommendations organized around the five E's—education, encouragement, enforcement, engineering, and evaluation. Infrastructure and engineering recommendations were developed using a prioritization method that involved feasibility, closing gaps in the network, addressing a high crash location, and serving a population in need.

Important items noted in the plan relative to this study area included:

1. This section of VT15 was shown as a high priority and high feasibility on the proposed active transportation network.
2. The project team developed an interactive online map (a wikimap) that was available for input between late September 2015 and early November 2015. This allowed the public to provide geographically specific information about informal connections, desirable routes, and roadways of concern. Users were asked to identify routes they already ride or walk, ones they would like to ride or walk, and barriers to bicycling or walking throughout Chittenden County. When the project team asked the public to show which routes they would like to walk or bike within Chittenden County, this section of VT 15 was one of the most common.

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3. The project team asked the public to show which locations they see as barriers to biking in Chittenden County and VT 15 was identified as challenging due to sight lines and narrow shoulders.
4. Network segments were established to connect bicycling and walking origins and destinations. Segments for which a low-stress alternative does not already exist (for example, a shared use path on a parallel alignment) were identified and it included the VT 15 corridor.
5. Recommendations included: Focus on separated facilities (separated bike lanes, shared use paths) to attract the greatest number of potential users

3.0 EXISTING CONDITIONS

3.1 ROADWAY CHARACTERISTICS

This section of VT Route 15 was reconstructed in 1934 and has not had significant improvements, beyond resurfacing and maintenance since. The exception to this is the east end of the project area as it approaches VT 289 where VT Route 15 was reconstructed and widened.

The existing paved roadway width varies but is generally 28 feet wide. This includes two 12-foot travel lanes and two 2-foot shoulders. The width widens to 12-foot lanes and 8-foot shoulders on the approach to VT 289.

Figure 3 VT Route 15



VT Route 15 is a Class I town highway in Essex Junction up to the Essex Junction/Essex Town line. As a Class I, this section of VT Route 15 is owned and maintained by the Village of Essex Junction. At the town line and eastward, VT Route 15 is owned and maintained by VTrans.

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The posted speed with the Village limits is 30 mph and increases to 40 mph east of the town line. The location of the Village/Town boundary is shown on Figure 4 below.

The existing highway right-of-way width is generally 49.5 feet wide but does increase in the area of the Indian Brook Crossing and in the reconstructed section approaching VT 289.

The aerial utilities are primarily on the northern side of VT Route 15, but cross to the southern side on the approach to VT 289. There is a water line along the south side until it crosses VT Route 15 east of the town line and connects to a water storage tank.

This section of VT Route 15 includes a crossing of Indian Brook with a 12-foot wide by 6-foot high concrete box culvert. Based on the VTrans 2016 inspection report, the culvert is rated 5, fair condition. This suggests repair or replacement may be needed in the future. VTrans indicated they have no current improvement plan for the culvert.

Figure 4 Village of Essex Jct. / Town of Essex town line



3.2 TRAFFIC VOLUMES

Traffic volume data including Annual Average Daily Traffic (AADT) values and Hourly Volumes for the study area were available from VTrans. VTrans' 2016 AADT values for VT Route 15 are displayed in Table 1.

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Table 1: Current AADT Volumes

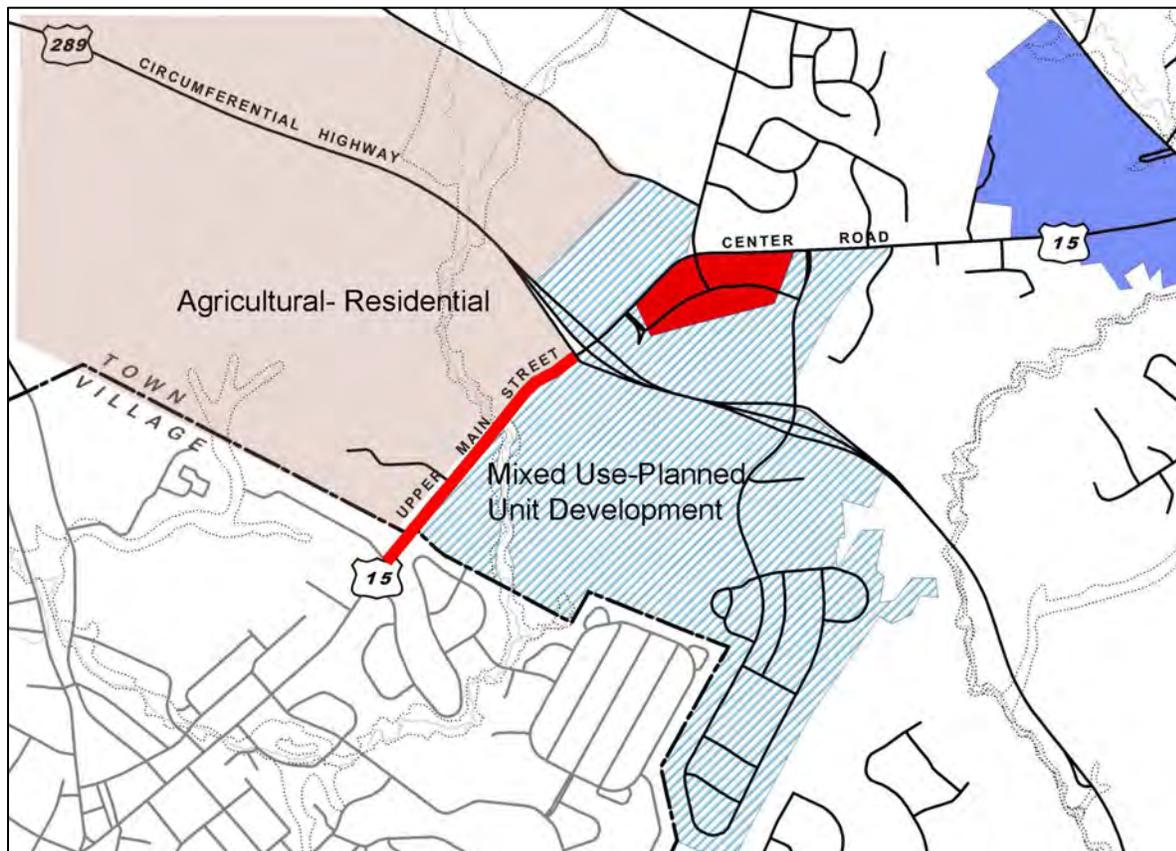
Location	AADT	Count Years
VT Route 15 – West of VT Route 289	10,800	2016
VT Route 15 – At VT Route 289	18,800	2016
VT Route 15 – East of VT Route 289	17,400	2016

3.3 LAND USE AND ZONING

Land use surrounding the project area has evolved significantly over the years. With the construction of VT 289 and the regional growth, the Essex Town Center to the east has developed into a regional commercial area. This growth has included residential and mixed-use development. The land adjacent to VT Route 15 within the project area has not realized significant new development except for the properties closer to VT 289, such as the Lang Farm. Much of the corridor remains single family homes and agricultural.

However, land uses in the project area are changing. The area on the south side of VT Route 15 is zoned Mixed Use Planned Unit Development and there is a permitted project on the Kolvoord parcel for 17 single family homes and 14 carriage homes.

Figure 5 Land Use Zoning in the project area



3.4 PEDESTRIAN AND BICYCLE FACILITIES

To the west of the project area, in the Village, there is a shared use path along the south side of VT Route 15 that ends at Fairview Drive and connects to the Village core and Essex High School. From Athens Drive westward towards the Village, VT Route 15 has 4-foot shoulders that are marked and signed as bike lanes. East of VT 289, a network of shared use paths and sidewalks extend through the recent development and along VT Route 15.

