Chittenden County Regional Planning Commission

Vermont Route 15 Bicycle & Pedestrian Scoping Report

Final Report

Submitted by:
Stantec Consulting

In conjunction with
Broadreach Planning & Design
Heritage Landscapes LLC
University of Vermont Consulting Archeology Program

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Appendix A: Task B Summary: Existing Conditions
Appendix B: Task C Summary: Alternatives
I. **INTRODUCTION**

A. **OVERVIEW**

As part of the review of alternate transportation improvements to the Circumferential Highway, the Chittenden County Regional Planning Commission (CCRPC), on behalf of the Circ Alternatives Task Force, is updating earlier recommendations for increasing bicycling and walking mobility in the Vermont Route 15 (Route 15) corridor between the West Street Extension intersection on the east and Lime Kiln Road on the west with a new scoping study. The study also includes an analysis of potential improvements for bicyclists and walkers in the Route 15 corridor west of the intersection with Lime Kiln Road to the Interstate 89 interchange. **Figure 1** shows the approximate extent of the Study Area.

The Chittenden County Metropolitan Planning Organization (now merged with CCRPC) prepared a scoping report for improved bicycle and pedestrian facilities in the Route 15 Corridor between Lime Kiln Road in Colchester and the Five Corners in Essex Junction in 1997. The report recommended the creation of a shared use path along the northern side of the New England Central Railroad tracks between the Five Corners and Susie Wilson Road, at which point it switched to be a sidepath along the southern side of Route 15 to Lime Kiln Road. The suggested alignment required extensive retaining walls between West Street Extension and Susie Wilson Road and is now considered to be unfeasible due primarily to costs. The Metropolitan Planning Organization updated the study in 2003 but the work only refined the alternatives and did not make a final recommendation.

The CCRPC contracted with a Consulting Team led by Stantec Consulting Services with assistance from Broadreach Planning & Design, Heritage Landscapes LLC and the University of Vermont Consulting Archeological Program to assist with the current scooping study.

B. **STUDY PROCESS**

To begin the project, the CCRPC created a Project Steering Committee (PSC) to assist in guiding the direction of the project. The PSC consisted of representatives from each of the four communities within the study area, as well as from Local Motion, a local bicycle and pedestrian not-for-profit advocacy organization. After an initial meeting with the CCRPC staff, the Consultant Team began Task B of their scope of work: to analyze the existing conditions in the Study Area. They also met again with the PSC to understand in more detail their concerns, questions and suggestions on where improvements might be located and what the issues associated with the improvements were. At the end of the work on this Task, the Consultant Team produced a **Task B Summary** describing in detail the existing conditions in the study area. **Appendix A** is a copy of the final **Task B Summary**; the main body of this final report incorporates portions of the **Task B Summary**.
After the completion of the work on Task B, the Consultant Team, along with assistance from the PSC, developed a set of alternatives during a team work session for upgrading bicycle and pedestrian circulation along Route 15 within the study area. The team considered as many different options of making the improvements as possible during their work session. As part of the subsequent analysis after the work session, the Consultant Team reviewed the potential impacts, benefits and likelihood of gaining approvals for the various alternatives. They summarized the numerous alternatives that they considered and analyzed in the Task C Summary. Appendix B is a copy of the final Task C Summary; the main body of this final report incorporates portions of the Task C Summary. After further reviewing and refining the alternatives with the PSC, the Consultant Team assisted with an “Alternatives” public work session hosted by the CCRPC to review the alternatives and begin the selection of a preferred alternative.

After the Consultant Team and the PSC reviewed the comments of the alternatives public work session, they combined several of the alternatives to develop a draft recommendation for a preferred alternative. The CCRPC recommended this alternative to the Circ Task Force for inclusion in their final recommendations to the Vermont Agency of Transportation (VTrans). The Consultant Team completed work on a report summarizing the existing conditions, the alternatives and the recommended improvements to the corridor. The summary report included full copies of the Task B and Task C Summaries as part of the appendix. The Consultant Team assisted CCRPC staff members in discussing the recommendations with appropriate VTrans representatives to include their thoughts and suggestions in the final report.

This report is formatted for double-sided printing; blank pages are intentional.

C. PURPOSE AND NEED

The purpose of the Route 15 bicyclist and walker improvements within the Study Area is to transform the Route 15 corridor from a transportation facility dominated by motor vehicles to an attractive, inviting transportation corridor that encourages increased mobility, safety and access for walkers, bicyclists and transit users of various ages and abilities.

The need for the improvements is indicated by:

- A physical lack of connectivity exists between the various bicycle facilities now in the Study Area; many bicyclists now ride on five-foot wide sidewalks due to the lack of adequate shoulders/paths combined with high traffic volumes and high motor vehicle speeds. (While it is not illegal to ride bicycles on sidewalks in Vermont, shared use of a five-foot sidewalk does not meet Vermont State design standards and does not meet the needs of more experienced bicyclists.)
- A lack of connectivity exists between sidewalks along the corridor; as a result, pedestrians have blazed their own paths, or “desire lines,” which are not ADA compliant.
Many land uses and origins/destinations are present along the corridor including St. Michael's College, the Elley-Long Music Center, The Fletcher Allen Campus, various convenience stores and residential neighborhoods; providing connections between these uses will encourage increased bicycle and pedestrian activity.

The Chittenden County Regional Bicycle and Pedestrian Plan calls for the development of both on- and off-road bicycle and pedestrian facilities in the Study Area to promote transportation choice, economic vitality, safe neighborhoods, clean environment, energy efficiency, better health and social equity.

D. PROJECTED USERS

The municipalities would like to improve bicycling and walking conditions for people of all ages and abilities. This means that as much as possible, the improvements should be usable by school children, elderly citizens and those with disabilities, as well as experienced bicyclists and walkers. They should also enhance conditions for skilled bicyclists. The Task B Summary in Appendix A includes more information on the projected users of the path.

II. EXISTING CONDITIONS

A. OVERVIEW

This section presents important aspects of the existing conditions within the study area. Appendix A includes a more complete discussion of the existing conditions.

B. ORIGINS, DESTINATIONS & TRAVEL PATTERNS

There are several key destinations within the Study Area for walkers and bicyclists. Figure 2 shows the locations of these areas. In addition to these larger destinations, there are numerous smaller businesses as well as residential areas that also serve as origins or destinations for walking or bicycling trips. The Route 15 corridor is also a commuting corridor for bicyclists heading to or from Burlington, Essex Junction or IBM.

C. TRANSPORTATION FACILITIES

For the general discussion of transportation facilities within the Study Area, the Consulting Team divided Route 15 into five segments:

- Interstate 89 exit 15 northbound off-ramp to Lime Kiln Road,
- Lime Kiln Road to Vermont National Guard Road,
- Vermont National Guard Road to Barnes Road,
- Barnes Road to Susie Wilson Road, and
- Susie Wilson Road to West Street Extension.
Figure 2 shows the locations of the segments. Route 15 within the Study Area is a four-lane roadway with a curbed median. The road is curbed on both sides. VTrans classifies Route 15 as an urban arterial State highway. Figure 2 also shows the main roadway and the other transportation features described in this section. Nine intersections along the project corridor are signalized. The posted speed limit along Route 15 from Florida Avenue to Vermont National Guard Road in Colchester is 45 miles per hour (mph). The posted speed limit from Vermont National Guard Road to West Street Extension in Essex Junction is 35 mph. The roadway was recently resurfaced by VTrans in 2010 and is in good condition.

A five-foot wide sidewalk with a green strip of varying width is located along the north side of the road from West Street Extension to Ethan Allen Avenue. From Ethan Allen Avenue to Barnes Road, there is no sidewalk. The five-foot sidewalk and green strip begins again at Barnes Road and extends all the way to the Winooski City line. The south side of Route 15 has a five-foot sidewalk and green strip beginning just south of Fanny Allen Hospital and extending to the Winooski City line.

Generally, Route 15 has a one-foot shoulder on each side of the road. The shoulder widths are not suitable for bicycles.

Table 1 provides a summary of the Average Annual Daily Traffic (AADT) of each segment of Route 15 within the study area.

Table 1: AADT by Roadway Segment

<table>
<thead>
<tr>
<th>Segment</th>
<th>AADT</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gorge Road to Lime Kiln Road</td>
<td>23,500</td>
<td>2010 E</td>
</tr>
<tr>
<td>Lime Kiln Road to Vermont National Guard Road</td>
<td>25,200</td>
<td>2010</td>
</tr>
<tr>
<td>Vermont National Guard Road to Barnes Avenue</td>
<td>25,100</td>
<td>2010 E</td>
</tr>
<tr>
<td>Barnes Avenue to Susie Wilson Road</td>
<td>20,400</td>
<td>2010 E</td>
</tr>
<tr>
<td>Susie Wilson Road to West Street Extension</td>
<td>14,200</td>
<td>2010</td>
</tr>
</tbody>
</table>

E = Estimated

The Study Area and immediate vicinity includes one roadway segment and two intersections that are considered High Crash Locations (HCL) as reported in the most recent VTrans HCL Report 2006-2010. Figure 2 shows HCL locations. A 0.3 mile highway segment or intersection must have at least five crashes over a five-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.

Since the completion of the previous studies, the Campus Connector project has been completed. This project created a new through road north of and parallel to Route 15 connecting Barnes Avenue in Fort Ethan Allen with St. Michael’s College. The portion of the new road between Barnes Avenue and Camp Johnson Road also has a shared use path.
along its north side. From Camp Johnson Road west, the road includes bicycle lanes and sidewalks. The project also included the redesign of Camp Johnson Road itself to add new turn lanes and bicycle lanes between the new road and Route 15.

The Chittenden County Transportation Authority (CCTA) has a well-used bus route along Route 15 in the Study Area. There are bus stops along the route on both sides of the road, with a bus stop shelter located just west of the intersection with Susie Wilson Road on the north side of Route 15. There is another bus shelter just west of the west signalized entrance to the St. Michael’s campus.

There is a crosswalk in front of the Fletcher Allen property with special overhead stop signals activated via a push button by pedestrians wishing to use the crosswalk.

D. UTILITIES

Almost all of Route 15 within the Study Area has utility poles with overhead lines located along the edge of the right-of-way (ROW). The lines are almost exclusively on the northern side of the road. The utility poles are typically located close to the edge of the existing pavement. Figure 2 shows the approximate location of the overhead utility lines in the Study Area.

A natural gas line is located along the side of Route 15 for most of its length within the Study Area.

A fiber optic line is also located primarily along the north side of the Route 15 pavement area. The line is direct burial underground from the I-89, Exit 15 interchange to Johnson Avenue. The line transitions to aerial at Johnson Avenue and extends in the air to Vermont National Guard Road. The line returns to direct burial underground at Vermont National Guard Road and extends underground on the north side of Route 15 to Susie Wilson Road. The line remains underground from Susie Wilson Road to West Street Extension but is in a manhole system under the pavement, which likely means the line is encased in concrete.

E. NATURAL RESOURCES

Sunderland Brook runs along the north side of Route 15 starting close to the eastern edge of the Study Area and flowing west, under Susie Wilson Road and north of Fort Ethan Allen. Representatives from the Vermont Agency of Natural Resources have indicated that they would like to see the open areas between existing development close to Susie Wilson Road and the Brook remain undisturbed, since the Brook is considered an important habitat area.

There are no significant wetlands adjacent to Route 15 with the exception of wetland areas adjacent to Sunderland Brook.

The topography in the study area is generally level along Route 15. There is a steep drop to the Winooski River valley to the south of the Study Area. The land also drops gradually to
the west at the western end of the St. Michael's campus, close to Florida Avenue. Figure 3 shows the existing contours and topography in the Study Area.

The State of Vermont has identified several natural areas of special importance within the Study Area. Figure 4 shows the general location of these areas.

There are also a few notable old trees within or close to the Route 15 ROW. Figure 4 highlights the location of these trees.

There are several open spaces and parks within or close to the Route 15 ROW Study Area. Figure 4 shows the general location of the open space areas.

F. CULTURAL RESOURCES

The Study Team conducted a review of historic resources after the development of the various alternatives. The work indicated that there were several historic resources along Route 15, including older trees, cemeteries and stone retaining walls, with several of them located close to the road.

The previous study included an initial archeological resource assessment of the study area from East Street Extension to Lime Kiln Road. The assessment found that the area in general has a high probability of having archeological resources in undisturbed areas.

III. RECOMMENDATIONS

A. OVERVIEW

The preferred alignment recommended in this Scoping Study consists primarily of a shared use path adjacent to Route 15. Except near the far western end, the path only has one unsignalized driveway/roadway crossing, the entrance to the Fanny Allen Campus of Fletcher Allen Health Care. Figure 5 shows the general layout of the recommended facilities. The Layout Plan sheets provide more detailed information on the recommendations.

B. I-89 EXIT 15 NORTHBOUND OFF-RAMP TO LIME KILN ROAD

The existing wide sidewalk on the south side of Route 15 between the I-89 Exit 15 northbound off-ramp and the Roland Court intersection would remain. Between Roland Court and Gorge Road, the sidewalk would be widened to eight feet in width.

Due to significant right of way constraints, the existing sidewalk width between Gorge Road and the west entrance to St. Michael's College would be maintained as well as the small, existing, green buffer strip between the existing sidewalk and the Route 15 curb. Because
there are numerous driveway crossings along this portion of the path, warning signs notifying both turning vehicles and path users of the presence of each other would be added.

Between the west entrance to St. Michael’s College and Lime Kiln Road, the south side path would increase to ten feet and be separated from the roadway by a five-foot wide green buffer strip. The path would be routed around the existing old trees close to Route 15 near the Lime Kiln intersection. The path would cross Lime Kiln Road with the aid of a pedestrian crosswalk.

C. LIME KILN ROAD TO VERMONT NATIONAL GUARD ROAD

Between Lime Kiln Road and Vermont National Guard Road, the improvement would continue as a ten-foot wide path on the south side of Route 15 with a five-foot wide green buffer strip for most of its length. The path would follow the alignment of the existing jug handle at the east entrance to St. Michael’s College. The path would be reduced in width to eight feet and the green strip would be eliminated as the path passes between an existing cemetery and Route 15. The path would cross the entrance driveway to Fletcher Allen Health Care close to the stop sign and then return to the edge of the roadway and the intersection with Vermont National Guard Road. A new crosswalk on the west side of the intersection on Route 15 would take the path to the north side of the road. The existing crosswalk on Vermont National Guard Road would take the path and users through the rest of the intersection. The traffic signal at the intersection would require updating to the phasing and timing to accommodate the new crosswalk.

D. VERMONT NATIONAL GUARD ROAD TO SUSIE WILSON ROAD

Between Vermont National Guard Road and Barnes Avenue, the path would replace the existing sidewalk on the north side of Route 15 with a new ten-foot wide path separated from the road by a five-foot wide green buffer strip.

Between Barnes Avenue and Susie Wilson Road, the path would continue as a ten-foot wide path separated by a variable width green buffer strip on the northern edge of the Route 15 right of way, adjacent to the Fort Ethan Allen Parade Grounds. The path would cross Ethan Allen Avenue between the brick columns and the edge of Route 15 via the existing crosswalk. Grade modifications may be required between Ethan Allen Avenue and Susie Wilson Road. The path would cross Susie Wilson Road using the existing crosswalk aided by existing pedestrian signals.

E. SUSIE WILSON ROAD TO WEST STREET EXTENSION

Between Susie Wilson Road and West Street Extension the facility would continue as on-road bicycle lanes and an existing sidewalk on the north side. A crossing of Route 15 would be required to access the eastbound bicycle lane. These lanes would connect to the existing bicycle lanes on the east side of the West Street Extension intersection. The traffic signal at Susie Wilson Road would require updating to the phasing and timing to accommodate the new crosswalk.
IV. IMPACTS & ISSUES

A. BASIS OF THE DECISION

Numerous factors led the PSC to select the improvements described in Section III as the final recommendation, including:

- The lack of a safe way to cross from the north to the south side of Route 15 at Gorge Road;
- The limited Route 15 right-of-way near the west end of the Study Area;
- The difficulty in finding an acceptable alignment for a shared use path on the north side of Route 15 near Lime Kiln Road;
- The reluctance of St. Michael’s College administration for security reasons to allow a public shared use path to run through the middle of the campus;
- The high number of commercial driveways on the north side of Route 15 between Johnson Avenue and Vermont National Guard Road;
- The low level of commercial driveways on the south side of Route 15;
- The increased number of residences along the north side of Route 15 east of Vermont National Guard Road;
- The difficulty of creating the room needed to provide bicycle lanes on Route 15 itself;
- The lack of room to widen Route 15 to the south between the Ethan Allen Drive and West Street Extension intersections to create a cycle track on the south side of Route 15; and
- The difficulty for basic or beginner bicyclists to reach a cycle track located on the Route side of Route 15.

