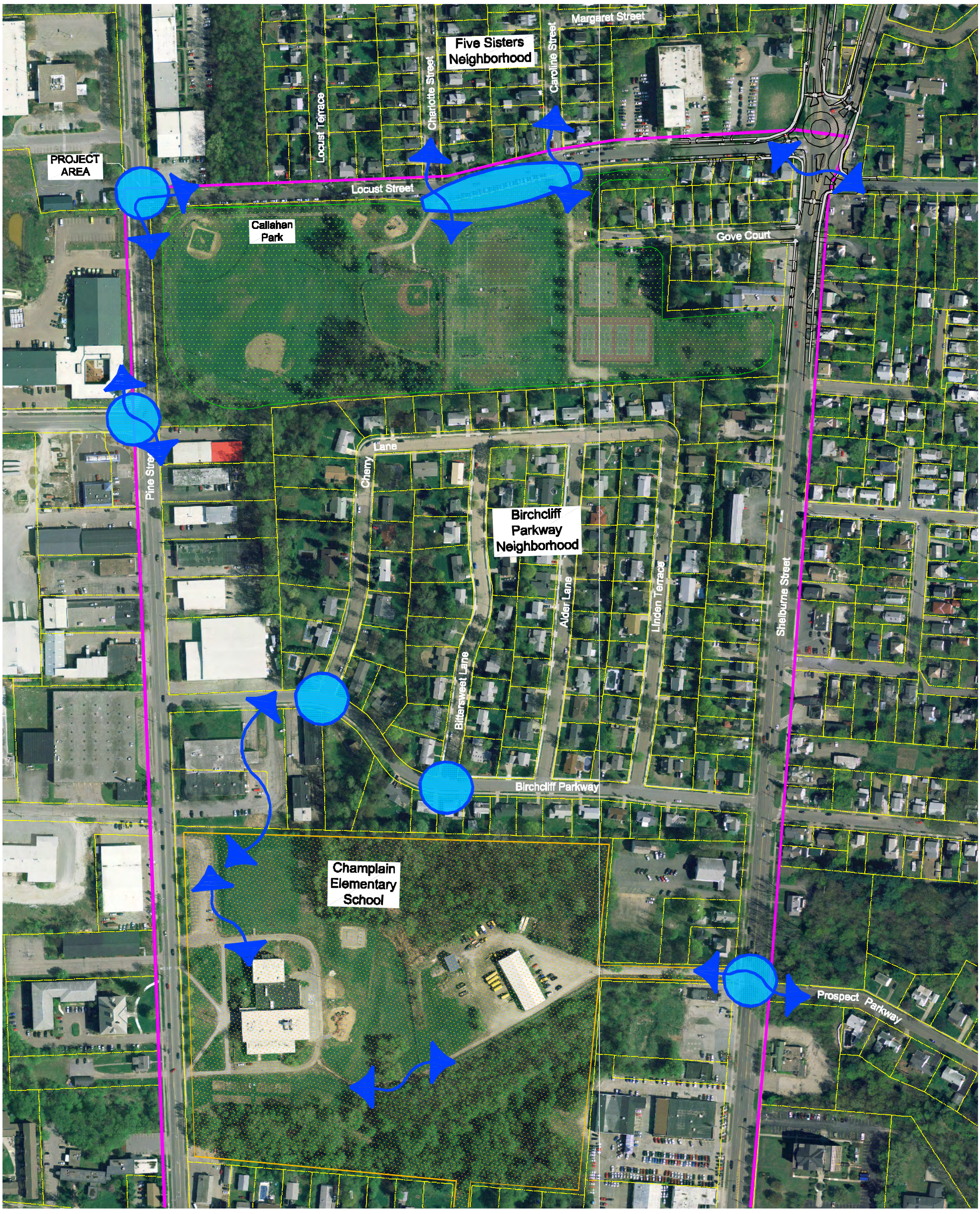
Appendix A

Existing Conditions / Site Analysis Plan



Champlain Elementary School Safe Routes To School Feasibility Study

N

Site Analysis Plan

Scale: 1" = 150'

Lamoureux & Dickinson
14 Morse Drive, Essex, VT 05452
802-878-4450 www.LDengineering.com