Within the project area there are no dedicated pedestrian or bicycle facilities. Pedestrians currently walk along the edge of the paved shoulder as is evident from the dirt path beside the road. Bicyclists share the road with vehicles.

Figure 6 Bicycles/Pedestrian share the road along this stretch of VT 15.



3.5 TRANSIT SERVICE

Green Mountain Transit (GMT) has one bus route, Route #4 Essex Center, that passes through the project area.

There are no designated bus stops in the project area. Table 4 summarizes bus route schedule and fare information.

Table 2: GMT Bus Schedule

Route	Start Location	End Location	Cost*	Schedule	Frequency
#4: Essex Center	Amtrak Station	Amtrak Station via Essex Center	\$1.25	M-F 6:00 AM - 9:30 AM 1:00 PM – 6:45 PM	M-F; 30min;

*Fare for one-way ride

3.6 CRASH HISTORY

The crash history for the study area was investigated using the VTrans crash database. VTrans keeps records of reported crashes by milepost along State and Federal Aid highways in Vermont. General Yearly Summaries can be requested from VTrans for given roadway segments. The summaries note the location (mile marker), date, time of day, weather conditions, contributing circumstances and severity for reported crashes. Crash data for 2012 through 2016 were reviewed for VT Route 15 between mile marker 3.1 (Athens Drive) and mile marker 3.8 (VT 289). Table 3 provides a summary of the crash data.

Table 3 Crash Summary (2012-2016)

Year	VT Route 15
2012	7
2013	11
2014	4
2015	5
2016	3
Total	30
Type	
Angle	2
Rear-end	20
Head-on	0
Single Vehicle	2
Sideswipe	1
Unknown-other	5
Total	30
Severity	
Property Damage	27
Personal Injury	3
Fatality	0
Other	0
Total	30
Weather	
Clear	11
Cloudy	10
Rain	3
Snow/Ice	4
Fog	0
Unknown	2
Total	30

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Time of Day	
7:00AM to 9:00AM	5
9:00AM to 4:00PM	12
4:00PM to 6:00PM	7
6:00PM to 7:00AM	6
Unknown	0
Total	30

High Crash Locations

VTrans maintains a listing of High Crash Locations (HCL) within the state. A 0.3 mile highway segment or intersection must have at least 5 crashes over a 5-year period and the actual crash rate (number of crashes per million vehicles) must exceed a critical crash rate to be classified as an HCL. The critical crash rate is based on the average crash rate for similar highways. The VTrans High Crash Report: Sections and Intersections 2012-2016 lists one roadway section as an HCL within the project study area. It is summarized in Table 3 and is in the area of the VT 289 interchange. The VTrans High Crash Report is contained in the appendix. None of the crashes listed for 2012-2016 along this segment included pedestrians or bicycles.

Table 4 High Crash Locations

	Name	HCL No.	Mile Marker	AADT	Crashes	Fatalities	Injuries	Actual/Critical Ratio	Severity Index
Segment	VT Route 15	606	3.682 - 3.982	10,800	57	0	12	1.146	\$28,346

3.7 NATURAL RESOURCES

Stantec conducted a preliminary review of the natural resources present within the study area. Specifically, as part of this investigation, Stantec identified and characterized wetlands, streams, rare, threatened or endangered (RTE) species, wildlife habitat, agricultural land, 4(f) and 6(f) public lands, and hazardous waste sites. Refer to Appendix D for complete summary of the study's findings.

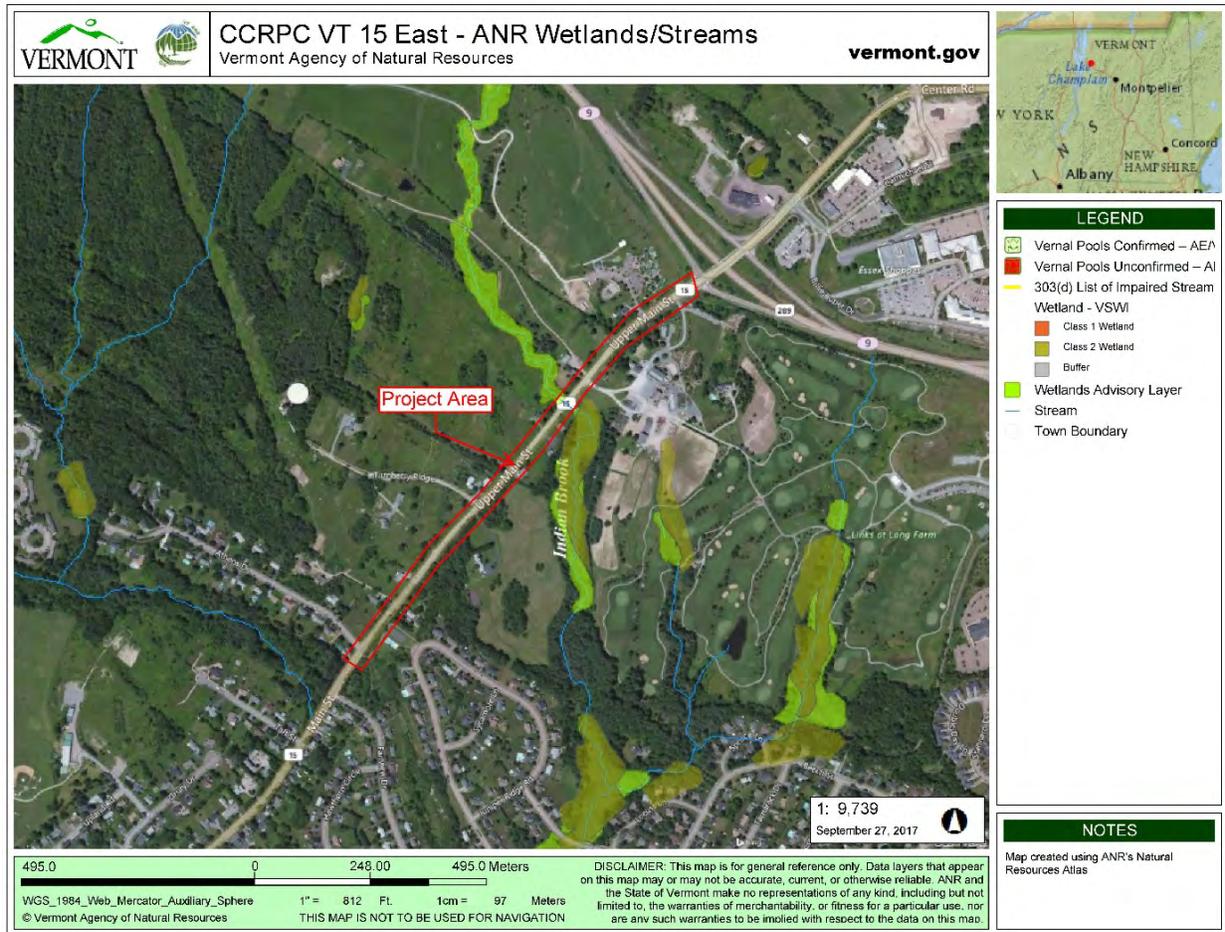
Natural Resource Review Summary – Review of Existing Materials

Stantec used the Vermont Agency of Natural Resources (ANR) Natural Resources Atlas mapping program to evaluate known natural resources within the project area.