The recommended facility and alignment should have no impacts on:

- Wetlands;
- Watercourses;
- Historic or archeological features;
- Floodplains;
- Flora or fauna;
- Rare, threatened or endangered species; or
- Land use.

B. SAFETY

The proposed alignment includes two crossings of Route 15 for eastbound bicyclists and one crossing for westbound bicyclists. Pedestrians in either direction may be able to travel without crossing Route 15 depending on their starting or ending point. The crossings of Route 15 would occur at the signalized Vermont National Guard Road and the Susie Wilson Road intersections with the installation of new pedestrian signals and crosswalks on the east side of the intersections. Although the Study Team has considered in general how the
crosswalk phase would be worked into the signal timing, specific analysis still needs to be done.

Even though the crossings would be at signalized intersections, not all intended users of the new bicycle facilities users may be comfortable using them. Additionally, once the need to make two crossings is known to bicyclists, there could be a tendency for experienced bicyclists to ignore the crossings and continue to ride in the outer lane between the two crossings, creating slower conditions for motorists and potentially dangerous conditions for themselves. There are few options to the Vermont National Guard Road intersection crossing for westbound bicyclists. For those heading eastbound, there is an additional recommendation that could address their concerns.

An additional improvement would be to replace the existing sidewalk along the north side of Route 15 between Susie Wilson Road and West Street Extension with an eight- to ten-foot wide shared use path (sidewalk). There is ample room within the right-of-way to add a wider path while maintaining the existing three-foot green space separating the path from the curb and roadway. While there are numerous driveways that would cross the new path, all but three are residential. As is recommended for the far western end of the Study Area, signage and pavement markings could alert motorists, bicyclists and pedestrians to the potential conflicts between them at the driveway intersections with the path. The wider path would require the removal or relocation of several trees.

One additional consideration would be the addition of street trees in the existing medians that are at least eight feet wide. The street trees would eventually create a more enclosed space which has the tendency to slow motorists. The trees would be a continuation of the street trees already planted in the median east of the Susie Wilson Road intersection.

C. HISTORIC & ARCHEOLOGICAL RESOURCES

The proposed shared use path on the south side of Route 15 west of the Lime Kiln Road intersection would need to move further outside the existing right-of-way to avoid impacting at least one old oak tree. The path should stay a minimum of 20 feet away from the base of the tree. Such a wide circumference around the tree would require additional easements from St. Michael’s College. The alternative is to reduce the width of the path as it passes between the tree and the curb. In addition to creating a narrow spot on the shared use path, this alternative would require disturbances close to the base of the tree and could result in the eventual death of the tree.

The proposed alignment and improvements would not disturb the existing stone retaining wall along the edge of the road at the corner of Route 15 and Gorge Road. It would also not impact the other historic resources highlighted in the historic resources analysis.

The proposed alignment is located almost exclusively within areas that appear to be previously disturbed. The Archeological Resources Assessment (ARA) determined that no areas within the proposed project’s immediate area of potential effect (APE) were sensitive for Pre-Contact Native American sites. While the proposed project’s APE crosses the road
frontage of several historic properties, the project’s potential impact on most of these properties is limited to formal yard areas or to those areas already disturbed and is considered negligible. The exception to this is the Merrill Cemetery Lot on the St. Michael’s campus.

Early cemeteries were not always well marked or documented. From the research presented in the ARA and based on experiences elsewhere in Vermont, the Consultant Team notes the likelihood that there are unmarked burials associated with this cemetery and that some of these may lie wholly or partially outside of the existing fence, especially considering the widening of Vermont Route 15 in the 1960s. Therefore, the Consultant Team recommends that the area along the south side and western front of the cemetery within the proposed APE be mechanically stripped with a clean-up bucket down to the interface with undisturbed subsoil prior to construction to make sure no graves are located within this portion of the project area and that this work be monitored by a professional archaeologist. They also recommend that there be a discussion with the Vermont Division for Historic Preservation early in the construction planning process to determine what procedures should be followed should one or more graves be identified that might be disturbed by the construction process or ongoing use of the path.

D. GRADING

Grading would be needed between the Ethan Allan Avenue and Susie Wilson Road intersections to create a level area wide enough for the shared use path that still meets ADA requirements. Additionally, the path should also be located as close to the outer edge of the right-of-way as feasible to leave room for possible future widening of Route 15 as part of future upgrades to the Susie Wilson Road intersection. The design process would need to examine this detail in more detail.

E. RIGHT-OF-WAY & EASEMENTS

The final recommendation would require either an expanded right-of-way for Route 15 or permanent easements from St. Michael’s College and Fletcher Allen Hospital for several portions of the shared use path that cross in front of their properties. The path as currently planned maintains a five-foot grass strip between the edge of the roadway and the path, which pushes the outer edges of the path beyond the limits of the current right-of-way in several locations. The right-of-way itself varies often in its overall width and location, so the depth and length of needed easements or additional right-of-way varies. The Layout Plan sheets show the various locations where the path needs to go beyond the current limits of the right-of-way.

F. DRAINAGE

The recommended shared use path would increase the overall amount of paved surface in the Route 15 corridor by more than an acre. The construction would most likely require storm water discharge permits for construction and post-construction use. The overall
The design of the path should include methods for minimizing increases in storm water runoff, such as small retention areas or rain gardens. Additionally, locations where existing storm water runoff from Route 15 may be creating erosion problems, such as in the gully on the south side of Route 15 between the St. Michael’s College and Fletcher Allen properties, should be examined and would need to be upgraded if appropriate to minimize or eliminate the problems.

**G. UTILITIES**

The recommended improvements will require the relocation of several utility poles. The **Layout Plan** identifies the specific locations of the poles to be impacted and the recommended relocation spot.

The natural gas line, sewer line and the fiber optic line are not anticipated to be disturbed, as long as their locations are noted and appropriate measures taken to ensure that they are not disturbed during construction.

**H. OPEN SPACE**

St. Michael’s College has created an open space along most of its frontage on both sides of Route 15. The proposed improvements would remove up to five feet of the open space in several locations and possibly up to ten feet of the open space close to the jug handle at the east entrance to the campus. The current St. Michael’s administration has indicated that it has no objections at this time to the conversion of a small portion of its green space to shared use path.

**I. MAINTENANCE**

Due to the important regional nature of the recommended improvements, it is very likely that VTrans will require that it be cleared of snow in the winter. Essex Junction, Essex, Colchester and Winooski will most likely need to commit to this, although there would be no requirement that they undertake the maintenance themselves. The communities could make arrangements for others to maintain the facilities if it would be more appropriate or convenient. Additionally, the municipalities would also be responsible for the long-term maintenance of the pavement and associated amenities.

These issues will most likely need to be resolved prior to the construction of the recommended improvements.

**J. BUS SHELTERS**

As the use of the bus route on Route 15 continued to increase, CCTA is responding by adding more bus shelters with more amenities, such as bicycle storage posts and electronic bus time data. One shelter is currently planned in front of the Fletcher Allen Medical campus, adjacent to the signalized crosswalk. CCTA is aware of this project and will make sure that if a bus shelter is installed prior to the development of the shared use path in this...
location, the shelter location will not eliminate the potential to add the path behind the shelter. If this project is developed prior to the installation of the bus shelters, the design should be coordinated with CCTA so that the alignment eliminates the potential to add a bus shelter.

**V. PHASING & INITIAL ESTIMATES OF POTENTIAL COSTS**

**A. OVERVIEW**

The Study Committee understands that the project may not be completed all at once and has suggested phasing to address the most pressing need immediately. Work to upgrade the rest of the facilities would occur as funds allow. The following phasing recommendations reflect their thinking on which portions of the plan are most needed as well as relatively simple to permit and construct. **Figure 6** graphically shows the recommended phasing.

The costs presented here are estimates for construction only and do not include preliminary engineering, construction engineering or right-of-way costs.

**B. PHASE I**

Phase I is recommended to include:

- A south side path from Lime Kiln Road to Vermont National Guard Road, including a pedestrian crossing of National Guard Road,
- North side path from Vermont National Guard Road to Susie Wilson Road, and
- Pedestrian Crossing of Susie Wilson Road.

**Construction Cost** - $1,170,000  
**Possible Funding Sources** - CIRC Alternatives Process

**C. PHASE II**

Phase II should include:

- South side path from I-89 Exit 15 to Lime Kiln Road (limited widening possible between Gorge Road and St. Michaels College west entrance).

**Construction Cost** - $290,000  
**Possible Funding Sources** - Transportation Alternatives Program, Vermont Bicycle and Pedestrian Program, Other
D. PHASE III

Phase III should include:

- Bicycle lanes on the north and south sides of Route 15 from Susie Wilson Road to West Street Extension.

Construction Cost - $510,000
Possible Funding Sources - Funding with future Route 15 roadway reconstruction project, Transportation Alternatives Program, Vermont Bicycle and Pedestrian Program, Other

E. POTENTIAL FUTURE PHASES

- Off-road segment between Gorge and Lime Kiln Road,
- A shared use path on the north side of Route 15 between Susie Wilson Road and West Street Extension,
- A wide paved shoulder on the south side of Route 15 between Vermont National Guard Road and Susie Wilson Road, and
- Off-road segment between Susie Wilson Road and Pearl Street Park.

Possible Funding Sources - Transportation Alternatives Program, Vermont Bicycle and Pedestrian Program, Other
Route 15 Bicycle Pedestrian Study

Existing Conditions: Transportation

Beige call-out boxes show real or estimated (E) Average Annual Daily Traffic counts.

Stantec

November 2012

Figure 2
Route 15 Bicycle Pedestrian Study

Existing Conditions: Natural Resources

Chittenden County Regional Planning Commission

Legend

- Significant Tree
- High Roadkill Location
- Wetlands
- High Wildlife Crossing Value
- Rare, Threatened or Endangered
- Route 15
- City/Town/Village Boundaries

Figure 4

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BROADREACH Planning & Design
Route 15
Bicycle Pedestrian Study
Recommended Phasing

Legend

Phase 1
Phase II
Phase III
Future Phases
NEC Railroad
City/Town/Village Boundaries

Chittenden County Regional Planning Commission

November 2012
Figure 6
ST A T E O F V E R M O N T

MOORE, CHARLES T. & JOANNE M.
361 E. ALLEN ST.

INVESTMENT GROUP, LLCP
SISTERS AND BROTHERS
363 E. ALLEN ST.

4 ROLAND CT.
BOISJOLIE, LORRAINE N/F

TIPSON, WAYNE P. & MICHELLE D.
365 E. ALLEN ST.

WINOOSKI 11' (
)

Green Strip

RE-CONSTRUCT EXISTING ROW

MATCH LINE

ROUTE 15 BICYCLE PEDESTRIAN STUDY
CONCEPTUAL PLANS - ALTERNATIVE 1
SOUTH SIDE SHARED USE PATH
LAYOUT PLAN SHEET # 1 OF 10
5/6/2013

TYPICAL SECTION
RE-CONSTRUCT EXISTING SIDEWALK
N.T.S.

APPROXIMATE FUTURE PROPOSED 10' SHARED USE PATH

MATCH LINE

REPLACE 5' CONCRETE SIDEWALK

MAINTAIN GREEN STRIP
COORDINATE FURTHER RESEARCH FOR UNMARKED GRAVES TO THE NORTH AND WEST OF THE CEMETERY WITH THE VERMONT DIVISION FOR HISTORIC PRESERVATION PRIOR TO STARTING CONSTRUCTION.

AVOID SIGNAL POLE

NARROW SHARED USE PATH TO 8' IN FRONT OF CEMETARY

RELOCATE UTILITY POLE FURTHER EAST IN GREEN STRIP, UNDERGROUND TO EXISTING DROP

FENCE MAY NEED TO BE TEMPORARILY REMOVED FOR CONSTRUCTION

UPDATE EXISTING DRAINAGE AS NEEDED

'10' SHARED USE PATH
ROUTE 15 BICYCLE PEDESTRIAN STUDY
CONCEPTUAL PLANS - ALTERNATIVE 1
SOUTHSIDE SHARED USE PATH
LAYOUT PLAN SHEET # 5 OF 10
5/6/2013

TAPE TIME

FUTURE PROPOSED 10' SHARED USE PATH (ENDS AT PARK)

REDUCE MEDIAN ISLAND WIDTH TO 8' (NOTE: HORIZONTAL CLEARANCE TO TREES IN MEDIAN REDUCED TO +/- 4')
Appendix A

Task B Summary: Existing Conditions
Task B Summary - Existing Conditions

Submitted by:
Stantec Consulting

In conjunction with
Broadreach Planning & Design
Heritage Landscapes LLC
University of Vermont Consulting Archeology Program

March 11, 2013
A. INTRODUCTION

1. OVERVIEW

As part of the review of alternate transportation improvements to the Circumferential Highway, the Chittenden County Regional Planning Commission (CCRPC) is updating earlier recommendations for increasing bicycling and walking mobility in the Vermont Route 15 corridor between the West Street Extension intersection on the east and Lime Kiln Road on the west with a new scoping study. The study also includes an analysis of potential improvements for bicyclists and walkers in the Route 15 corridor west of the intersection with Lime Kiln Road to the Interstate 89 interchange. Figure B-1 shows the approximate extent of the Study Area.

The CCRPC prepared a scoping report for improved bicycle and pedestrian facilities in the Route 15 Corridor between Lime Kiln Road Colchester and the Five Corners in Essex Junction in 1997. The report recommended the creation of a shared use path along the northern side of the New England Central Railroad tracks between the Five Corners and Susie Wilson Road, at which point it switched to be a sidepath along the southern side of Route 15 to Lime Kiln Road. The suggested alignment required extensive retaining walls between West Street Extension and Susie Wilson Road and is now considered to be unfeasible due primarily to costs.

The study was updated in 2003, but the work only refined the alternatives without selecting a preferred alternative.

The CCRPC has contracted with a Study Team being led by Stantec Consulting Services with assistance from Broadreach Planning & Design, Heritage Landscapes LLC and the University of Vermont Consulting Archeological Program.

The first part of the work on this project is to update the existing condition information. This report, which summarizes that work, is formatted for double-sided printing; blank pages are intentional.

2. PURPOSE AND NEED

The purpose of the Route 15 bicyclist and walker improvements within the Study Area is to transform the Route 15 corridor from a transportation facility dominated by motor vehicles to an attractive, inviting transportation corridor that encourages increased bicycle and pedestrian mobility, safety and access for walkers, bicyclists and transit users of various ages and abilities.
The need for the improvements is indicated by

- A physical lack of connectivity exists between the various bicycle facilities now in the Study Area; many bicyclists now ride on five-foot wide sidewalks due to the lack of adequate shoulders/paths combined with high traffic volumes and high motor vehicle speeds (while it is not illegal to ride bicycles on sidewalks in Vermont, shared-use of a five foot sidewalk does not meet Vermont State design standards and does not meet the needs of more experienced bicyclists);
- A lack of connectivity exists between sidewalks along the corridor; as a result, pedestrians have blazed their own paths, or “desire lines”, which are not ADA compliant;
- Many land uses and origins/destinations are present along the corridor including St. Michael's College, the Elley-Long Music Center, The Fletcher Allen Campus, various convenience stores and residential neighborhoods; providing connections between these uses will encourage increased bicycle and pedestrian activity and
- The Chittenden County Regional Bicycle and Pedestrian Plan calls for the development of both on and off road bicycle and pedestrian facilities in the Study Area to promote transportation choice, economic vitality, safe neighborhoods, clean environment, energy efficiency, better health and social equity.

3. PROJECTED USERS

The municipalities would like to improve bicycling and walking conditions for people of all ages and abilities. This means that as much as possible, the improvements should be usable by school children, elderly citizens, and those with disabilities, as well as experienced bicyclists and walkers. They should also enhance conditions for skilled bicyclists.

The following sections provide more information on the abilities and needs of the different types of walkers and bicyclists.

Walkers: People walking vary significantly in their skills, experience, and willingness to walk different distances. Strong determining factors for walkers are the time and mobility required to reach their destinations. Time and mobility constraints also dictate their usable geographic space; few walkers will venture more than one mile from point to point; most actually will only undertake trips shorter than ½ mile, unless the trip is recreational.

There are three basic types of walkers:

- Active walkers,
- Basic walkers, and
- Circumscribed walkers.
Active walkers use the road system regularly for transportation, as well as for fitness. They know and generally follow the rules of the road. Basic walkers include the majority of older children and healthy adult walkers. Circumscribed walkers are those whose speed and mobility are extremely limited. In all cases, when walking on roads, people should walk FACING traffic on the left side of the road in the direction of travel.