Appendix B

Architectural Resource Assessment and Historic Architectural Assessment Report

Prepared by Hartgen Archaeological Associates, March 2013

HARTGEN
archeological associates inc

ARCHEOLOGICAL RESOURCE ASSESSMENT

Champlain Elementary School Safe Routes to School Project

City of Burlington
Chittenden County, Vermont

HAA # V562-11

Submitted to:
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An ACRA Member Firm
www.acra-crm.org

February 2013

ARCHEOLOGICAL RESOURCE ASSESSMENT and HISTORICAL ASSESSMENT

INTRODUCTION

Hartgen Archeological Associates, Inc. (HAA, Inc.) was retained by Lamoureux and Dickinson Consulting Engineers Inc. to conduct an Archeological Resource Assessment and Historical Assessment for the proposed Champlain Elementary School Safe Routes to School Project. The project is being funded partially by a grant from the VTrans Safe Routes to School grant. Agencies involved with the project include The City of Burlington, the Chittenden County Regional Planning Commission, the Champlain Elementary School, and VTrans. The ARA is required under Section 106 of the National Historic Preservation Act (NHPA), and will be reviewed by the VTrans archeology officer**.**

The VDHP requires that all projects under archeological review have a clearly defined area of potential effects (APE) that includes all areas where ground disturbance is proposed and areas that may be affected temporarily or unintentionally such as staging areas and rights-of-way. The project improvements are planned within an area containing several city blocks, bound by Pine Street to the west, Locust Street to the north, Shelburne Street to the east, and a small stream which is located south of Prospect Parkway and Champlain Elementary School (Map 1). The project plans include the proposed construction of new curb and sidewalks, gravel paths, concrete paths and textured crosswalks as well as the planting of low shrubs and street trees. The most recent project plans include three alternative plans, Alternatives A, B and C, which are presented in Maps 2, 3 and 4, respectively.

The project will include portions of the following areas:

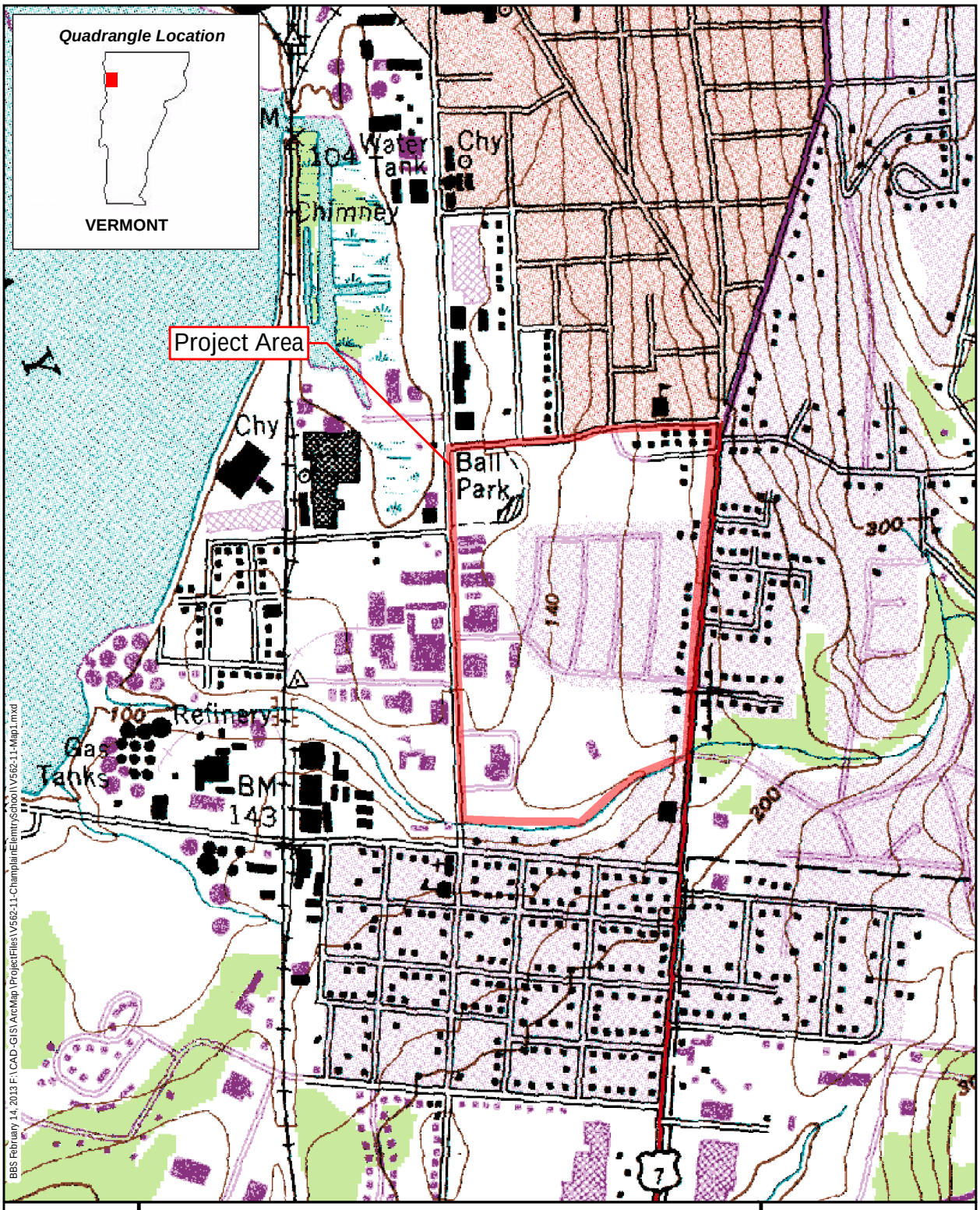
- Locust Street between Caroline Street and Pine Street
- Pine Street between Locust Street and the Champlain Elementary School
- Callahan Park
- Birchcliff Parkway at Cherry Lane
- Birchcliff Parkway to the Champlain Elementary School
- Prospect Parkway to the Champlain Elementary School.