Wetlands and Streams. According to the ANR program, there is a Vermont Significant Wetland Inventory (VSWI) wetland mapped along Indian Brook within the project area (see ANR Wetlands/Streams figure). This is a Class II wetland with a regulated 50-foot buffer.



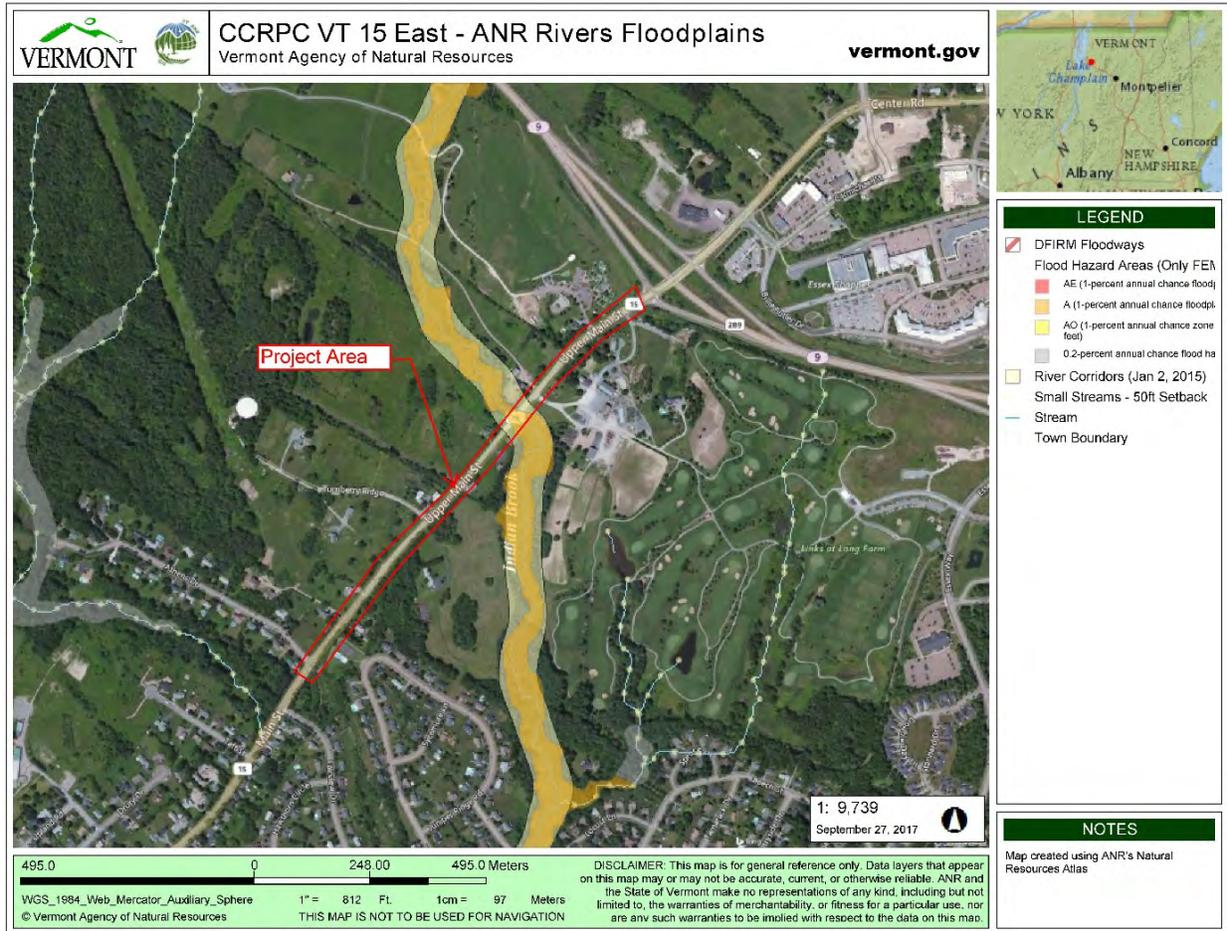
Figure 7 ANR VSWI Wetland in the project area



Indian Brook flows from north to south under VT 15 near the northern limits of the project area. This is a perennial stream with a mapped FEMA 100-year floodplain. It also has an ANR 50-foot river corridor (see ANR Rivers Floodplains figure). Indian Brook is stormwater-impaired and a Flow Restoration Plan (FRP) has been developed. The purpose of the FRP is to provide a planning tool to implement stormwater best management practice (BMP's) over a twenty (20) year timeframe, in the effort to return Indian Brook to its attainment condition. The BMP's identified to obtain the TDML high flow target includes the Fairview Drive/Main Street retrofit with Add On which treats stormwater in the project area. This project should be coordinated with this planned retrofit.

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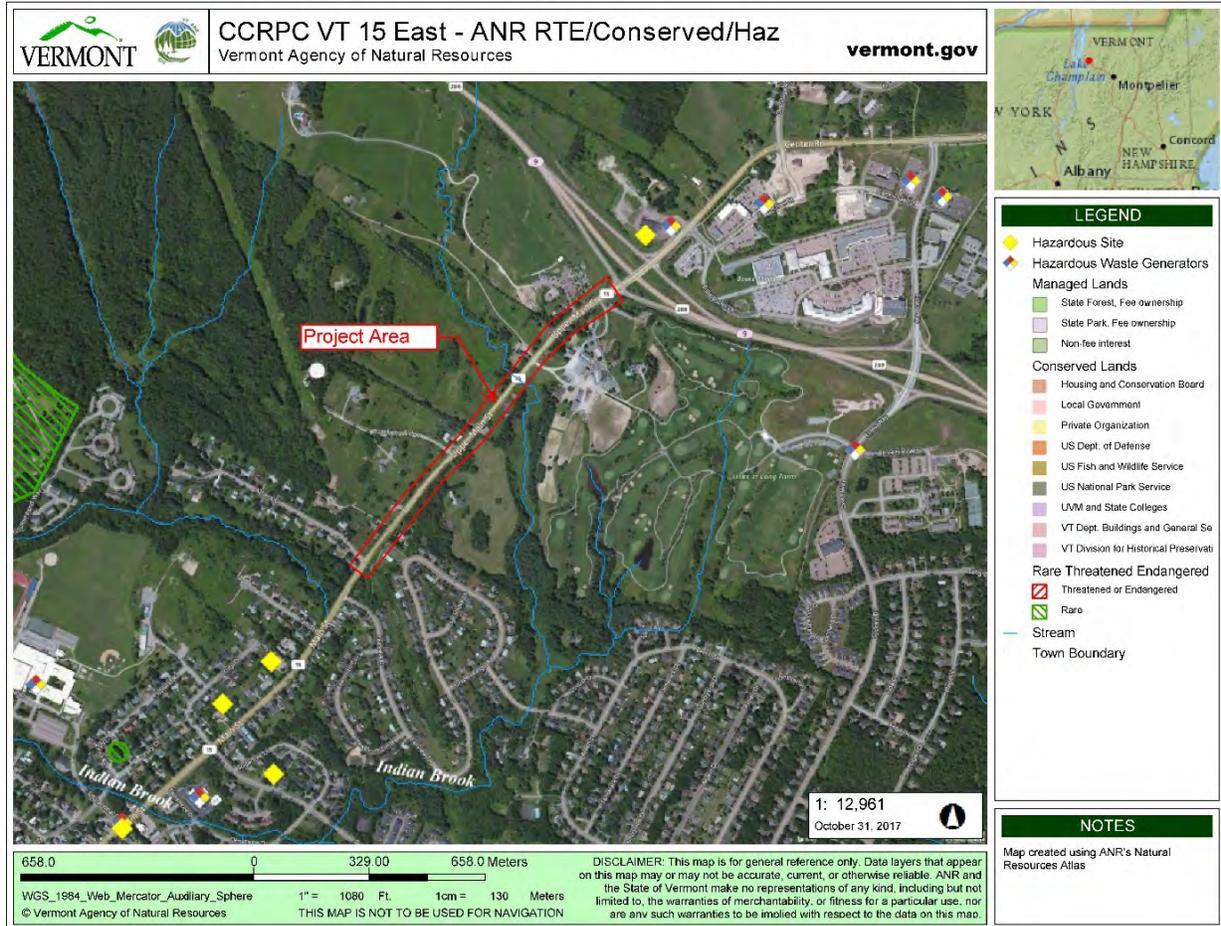
Figure 8 Indian Brook



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RTE Review. No rare plant species or rare habitat types are mapped by ANR within the project area (see below RTE/Conserved/Haz figure).