**Bicyclists:** Among bicyclists, there are three typical user groups that can be expected to use the bicycle facilities:

- Advanced bicyclists,
- Basic bicyclists, and
- Beginner bicyclists or children.

Advanced bicyclists are highly experienced bicycle riders who feel comfortable riding their bikes in heavy traffic and typically prefer to ride on roadways.

Basic bicyclists comprise the largest category of bicycle riders, including older children, inexperienced adult riders, occasional bicycle commuters, recreational adult bicyclists, and experienced riders who still fear or dislike riding in urban traffic conditions. Basic bicyclists are reasonably competent in handling their bicycles and they generally understand the rules of the road, but they ride at more moderate speeds and are generally uncomfortable on busy streets unless a striped, obstacle-free shoulder is provided and traffic volumes are low.

Beginner bicyclists have the weakest bicycling skills. Beginner bicyclists ride more slowly, don’t always understand the rules of the road, and are typically uncomfortable riding with motor vehicles. They are best accommodated on low-speed local roads and multi user paths or even sidewalks for the very young where there are few, if any driveway crossings.

When riding on roadways, bicyclists should always ride with traffic on the right side of the road in the direction of travel. Unless the road is clear, bicyclists should ride single file.

4. **ORIGINS, DESTINATIONS & TRAVEL PATTERNS**

There are several key destinations within the Study Area for walkers and bicyclists. **Figure B-2** shows the locations of these areas. In addition to these larger destinations, there are numerous smaller businesses as well as residential areas that also serve as origins or destinations for walking or bicycling trips. The Route 15 corridor is also a commuting corridor for bicyclists heading to or from Burlington, Essex Junction or IBM.

**B. LAND USE**

The Study Area includes residential, institutional, commercial and recreational land uses. **Figure B-2** shows the larger land use types within the Study Area.
C. TRANSPORTATION FACILITIES

1. OVERVIEW

Route 15 within the Study Area is a four-lane roadway with a curbed median. The road is curbed on both sides. Route 15 is classified as an urban arterial State highway. Figure B-3 shows the main roadway and the other transportation features described in this section.

Nine intersections along the project corridor are signalized:
- The I-89 Exit Ramp/Florida Avenue,
- Winooski Park (St. Michael’s College West Entrance),
- Lime Kiln Road, Campus Road (St. Michael’s College East Entrance),
- Vermont National Guard Road,
- Barnes Avenue/Woodside Drive,
- Ethan Allen Avenue,
- Susie Wilson Road and
- West Street Extension.

The posted speed limit along Route 15 from Florida Avenue to Vermont National Guard Road in Colchester is 35 mph. The posted speed limit from Vermont National Guard Road to West Street Extension in Essex Junction is 35 mph.

The roadway was recently resurfaced by VTrans in 2010 and is in good condition.

2. SIDEWALKS/BICYCLE FACILITIES

A five-foot wide sidewalk with a green strip of varying width is located along the north side of the road from West Street Extension to Ethan Allen Avenue. From Ethan Allen Avenue to Barnes Road, there is no sidewalk. The five-foot sidewalk and green strip begins again at Barnes Road and extends all the way to the Winooski City line. The south side of Route 15 has a five-foot sidewalk and green strip beginning just south of Fanny Allen Hospital and extending to the Winooski City line.

Generally, Route 15 has a one-foot shoulder on each side of the road. The shoulder widths are not suitable for bicycles.

3. TRAFFIC VOLUMES

Table B-1 provides a summary of the Average Annual Daily Traffic (AADT) for each segment of Route 15 within the study area; Figure B-3 shows the locations of the segments listed in the table. AADT’s are as reported by VTrans 2010 (Route Log) AADT’s for State Highways.
Table B-1: AADT by Roadway Segment

<table>
<thead>
<tr>
<th>Segment</th>
<th>AADT</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gorge Road to Lime Kiln Road</td>
<td>23,500</td>
<td>2010 E</td>
</tr>
<tr>
<td>Lime Kiln Road to Vermont National Guard Road</td>
<td>25,200</td>
<td>2010</td>
</tr>
<tr>
<td>Vermont National Guard Road to Barnes Avenue</td>
<td>25,100</td>
<td>2010 E</td>
</tr>
<tr>
<td>Barnes Avenue to Susie Wilson Road</td>
<td>20,400</td>
<td>2010 E</td>
</tr>
<tr>
<td>Susie Wilson Road to West Street Extension</td>
<td>14,200</td>
<td>2010</td>
</tr>
</tbody>
</table>

E = Estimated

4. ROADWAY AND RIGHT-OF-WAY WIDTHS

The roadway throughout the corridor generally consists of four 11-foot travel lanes (two lanes in each direction), one-foot shoulders and a 16-foot curbed median. The Study Team compiles the State Right of Way (ROW) limits from 1961 record plans of the Vermont Route 15 roadway reconstruction project. The ROW throughout the corridor varies substantially. The Study Team broke the corridor into five segments which generally maintain consistent roadway and ROW widths. The following is a description of roadway and ROW widths by segment; Figure B-3 shows the location of each segment. For this description the Study Team has defined total width as the total curb-to-curb width of the road including the median island but excluding sidewalks.

Segment A: Gorge Road to Lime Kiln Road

Roadway: Segment A extends east on Route 15 from the I-89 interchange to Lime Kiln Road. The lanes in this area are separated by a painted centerline unless otherwise noted. There are five-foot sidewalks on each side of the road with a four-foot grass strip and one-foot shoulders for the majority of the section. The total typical width of roadway is about 46 feet. In the area of the left turn bays, by the entrance to Saint Michael’s College, the grass strip on the north side is extended to eight- to ten-foot wide and the overall paved width is extended by 11 feet to accommodate the turning lanes. Total width in this area is about 57 feet. Just before Lime Kiln Road there is a 16-foot wide grass median island with one-foot shoulders. In this area the total roadway width extends to 64 feet.

ROW: In general, the ROW limits in this area are 35 feet on center and are extended two feet beyond the outside edge of the sidewalk on both sides where sidewalk exists or 11 feet beyond the edge of pavement. ROW is extended to 46 feet on the north side of the road where the green strip for the sidewalk is extended. Prior to Lime Kiln in the vicinity of the center median island, the ROW extends to 51 feet on the south side. The 51 feet is measured from the northern side of the median island which is the location of the record plan alignment for Route 15.
Segment B: Lime Kiln Road to Vermont National Guard Road

Roadway: Segment B extends northeast from Lime Kiln Road to Vermont National Guard Road. The opposing traveled ways are generally separated by a 16-foot grass median. There are five-foot wide sidewalks on each side of the road with a four-foot grass strip for the majority of the section. The sidewalk on the south side heads north until it terminates just before the hospital. In locations where there is a left turn bay there is an 11-foot wide lane and a four-foot concrete median with one-foot shoulders. From Lime Kiln Road to about Johnson Ave the opposing traveled ways are separated by a median varying from a four-foot wide concrete median island to a 16-foot wide grass median island. In this area, the total width of roadway reduces to a minimum of about 52 feet. The right turn bay in front of the hospital adds an additional 11 feet to the total roadway width.

ROW: The ROW in this area is measured from the 1961 record plan drawings in which the alignment is located on the northern edge of the median island. In general, the ROW limits in this area are a total of 86 feet with 35 feet to the north and 51 feet to the south. ROW is extended two feet beyond outside edge of sidewalk on both sides where sidewalk exists or 11 feet beyond edge of pavement. In the area of the jug handle that enters Saint Michael's College (Campus Road) the ROW extends 160 feet on the south side of the alignment. Just east of Campus Road in front of the cemetery, the ROW narrows to 34 feet on the south side. Following the cemetery the ROW extends to about 40 feet up until the roadway widens again for the center median island. In the area of the jug handle that enters Camp Johnson (Camp Johnson Road) the ROW extends 11 feet beyond the edge of pavement around the jug handle. Note that an extended shoulder within this ROW has been installed.

Segment C: Vermont National Guard Road to Barnes Avenue

Roadway: Segment C extends northeast from Vermont National Guard Road to Barnes Avenue. There is a five-foot sidewalk with a four-foot grass strip on the north side of the road and the opposing traveled ways are separated by a 16-foot wide grass median island. The total typical width of roadway is about 64 feet. In the eastbound left turn lane, the shoulder width on the south side is extended from about one foot to 12 feet then tapers back to one foot before reaching Woodside drive. The Barnes Avenue exit ramp headed west adds an additional 11 feet to the total width. The left turn bay for Barnes Avenue is an additional 11 foot lane and is separated by a four-foot concrete median island.

ROW: The ROW in this area is measured from the 1961 record plan drawings in which the alignment is located on the northern edge of the median island. In general, the ROW limits in this area are a total of 90 feet with 40 feet to the north and 50 feet to the south. The ROW is extended seven feet beyond outside edge of sidewalk or 15 feet beyond edge of pavement on the north side of Route 15 and extends 10 feet beyond edge of pavement on the south side. The area in front of the cemetery just past Vermont National Guard Road has a narrower ROW at 42 feet where it extends about 2 feet beyond edge of pavement. Note that the fence in front of the cemetery is not in the location of the ROW shown on record plans. Note that the fence to the north of Route 15 following Vermont National Guard Road delineates the property line not the ROW. Just prior to the Barnes Avenue westbound slip ramp the ROW is extended to 60 feet on the north side of Route 15. In this
area from the edge of pavement the ROW ranges from a maximum of 35 feet before the slip ramp taper to a minimum of 24 feet following the taper. Note that this ROW does extend to the existing fence. The ROW on the south side of Route 15 prior to Barnes Avenue tapers out to 100 feet.

Segment D: Barnes Avenue to Susie Wilson Road

Roadway: Segment D extends northeast on Route 15 from Barnes Ave to Susie Wilson Road. There is no sidewalk in this area and the opposing traveled ways are separated by a 16-foot grass median with one-foot shoulders. The total typical width of roadway is about 64 feet. The Barnes Avenue entrance ramp headed west adds an additional 11 feet to the total width. The left turn bay for Woodside Drive is an 11-foot lane and is separated by a four-foot concrete median island. By the Ethan Allen Ave entrance there is an 11-foot left turn bay separated by a four-foot concrete median island. The right turn bay to enter Ethan Allen Avenue adds an additional 11 foot to the total width. From Ethan Allen Avenue to Susie Wilson Road there is an additional 11-foot turning lane separated from opposing traffic by a four foot concrete median island. There is five-foot sidewalk on the north side of the road in this area separated by a green strip that varies from about a 25-feet maximum to a seven-foot minimum.

ROW: The ROW in this area is measured from the 1961 record plan drawings in which the alignment is located on the northern edge of the median island. In general, the ROW limits in this area are a total of 95 feet with 40 feet to the north and 55 feet to the south. The ROW is extended about 16 feet from the edge of pavement to the north and about 15 feet from the edge of pavement to the south. Approaching the curve just east of the Colchester/Essex Town line, the ROW on the north side extends to 45 feet. East of Ethan Allen Avenue, the ROW extends to 50 feet on the north side until Susie Wilson Road. The ROW on the south side varies from 55 feet to 115 feet in width.

Segment E: Susie Wilson Road to West Street Extension

Roadway: Segment E extends southeast from Susie Wilson Road to West Street Extension. There is a five-foot sidewalk with a four-foot grass strip on the north side of Route 15. The total typical width of roadway is about 64 feet. The opposing traffic is separated by a 16-foot grass median. Just before West Street extension on the eastbound traveling side of the roadway there is an 11-foot left turn lane separated from opposing traffic by a four-foot concrete median island, an 11-foot through lane and an 11-foot right turn lane separated from the through lane by a nine-foot wide median island with one-foot shoulders. The total width of roadway in this area is about 74 feet.

ROW: The ROW in this area is measured from the 1961 record plan drawings in which the alignment is located on the northern edge of the median island. In general, the ROW limits in this area are a total of 91 feet with 40 feet to the north and 51 feet to the south. The ROW is extended about 16 feet from the edge of pavement to the north and about 15 feet from the edge of pavement to the south. At the intersection approach from the west to West Ave Extension, the ROW widens to 60 feet on the south side to accommodate the turning lanes.
5. CRASH HISTORY

The Study Area and immediate vicinity includes one roadway segment and two intersections that are considered High Crash Locations (HCL) as reported in the most recent VTrans HCL Report 2006-2010. Figure B-3 shows HCL locations and Table B-2 provides a summary from this listing as follows:

### Table B-2: High Crash Information

<table>
<thead>
<tr>
<th>Ranking (Int/Segment)</th>
<th>Location</th>
<th># Crashes</th>
<th>Injuries</th>
<th>Fatalities</th>
<th>Actual/Critical Ratio</th>
<th>Severity</th>
</tr>
</thead>
<tbody>
<tr>
<td>41 (Intersection)</td>
<td>Susie Wilson Road</td>
<td>73</td>
<td>8</td>
<td>0</td>
<td>1.491</td>
<td>$14,577</td>
</tr>
<tr>
<td>95 (Intersection)</td>
<td>I-89</td>
<td>46</td>
<td>18</td>
<td>0</td>
<td>1.148</td>
<td>$30,622</td>
</tr>
<tr>
<td>182 (Segment)</td>
<td>Winooski Park (MM 0.343) –</td>
<td>151</td>
<td>20</td>
<td>0</td>
<td>1.643</td>
<td>$15,370</td>
</tr>
<tr>
<td></td>
<td>Campus Road (MM 0.643)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

These locations are considered to be HCLs because they have at least five crashes over a five-year period and the actual crash rate, the number of crashes per million vehicles, exceeds the critical crash rate. The critical crash rate is based on the average crash rates of similar roadways in Vermont and is related to the functional class of a highway and whether it is located in an urban or rural area. It is important to note that recent improvements have been made to the I-89 Ramp B and Susie Wilson Road intersections since the most recent crash data have published.

Pedestrian and bicyclist crash data for the corridor has been requested from VTrans.

6. ADDITIONAL INFORMATION

Since the completion of the previous studies, the Campus Connector project has been completed. This project created a new through road north of and parallel to Route 15 connecting Barnes Avenue in Fort Ethan Allen with St. Michael’s College. The portion of the new road between Barnes Avenue and Camp Johnson Road also has a shared use path along its north side. From Camp Johnson Road west, the road includes bicycle lanes and sidewalks. The project also included the redesign of Camp Johnson Road itself to add new turn lanes and bicycle lanes between the new road and Route 15.
D. UTILITIES

Almost all of Route 15 with the Study Area has utility poles with overhead lines located along the edge of the right-of-way (ROW). The lines are almost exclusively on the northern side of the road. The utility poles are typically located close to the edge of the existing pavement.

A natural gas line is located along the side of Route 15 for most of its length within the Study Area.

A fiber optic line is also located primarily along the north side of the Route 15 pavement area. The line is direct burial underground from the I-89, Exit 15 interchange to Johnson Avenue. The line transitions to aerial at Johnson Avenue and extends in the air to Vermont National Guard Road. The line returns to direct burial underground at Vermont National Guard Road and extends underground on the north side of Route 15 to Susie Wilson Road. The line remains underground from Susie Wilson Road to West Street Extension but is in a manhole system under the pavement, which likely means the line is encased in concrete.

E. NATURAL RESOURCES

1. WATER COURSES

The Winooski River is the primary watercourse in the Study Area but it is located well below the elevation of Route 15 and consequently does not present constraints on the potential development of improved biking or walking facilities along Route 15.

Sunderland Brook runs along the north side of Route 15 starting close to the eastern edge of the Study Area and flowing west, under Susie Wilson Road and north of Fort Ethan Allen. Representatives from the Vermont Agency of Natural Resources have indicated that they would like to see the open areas between existing development close to Susie Wilson Road and the Brook remain undisturbed, since the Brook is considered an important habitat area. Figure B-4 shows the location of these two watercourse.

2. TOPOGRAPHY

The topography in the study area is generally level along Route 15. There is a steep drop to the Winooski River valley to the south of the Study Area. The land also drops gradually to the west at the western end of the St. Michael’s campus, close to Florida Avenue. Figure B-6 shows the general topography in the study area with two-foot contours. There are a few areas along the edges of the roadway where the adjacent lands rise several feet from the roadway elevation.
3. **WETLANDS**

There are wetland areas associated with the Sunderland Brook and within certain other lower spots in the Study Area. Figure B-4 shows the location of these wetland areas. Other than these, there are no wetlands close to the Route 15 ROW.

4. **WATER BODIES**

There are no significant water bodies within the Study Area.

5. **FLOODPLAINS.**

The Winooski River floodplain is well below the Route 15 ROW and not an issue for this study.