ENVIRONMENTAL BACKGROUND

The objective of the ARA is to identify areas of archeological sensitivity based on environmental factors, known site information and historical information for the project Area of Potential Effects (APE). This report assesses the archeological potential and historic preservation issues related to the three alignments and areas outlines above. Reference to the general project vicinity is provided as appropriate to understanding the local cultural and historical context. Background research was conducted at the Vermont Division for Historic Preservation (VDHP) where archeological site files, National Register (NR), State Register (SR) and town information were reviewed.

Environmental characteristics of an area are significant for determining the sensitivity for archeological resources. Precontact and historic groups often favored level, well-drained locations near wetlands and waterways. Therefore, topography, proximity to wetlands, and soils are examined to determine if there are landforms in the project area that are more likely to contain archeological resources. In addition, bedrock formations or other lithic sources may contain resources that may have been quarried by precontact groups. Other locations can also be special purpose sacred and traditional use sites. Soil conditions can provide a clue to past climatic conditions, as well as changes in local hydrology.

The project area is located within the Champlain Lowlands, situated approximately 1,500 feet east of Lake Champlain. The project area is bound to the south by a small permanent stream which flows west



N

0 1,000 2,000 Feet

0 200 400 600 Meters

Note: Contour interval is 20 feet.

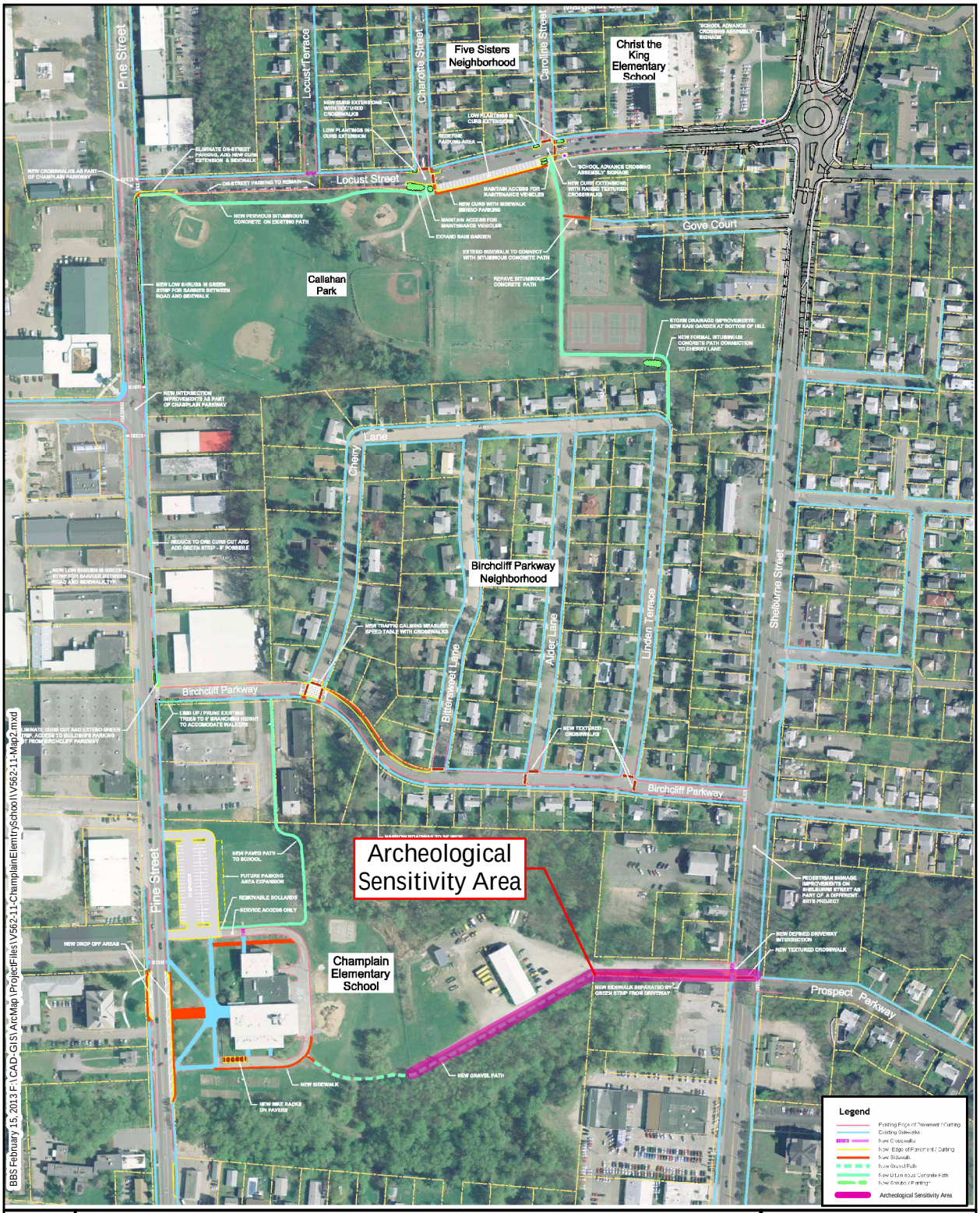
Legend

Project Area

USGS 1948, Photorevised 1987
Burlington, Vermont

HARTGEN
archeological associates inc

Map 1



BBS February 15, 2013 F:\CAD-GIS\ArcMap\Projectfiles\V562-11-ChamplainElemtrySchool\V562-11-Map2.mxd