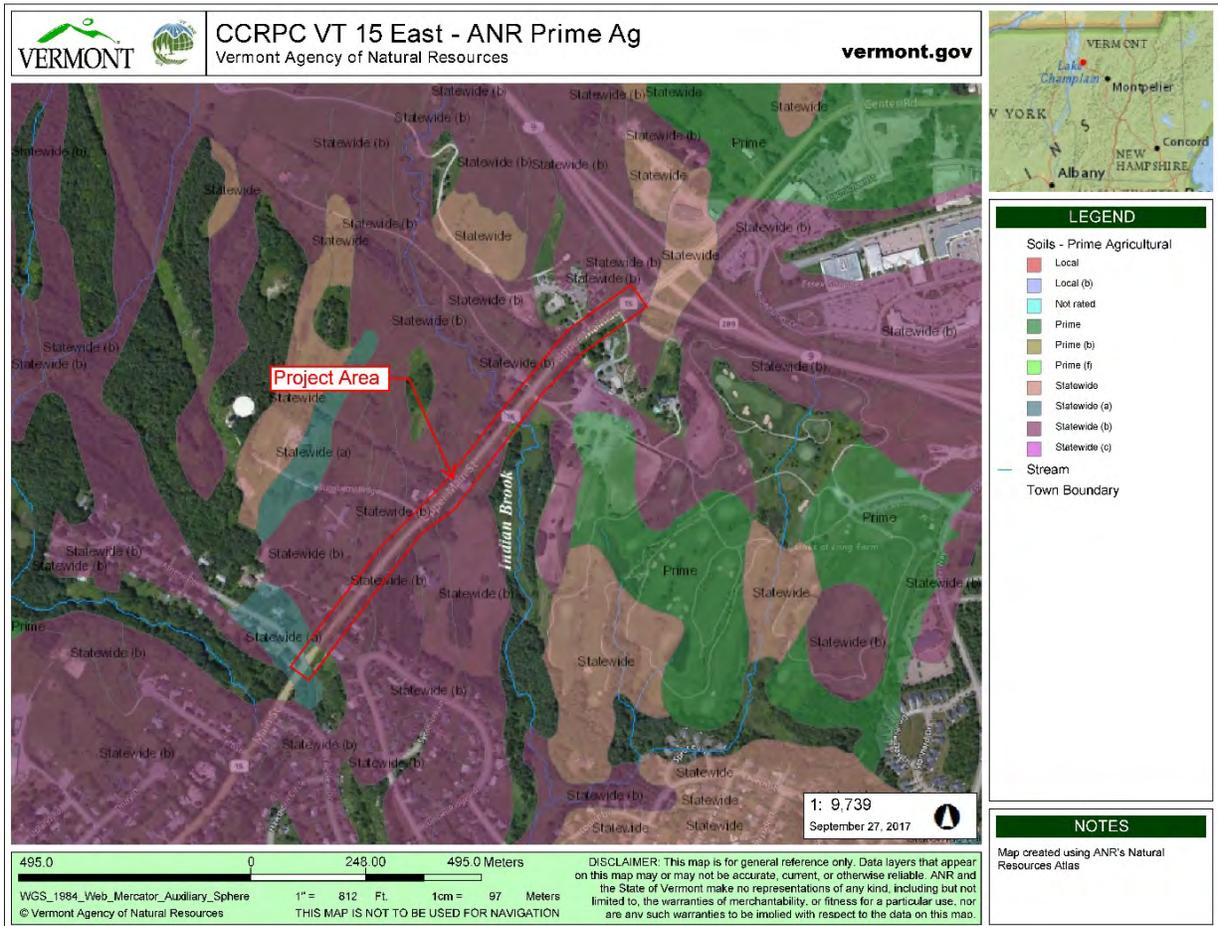
Figure 9 ANR RTE Map



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Agricultural Soils. According to the Natural Resources Atlas, the soils within the project area include Statewide agricultural soils (see ANR Prime Ag Map below). The Farmland Policy Protection Act does not apply to projects within existing road ROWs. If any work is proposed outside of existing ROW, authorization from the NRCS via form AD-1006, the Farmland Conversion Impact Rating form, may be required.

Figure 10 ANR Agricultural area



Public Lands. The Project Areas do not include public recreation lands (a Section 4(f) resource) or public lands developed with Land and Water Conservation Funds (a Section 6(f) resource) (see RTE/Conserved/Haz Figure 9).

Hazardous Waste Sites. The ANR mapping program was reviewed for information on Hazardous Waste Sites in the project vicinity. No active Hazardous Waste Sites or Hazardous Waste Generators are located within the project area (see RTE/Conserved/Haz Figure 9).

4.0 PURPOSE AND NEED STATEMENT

The following statement was developed based on the existing conditions assessment, public input, and project advisory committee discussions.

Purpose: The purpose of this project is to create a safe, visible, comfortable, convenient, and direct pedestrian and bicycle facility connecting existing facilities on VT 15 between Athens Drive in the Village and VT 289 in the Town, while maintaining safe and efficient vehicular conditions on the VT 15; support healthy and sustainable lifestyles; and connect neighborhoods within the Town and Village to the businesses in the designated Village Center and the Essex Town Center area.

Needs

1. **Provide an inviting travel corridor that reinforces the Town's, Village's and Region's goals for pedestrian and bicycle mobility.** The lack of bicycle and pedestrian facilities fail to provide residents and visitors with a safe and convenient active transportation corridor to link neighborhoods with schools, shopping centers and work places. The 2016 Essex Town Plan states the following specific transportation policy: "Multiple modes of transportation that connect residents to schools, work places, shopping centers and recreational areas shall be supported." The desire for Village and Town neighborhoods to connect to the Essex Town Center and with the Five Corners area and the designated Village Center is evident with the worn path adjacent to VT 15.
2. **Facilitate use by all age groups, experience levels, and purposes of trips.** The current facility is challenging for all users including the most experienced and confident pedestrians and cyclists. The existing roadway is posted a 45 mph and is approximately 28 feet wide including 2 foot shoulders for much of the corridor. This discourages would-be commuters and recreational cyclists and pedestrians needing to travel along VT 15. This connection would provide access to schools, shopping centers, and work places and therefore it is expected to be used by a wide range of ages and abilities.
3. **Contribute to the town and regional bicycle network.** This area of VT 15 has been identified in the 2016 Essex Town Plan as a "first priority" location in the proposed bicycle network. This area is a missing link in the network that has been identified as a principal barrier within the regional bicycle and pedestrian network.
4. **Create a safe, comfortable, user-friendly, desirable year-round bicycle and pedestrian connection along VT 15.** The 28-foot roadway width and vehicle speeds result in challenging accommodations for pedestrians and bicyclists. It favors the higher speed movement of vehicles.