6. **FLORA**

The State of Vermont has identified several natural areas of special importance within the Study Area. Figure B-4 shows the general location of these areas.

There are also a few notable old trees within or close to the Route 15 ROW that should not be disturbed during the development of improved bicycling or walking facilities. Figure B-4 highlights the location of these trees.

7. **ENDANGERED SPECIES & SPECIAL ENVIRONMENTAL AREAS**

There are several endangered species listed with the State of Vermont that fall within or close to the Route 15 corridor Study Area. Figure B-4 shows the general location of the endangered species.

F. **CULTURAL RESOURCES**

1. **HISTORIC/ARCHEOLOGICAL**

The proposed shared use path on the south side of Route 15 west of the Lime Kiln Road intersection would need to move further outside the existing right-of-way to avoid impacting at least one old oak tree. The path should stay a minimum of 20 feet away from the base of the tree. Such a wide circumference around the tree would require additional easements from St. Michael’s College. The alternative is to reduce the width of the path as it passes between the tree and the curb. In addition to creating a narrow spot on the shared use path, this alternative would require disturbances close to the base of the tree and could result in the eventual death of the tree.
The proposed alignment and improvements would not disturb the existing stone retaining wall along the edge of the road at the corner of Route 15 and Gorge Road. It would also not impact the other historic resources highlighted in the historic resources analysis. Attachment B-1 includes a copy of the historic resource analysis.

The proposed alignment is located almost exclusively within areas that appear to be previously disturbed. The Archeological Resources Assessment (ARA) determined that no areas within the proposed project’s immediate area of potential effect (APE) were sensitive for Pre-Contact Native American sites. While the proposed project’s APE crosses the road frontage of several historic properties, the project’s potential impact on most of these properties is limited to formal yard areas or to those areas already disturbed and is considered negligible. The exception to this is the Merrill Cemetery Lot on the St. Michael’s campus.

Early cemeteries were not always well marked or documented. From the research presented in the ARA and based on experiences elsewhere in Vermont, the Consultant Team notes the likelihood that there are unmarked burials associated with this cemetery and that some of these may lie wholly or partially outside of the existing fence, especially considering the widening of Vermont Route 15 in the 1960s. Therefore, the Consultant Team recommends that the area along the south side and western front of the cemetery within the proposed APE be mechanically stripped with a clean-up bucket down to the interface with undisturbed subsoil prior to construction to make sure no graves are located within this portion of the project area and that this work be monitored by a professional archaeologist. It is also recommended that there be a discussion with the Vermont Department of Historic Preservation early in the construction planning process to determine what procedures should be followed should one or more graves be identified.

Attachment B-2 includes a full copy of the ARA.

2. OPEN SPACE AND PUBLIC LANDS

There several open spaces and parks within or close to the Route 15 ROW Study Area, including the Pearl Street Park at the eastern end, the Fort Ethan Allen Green, the two cemeteries on the south side of Route 15 and the St. Michael’s Campus open areas. Figure B-2 shows the general location of the open space areas.

3. AGRICULTURAL LANDS

There are no significant agricultural soils within the Study Area.

G. PLANNING DOCUMENTS

1. MUNICIPAL PLANS

Each of the municipal plans for the four communities in the Study Area supports the development of better bicycle and pedestrian facilities.
2. REGIONAL PLANS

The Chittenden County Bicycle and Pedestrian Plan recommends a series of interconnected on-road bicycle facilities and off-road shared use paths. The on-road network includes a future facility on Route 15 from Winooski east to the four corners in Essex Junction and beyond. There is also an off-road facility shown linking Winooski and Essex Junction, but with a gap roughly in the vicinity of St. Michael’s College filled by an on-road link.

3. STATE PLANS

The 2008 VTrans Pedestrian and Bicycle Policy Plan includes goals and objectives that directly support the upgrading of bicycling and walking facilities along the Route 15 corridor, including:

**Goals**

- Cultural Environment. Enhance the human scale and livability of Vermont’s communities by improving opportunities for pedestrian and bicycle mobility and access in and between towns, downtowns, villages and rural landscapes.

- Health. Improve the health of Vermonters and reduce health care costs by making it easier, safer and more convenient for citizens to be more physically active by walking and bicycling on a regular basis.

- Transportation Choice. Enhance pedestrian and bicycle transportation options in Vermont so that citizens, regardless of location, socioeconomic status, or health can choose a seamless, convenient and comfortable mode that meets their needs. Promote a transportation network, including roadways, shared use paths, rail trails, rails with trails, and accessible walker facilities, which allow pedestrians and bicyclists to reach their destinations throughout the State or to connect to other modes of travel.

**Objectives**

- Objective 8. Work with citizens, municipalities, regional planning organizations, and other State agencies to develop, plan, and implement pedestrian and bicycle plans, projects, and programs.

- Objective 12. Provide a seamless transportation network for pedestrians and bicyclists by improving linkages between walking, bicycling and other modes of transportation.

4. OTHER PLANS OR STUDIES

The Town of Essex submitted an application for an enhancement grant several years ago for a shared use path between Susie Wilson Road and Pearl Street Park on the north side of Sunderland Brook. The plan generally followed the alignment shown in the previous
Scoping Studies for the Route 15 corridor. The Town did not receive an enhancement grant for the project.

The previous Route 15 Bicycle and Pedestrian Scoping Study identified several viable alternatives for improving bicycling and walking conditions in the Study Area. The study did not make a final recommendation as to which alternative would be most appropriate. **Figure B-5** shows the alternatives from the previous scoping study.
Route 15 Bicycle Pedestrian Study
Existing Conditions: Transportation

Beige call-out boxes show real or estimated (E) Average Annual Daily Traffic counts.

Legend
- Bicycle Lanes
- Trail
- NEC Railroad
- Greenwalk
- Shared Use Path
- New Roadways
- Sidewalks
- Segment A
- Segment B
- Segment C
- Segment D
- Segment E
- High Crash Location
- City/Town/Village Boundaries
- Route 15

23,500E I-89 Ramp B Exit 15 to Lime Kiln Road
25,100E Camp Johnson to Barnes Ave.
20,400E Barnes Ave. to Suzie Wilson Road
14,900 Suzie Wilson Road to West Street
25,200 Lime Kiln Road to Camp Johnson
25,100E Camp Johnson to Barnes Ave.

Figure B-3
Route 15
Bicycle Pedestrian Study
Existing Conditions:
Natural Resources
Chittenden County
Regional Planning Commission

Legend
- Significant Tree
- High Roadkill Location
- Wetlands
- High Wildlife Crossing Value
- Rare, Threatened or Endangered
- Route 15

Figure B-4

November 2012
Stantec
BROADREACH Planning & Design
Beige call-out boxes show real or estimated 15-Year Average Annual Daily Traffic counts.

Legend
- Alternative 2
- Alternative 4
- Alternative 3
- Alternative 5

- Sidewalks
- Bicycle Lanes
- Shared Use Path
- Trail
- NEC Railroad
- City/Town/Village Boundaries
- Route 15

Route 15
Bicycle Pedestrian Study
Previous Alternatives

April 2012
Figure B-5
Attachment B-1
Preliminary Aboveground Cultural Resources Assessment
Preliminary Aboveground Cultural Resources Assessment
Route 15 Bicycle Pedestrian Study
Colchester & Essex, VT
6 December 2012

Submitted to:
Jim Donovan, FASLA
Broadreach Planning & Design
Charlotte, VT 05445

Prepared by:
Sarah LeVaun Graulty, MSHP
Patricia M. O’Donnell, FASLA, AICP
Heritage Landscapes LLC

INTRODUCTION

The goal of this review is to identify existing cultural resources in the study area that are listed or eligible for listing on the National Register of Historic Places and could potentially be affected by bicycle and pedestrian circulation improvements. This effort assists with compliance under Section 106 of the National Historic Preservation Act and Section 4(f) of the U. S. Department of Transportation. This investigation is a basic reconnaissance-level survey of historic aboveground resources, not a detailed inventory of National Register eligible properties. Further research will be necessary to determine National Register eligibility for resources within the study area.

Heritage Landscapes conducted a field inspection of the project area on 26 November 2012 to assess potential historic resources in the project area. The focus of this field review was the area extending approximately 500 feet either side of Route 15 east of Interstate 89 in Colchester and west of the intersection with Susie Wilson Road in Essex. This includes features in the right-of-way and the adjacent portions of abutting properties.

Should the breadth of proposed improvements be broader than assumed for this review, the impacts to adjacent structures and other elements should be re-reviewed. Off-path/road areas of dense vegetation with limited access were not assessed.
In addition to field inspection, baseline research revealed some information about historic resources within the project area. Heritage Landscapes reviewed historic maps, including the Colchester and Essex sections of the *Atlas of Chittenden County, Vermont* (F. W. Beers, 1869). These resources provide a degree of background and context to inform this reconnaissance-level historic review. (See Figures 1 and 2.) Generally, the majority of the resources on the 1869 maps in the study area are not present today, or have diminished integrity to the point that they are indistinct.

Research revealed that while no individually listed National Register resources are positioned in the study area, the project abuts a listed historic district. The designated Fort Ethan Allen Historic District is located on the north edge of Route 15 in the towns of Colchester and Essex. (See Figures 3 and 4.) This historic district contains 22 contributing and 13 non-contributing buildings and was added to the National Register of Historic Places in October 1995. The University of Vermont Campus Master Plan & Design Guidelines (2006, p188) notes:

> The construction of Fort Ethan Allen was first proposed by Vermont native Governor Redfield Proctor in 1889 to house cavalry as the Champlain Valley became a strategic location in what was then known as “The Northern Frontier.” The Fort was constructed in two phases and Cavalry troops arrived in 1894, providing a support to the local economy and border defense. The Fort remained active until 1944 when it was converted to storage and civilian housing. From 1951-1960, the military renewed its interest in the base, renaming it the Ethan Allen Air Force Base for use by the Vermont Air National Guard. In 1960, the military presence finally came to an end and the base was divided up for private commercial and residential use, including use by the University. The University’s most significant historic buildings are the Ethan Allen Apartments, formerly non-commissioned Officer’s Buildings and civilian employee housing. They were built between 1894 and 1940 and the majority of the buildings are identical.

**SUMMARY OF RESULTS**

A limited number of potentially-historic resources have been identified within the study area, and very few of them could be affected by proposed project. Specific historic resources identified during field review are addressed in the following paragraphs, organized by location.

Potential conflicts with historic resources are outlined where applicable. Typically, these conflicts stem from the proximity of National Register-eligible resources to the adjacent roadway.
Field review took place at the conceptual phase of the study, and the area of potential effect is slightly broader than the area that would be affected by the path as developed. Overall, the proposed path would have a minimal impact on existing historic aboveground resources. Nevertheless, it is important to identify all the historic aboveground resources in the study area. Eligible or potentially eligible cultural resources in the study area are noted below (presented from west to east).

- **20th Century Neighborhood**: The west end of the study area contains a dense neighborhood with 20th century houses of varying integrity positioned close to the roadway. The proposed project does not affect these resources.
- **Stone Retaining Wall**: A stone retaining wall on the southeast corner of Route 15 and Gorge Street (opposite Florida Avenue) in the 20th century neighborhood appears to be a potentially historic resource. (See Figures 5 and 6.) The proposed project is being developed to avoid effects to this resource.
- **Saint Michael’s College**: The Saint Michael’s College campus is located north of Route 15 in Colchester. The extent of historic resources on campus has not been explored for this reconnaissance-level survey, but it is important to note the proximity of the college to the study area. In addition, St. Mike’s also operated the Ethan Allen Apartments at Fort Ethan Allen, which house seniors and juniors.
- **Merrill Cemetery**: This small cemetery, stewarded by Saint Michael’s College, is positioned on the south side of Route 15 and is enclosed by non-historic fence. (See Figures 7 and 8.) Merrill Cemetery includes burials dating to the 1830s. The proposed path is designed to minimize affects on this resource.
- **Fort Ethan Allen**: The National Register-listed Fort Ethan Allen Historic District includes numerous contributing and non-contributing historic resources. The proposed path is positioned at the edge of the historic district, adjacent to the open green and at a distance from the listed resources. Though not listed as a contributing recourse, the green is an important feature at this historic property and project improvements should avoid negative effects to this landscape.
- **Fort Ethan Allen Cemetery**: This active cemetery is located east of Merrill Cemetery on the south side of Route 15. (See Figure 9.) The Fort Ethan Allen Cemetery is larger in size than Merrill and appears to date to a later period. The proposed path does not affect this cemetery.
- **Brick Piers & Iron Gate**: Brick piers with a stone cap and metal fence flank the entrance to Ethan Allen Drive from Route 15. (See Figure 10.) These piers appear to be repositioned for a previous project and not in their historic location, though the fabric of the resource remains in good condition. The proposed project will not affect these piers.
Figure 1. Detail, Colchester, from the *Atlas of Chittenden County, Vermont*, F. W. Beers, 1869. Colchester section (west component) of project study area highlighted in pink. (Colchester-BeersMap-1869-HMW-Detail-highlight)

Figure 2. Detail, Essex, from the *Atlas of Chittenden County, Vermont*, F. W. Beers, 1869. Essex section (east component) of project study area highlighted in pink. (Essex-BeersMap-1869-HMW-Detail-highlight)
Figure. 3. Map highlighting existing historic resources at Fort Ethan Allen owned by the University of Vermont, from “University of Vermont Campus Master Plan & Design Guidelines”, 2006, p188. Courtesy UVM.
Figure 4. Aerial view east to Fort Ethan Allen, 12 August 1924. Courtesy Terry Goggin via Paul Freeman, “Abandoned & Little-Known Airfields”.
(http://members.tripod.com/airfields_freeman/VT/Airfields_VT_N.html)
Figure 5. View north to stone retaining wall on the southeast corner of Route 15 and Gorge Street. Courtesy BPD. (R-BPD-Route15-IMG_8100)

Figure 6. View east along stone retaining wall at the southeast corner of Route 15 and Gorge Street. Courtesy BPD. (R-BPD-Route15-IMG_8101)
Figure 7. View north across Merrill Cemetery. Courtesy BPD. (R-BPD-Route15-IMG_8156)

Figure 8. View east along Route 15 at Merrill Cemetery. Courtesy BPD. (R-BPD-Route15-IMG_8159)
Figure 9. Drive into Fort Ethan Allen Cemetery. Courtesy BPD. (R-BPD-Route15-IMG_8005)

Figure 10. View west along Route 15 at Ethan Allen Avenue. Courtesy BPD. (R-BPD-Route15-Photo 4 West Ethan Allen Intersection)
Attachment B-2

Archeological Resources Assessment
Submitted to:

Gregory Edwards, P.E.
Principal
Stantec Inc.
55 Green Mountain Drive
South Burlington, VT 05403

Submitted by:

Consulting Archaeology Program
University of Vermont
111 Delehanty Hall
180 Colchester Ave
Burlington, VT 05403

April 2013
UVM CAP Report No. 680
INTRODUCTION

The Chittenden County Regional Planning Commission has proposed to enhance the bike and pedestrian facilities along the southern and eastern sides of Vermont Route 15 (also known as College Parkway), beginning at a point just east of Exit #15 on I-89 at the intersection of Vermont Route 15 and Roland Court, and continuing along the southern and eastern side of Vermont Route 15 approximately 1,537 m (0.96 mi), passing Saint Michael’s College and Fletcher Allen Health Care’s Fanny Allen campus, to the intersection of Vermont Route 15 and Vermont National Guard Road, the primary entrance to the VTANG’s Camp Johnson complex (Figures 1-3). This project calls for the replacement and/or widening of the existing pedestrian facilities as well as the relocation of some utility poles, the installation of a few signal poles and the improvement of drainage structures as necessary.

This Archaeological Resources Assessment (ARA) was conducted by the University of Vermont Consulting Archaeology Program (UVM CAP) on behalf of the project engineers, Stantec, Inc., to satisfy permitting requirements under Section 106 regulations of the National Historic Preservation Act (1966); as amended. The goal of this ARA was to provide sufficient information to gauge: 1) the general archaeological sensitivity of the project’s Area of Potential Effects (APE) and 2) whether further archaeological studies will be required as the project proceeds. This ARA covers the part of the project slated for immediate construction and not the “Future Proposed Shared Use Path” that may run along the northern bank of the Winooski River as indicated on plans provided.