N

0 250 500 Feet

0 50 100 150 Meters

Legend

Archeological Sensitivity Area

Champlain Elementary School Safe Routes To School Feasability Study Alternative A With Archeolological Sensitivity Area (Lamoureux & Dickinson, 2012)

HARTGEN archeological associates inc

Map 2

BBS February 15, 2013 F:\CAD-GIS\ArcMap\ProjectFiles\V562-11-ChamplainElemtrySchool\V562-11-Map3.mxd

N

0 250 500 Feet

0 50 100 150 Meters

Champlain Elementary School Safe Routes
To School Feasability Study Alternative B
With Archeolological Sensitivity Area
(Lamoureux & Dickinson, 2012)

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Map 3

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N

0 250 500 Feet

0 50 100 150 Meters

Champlain Elementary School Safe Routes To School Feasability Study Alternative C With Archeolological Sensitivity Area (Lamoureux & Dickinson, 2012)

HARTGEN archeological associates inc

Map 4

into Lake Champlain. Wetlands are located directly west of the northwest corner of the project area. The area adjacent to the wetlands has been heavily altered by historic railroad construction and industrial development, so it is difficult to discern the original location and configuration of the wetlands.

The soils in the project areas primarily consist of Munson and Raynham silt loams, 2 to 6 percent slopes, with areas of fill land. The Munson and Raynham soils are glaciolacustrine deposits typically encountered on somewhat poorly drained terrace landforms located between 100 to 1000 foot elevations (USDA 2012).

DOCUMENTARY RESEARCH

Precontact Site File Research and Archeological Sensitivity

The project area is located within the Lake Champlain drainage, situated approximately 1,500 feet miles east of the Champlain's eastern lake shore. The APE is located in a relatively flat low-lying area which is bound to the south by a small permanent stream.