5.0 ALTERNATIVES

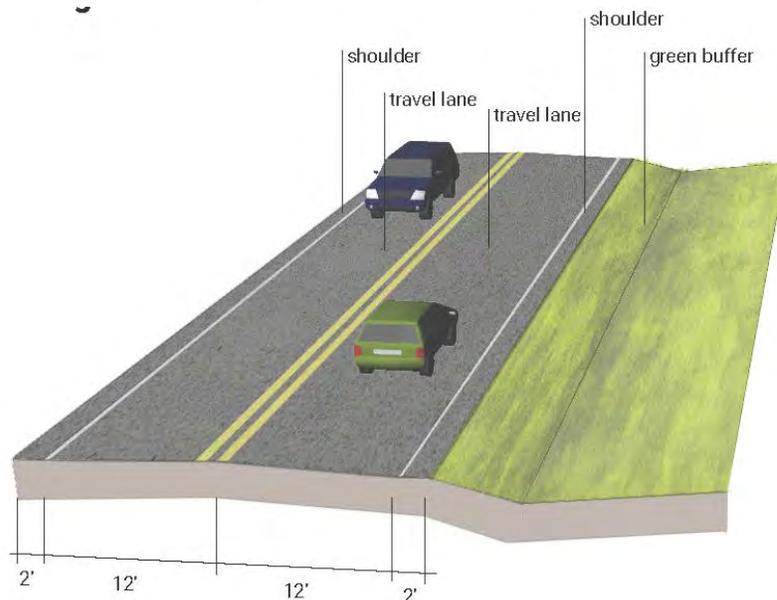
The project advisory committee (PAC) considered a wide range of improvements to address the project's purpose and need. During the PAC meetings, various combinations of on-road and off-road bicycle facilities and sidewalks were discussed as well as whether facilities should be located on the south side or the north side of VT Route 15. The Purpose and Need statement identified the desire for a direct route so alternatives adjacent to VT Route 15 were favored. The existing facilities at the east and west ends of the project area, which the project connects to, are located on the south side and planned and future development is expected along the south side, so alternatives along the south side of VT Route 15 were favored. Based on these discussions the following alternatives were developed and evaluated:

- Alternative 1: No Action
- Alternative 2: 10-Foot Shared Use Path and Bike Lane
- Alternative 3: 8-Foot Shared Use Path and Bike Lane

5.1 ALTERNATIVE 1: NO ACTION

For No Action alternative, the existing transportation facilities in the project area remain as they exist today. The roadway remains a 2 lane facility with 2-foot shoulders and bicycles and pedestrians sharing the road and no pedestrian facilities. Direct bicyclists along VT Route 15 continue to leave a shared use path to the west or the east and share lanes with vehicles. This alternative has no construction costs and has no impacts to right-of-way, resources, or traffic. The No Action Alternative does not address the project's purpose and need and a missing link in the regional bike network remains.

Figure 11 Alternative 1 Typical Section

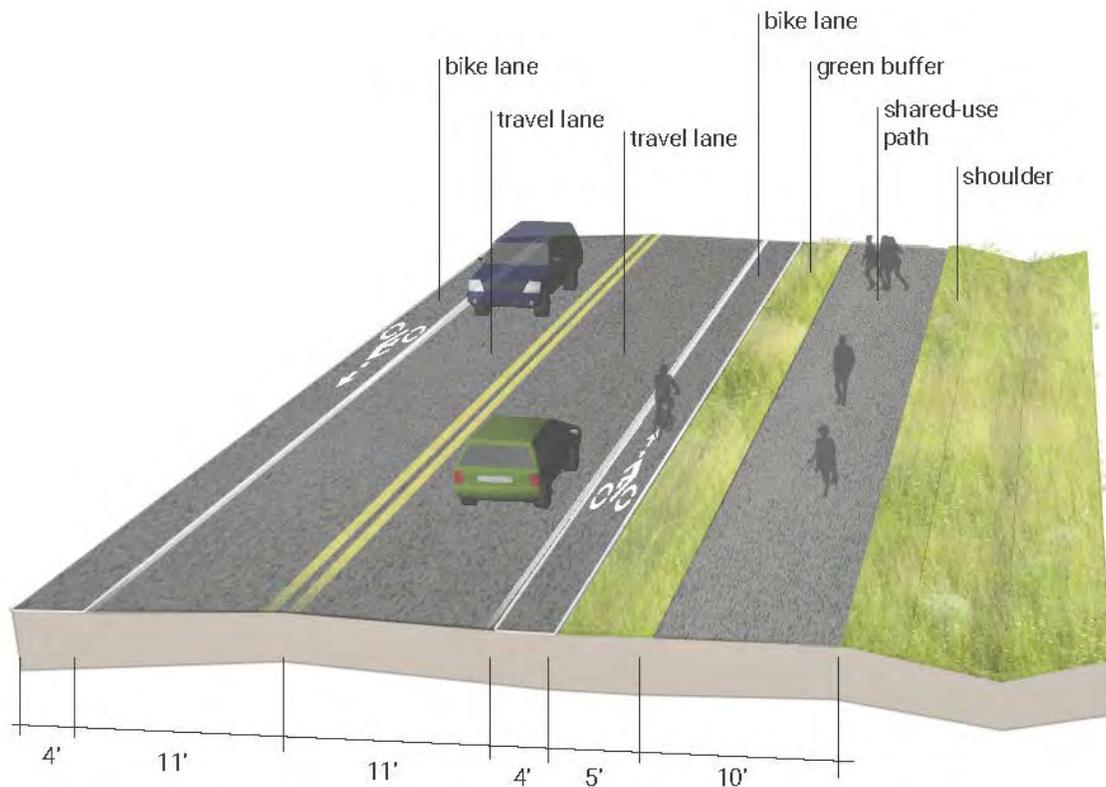


5.2 ALTERNATIVE 2: 10-FOOT SHARED USE PATH AND BIKE LANES

This alternative proposes a 3600-foot long 10-foot wide shared use path along the south side of VT Route 15 and provides for a widened 4-foot shoulder on both side of VT Route 15. A typical section and plan of this alternative is shown in Figure 12 and Figure 13, respectively. As shown on the plan this alternative includes the following features:

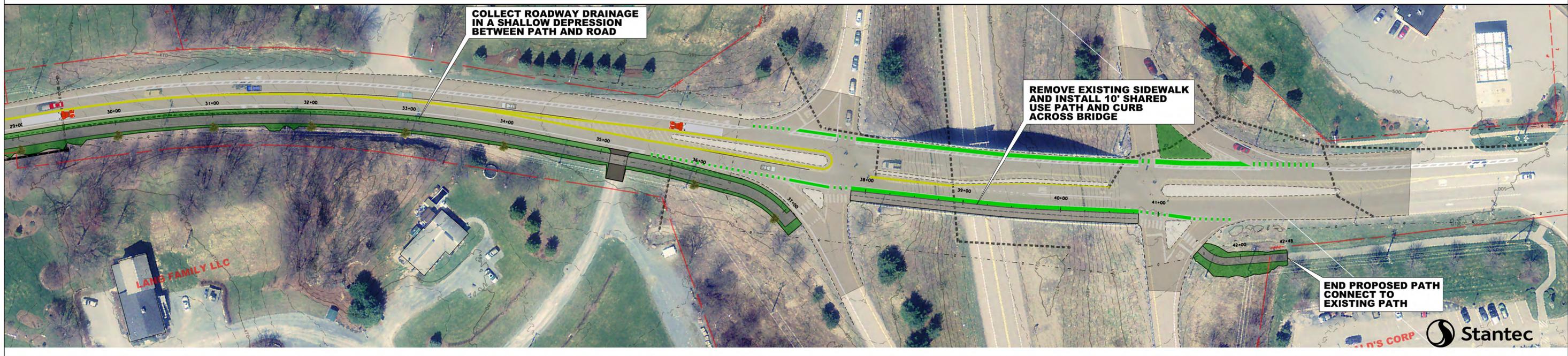
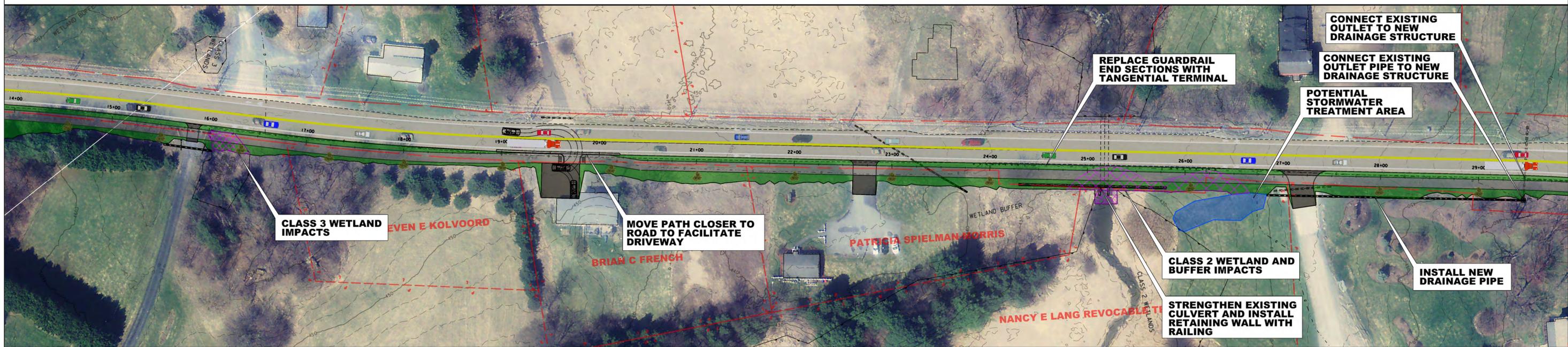
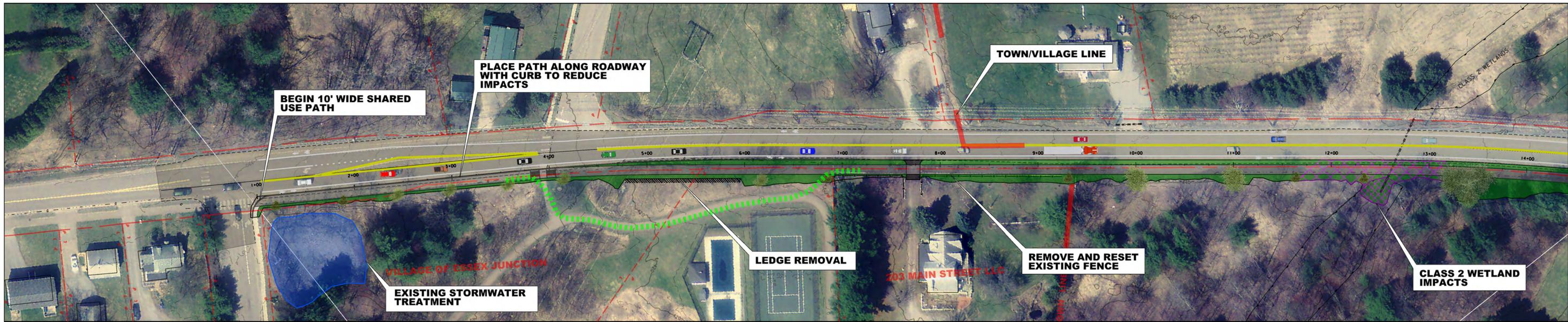
- The 10-foot wide asphalt shared use path is offset from the edge of the existing roadway by 6 feet. This provides for 1 foot of pavement widening and a 5-foot wide grassed/vegetated buffer. The buffer provides separation, snow storage and some stormwater treatment.
- Roadway is widened by 1 foot each side to provide a 4 foot shoulder that is signed as a bike lane. The shoulder widening is to be included in a VTrans resurfacing project currently being designed.

Figure 12 Alternative 2 Typical Section



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- Connects to existing shared use paths to the east and west of the project area and does not require a crossing of VT Route 15.
- Replaces the 8-foot shoulder and curb and sidewalk between Fairview Drive and Athens Drive with a 4-foot shoulder/bike lane and curb and 10-foot shared use path.
- Limits of the shared use path extend beyond the existing highway ROW for much of the project. It impacts 10 properties and requires approximately 20,000 sf of permanent property acquisition (includes 2 feet beyond path) and approximately 50,000 sf of temporary easements.
- Aerial utility poles are generally on the north side and construction does not impact them. Guy poles on the south side will need relocating.
- Water, gas lines and mailboxes exist along the south side. Improvements will require relocation of 2 hydrants and 6 mailboxes
- Requires ledge excavation in the area of 31 Juniper Ridge Road and has the option to connect to the existing shared use path.
- Relocates existing fence at 203 Main Street and extends the culvert at Station 12+750, which impacts a possible Class II wetland.
- At 25 Upper Main Street, Brian French property (Sta 19+75 right), realigns the shared use path to the edge of the roadway to minimize impacts and provide for turnaround within drive.
- Replaces guardrail and end sections at Indian Brook Crossing.
- Constructs a retaining wall with railing at the Indian Brook culvert to minimize impacts to wetland and avoid extending culvert. Approximately 1000 sf of Class II wetland and 6000 sf of 50 foot Class II wetland buffer is impacted.
- Reconstructs drainage at east of Lang Farm drive to outlet on west side of drive.
- On approach to VT 289, reduces shoulder width to 4 feet by relocating curb to avoid impacts.
- Improves signage and pavement markings at VT 289 to include bike lanes.
- Extend 4-foot bike lane across VT 289 Bridge and widen existing sidewalk to 10 feet.
- Based on public input path lighting was add at an estimated cost of \$300,000.
- Estimated construction cost is \$1,150,000. This does not include the 1-foot shoulder widening on each side.