To assess the potential for historic period archaeological resources within the project’s APE a broad range of archival documents were examined including historic maps, land records, aerial photographs, newspapers, vital records, census records, family histories, probate records, and published town histories. To assess the potential of the proposed project’s APE for PreContact Native American sites, a review of the files of the Vermont Division of Historic Preservation (VDHP) was undertaken to identify the location and type of previously reported sites nearby in order to understand the sensitivity of the broader area around the current project. In addition, the criteria contained in the VDHP’s Environmental Predictive Model for Locating PreContact Archaeological Sites was used to establish general sensitivity for PreContact Native American sites within the project’s immediate APE. Finally, a field inspection of the project area was undertaken on March 24, 2013, to examine those areas identified through the above processes that have the potential to possess a high sensitivity for containing as yet unrecorded historic and prehistoric sites.
Figure 1. Map showing the general location of the proposed Vermont Route 15 Bike and Pedestrian Connection Project (dashed red line), Colchester, Chittenden County, Vermont.
Figure 2. A schematic map of the western portion of the proposed Vermont Route 15 Bike and Pedestrian Connection Project area drawn from several sources including: the Sanborn Mapping and Publishing Company Fire Insurance Maps 1927 and 1978, Beers 1869, and Google Earth Imagery.
Figure 3. A schematic map of the eastern/northerly portion of the proposed Vermont Route 15 Bike and Pedestrian Connection Project area drawn from several sources including: Sanborn Mapping and Publishing Company Fire Insurance Maps 1927 and 1978, Beers 1869, Google Earth Imagery, and Koerner 1968.
PRECONTACT NATIVE AMERICAN

This study area is situated on top of a high relic glacial outwash delta plain, which has an upper elevation of approximately 91-97.5 m (300-320 ft) above mean sea level. This broad relatively level landform is deeply incised by several significant drainages including the extensive dendritic network associated with Sunderland Brook, which lies to the north of the project area. To the south of the project area, the relic delta formation has been dramatically altered by the Winooski River, the valley floor of which lies about 36.6 m (120 ft) below the top of the relic delta plain.

A review of the Vermont Archaeological Inventory (VAI) maintained by the Division of Historic Preservation (VDHP) indicated that there are numerous previously recorded PreContact Native American sites nearby the current project area (see Figure 1). Site VT-CH-703 is a small site (roughly 16 sq. m.) of yet undetermined age, which was found during subsurface testing in 1996. The site is located on the level delta top near a draw and intermittent steam associated with the Sunderland Brook system. The site yielded 459 chert flakes (evidence of stone tool manufacture or modification) along with some quartzite and quartz flakes (Thomas et. al. 1999). The other site, VT-CH-912 (also known as the Bivouac Site), was identified by subsurface testing in 2002. This is an approximately 1,625 sq. ft Middle Woodland period habitation site situated on a broad level terrace above and on the southerly side of a tributary of Sunderland Brook. This site featured unplowed features laden with calcined bone, pottery, Levanna-type projectile points, flakes, fire-affected rock, and carbonized floral remains.

Additional sites identified along the various heads of draw or sides of drainages associated with the Sunderland Brook system include: VT-CH-234 (a Late Archaic and Early to Late Woodland campsite); VT-CH-235 (a PreContact campsite of undetermined age); VT-CH-287 (a PreContact campsite of undetermined age); VT-CH-697 (a Late Woodland campsite); VT-CH-698 (a possible Paleo-Indian campsite); VT-CH-699 (a PreContact campsite of undetermined age); VT-CH-700 (a PreContact campsite of undetermined age); VT-CH-879 (an Early to Late Woodland site 900 B.C.–1600 A.D.); and VT-CH-913 (a PreContact campsite of undetermined age). Together these sites demonstrate the high sensitivity of the top of the relic delta near the Sunderland Brook system for sites covering the entire range of possible PreContact Native American occupation (Hartgen Archaeological Associates 2007).

Two sites indicated on Figure 1 as being located near the project area are historic sites related to the stone lime industry in the area (VT-CH-284 and VT-CH-282). Other sites seen on Figure 1 include those PreContact Native American sites closely associated with the Lower Falls of the Winooski River.

Although both the top of the outwash delta, especially near the incised drainages of Sunderland Brook, and the areas along the elevated edges of the delta overlooking the intervale and the Winooski River, are generally considered sensitive for PreContact Native American occupation, the project’s APE is a very narrow strip on top of the delta plain fairly removed from the Sunderland Brook drainage complex and set back a short distance from the edge of the landform overlooking the Winooski River. The flat top delta in those areas located at a distance from the drainages and the undifferentiated sections of the valley edge have yet to be proven
particularly sensitive. Previous archaeological surveys undertaken in the immediate vicinity of the current project area, including the Lime Kiln Swale Project undertaken in 2002 and the Campus Connector Project TCSP TCSE (007) undertaken in 2006, were both negative (Hartgen Archaeological Associates 2007; Knight 2002). It must be noted that there may be exceptions to this generalization, especially in areas where natural springs can be found (such as the one reported on the slope near Saint Michael’s College’s St. Joseph’s Hall).

For reasons given above, most of the project’s APE was not considered to be sufficiently sensitive to warrant testing. The exception to this, however, was the area near the head of the large draw that is located between the Merrill Cemetery and the Fanny Allen Medical complex. Several features suggested that the area near this ravine may be sensitive for PreContact Native American sites including the distance to an intermittent stream in the draw, the proximity to head of draw, level terrain, and its proximity to the valley edge feature. Furthermore, this large draw may have served as a natural travel corridor between the floodplain/wetlands of the Winooski River and the Sunderland Brook drainage system to the north, especially considering that the Winooski Gorge is located a short distance downstream from this area. However, available documents and aerial photographs indicate that the ground near this ravine which lies within the project’s APE has been extensively disturbed or otherwise altered by the construction of and/or the later widening of Vermont Route 15 in the 1960s as well as the installation of a sewer line through this area, which ran to a treatment plant located south of the railroad tracks (see Figure 3 and 4) (AeroGraphics Corp.:1974; Geotechnics & Resources Inc.:1962). The field visit conducted on March 24, 2013, confirmed that this area appears to have been modified by landscaping and the addition of fill (Figure 5). These disturbances have negated the need for a subsurface survey within the project’s narrow APE near this draw.
Figure 4. A comparison of the 1962 and 1974 aerial photographs of the area near the Merrill Cemetery and the deep ravine (AeroGraphics Corp.:1974; Geotechnics & Resources Inc.:1962).

Figure 5. View of the ravine area, looking north northeast, 2013. Note a sewer related concrete structure in woods at center of image and the graded fill along the side of the highway.
HISTORIC

In the early Euro-American settlement period, after ca. 1783, new arrivals found the sandy soils of the broad relic delta plain of Essex and Colchester to be a mixed blessing (Allen 1974). On one hand, the light loose soils provided well-drained house sites and were easy to work agriculturally. On the other hand, the soil had a low natural fertility, was so excessively drained that it tended to be droughty, and it could create wind driven sandy waste areas when unvegetated (Allen 1974:12, 71-72; Latimer et. al. 1930:39). Despite these limitations, much of the area was cleared and farmed, sometimes intensively, for corn, hay, and pasture (Allen 1974:12; Latimer et. al. 1930:39). Furthermore, while the soil was only marginally suited for general agricultural purposes, it was very ruminative with respect to its heavy timber growth. According to one early historian: “the first settlers found the sandy lands . . . covered with a heavy growth of pitch pine, the cutting of which formed the chief industry for many years. Many of the trees when felled would measured ten rods in length, and it was not uncommon to see two thousand feet of lumber in one saw-log” (Rann 1886:559). In addition, the nearby Winooski River valley not only provided some better agricultural land, it also afforded a number of mill sites at its various falls. Roads were rapidly opened to link the developing industrial locations, such as the Lower Falls at Winooski and Hubbells Falls in Essex, as well as the agricultural trade / commercial hubs of Burlington and the Five Corners. Both Vermont Route 15 and Lime Kiln Road (with the High Bridge, now known as the Lime Kiln Bridge, which was one of the few early crossings of the Winooski River in this region) were established at a very early date. By the early 1800s, the lime kiln near the project area was in operation and a number of houses and taverns had already been built along the stage route (Vermont Route15) (Figures 6 and 7).
Figure 6. Detail of H.F. Walling’s *Map of Chittenden County, Vermont* (1857), showing the project area.
Figure 7. Detail of a map of Colchester from F.W. Beers’ *Atlas of Chittenden County, Vermont* (1869), showing the location of the project area.
According to the plans provided, the project’s APE is generally limited to between 4.6 and 6.1 m (15 and 20 ft) of the current traveled way of Vermont Route 15. Although the first approximately 391 m (0.24 mi) of the western end of the proposed project passes along the front of several historic sites and/or structures, the area has been heavily modified by 20th century or 21st century development such as the Handys Extend Stay Suites and the Days Inn of Colchester, Vermont (see Figure 3). Furthermore, this section of the proposed project involves only the replacement of the existing 1.5 m (5 ft) wide sidewalk with no new ground disturbance anticipated.

**Saint Michael’s College**

Beginning at a point opposite to the entrance to Saint Michael’s College at Campus Road West near Saint Michael’s College’s Robert E. Sutton Fire and Rescue Station (built between 2004 and 2006) and the Holcomb Observatory (built ca. 1920-1926), the green space opens up and the proposed project calls for the removal of the existing path and its replacement with a new 3 m (10 ft) wide shared use path and a 1.5 m (5 ft) wide green strip between it and the highway. In this vicinity, the historic landscape has been less altered and includes Prevel Hall, a standing historic structure located just south of the proposed project’s APE.

**Prevel Hall**

This historic property was first known as the David Reed place. On February 19, 1844, Udney Penniman sold David Reed twelve undeveloped acres of land at the northwest corner of “the park or common” and including a third right to the “park or common” for $480 (see Figures 2 and 6) (Colchester Land Records [CLR] 10:279). Reed was well known in Colchester as a developer of the marble quarries at Malletts Bay in the 1850s (Wright 1963:68). Land records indicate that Reed built the distinct post and beam brick veneered structure consisting of a central block flanked by two projecting wings with its distinct observation tower room ca. 1844-1846 (Figure 8) (Carlisle 1975:17; VDHP Historic Sites and Structures Survey #0404-31). Specifically, in a mortgage on the property given to James Dean on January 14, 1846, Reed described the property as “where I now live in Colchester, where I have now recently erected a dwelling” (CLR 10:481).

Soon afterwards, David Reed added more land, up to a total of about thirty acres, to create a fine estate that extended down to the river (CLR 10:441). This property was once described as “an idyllic place of orchards, grassy slopes and terraces, with the cataracts of Winooski River rushing through gorges cut in the limestone cliffs” (Carleton 1903:143). However, in August of 1853, Reed again mortgaged the property, this time to Harmon and Belden Noble of Essex, New York (CLR 13:470). In September of 1861, the Nobles were forced to foreclose on the property and they subsequently sold it to Maria (Buell) Hungerford (1827-1907), wife of Edward Hungerford, on April 5, 1862 (Carleton 1903:143; CLR 13:470; 16:1; 16:235; Gravestone in Greenmount Cemetery, Burlington, Vermont). Edward Hungerford (1829-1911) was a native of Wolcottville, Connecticut, and was appointed as a Professor of Chemistry, Mineralogy, and Natural Philosophy at the University of Vermont in 1857 where he served in the post briefly until the Civil War led to cutbacks in faculty (Carleton 1903:141-142;
Gravestone in Greenmount Cemetery, Burlington, Vermont. Following this, he entered the Christian ministry (Carleton 1903:141-142).

In 1863, the Hungerfords acquired the Stanton-Penniman property, located immediately to the east of the Reed place, and eventually sold the Reed place to Anson J. Crane (ca. 1827-?), a farmer formerly of Huntington, Vermont, on April 21, 1868 (see Figure 7) (CLR 16:1; U.S. Census 1860 and 1870). On July 13, 1872, Anson Crane sold the same property to John Reynolds (1807-1887), a farmer formerly of Georgia, Vermont (CLR 20:503; Gravestone Milton Village Cemetery, Milton, Vermont; U.S. Census 1870 and 1880). The property remained in the Reynolds family for many years. It passed to John’s son, Homer E. Reynolds (1845-1908), and through Homer’s widow, Martha (1851-1931), to Saint Michael’s College on October 14, 1919 (Carlisle 1975:17; Chittenden County Probate Records 1887; CLR 29:133; 40:418; Gravestones Milton Village Cemetery, Milton, Vermont). Saint Michael’s College initially used the building as a “Teacher’s Dormitory,” but it now serves as an administration building (Sanborn Mapping and Publishing Company 1926).

The APE of the proposed pedestrian/bike path passes through the northern edge of the side yard of this property as the house was built oriented towards (facing east) the “park or common” that once lay between it and the Stanton-Penniman place. Vermont Route 15 was widened in this area in the early 1940s bringing it closer to the structure (AW FAP 11(3)1942 14-59; map recorded in the CLR Warranty Deeds 2:226). This semi-public, highly observable space associated with the house has low potential for intact significant historic deposits.

Figure 8. View of Prevel Hall on Saint Michael’s College’s campus built ca. 1844-1846, looking west 2013. Vermont Route 15 is at right.
Store/Tenement

The store/tenement structure located at the northeast corner of Vermont Route 15 and Lime Kiln Road was built ca. 1920-1926 (Figure 9; see Figure 3) (CLR Warranty Deeds 1:425; Essex Land Records [ELR 39:70]; Sanborn Mapping and Publishing Company 1926). The building was used for student housing after it was acquired by Saint Michael’s College in 1930 (Sanborn Mapping and Publishing Company 1978). This building is not considered a significant historical property and the area immediately adjacent to the road appears to have been filled and landscaped to create the modern highway grade.

The Merrill Cemetery

Further along the route of the proposed pedestrian/bike path is the area presently known as the Merrill Cemetery (Figure 10; see Figure 3). The intervening ground on the eastern then southern side of Vermont Route 15 between the store/tenement building and the cemetery was probably never developed (no structures are indicated on the Walling 1857, Beers 1869, or USGS 1906 and 1948 maps of this area). The proposed bike/pedestrian path follows the turnout built in the early 1960s for Saint Michael’s College’s Campus Road East, runs along the southern side of the cemetery a short distance, and then turns northward to follow along the front of the cemetery lot. The width of the proposed path narrows to 2.4 m (8 ft) in front of cemetery, but the path will extend up to the existing fence line and the fence itself may have to be temporarily removed during construction.
This cemetery was originally part of the locally important Stanton-Penniman property, which was settled by one of the early settlers of Colchester, Vermont, Capt. Joshua Stanton Sr. (1740-1811) (Stanton 1891:172). Born in Preston, Connecticut, he spent much of his life as lawyer and innkeeper in the Torrington and Salisbury/Litchfield areas of Connecticut (Carlisle 1973:22; ELR 2:13; Mayo 1965:111; Salisbury Association 1916:106; Stanton 1891:172). However, at some point, Stanton was “hired by Ira Allen to act as agent for some of his real estate holdings in the Onion River Company” (Bent 1963:16 and 22; Carlisle 1973:22). Presumably in this capacity, he took an active role in an early land survey of the neighboring town of Essex in 1774 (Bent 1963:16 and 22; Carlisle 1973:22). Stanton eventually moved to Vermont along with his wife, Abigail (Sackett) Stanton, by whom he had four children: Elizabeth (b. 1766), twins Joshua and Abigail (b. 1770), and Sally (b. 1778) (Mayo 1965:111; Salisbury Association 1916:106; Stanton 1891:172). In June of 1787, he bought a large tract of land lying on either side of the Colchester and Essex town line including all or parts of the Governor’s Right in Colchester, Lots #172, and #173 in Colchester, and the Governor’s Right in Essex (Lot#1) from Ira Allen (Figure 11) (CLR 2:4; ELR 6:189). By 1793, this property was described as the “land . . . Stanton now lives” on (CLR 2:4; ELR 6:189). Joshua Stanton Sr. built his first house, in which he also reportedly kept a tavern, just south of the current project area near the intersection of Vermont Route 15 and Lime Kiln Road on the “top of the hill above High Bridge” on or near the site now occupied by Saint Michael’s College’s St. Josephs’ Hall (CLR 2:4; ELR 6:189; Hemenway 1868:763; Smith 1913:74; Stanton 1891:172; Wright 1963:26).
Figure 11. *Joshua Stanton’s Original Purchase of Ira Allen Colchester and Essex*, by John Johnson (John Johnson Collection, Special Collections, University of Vermont Bailey-Howe Library, Burlington, Vermont: Oversize Maps Folder 8, Map 108). Additional information from CLR 2:4.