In the Burlington area, numerous archeological studies have been conducted, many of which resulted in the identification and excavation of precontact sites. Within several miles of the project area, there are hundreds of sites representing all the major precontact periods, indicating this region was fully utilized by precontact people. The majority of sites are located on the shores of Lake Champlain and along the Winooski and Lamoille Rivers and their many tributaries. While it is situated in an area of high precontact site density, there are actually very few precontact sites recorded in the City of Burlington. This is likely attributable to the early historic development of the city. In many cases, the construction of houses and businesses would have impacted or removed evidence of precontact sites.

An examination of the archeological site files indicated that no reported archeological sites are located within the APE. In the project vicinity, a number of these sites are located on level landforms and terraces situated adjacent to small streams and brooks. Within one mile of the project area, there are seven precontact sites, including:

VT-CH-81 – Queen City Site

A number of stemmed and side-noteched projectile points were recovered from a field at the south end of Burlington Bay. The Middle to Late Woodland Levanna projectile points and/or knives were made primarily from blue-black Mount Independence chert and Cheshire quartzite, with one projectile point each made of gray chert, and quartz.

VT-CH-161 – Chittenden Site

A historic and precontact site identified near the Holloway Block by heavy machinery during the construction of a parking lot. The site contained stratified historic fill and midden features. The precontact component of the site consisted of the presence of a number of quartzite flakes.

VT-CH-679 – L & M 2 Site

This multi-component site, which contains Middle Woodland and Paleo-period components, produced a broken Paleo-era projectile point, chert and quartzite flakes, as well as Late Woodland ceramic fragments.

The other four precontact sites located within a one mile radius of the APE - FS-76, VT-CH-19, VT-CH-659 and VT-CH-660 - are characterized as either isolated find sites or diffuse lithic scatters.

The VDHP Environmental Predictive Model was completed for the project area which produced an overall rating of 56 (Appendix 1), with a rating of 32 or above indicating precontact sensitivity. The

project area received points based on its location on a glacial kame terrace adjacent to a stream and Lake Champlain, and situated within a travel corridor. However, negative factors, including a moderate level of disturbance within the proposed impact area would decrease the rating in these areas. There has been a substantial amount of development within the APE, including the extensive landscaping of the Champlain Elementary School grounds and Callahan Park, as well as construction of the roads, sidewalks, drainages, driveways, houses, and modern businesses.

The level terrace adjacent to the stream at the southern end of the APE where a gravel path and a new sidewalk are proposed is one area which may contain intact, undisturbed soils. Based on its location near a stream, this level raised terrace is considered to have a high archeological sensitivity (Photo 1).

Photo 1. Photo shows the Archeological Sensitivity Area, and the location of the proposed path adjacent to the stream. View is to the southwest.

National and State Register

There are three National Register Historic Districts located within a half mile of the project area, including the Lakeside Historic District, the South Union Street Historic District and the South Willard Street Historic District. There are no National Register sites, structures or districts located within or directly adjacent to the APE.

There are also no structures listed on the Vermont Historic Sites & Structures Survey (VHSSS) located within the project APE. There are three structures that are listed on the VHSSS which are located adjacent to the project area. These include:

Old Champlain School (c. 1909) - 817 Pine Street

This brick structure is a Romanesque Revival school, built in 1909, is one of the few surviving schools in Burlington built near the turn of the century (VHSSS 1977). The Old Champlain School building, presently used as an apartment complex, is situated on the west side of Pine Street, directly across from the Champlain Elementary School building (Photo 2). The proposed improvements at the Champlain Elementary school include the possible construction of sidewalks, the placement of new curbs, and landscaping. Alternative A also proposes the replacement of a section of sidewalk on the west side of Pine Street in front of the Old Champlain School building.

Photo 2. Photo shows the 1909 Old Champlain School building located across Pine Street from the Champlain Elementary School. View is to the west.

135 and 137 Charlotte Street

The John Soltes House and the Roland Hawker House, located at 135 and 137 Charlotte Street, near its intersection with Locust Street (Photo 3). These Vernacular structures, built in 1932 and 1933, respectively, by a North Burlington German construction worker, Mr. Hauke, represent the only stucco clad buildings in the neighborhood (VHSSS 1983). The proposed project improvements near these structures include a new speed table with improved textured crosswalks across Charlotte and Locust Streets.

The improvements proposed adjacent to the three structures listed on the VHSSS consist of replacement of extant sidewalk and textured crosswalks, and will not impact the historic structures or grounds.