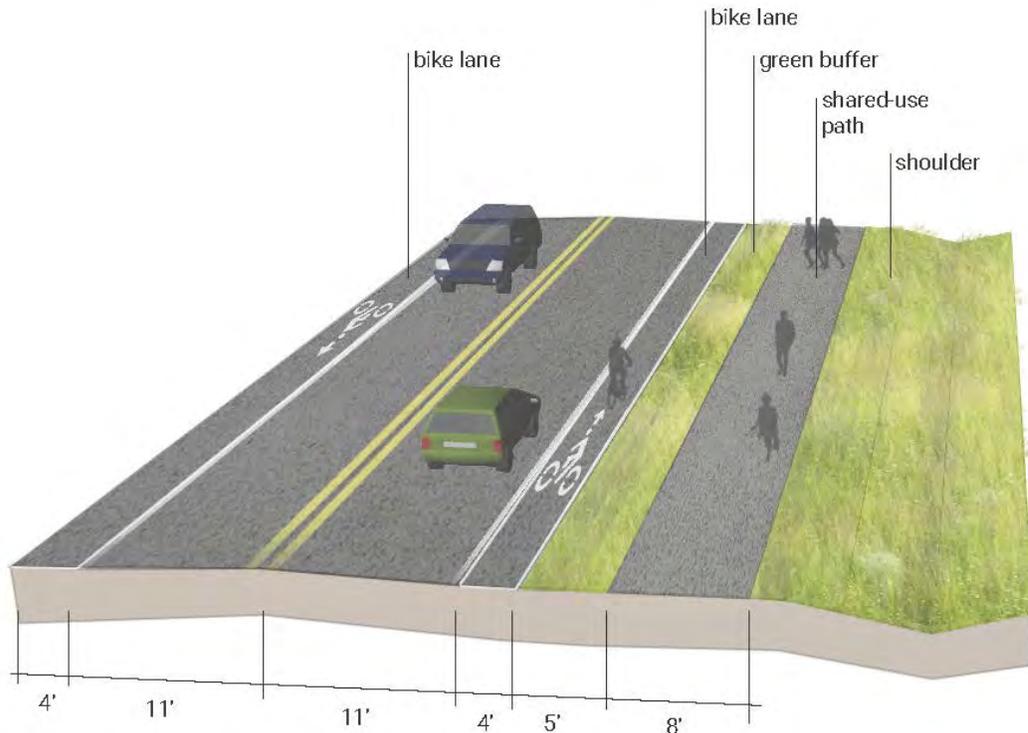


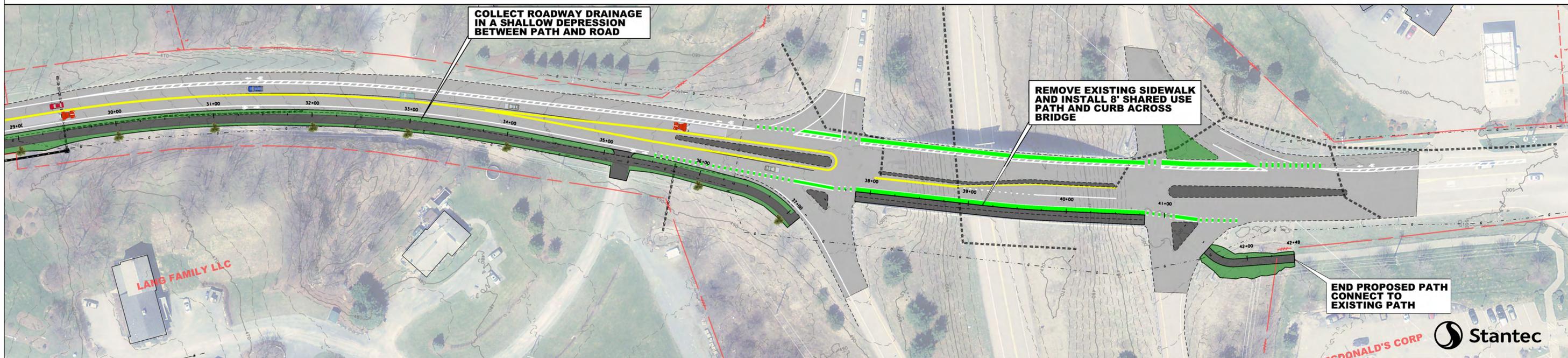
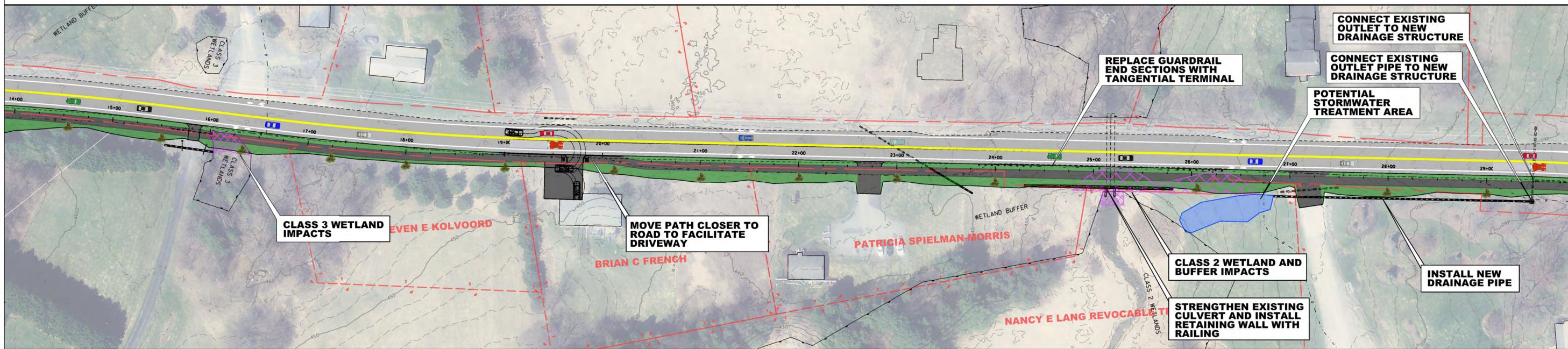
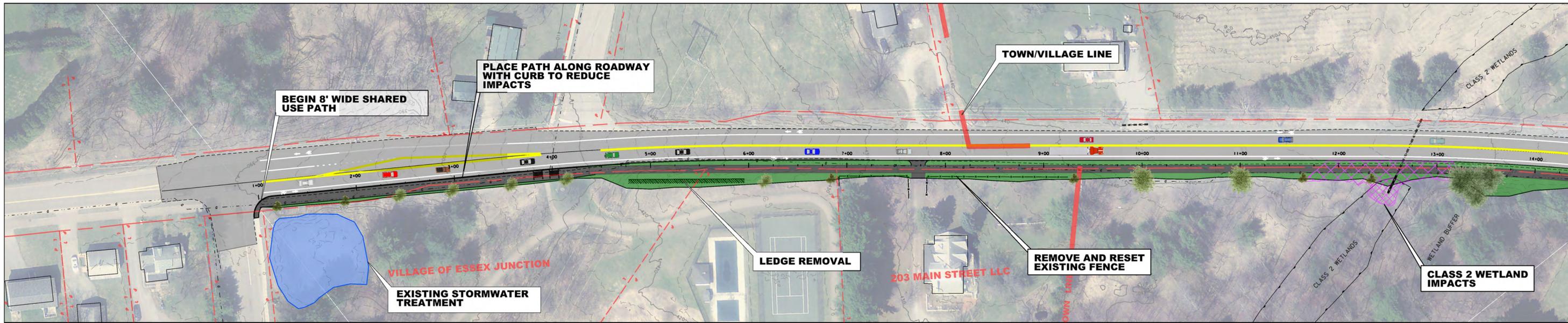
5.3 ALTERNATIVE 3: 8-FOOT SHARED USE PATH AND BIKE LANES

To reduce impacts and costs an 8-foot wide shared use path was developed and evaluated. This alternative also includes the widened 4-foot shoulder on both sides of VT Route 15 to serve as the on-road bike lane. This alternative has the same features as Alternative 2. A typical section of this alternative is shown in Figure 14. The features of this alternative are the same as Alternative 2 but with the addition of pedestrian street lighting. Major differences include:

- As with Alternative 2, the limits of the shared use path extend beyond the existing highway ROW for much of the project. It also impacts 10 properties, however it requires approximately 12,000 sf of permanent property acquisition as compared to 20,000 sf in Alternative 2. This alternative also requires (includes 2 feet beyond path) approximately 50,000 sf of temporary easements.
- At 25 Upper Main Street, Brian French property (Sta. 19+75 right), realigns shared use path to edge of roadway and reduces impacts.
- The construction cost, including the lighting, is \$1,100,000. This does not include the 1-foot shoulder widening on each side as this will be addressed in the VTrans resurfacing project.