Joshua Stanton Sr. quickly became a prominent figure in the early history of Chittenden County. He served three years as chief justice of the Chittenden County Court, served nine years as a member of the corporation that founded the University of Vermont, was elected as a town representative for Colchester in 1793, 1795, 1800, and 1803, and occasionally served in a variety of town offices (selectman, treasurer, and moderator of town meetings) (Hemenway 1868:891-892; Stanton 1891:172). Stanton was also an entrepreneur. His business ventures included land speculation in the towns of Albany and Wolcott, Vermont, and the construction and operation of an iron forge and gristmill in Westford, Vermont (Hemenway 1868:891-892; Mayo 1965:111; Stanton 1891:172).

In August of 1803, Joshua Stanton Sr. transferred approximately one-hundred and thirty-five acres of Lot #1 in Essex (in the southern part along the Winooski River) and about 65 acres
of adjoining land in Colchester to his son, Joshua Stanton Jr. (1770-1806) “in consideration of the natural love and affection which I have and bear unto my son” (CLR 3:11; ELR 2:179; Stanton 1891:172). This property included the houses, outbuildings, and barns south of the modern intersection of Vermont Route 15 and Lime Kiln Road. Joshua Stanton Jr., the only son of Capt. Joshua Stanton Sr., was born in Connecticut on February 19, 1770 and became prominent in his own right (Crosman 1807:14; Dexter 1907:617). In 1789, after graduating from Yale (1788), he “pursued the study of law under the instruction of Governor Tichenor, in Bennington, Vermont” (Crosman 1807:14). After completing his studies at Bennington, he moved to Colchester (Crosman 1807:14). In Colchester, he served as “town clerk for four years (1793-97) and for two years (1796-97) as a [side] judge of the County Court, of which his father was Chief Judge. He also represented the town in the General Assembly for four or five times between 1795 and 1803” (Crosman 1807; Dexter 1907:617). It is said that he was also a “benefactor of the University of Vermont” (Dexter 1907:617).

Joshua Stanton Jr. was married on October 6, 1803 to Eunice, the daughter of Col. Joshua Porter M.D. (Yale 1754) and his wife, Abigail Buel, of Salisbury, Connecticut (Burhans 1894:321; Dexter 1907:617). Eunice Porter (1760-1848) had been previously married to the Hon. John Bird (1768-1806; Yale 1786), of Troy, New York, on October 4, 1789 and had four children with him including: John H. (1790), Carena (1793; died young) and twins, William and Maria (1797; Maria died young) (Burhans 1894:321; Dexter 1907:451-452, 617; Woodruff 1845:30). However, Eunice divorced John Bird in 1798 and was later successful in getting an order of child support from his estate (Dexter 1907:451 and 617). One of her surviving sons, John Herman Bird, used part of the money to attend the University of Vermont, from which he graduated in 1809 (Anonymous 1901:38; Crowley 2003:57-58). Later he became a midshipman in the United States Navy and was one of the first naval officers killed in battle during the War of 1812 while he was serving aboard the frigate President on June 23, 1812; just five days after the declaration of war (Andrews 1893:824).

Joshua Stanton Jr. and Eunice Stanton had two children of their own: a daughter, Abigail Porter Stanton, who was born on September 12, 1804, and a son, Joshua Stanton, who was born on June 17, 1806 (Crosman 1807; Stanton 1891:253). Joshua Stanton Jr. was once described as follows: “as a parent he was unusually fond. As a husband, attentive and affectionate. As a friend he was sincere, and was universally beloved” (Crosman 1807:14). Unfortunately, in 1806, he “was seized with hectic complaints and as the last resort for his health, determined on journeying to the sea shore, hoping a change of climate and the salubrity of sea air might be a means of averting his complaint” (Crosman 1807:14). While returning from this trip, however, he died in Salisbury, Connecticut, on October 28, 1806, aged 38, and was buried in the Town Hill Cemetery there (Crosman 1807; Dexter 1907:617; Gravestone Town Hill Cemetery, Salisbury, Connecticut).

Upon his death, his property passed to his widow, Eunice. Apparently with financial assistance from Col. Albert Pauling, of Troy, New York, she managed to retain most (if not all) of her late husband’s property (not just the dower) (CLR 4:100; 4:109; Vermont Centinel March 25, 1807). She continued to live at the house in Colchester near the High Bridge for about six to seven more years (Figure 12) (Johnson 1810; Vermont Centinel May 13, 1808). During this time and shortly after her husband’s death, their son, Joshua Stanton, died on December 25, 1806,
aged seven months and their daughter, Abigail Stanton, died in March of 1807, aged two years and six months (Vermont Centinel January 21, 1807 and March 18, 1807). At the time, it was noted that the Rev. Dr. Williams gave the sermons for both of the children and that the minister chose the text of Isaiah 40:6-8 for Joshua’s funeral and the text of Genesis 42:36 for Abigail’s funeral (Crosman 1807:16).

On April 18, 1812, Eunice Stanton sold her farm (two hundred acres lying in the towns of Essex and Colchester and including the house and other buildings) to Jabez Penniman, then of Swanton, Vermont, for $6,000 (CLR 4:111; ELR 3:439, 4:108, 4:109, 4:111; Beers 1869; Hemenway 1869:763; Stanton 1891:172; Walling 1857; Wright 1963:26). On the same day, however, Eunice Stanton purchased back a small part of this farm for $10. This parcel was described as “land situated, lying and being in Colchester . . . on the farm which Eunice Stanton this day deeded to the said Jabez, being all that tract now fenced and occupied for a grave yard or burying place with the privileges of egress and ingress, to be kept for the use and purposes of a burying place, but for no other uses or purposes” (CLR 4:231). This deed strongly suggests that the Merrill Cemetery may have started with the burial of the Stanton children in 1806 and 1807.

On May 3, 1812, “Mrs. Eunice Stanton, widow of the late Hon. Joshua Stanton” married in Colchester to Col. Albert Pawling (1750-1837) of Troy, New York, “a distinguished soldier of the Revolution” and old friend (Burhans 1894:320-321; Vermont Centinel June 25, 1812). Subsequently, Eunice moved to Troy, where her third husband served as city’s first mayor from 1816 to 1820 and was one of the first directors of the Bank of Troy (Burhans 1894:321). It is said that “when Gen. Lafayette last visited America, Mrs. Eunice Pawling presented him with a handsome gold watch” (Burhans 1894:321). On March 15, 1848, Eunice (Porter/Bird/Stanton) Pawling died at the residence of William Augustus Bird, her youngest son by her first marriage (and only surviving child), in Buffalo, New York, “in her 82nd year” (Dexter 1907:452).
The Hon. Dr. Jabez Penniman (1764-1841) was another prominent individual in the early history of Vermont (Figure 13). He was the U.S. Collector of Customs for Vermont during President Thomas Jefferson’s administration (Smith 1913:75). He was married in October of 1792/3 to the young widow Frances (Montresor/Montezuma/Montesque; Buchanan) Allen (1760-1834), daughter of a British general who had been killed in the French and Indian War, and widow of the American general Ethan Allen (Smith 1913:74). As such, Jabez Penniman was the step-father to Frances Margaret “Fanny” Allen, Ethan Allen, and Hannibal Allen (Smith 1913:75). In addition, Jabez Penniman and his wife had four children of their own including: Hortensia (1795-1827); Udney (1796-1862); Julietta (1798-1893); and Adelia (1801-1884) (Chittenden County Probate Records 1841).

![Image of Dr. Jabez Penniman](image)

Figure 13. The Hon Dr. Jabez Penniman (1764-1841) (Colonial Dames of America 1910:618-619). Jabez Penniman is buried in the Elmwood Avenue Cemetery in Burlington, Vermont (Gravestone in the Elmwood Avenue Cemetery, Burlington, Vermont).

On February 9, 1836, Jabez Penniman gave most of the Stanton farm, less some of the lower interval land, but including the buildings to his son, Udney Hay Penniman, “for natural love and affection” (CLR 8:274; ELR 6:393). Udney Hay Penniman was born in 1796 in Colchester and was a volunteer at the Battle of Plattsburg in 1814 (Anonymous 1901:45). Although he attended the University of Vermont in 1817, he did not stay to graduate, rather, he followed the pursuits of a farmer and a manufacturer of lime throughout his life (Anonymous 1901:45). He was deeply involved in Colchester town affairs and for a long time served as clerk of School District #7 (the school that was located next to the Merrill Cemetery) (Colchester Town Records Vol. 2). In February of 1850, Udney Penniman mortgaged the property that he had received from his father to Sidney Barlow (CLR 12:328). The property was then described, in part, as starting on the Onion River (Winooski River) at the High Bridge (Lime Kiln Bridge) and extending north up the road leading towards Merrill’s Tavern (the Fanny Allen Hospital) until it met Merrill’s land “at the burying ground” (CLR 12:328).
On October 12, 1859, Udney Penniman sold his farm to William Freeman (CLR 15:324; ELR 12:13). It was then described as “all land I live on east of the road leading north from High Bridge” consisting of one hundred and sixty acres and a third interest in the “park or common,” but excepting the lime kiln property and “also excepting one forth of an acre of land in the graveyard north of our dwelling” (CLR 15:324; ELR 12:13). This was the last mention of the cemetery found in the land records during this research. However, it is noted that this cemetery is the burial site of Harriett Penniman, a daughter of Udney and Adeline Penniman, who died in 1858 at twenty-two years of age, as well as Udney H. Penniman, himself, who died on September 17, 1862 (Gravestones in the Merrill Cemetery, Colchester Vermont).

William Freeman sold “the so-called Penniman farm” to Edward Hungerford on March 19, 1863 (CLR 16:367; E12:453). Edward Hungerford sold the same property (one hundred and sixty acres and a third interest in the “park or common”) to Michael F. Kelly on February 12, 1881 (CLR 21:491; ELR 18:346). Early in December of 1902, the old two story frame “colonial” house on the property burned down along with its woodshed (Carleton 1903:143; Johnson ca. 1835; Smith 1913:74; St. Albans Messenger December 18, 1902). At the time of the fire, the house was occupied by Irving N. Chase, who was leasing the farm (St. Albans Messenger December 18, 1902). Reportedly, the fire started near the chimney in the kitchen “in between the plastering and flooring” (St. Albans Messenger December 18, 1902). Unfortunately, “the only water available at the farm [was] a well near the house and a small spring down a steep bank to the rear of the house. The heat soon cut off access to the well, and the men were obliged to depend entirely upon the spring for water whose capacity was about two gallons per hour” (St. Albans Messenger December 18, 1902). Although the house was lost, other buildings, including two large grain barns, hay barns, a horse barn, a carriage house, an ice house and a cattle barn were saved with help of neighbors and some soldiers from Fort Ethan Allen (St. Albans Messenger December 18, 1902).

A new house was soon built on or near the site of the old house (Figure 14). Michael Kelly added a few more parcels of land to the farm (including part of the old Dunbar property) for a total of two-hundred and ten acres) and then sold it all to George Tobey of Burlington on May 14, 1907 (ELR 26:67; Smith 1913:74). George Tobey transferred the property to Eugene Goodrich three days later on May 17, 1907 (CLR 35:70; ELR 26:67). Eugene Goodrich sold thirty-two acres to Fanny Allen Hospital and then sold the rest of the property to Charles Lacasse on January 11, 1910 (CLR 35:198). Lacasse then sold the farm (now about one hundred and eighty-five acres) to Xavier and Emely Sequin of Canada on December 9, 1920 (CLR 42:80; ELR 34:23). The Sequins added the store / tenement building to the property ca. 1920-1926 (see Figure 9) (CLR Warranty Deeds 1:425; ELR 39:70; Sanborn Mapping and Publishing Company 1926). Sequin then sold the farm (located on the east side highway opposite Saint Michael’s College “including the store built since 1920”) to F.A. Baillargeon on November 5, 1930 (CLR Warranty Deeds 1:425; ELR 39:70). Baillargeon transferred the land on the same day to Saint Michael’s College (CLR Quit Claims 1:147; ELR 39:72). This land, located “opposite the college on the east . . . added two residences, farm buildings and 187 acres to the college property” (Carlisle 1975:17).
The Town of Colchester transferred control of the Merrill Cemetery to Saint Michael’s College in August of 2005 (CLR 535:262). However, the instrument of agreement specifically states that “the precise boundaries of the cemetery are not certain” (CLR 535:262). Past descriptions of the cemetery are very vague. For example, Eunice Stanton described it as “being all that tract now fenced and occupied for a grave yard or burying place” (CLR 4:231) and Udney Penniman described it as “one forth of an acre of land . . . north of our dwelling” (CLR 15:324; ELR 12:13), but gave no precise measurements or landmarks. Furthermore, the cemetery lost some of its ground in April of 1962, when the ROW of Vermont Route 15 was widened. As part of highway project, Colchester-Essex U 030-1, the cemetery and school properties lost a combined 140 sq ft taken and an additional 600 sq ft for slope easement (CLR Miscellaneous Records 12:120). This may have resulted in about a 1.2 m (4 ft) encroachment onto the original lots. Furthermore, it is noted that the present cemetery fence, which was established between 2004 and 2006 (Figure 15 and 16) (Google Earth Imagery).

Although the present name for this cemetery, the Merrill Cemetery, appears to have been derived from the earliest known/marked burial, that of Cornelius A. Merrill, who died on August 18, 1830, aged three years, the first burials in this cemetery may have been those of Joshua Stanton Jr.’s children ca. 1806 and 1807. While the cemetery was not included on the Walling map of 1857, land records clearly indicate that it was in existence prior to 1812 (see Figure 6). The cemetery appears on all later historic maps (e.g. see Figure 7). In 1977, James M. Cutler recorded all of the marked burials in the cemetery with legible stones. At that time, there were sixty-two marked interments. These included several family names closely associated with the...
area such as Austin, Brown, Merrill, and Penniman. However, this cemetery is still active and additional burials have increased the known interments to approximately eighteen since ca. 1977. Most of the known/marked burials date to between 1830 and 1890s, but there are some early 20th century interments. During the field visit conducted on March 24, 2013, it was observed there is an unusual ‘blank’ area at the western end of the cemetery where there are no standing stones, except one (see Figure 16). It was also noticed that many of the gravestones still visible in the cemetery were down and/or broken and that there was no readily discernible chronological pattern to the burials, except that those at the eastern end (or the back of the cemetery) tend to date to the 20th century or after.

Figure 15. The Boundary Plat Showing Lands to be Conveyed by the Town of Colchester to St. Michael’s College: Vermont Route 15, Colchester, Vermont, by Donald L. Hamlin, Consulting Engineers Inc. Essex Junction, 2004 (Courtesy of Prof. Susan M. Ouellette of Saint Michael’s College).
Figure 16. View of the front of the Merrill Cemetery, looking north northeast, 2013, showing the proximity of Vermont Route 15 to the present cemetery fence and the proximity of a solitary gravestone to the modern fence.

**District #7 School (The Ethan Allen School)**

Immediately adjacent to the original cemetery lot on the north was the site Colchester’s District #7 School (see Figure 3). It is not clear when a school was first located here. Colchester’s first schools may have been established as early as ca. 1794-1801 (Wright 1963:45). In 1801, there were just three school districts in town and the area about the project area was first part of District #2 (Wright 1963:45). However, as time went on and as the town’s population grew, more school districts were created (Wright 1963:47). Later, the general region around the project area was included in the “southeastern district” (Colchester Town Records Vol. 2:114). It appears that School District #7 (first labeled as District #7 on the Beers map of 1869) was established prior to the late 1820s and served as many as 40 to 69 students (see Figures 6 and 7) (Colchester Town Records Vol. 2:136-358). The historic maps, including the Walling (1857), Beers (1869), USGS (1906), Sanborn Mapping and Publishing Company (1926), and USGS (1948) maps, show that the school continued to occupy this property though the 19th and early 20th centuries.
Over this time, there was probably a succession of different buildings (schools and outbuildings; e.g. woodshed) on this site as the facilities needed to be expanded, improved, or replaced. For example, the Colchester selectmen noted in the early 1870s that:

“….some of our school houses are yet unfit places to send children to. They are morally and physically unsafe. An improvement has been made in the past few years in several districts, and it is hoped in others this example may be followed soon. A school-house should be comfortable and cheerful in itself, and in its surroundings. The educating influence of the place, where pupils spend six or seven hours a day, is not slight” (Town of Colchester 1872:11).

It is known that the last school building located on this property, which became known as the Ethan Allen School, was among three new schools built by the town in 1928 (Town of Colchester 1929:24). This building was designed with a capacity of about twenty-five students although their numbers often exceeded this (Town of Colchester 1950). The location of this last structure is fairly well known set back somewhat from the road and just outside of the current project’s APE (Figure 17; see Figure 3) (Aerial Explorations Inc. 1937; Sanborn Mapping and Publishing Company 1978). In 1942, the crowded conditions at the Ethan Allen School were noticed:

“In the month of November, forty-two pupils in grades 1 to 8 were attending the Ethan Allen School. It was impossible for one teacher under these conditions to provide effective instruction for all pupils. The plan which you adopted, whereby seventh and eighth grade pupils could attend Winooski and Burlington schools with tuitions paid by the Colchester School Department, provided temporary relief. I trust that the eventual solution of the problem will be a new building large enough to accommodate all of the pupils of that community, in a location that removes the present dangers to the children from heavy automobile traffic and also provides adequate playground space” (Town of Colchester 1942).