Photo 3. Photo shows the c.1930s stucco homes located on Charlotte Street near its intersection with Locust Street. View is to the west.

Historic Sites and Cemeteries

An examination of the VDHP archeological site files indicated that there are no historic archeological sites located within or adjacent to the project APE. Located within a one mile radius of the project area, there are 10 historic sites, which include

VT-CH-63 – Sawmill on Potash Brook

VT-CH-64 – Sawmill on Potash Brook

VT-CH-96 - Cantonment of 1812-1815

VT-CH-165 – Wheeler House Cistern Historic Site

VT-CH-166 – Brewery

VT-CH-167 - Brickyard

VT-CH-575 – Canal Boat

VT-CH-576 – Floating Dry Dock

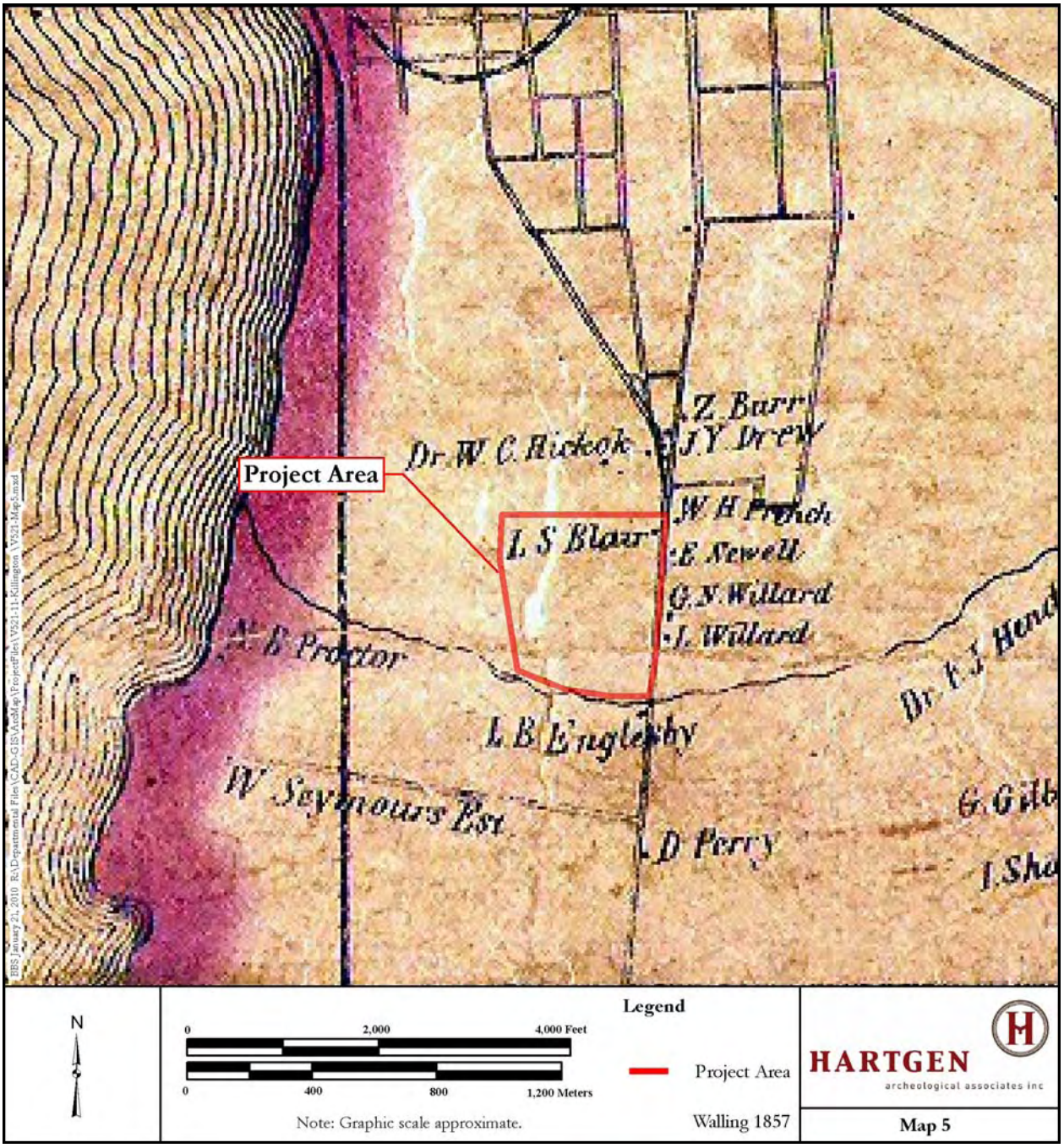
VT-CH-577 – Timber Crib Site

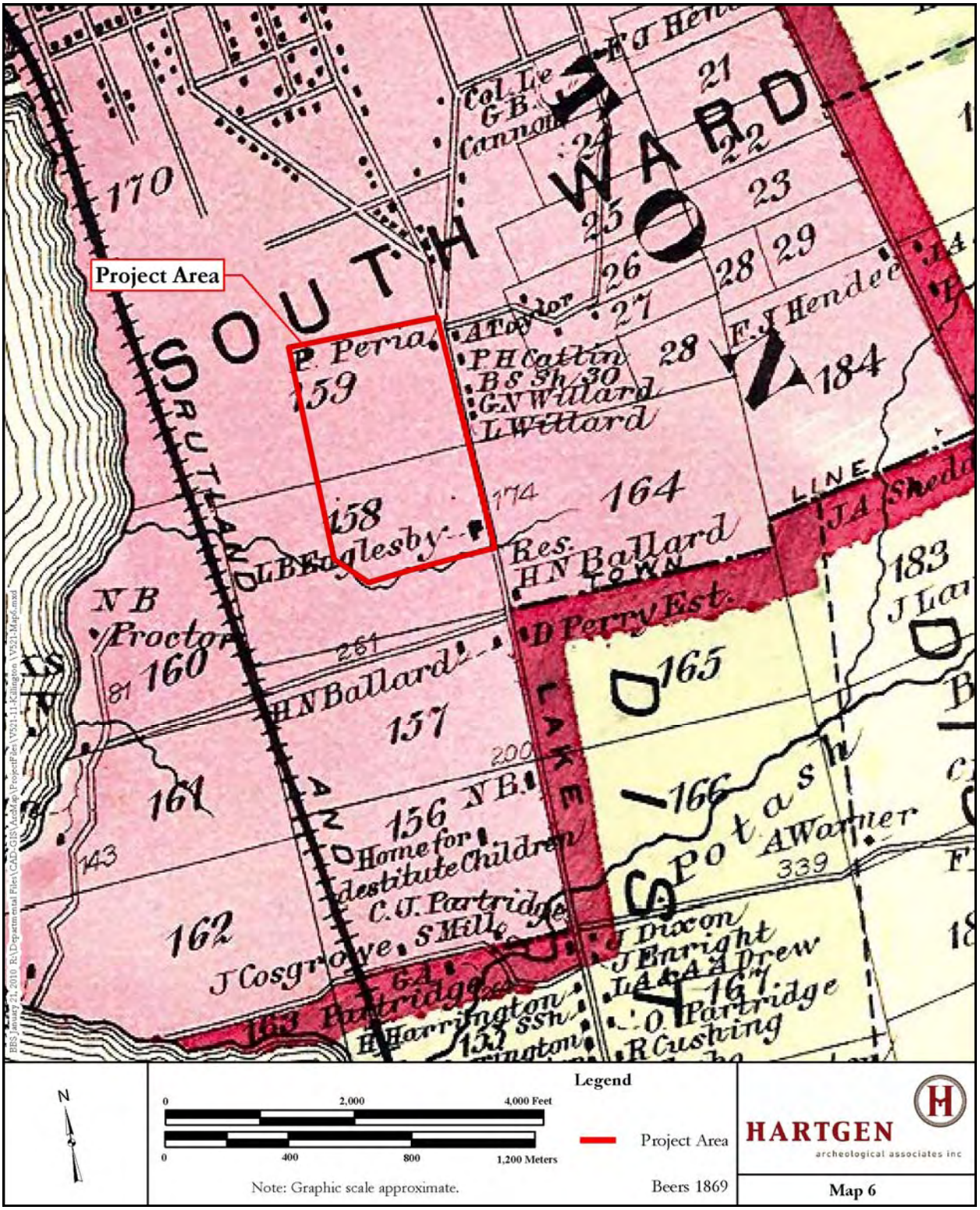
VT-CH-1023 - Glassworks

There are no cemeteries located within or adjacent to the project APE (Hyde and Hyde 1991).