Figure 14 Alternative 3 Typical Section





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The VTrans Pedestrian and Bicycle Facility Planning and Design Manual indicates a 10 to 14 foot wide shared use path is desirable and 8 foot wide is the minimum. The necessary width is a function of the variety, speed, and volume of users. The minimum width of 2.4 m (8 ft) for shared use paths is recommended only when the following conditions prevail:

- Bicycle traffic is expected to be low, even on peak days or during peak hours.
- Pedestrian use of the facility is not expected to be more than occasional.
- Good horizontal and vertical alignment provides safe and frequent passing opportunities.
- The path will not be subjected to maintenance vehicle loading conditions that would cause damage to the edge of the pavement.
- No practical alternative design exists.
- Applicable path sight distance requirements can be met.
- For limited distances of up to 61.0 m (200 ft) to bypass a physical barrier (i.e., building, water body or other immovable objects)

5.4 COMPARISON OF ALTERNATIVES

5.4.1 Alternative Impacts

Safety Impacts

Safety for pedestrians and bicyclists is improved in Alternatives 2 and 3 over the No Action Alternative. Bicyclists have the choice of an on-road 4-foot shoulder/bike lane or a shared use path along VT Route 15. Alternative 3 has a greater potential to provide conflicts with lower speed walkers and higher speed bicyclists.

Right-of-Way (ROW) Impacts

Based on the 1934 record plans, the Right-of-Way width varies but generally is 49.5 feet wide. Alternative 2 has approximately 20,000 sf of permanent acquisition and Alternative 3 has approximately 12,000 sf.

Environmental Resource Impacts

Based on the desktop research and site visit there are no known impacts to streams wildlife or rare and endangered species for the alternatives. Alternatives 2 and 3 do impact wetlands and wetland buffers. Their impacts are similar and an ANR Wetland permit is anticipated due to Class II wetland impacts.

Cultural Resource Impacts



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A preliminary cultural resources assessment was completed and included in the Appendix. There are two areas of archeological sensitivity identified within the project area. A level terrace located on the east side of Route 15, situated directly above a small unnamed stream, was determined to be sensitive for the presence of precontact cultural material. A historic archaeological sensitivity area is located on the west side of Route 15, directly north of Turnberry Ridge. This level terrace comprises the front yard of a historic residence, dating to at least 1850, and possibly earlier. It is anticipated the level terrace on the east side of VT 15 will be within the proposed construction area and Phase IB archeological testing is recommended.

Utility Impacts

Existing utilities in the project area includes aerial electric distribution and communication lines, water, gas, electric and communications. The construction of the alternatives does not impact utilities and does not require their wholesale relocation.

Stormwater Impacts

All alternatives are under the 1 acre threshold of new impervious surface area and a Stormwater Operational Permit is not required. Indian Brook is stormwater-impaired and a Flow Restoration Plan (FRP) has been developed. The purpose of the FRP is to provide a planning tool to implement stormwater best management practice (BMP's) over a twenty (20) year timeframe, in the effort to return Indian Brook to its attainment condition. The BMP's identified to obtain the TDML high flow target includes the Fairview Drive/Main Street retrofit with Add On which treats stormwater in the project area. This work should be coordinated with this project. There is an additional area adjacent to the Indian Brook crossing for stormwater treatment if desired.

5.4.2 Project Costs

The following table is a summary of the project costs for all alternatives and the add on for the VT Route 15 shoulder widening, in case this widening is not addressed in the planned VTrans resurfacing project.

Table 5 Summary of Project Costs

Item	Alternative 1: No Action	Alternative 2 (10 ft SU Path and Bike Lanes)	Alternative 3 (8 ft SU Path and Bike Lanes)
Construction Costs	\$0	\$900,000	\$750,000
Street Lighting Costs	\$0	\$300,000	\$300,000
Right-of-Way Costs	\$0	\$100,000	\$70,000
Design Engineering	\$0	\$150,000	\$150,000
Construction Engineering	\$0	\$100,000	\$100,000
Total Project Costs	\$0	\$1,550,000	\$1,370,000

5.4.3 Evaluation Matrix

The following table provides an evaluation matrix summarizing the above information pertaining to traffic operations, safety, right-of-way, environmental, cultural resources, utilities, and project costs. The major difference is right-of-way impacts and project costs.

Table 6 Evaluation Matrix

CRITERIA	Alternative 1: No Action	Alternative 2: 10 ft SU Path with Bike Lanes	Alternative 3: 8 ft SU Path with Bike Lanes
Project Costs	\$0	\$1,550,000	\$1,370,000
Purpose and Need			
Complete a missing bicycle link	No	Yes	Yes
Support goals for active mobility	No	Yes	Yes
Facilitate use by all ages and experience	No	Yes	Yes
Impacts			
Safety	No Improvement	Improvement	Improvement
Right-of-way	None	20,000 SF	12,000 SF
Environmental	None	1000 sf Wetland	800 SF Wetland
Cultural Resources	None	TBD	TBD
Utilities/Drainage	None	Drainage Modifications	Drainage Modifications
Stormwater	No Change	<1 acre w/ Treatment Opportunity	<1 acre w/ Treatment Opportunity

6.0 STAKEHOLDER INPUT AND RECOMMENDATIONS

Two public meetings were held during the scoping process; a Local Concerns Meeting held in December of 2017 and an Alternatives Presentation Meeting held in June of 2018. Meeting notes for both meetings can be seen in the appendices.

A general summation of the Local Concerns Meeting can be described as strong support for a facility that can accommodate both pedestrians and bicycles. The attendees mentioned the



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current and likely future demand for the facility based on current businesses and residences and future residential development. Attendees also expressed concerns related to safety. The general sentiment is that current conditions are not safe – specifically at the VT 289 interchange.

The Alternatives Presentation Meeting provided additional feedback from the community. Based on the relatively small increase in cost, the 10' path was supported by some of the attendees. Some attendees indicated that with on road bike lanes provided, an 8-foot wide path would suffice and would have less impact on adjacent properties. The attendees also supported crosswalk enhancements such as rapid flashing beacons at Athens Drive to help encourage drivers to yield to bicyclists and pedestrians attempting to cross VT 15. Additionally, the attendees generally supported lighting the path with pedestrian street lighting.

7.0 MUNICIPAL PREFERRED ALTERNATIVE

With input received at the public meetings considered, Village and Town Engineering and Planning Staffs worked cooperatively to produce a unanimous series of recommendations relative to the project. The Staff recommendations are as follows:

- 1) The Preferred Alternative is Alternative 3: An 8-foot shared use path (and bike lanes)
- 2) The proposed path should include lighting along the path for its entire length, with lighting fixtures spaced appropriately, due to the location of the path and its importance as a critical multi-modal link between the Village and the Town and
- 3) As a component of the planned VTRANS paving project along this section of VT15, the roadway will be configured to have two 11-foot lanes and a 4-foot bike lane on each side of the road to accommodate high speed bicyclists and
- 4) The project shall include replacement of the current 5-foot wide sidewalk east of Fairview Drive with the 8-foot multi-purpose path and
- 5) The project shall terminate on the east side of the VT15 Bridge over the Circumferential Highway with an 8-foot wide multi-purpose pedestrian/path crossing on the bridge.

A memo outlining the Village and Town recommendations can be found in Appendix A. These recommendations will be provided to the Village Trustees and Town Selectboard for discussion and to seek their endorsement.