The school appears to have been last mentioned in the town records as an active schoolhouse in the late 1950s, at about the time the districts were being consolidated and centralized. The building was still standing in 1978, but was then labeled as a “club” (Sanborn Mapping and Publishing Company 1978). A local historian indicates that: “the old Winooski Park School was converted into a dwelling” (Wright 1963:46). The building appears to have been removed or razed between 1978 and 1999 (Google Earth Imagery 1999; Sanborn Mapping and Publishing Company 1978). In 2005, the Town of Colchester issued a quit claim for the Old School District 7 / Ethan Allen School lot to Saint Michael’s College (CLR 535:260).
Figure 17. Detail of a 1937 aerial photograph showing the location of the Merrill Cemetery and the adjacent school property and building (Aerial Explorations Inc. 1937).
Figure 18. View of the Merrill Cemetery (as delineated by the modern fence) looking south southwest, 2013. The area in the foreground includes some land originally part of the District #7 School lot. Note the old corner of sorts formed by the trees (see Figures 15 and 17).

**Fletcher Allen’s Fanny Allen Campus**

Just past the large natural draw discussed previously in this report, is the site of the first Fanny Allen Hospital (Figure 19). The original structure was built in 1830 by Arad (or Ara) Merrill (ca. 1783-1849) as a tavern who kept it about twelve years before his son, Andrew J. Merrill (1815-1891), succeeded him (Child 1882:185). Late in 1877, Frank J. Dunbar, an innkeeper from Mallets Bay, purchased the property and operated it for many years (Child 1882:185; *Argus and Patriot* December 26, 1877). In 1894, the old hotel was converted by the Religious Hospitallers of St. Joseph into the Fanny Allen Hospital (Schafer 2003:92). The hospital was named in honor of Frances Margaret (“Fanny”) Allen (1784-1819), a daughter of Ethan Allen, who converted to the Catholic faith and became a nun of the Religious Hospitallers of St. Joseph ca. 1810-1811 (Carlisle 1975). The hospital building served the surrounding community for almost eight decades; however, “upon the completion of a new hospital nearby the old hospital building was demolished in 1977” (Schafer 2003:92). Although the site of the old tavern/inn building is relatively close to the current project’s APE (see Figures 3, 4, and 19), the razing of the old building in 1977, the widening of Vermont Route 15 in the 1960s, and the possible installation of a sewer line along that section of the road have probably resulted in extensive ground disturbances within the proposed project’s APE and it is unlikely that this area retains any significant intact historic or PreContact Native American resources.
Figure 19. An early 20th century postcard showing the original Fanny Allen Hospital. The central section (in the foreground) was formerly the Merrill Tavern built ca. 1830 (Postcard Collection, Special Collections, University of Vermont Bailey-Howe Library, Burlington, Vermont). This structure was razed in 1977.

CONCLUSIONS AND RECOMMENDATIONS

No areas within the proposed project’s immediate APE were determined to be sensitive for PreContact Native American sites.

While the proposed project’s APE crosses the road frontage of several historic properties, the project’s potential impact on most of these properties is limited to formal yard areas or to those areas already disturbed and is considered negligible. The exception to this is the Merrill Cemetery Lot. Early cemeteries were not always well marked or documented. From the research presented in this report and based on experiences elsewhere in Vermont, it is likely that there are unmarked burials associated with this cemetery and that some of these may lie wholly or partially outside of the existing fence, especially considering the widening of Vermont Route 15 in the 1960s. Therefore, it is recommended that the area along the south side and western front of the cemetery within the proposed APE be mechanically stripped with a clean-up bucket down to the interface with undisturbed subsoil to make sure no graves are located within this portion of the project area and that this work be monitored by a professional archaeologist. It is also recommended that there be a discussion with VDHP early in the construction planning process in order to determine what procedures should be followed should one or more graves be identified.
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Appendix B
Task C Summary: Alternatives
Chittenden County Regional Planning Commission

Vermont Route 15 Bicycle & Pedestrian Scoping Report

Task C Summary – Conceptual Alignment Alternatives

Submitted by:
Stantec Consulting

In conjunction with
Broadreach Planning & Design
Heritage Landscapes LLC
University of Vermont Consulting Archeology Program

July 27, 2012
A. INTRODUCTION

1. OVERVIEW

As part of the review of alternate transportation improvements to the Circumferential Highway, the Chittenden County Regional Planning Commission (CCRPC) is updating earlier recommendations for increasing bicycling and walking mobility in the Vermont Route 15 corridor between the West Street Extension intersection on the east and Lime Kiln Road on the west with a new scoping study. The study also includes an analysis of potential improvements for bicyclists and walkers in the Route 15 corridor west of the intersection with Lime Kiln Road to the Interstate 89 interchange. Figure B-1 in Task B Summary: Existing Conditions shows the approximate extent of the Study Area.

The CCRPC prepared a scoping report for improved bicycle and pedestrian facilities in the Route 15 Corridor between Lime Kiln Road Colchester and the Five Corners in Essex Junction in 1997. The report recommended the creation of a shared use path along the northern side of the New England Central Railroad tracks between the Five Corners and Susie Wilson Road, at which point it switched to be a sidepath along the southern side of Route 15 to Lime Kiln Road. The suggested alignment required extensive retaining walls between West Street Extension and Susie Wilson Road and is now considered to be unfeasible due primarily to costs. The study was updated in 2003, but the work only refined the alternatives and did make a final recommendation.

The CCRPC has contracted with a Study Team led by Stantec Consulting Services with assistance from Broadreach Planning & Design, Heritage Landscapes LLC and the University of Vermont Consulting Archeological Program.

The first task for this project updated the existing condition information. This task examines viable alternative ways of addressing the purpose and need of this project. This report is formatted for double-sided printing; blank pages are intentional.

2. PURPOSE OF THE PROJECT

The purpose of the Route 15 bicyclist and walker improvements within the Study Area is to transform the Route 15 corridor from a transportation facility dominated by motor vehicles to an attractive inviting transportation corridor that encourages increased bicycle and pedestrian mobility, safety and access for walkers, bicyclists and transit users of various ages and abilities.
B. INITIAL LIST OF POTENTIAL OPTIONS

After studying existing conditions in the field and reviewing the alternatives examined in the previous study, the Study Team, in conjunction with the Project Steering Committee (PSC), developed a list of possible bicycle and/or pedestrian improvements options for the Route 15 Corridor. Figure C-1 shows the location of the numerous different options that were initially considered; Table C-1 includes a short description of each alternative. This list and accompanying figure served as the starting point for the development of a more refined list of viable alternative.

C. CURRENT ALTERNATIVES

1. OVERVIEW

The analysis of the alternatives shown in Figure C-1 resulted in the development of four viable alternatives for consideration at the first public work session. Table C-1 lists why the PSC did not consider several of the alternatives viable. Figure C-2 shows the general location of the four remaining alternatives under consideration. For ease in description and to facilitate the potential for assembling portions of each alternative into a final preferred alignment, Figure C-3 presents the four alternatives in the five sections of Route 15 within the Study Area identified in the Existing Conditions Report and as shown on Figure B-3 in that report. Table C-2 presents an initial comparative review of the four alternatives and the do nothing alternative.

Alternative 1 is primarily a ten-foot wide shared use path on the south side of Route 15, positioned relatively close to the existing curb of Route 15. It also includes a cycle track with two five-foot lanes at the eastern end where physical conditions limit the placement of a shared use path along the south side of the roadway. Alternative 1 is represented by red in the figures, including a red line in the detailed image at the start of the subsequent text sections. Figures C-4a and C-4b show typical cross sections for Alternative 1.

Alternative 2 extends the existing bicycle lanes east of the West Street Extension intersection further west. The new bicycle lanes would typically be five foot wide. In some locations the lanes would be narrowed to four feet or eliminated altogether when there are physical limitations along the sides of the roadway. Walkers would use the existing sidewalks. Alternative 2 is represented by yellow in the figures, including a single yellow line in the center of Route 15 on the detailed image at the start of the subsequent text sections. Figures C-5a and C5b show typical cross sections for Alternative 2.

Alternative 3 consists of a ten-foot wide shared use path mostly along the north side of Route 15, generally separated from the road by a green strip at least three feet wide and replacing the existing sidewalk. Alternative 3 is represented by green on the figures, including a green line on the detailed image at the start of the subsequent text sections. Figure C-6 provides a typical cross section for Alternative 3.
Alternative 4 creates a shared use path that strays from the Route 15 right-of-way (ROW) in several locations to create an independent bicyclist and walker facility. In certain locations it shares an alignment with Alternative 3 when it is along the edge of the roadway. Alternative 4 is represented by blue on the figures, including a blue line on the detailed image at the start of the subsequent text sections when it differs from Alternative 3. Figure C-7 shows a typical cross section for a shared use path, Alternative 4.

2. SECTION A: INTERSTATE EXIT RAMP TO LIME KILN ROAD

a. Alignment 1-A: South Side Shared Use Path (Sidpath) & Cycle Track

There is already a wide sidewalk between the Interstate ramp and the Roland Court intersection; this would be extended, as possible, to the Gorge Road intersection. On the north side of Roland Court, the path would be approximately the width of the existing sidewalk heading east to the west entrance to St. Michael’s College. The small green space between the existing sidewalk and curb might remain along this portion of the path because of the separation it provides between motorists and path users. There are numerous driveways crossing the path along this portion which will need adequate signage on both the path and the road. From the west St. Michael's College entrance east to Lime Kiln Road, the path would increase to 10 feet wide and be separated from the roadway by a five-foot wide green space. There would only be a need to narrow the path and bring it closer to the curb in one location to avoid damaging an old oak tree relatively close to the road. The path would cross Lime Kiln Road with the aid of a crosswalk for pedestrians.
b. **Alignment 2-A: Bicycle Lanes**

Starting at the Interstate interchange at the west end of the study area, this alternative adds new shared bicycle marking to the outside lane in each direction to indicate that bicycles and motor vehicles share the lane. These markings will extend east to a point where it is feasible to widen the road by at least four feet to accommodate wide shoulders for bicyclists. This appears to be approximately at the west entrance to St. Michael’s College. The modified roadway cross section would consist at a minimum of four eleven-foot travel lanes and two four-foot wide bicycle lanes at the outer edges and would extend to the intersection with Lime Kiln Road.

c. **Alignment 3-A: North Side Shared Use Path (Sidepath)**

Starting at the Florida Road intersection, the ten-foot wide shared use path would head east up the hill. It would maintain the green strip between the path and the road and extend further away from the centerline of the roadway by approximately five feet. As the path meets the location where the existing sidewalk shifts further away from the road, the path would also shift as much as possible, so as to maximize the amount of green space between the path the road while minimizing the impact on the St. Michael's College green space. Past the west entrance to the College, the path would continue to replace the existing sidewalk, maintaining as much of a green space as possible from the roadway while avoiding the existing trees on the St. Michael's property. Where the existing sidewalk shifts closer to the street, an existing utility pole may need to be shifted closer to the road so that the trees on the St. Michaels campus can remain undisturbed.

d. **Alignment 4-A: Independent Shared Use Path**

The path would begin at the southern end of Gorge Road, to link with the path, which the City of Winooski is currently studying, that is planned to end at this point. The path would follow an existing but seldom-used graded access heading northeast around the outer edges of the existing cemetery to a flat level area below the Days Inn along the south side of Route 15. A prefabricated bridge would carry the path across the gorge at the eastern end of this level area to the meadow south of the St. Michael's observatory. The path would follow an existing access lane up the hill to the south side of the Pomerleau Alumni Center. The grade up the hill would be approximately eight percent, so it would need to include level areas along the way to meet ADA requirements. The path would then follow an alignment on the south side of the Alumni Center, between the building and the parking area. It would cross...
the access road to the parking in front of Prevel Hall. This portion of the path would require the removal of two tree lilacs and one parking space in front of Prevel Hall as well as the relocation of the electrical pad number 2-11. The path would then head towards Lime Kiln Road where it would turn to the north and replace the existing sidewalk to the intersection with Route 15.

3. SECTION B: LIME KILN ROAD TO VERMONT NATIONAL GUARD ROAD

a. Alignment 1-B: South Side Shared Use Path (Sidewalk) & Cycle Track

After Crossing Lime Kiln Road with a crosswalk, the path would continue east to the intersection with Vermont National Guard Road, replacing the sidewalk and avoiding trees
and utility poles. As the path approaches the St. Michael's College entrance, it would move away from the road, following the alignment of the jug handle to avoid two road crossings. After crossing the St. Michael's maintenance drive, the path would turn back to Route 15; as it meets the road it would turn sharply east again to be parallel to the road. The width of the path would shrink to approximately eight feet and the green space would be eliminated as the path goes between a cemetery fence and the road.

Past the cemetery, the path would continue east at its full width, separate again from the curb by a five-foot green space. At the bend in the road, the path would require a limited amount of fill, most likely contained by a retaining wall, as the path crosses the top of a gully. There are several storm drains from Route 15 emptying into the gully that may need to be upgraded or rerouted.

At the entrance to Fletcher Allen Health Care, the path would need to cross the entrance driveway and the sidewalk heading to the Route 15 crosswalk as well as move between the roadway, the plantings and entrance sign and a possible future bus shelter. The path would need to sign these crossings carefully for the safety of the path users, the motorists entering the site and the pedestrians using the sidewalk to reach the crosswalk. East of the entrance, the path would again follow the jug handle, to avoid additional roadway crossings.

b. **Alignment 2-B: Bicycle Lanes**

In the section between Lime Kiln Road and Vermont National Guard Road, the widening might still be limited by the location of the existing sidewalk. In these locations, the bicycle lanes would continue at four feet wide. Alternately, the sidewalks might be shifted further out from the centerline to allow a full five-foot wide bicycle lane on each side of the road. This would require relocating the existing sidewalks.

c. **Alignment 3-B: North Side Shared Use Path (Sidpath)**

The path would cross Route 15 on the west crosswalk of the Lime Kiln Road intersection and continue north on the east side of Founder's Hall. Here it would follow the existing asphalt path past the old oak and hackberry trees. Once past the trees, the path would turn east and move back towards Route 15. The path would pass behind another large hackberry tree on the west side of the vehicle entrance to a small parking area approximately 450 feet west of the Lime Kiln Road intersection. After crossing the vehicular access, the path would
move east, separated from the road by a green space approximately two feet wide. It would cross the east entrance to the College and continue to the point where the existing sidewalk continues straight while Route 15 bends to the east. Here, the shared use path would continue to follow the sidewalk alignment leading towards Johnson Avenue.

As the shared use path meets the west end of Johnson Avenue, it would split to align with the two bicycle lanes on Johnson Avenue. Road markings would link the end of the shared use path across the far eastern entrance road to St. Michael’s to Johnson Avenue, where the path would continue via the existing Johnson Avenue bicycle lanes and sidewalks. At the intersection with Vermont National Guard Road, it would turn south and follow the east side of the road back to the Route 15 ROW, replacing the existing sidewalk.

d. Alignment 4-B: Independent Shared Use Path

At the intersection with Lime Kiln Road, the path would follow the alignment of Alignment 3-B east to Vermont National Guard Road.

4. SECTION C: VT NATIONAL GUARD ROAD TO BARNES AVENUE
a. **Alignment 1-C: South Side Shared Use Path (Sidepath) & Cycle Track**

As the path comes around the jug handle at the Vermont National Guard Road intersection, it would turn east rather sharply to be parallel to the road. The path would move closer to the road after the turn due to the fence around the cemetery. A modification of the trail at this point would be to take the trail around the back side of the cemetery. Beyond the Cemetery, the path continues east as a 10-foot wide path separated from the roadway by a five-foot green space.

b. **Alignment 2-C: Bicycle Lanes**

West of Vermont National Guard Road to Barnes Avenue, the bicycle lanes would need to be created by a widening of the roadway to the north. Where there is an existing median, the widening might be reduced by narrowing the width of the median.

c. **Alignment 3-C: North Side Shared Use Path (Sidepath)**

East of Vermont National Guard Road, the shared use path would replace the existing black top path with a new, 10-foot wide paved path, separated from the edge of the road by a five-foot green space. The shared use path would extend east to the intersection with Barnes Avenue.

The Barnes Avenue intersection with Route 15 would be reconfigured to remove the two left turn slip lanes. This would make only one road crossing for the path rather than three. All vehicular movements would also then be controlled by a traffic signal. A traffic and signal analysis would need to determine the required geometric and signal modifications needed for the reconfiguration of this intersection.

d. **Alignment 4-C: Independent Shared Use Path**

At the intersection with Vermont National Guard Road, the path would continue as the shared use path on the north side of Hegeman Avenue. At Barnes Avenue, the path would turn south along the east side of the road to the intersection with Dalton Avenue, where the path would turn east again and cross Barnes Avenue via a crosswalk.
5. SECTION D: BARNES AVENUE TO SUSIE WILSON ROAD

a. **Alignment 1-D: South Side Shared Use Path (Sidpath) & Cycle Track**

The shared use path heads west from the Barnes Avenue/Woodside Drive intersection on the south side of Route 15, continuing to be separated from the pavement by a green strip that is at least five feet wide. At a point approximately 600 feet west of the Ethan Allen Avenue intersection near the bend in the road, there is no longer level ground of sufficient space adjacent to the road to allow the construction of a shared use path. Here, the shared use path would change to a cycle track. A cycle track, in essence, is a shared use path placed adjacent to one side of the road, separated by a curb, bollards or other physical separation. The cycle track would require the shifting north of the entire roadway west of the intersection with Susie Wilson Road by approximately 10 feet because of the very limited space on the south side of the road outside of the existing curb because the ground drops away from the edge of the pavement rapidly to the railroad.

b. **Alignment 2-D: Bicycle Lanes**

West of Barnes Avenue to Susie Wilson Road, the bicycle lanes would need to be created by a widening of the roadway to the north. Where there is an existing median, the widening might be reduced by narrowing the width of the median.

c. **Alignment 3-D: North Side Shared Use Path (Sidpath)**

East of the Barnes Avenue intersection, the path resumes its alignment adjacent to the roadway within the ROW, separated by as large a green space as possible. A small sidewalk
would lead east to the north side of the ROW fence to link with the existing path that circumnavigates the Green.

At the Ethan Allen Avenue intersection, the path would cross the road in the space between the brick columns and the edge of the Route 15 roadway. (The photo base of the detailed image was taken before the intersection was reconfigured and a signal added.)

East of the intersection, the path would stay as far from the edge of the Route 15 pavement as possible to leave room for possible future modifications to the road itself. The path may need to lower the existing grade a bit to maintain a five percent maximum grade. The path would ideally pass behind the existing bus shelter to avoid conflicts between those boarding the bus and path users.

The path would cross Susie Wilson Road along the alignment of the existing crosswalk, aided by the existing pedestrian signals. (If this crossing arrangement becomes the preferred alternative, an intersection/signal analysis would need to estimate the number of additional pedestrians & bicyclists that would use this crossing and how these additional crossings would impact traffic operations at this intersection.)

d. **Alignment 4-D: Independent Shared Use Path**

East of Barnes Avenue, the path would follow the alignment of Dalton Drive, initially as a shared facility on the road itself, since the traffic volumes are low. Walkers would use the existing sidewalk on the north side of Dalton Drive. This portion of Alternative 4 might eventually be upgraded to a shared use path along the south side of the road. A crosswalk west of the Dalton Drive intersection with Ethan Allen Avenue would bring the two directions back together, where they would head back to Route 15 as a shared use path on the west side of Ethan Allen Avenue. As the path meets the intersection with Ethan Allen Avenue, it would turn east and again follow the alignment of Alignment 4-C, the independent shared use path to the Route 15 intersection with Susie Wilson Road.
6. SECTION E: SUSIE WILSON ROAD TO WEST STREET EXTENSION

a. **Alignment 1-E: South Side Shared Use Path (Sidpath) & Cycle Track**

As the cycle track moves east from Susie Wilson Road, it would continue to occupy the outer portion of the eastbound lane adjacent to the existing curb. Room for the cycle track would be created in this section by converting the two-lane roadway to a one-lane roadway similar to the cross section east of the West Street Extension intersection, as recommended in the recent *Pearl Street Multi Modal Study* (2010). **Attachment C-1** contains a copy of the Pearl Street recommendations for the western portions of Pearl Street (Route 15 east of Susie Wilson Road). It would also require the shrinking of the island between the through lane and right turn lane at the West Street Extension to maintain both lanes in addition to the cycle track.

Cyclists heading west on Route 15 using the existing bicycle lanes east of the West Street Extension intersection would use the jug handle turn around to cross Route 15 to reach the south side of the road to continue west in the cycle track.
b. **Alignment 2-E: Bicycle Lanes**

Between Susie Wilson Road and West Street Extension, the bicycle lanes would be created by reducing the roadway to a single lane in each direction, as recommended in the *Pearl Street Multi Modal Study* (2010). Attachment C-1 includes a copy of the Pearl Street recommendations.

c. **Alignment 3-E: North Side Shared Use Path (Sidpath)**

East of the Susie Wilson Intersection, Alternative 3 would follow the alignment of Alignment 4-E.

d. **Alignment 4-E: Independent Shared Use Path**

On the east side of the intersection, the path would turn to the north, replacing the existing sidewalk to just south of the Rite Aid lawn. The path would then turn east again, following an alignment as close to the retaining wall along the Rite Aid property as possible. At the eastern end of the retaining wall, the property would follow an alignment developed by the Town of Essex as part of its unfunded Enhancement Grant application to the State a few years ago. Attachment C-2 includes a copy of the conceptual alignment, which takes the path from Susie Wilson Road to Pearl Street Park. In the park, the path would use the existing path to head out to the West Street Extension intersection with Route 15.

D. IMPACTS & ISSUES

1. **ROAD WIDENING**

The road widening work on Route 15 will require either the reduction in the center islands or the expansion of the outer edges of the roadway. Even if this alternative is not recommended for implementation at this time, the other alternatives should be planned so as not to eliminate the potential for a widening of the roadway to provide better on-road bicycling conditions in the future.

The actual construction process of widening the road will need to be carefully executed to minimize the potential for differential settling between the existing road and the expansion area.

2. **SIDEPATHS**

When there are no driveways along a roadway, shared use paths located along one side of the roadway provide excellent bicycling and walking conditions. These types of facilities are usually called “sidpaths.” If driveways cross the sidpath, the safety of its users is several compromised, especially if the driveways or access ways are non-residential. Crash statistics show that sidpaths with driveways result in more fatal crashes between motor vehicles and bicyclists and walkers than most other types of non-motorized transportation facilities.
For the Route 15 corridor, there are areas that are ideally suited to the development of a sidepath. There are three locations that are not ideally suited to the development of a sidepath:

- On the south side of Route 15 between Florida Avenue and the St. Michael's College west entrance,
- On the north side of Route 15 between the new west end of Johnson Road and Vermont National Guard Road, and
- On the north side of Route 15 east of Susie Wilson Road.

A sidepath should only be developed in these areas if there is no other viable alternative and there should be significant signage warning both sidepath users and motorists on Route 15. The only location in the corridor where there may not be a viable option to a sidepath is the portion of Route 15 east of the Florida Avenue/Gorge Road. Along this portion of the road, the ROW is narrow, the existing historic features are located close to the edge of the ROW, there is minimal room to widen the road itself, the north side of Route 15 is difficult to access and easements for a viable off-road shared use path might be very difficult or impossible to obtain.

3. INITIAL ESTIMATES OF POTENTIAL COSTS

Table C-3 includes initial estimates of potential costs for the implementation of the four different alternatives. These estimates are base on average per foot costs for the different types of facilities and percentage costs for design and construction management. VTrans has provided these costs to aid communities in understanding the potential costs for the various bicycle and pedestrian facilities that they may be considering. They are only rough estimates of the work, based on a colored line on an aerial photo and should be used for general comparison purposes only. More detailed costs will be developed as the preferred alternative(s) are selected and more detailed information can be developed.
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<tr>
<th>Alternative</th>
<th>Description</th>
<th>Disposition</th>
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</thead>
<tbody>
<tr>
<td>Alternative A</td>
<td>Shared use path on the south side of Route 15 with a cycle track at the eastern end where there is no room for a shared use path next to the road.</td>
<td>This alternative was kept and refined for consideration at the public work session.</td>
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<tr>
<td>Alternative B</td>
<td>Bicycle lanes on Route 15 except at the far western end where there is no room to widen the road without removing sidewalks, historic features and street trees.</td>
<td>This alternative was kept and refined for consideration at the public work session.</td>
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<tr>
<td>Alternative C</td>
<td>A shared use path generally outside of the Route 15 right-of-way on the north side east of Lime Kiln Road and on the south side west of Lime Kiln Road.</td>
<td>This alternative was kept and refined for consideration at the public work session.</td>
</tr>
<tr>
<td>Alternative D</td>
<td>A shared use path on the north side of Route 15.</td>
<td>This alternative was kept and refined for consideration at the public work session.</td>
</tr>
<tr>
<td>Alternative E</td>
<td>A shared use path that is further to the north than Alternative C</td>
<td>This alternative was eliminated from further consideration because it went too far away from the corridor and was serving primarily as a through route and not a means of accessing the destinations along the corridor. It also required significant easements from St. Michael's College.</td>
</tr>
<tr>
<td>Alternative F</td>
<td>A variation on Alternative E that uses city streets in Winooski.</td>
<td>This alternative was eliminated from further consideration because it went even further away from the corridor and consisted only of on-road options through city streets, including their topography and congestion issues.</td>
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<tr>
<td>Alternative G</td>
<td>This alternative includes several alternate routings for short sections of other alternatives</td>
<td>None of these alternatives were pursued because they each had safety concerns or were so far out of the way that many of the users for which the facility is being developed would most likely not use it.</td>
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<tr>
<td>Alternative H</td>
<td>This alternative creates bicycle lanes on Route 15 by reducing the existing 4 lanes to 2 lanes with a center turn lane and a bicycle lane on each side.</td>
<td>This alternative was eliminated from further consideration due to the traffic issues associated with the reduction from 4 lanes to 2 especially the increased likelihood that eliminating two lanes will increase traffic congestion to unacceptable levels or divert traffic to alternate routes.</td>
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<tr>
<td>TABLE C-2: Alternative Analysis</td>
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<tr>
<td>Chittenden County Regional Planning Commission</td>
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<tr>
<td>Route 15 Bicycle and Pedestrian Facility Scoping Study</td>
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<td>July 27, 2012</td>
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<td>Advanced and Basic Bicyclists</td>
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<td>Access to Cross Streets</td>
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<td>West End - 325 FT</td>
<td>Florida Avenue to St. Michael’s West Entrance - 900 FT, Lime Kiln Road Intersection - 125 FT, Parking Entrance - 230 FT, Silver Maples - 560 FT, Johnson Road - 700 FT, South of Rice Aid - 300 FT, Senior Housing - 450 FT</td>
<td>Lime Kiln Road Intersection - 125 FT, Parking Entrance - 230 FT, Silver Maples - 560 FT, Johnson Road - 700 FT, South of Rice Aid - 300 FT, Senior Housing - 450 FT</td>
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* Crosswalks include bicycle crossings to convert between on road facilities to off road facilities.
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<th>Units</th>
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Alternative H: Reduce Route 15 from a four lane road to a two lane highway with a center turning lane and bicycle lanes.
Route 15 Bicycle Pedestrian Study Alternatives

Legend
- Alternative A
- Alternative B
- Alternative C
- Alternative D
- NEC Railroad
- Crosswalk
- City/Town/Village Boundaries

May 2012
Figure C-2

BROADREACH Planning & Design
Route 15
Bicycle
Pedestrian
Study
Alternatives

Legend
Alignment A-1
Alignment A-2
Alignment A-3
Alignment A-4
Alignment B-1
Alignment B-2
Alignment B-3 & B-4
Alignment C-1
Alignment C-2
Alignment C-3
Alignment C-4
Alignments D-1
Alignment D-2
Alignment D-3
Alignment D-4
Alignment E-1
Alignment E-2
Alignment E-3 & E-4
Existing
City/Town/Village Boundaries

Figure C-3

June 2012

Section A: Interstate to Lime Kiln Road
Section B: Lime Kiln Road to VT National Guard Road
Section C: VT National Guard RD to Barnes Avenue
Section D: Barnes Ave. to Suzie Wilson Road
Section E: Susie Wilson Road to West Street Extension
Route 15
Bicycle
Pedestrian
Study
Alternative 1
Cross Sections

ALTERNATIVE A
SECTION A-A
TYPICAL SECTION
SOUTH SIDE SHARED USE PATH
N.T.S.

ALTERNATIVE A
SECTION B-B
TYPICAL SECTION
SOUTH SIDE SHARED USE PATH
IN FRONT OF CEMETARY
N.T.S.

ALTERNATIVE A
SECTION C-C
TYPICAL SECTION
SOUTH SIDE SHARED USE PATH
STEEP SIDE SLOPES
N.T.S.

ALTERNATIVE A
SECTION D-D
TYPICAL SECTION
SOUTH SIDE SHARED USE PATH
N.T.S.

June 2012
Figure C-4a
ROUTE 15
Bicycle
Pedestrian
Study
Alternative 1
Cross Sections

Figure C-4b

June 2012

BROADREACH
Planning & Design

Stantec
Route 15
Bicycle Pedestrian Study
Alternative 2
Cross Sections

Figure C-5a
June 2012
ALTERNATIVE B
SECTION E-W
TYPICAL SECTION
BIKE L L A N E S
WIDEN TO THE NORTH
REDUCE MEDIAN WIDTH N.T.S.

ALTERNATIVE B
SECTION E-W
TYPICAL SECTION
BIKE L L A N E S
REMOVE LANES ON PEARL ST.
N.T.S.
Route 15 Bicycle Pedestrian Study Alternative 3 Cross Sections

Figure C-6

ALTERNATIVE D SECTION A-A TYPICAL SECTION NORTH SIDE SHARED USE PATH N.T.S.

ALTERNATIVE D SECTION B-B TYPICAL SECTION NORTH SIDE SHARED USE PATH N.T.S.

June 2012

BROADREACH Planning & Design

Stantec
Route 15
Bicycle Pedestrian Study
Alternative 4
Cross Sections

ALTERNATIVE C
SECTION A-A
TYPICAL SECTION
INDEPENDENT PATH
OFF ROAD
N.T.S.

ALTERNATIVE C (D)
SECTION B-B
TYPICAL SECTION
INDEPENDENT PATH
ALONG ROAD
N.T.S.

ALTERNATIVE C (D)
SECTION C-C
TYPICAL SECTION
INDEPENDENT PATH
USE EXISTING FACILITIES
N.T.S.
Attachment C-1
Pearl Street Recommendations
**Near Term Improvements**

**Near Term – Phase I**
- Position corridor for reduced bus travel times and reduced headway's with incremental improvements to regular service.
- Work with New England Central Railroad (NECR) to seek corridor rail improvement funding for the Burlington Branch line to support future passenger rail service (commuter and/or expanded Amtrak service), leveraging NECR funds to support matching federal funds.
- Add small or medium trees within the five-foot apron and, as possible, larger street trees in the setbacks of adjacent properties along Pearl Street.
- Continue negotiations to secure a long-term easement agreement with NECR for a shared use path in the railroad right of way (rail with trail).
- Update the village's comprehensive plan language to indicate acceptance of off-road shared use paths in appropriate locations.
- Encourage the development of clearly delineated pedestrian connections between the public sidewalk and the entrances to businesses along Pearl Street.

**Near Term – Phase I**
- Check current speed conditions to determine if it may be possible to reduce posted speed limits west of CVE and lower the speed limit if appropriate.
- Initiate discussions with the town of Essex and VTrans on the long term recommendation of implementing a road diet on Pearl Street (one lane each direction plus designated bike lanes) between the Susie Wilson and West Street extension intersections.
- Update village zoning regulations to allow greater residential density along Pearl Street in the residential 2 district.
- Set up regular maintenance procedures for Route 15 including:
  - Regular pavement marking schedule,
  - On-going signal updates,
  - Street tree and green strip maintenance, and
  - Detection loop service.

**Near Term – Phase 2**
- Improve lighting at new and existing crosswalks.
- Implement signal priority system for transit.
- Review the benefits and costs of creating a tax increment finance district (TIF) for Pearl Street and begin work on instituting a TIF district if the review shows there is a viable benefit to the village.
- Develop design guidelines for the commercial zoning districts along Pearl Street.

**Corridor Wide Improvements**

**Corridor Wide Improvements Near Term – Phase I**

**Corridor Wide Improvements Near Term – Phase 2**

**Pearl Street Multimodal Transportation Plan**

Village of Essex Junction, Vermont

June 2010
Attachment C-2
Sunderland Brook Trail Conceptual Plan