Historic Maps and Archeological Sensitivity

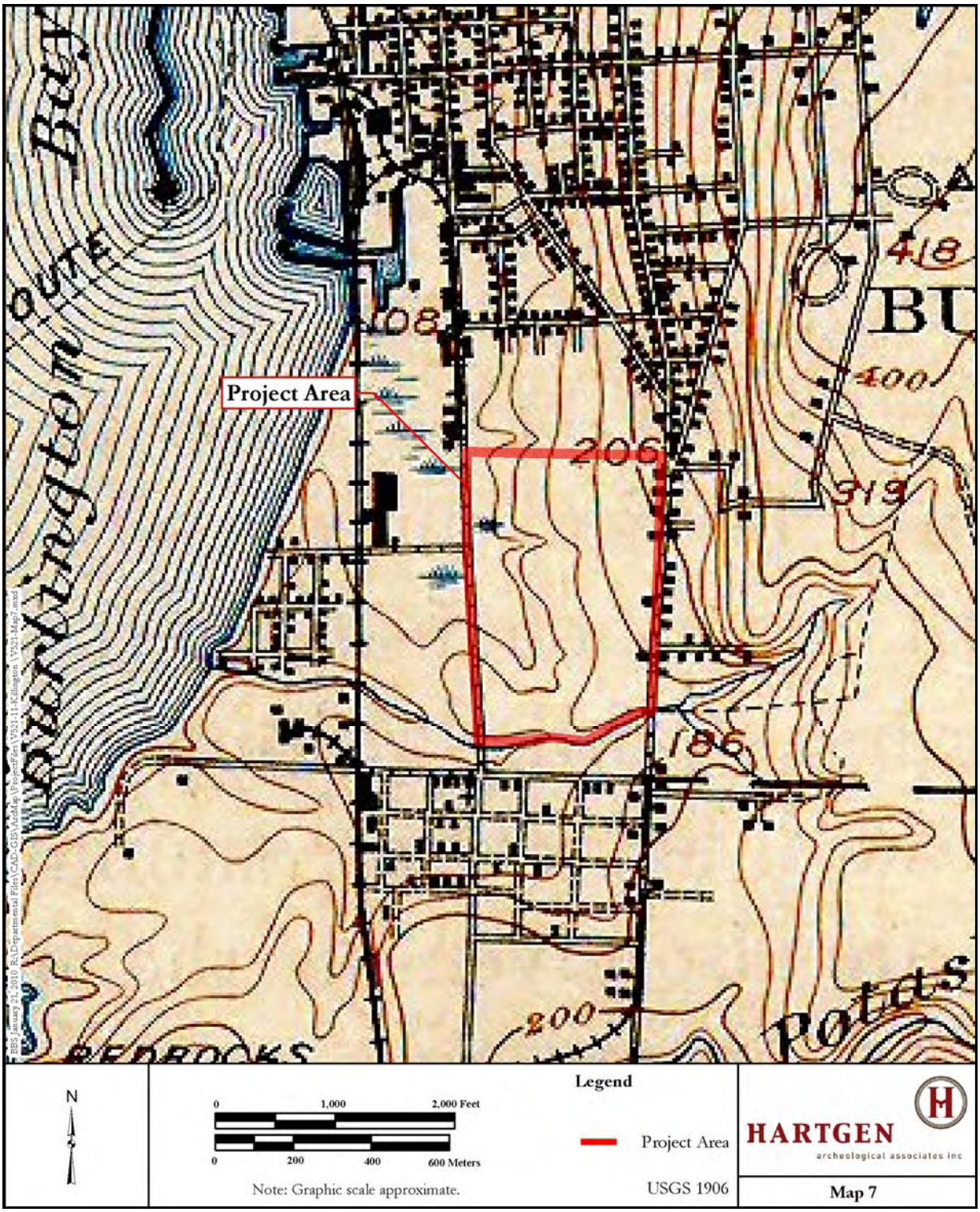
A review of historic maps of the project area was conducted to attain an overview of the changing historical and environmental landscape within the project area. This review includes the study of historic structures that may be or may no longer be extant, alterations to road and rail systems, and changes in stream and river courses. Two 19th-century maps, the 1857 Walling map and the 1869 Beers map, depict the location of roadways, railroads, and river and stream courses, businesses and domestic structures within the project vicinity, and the names of the residents who lived there in those years (Map 5 & 6).

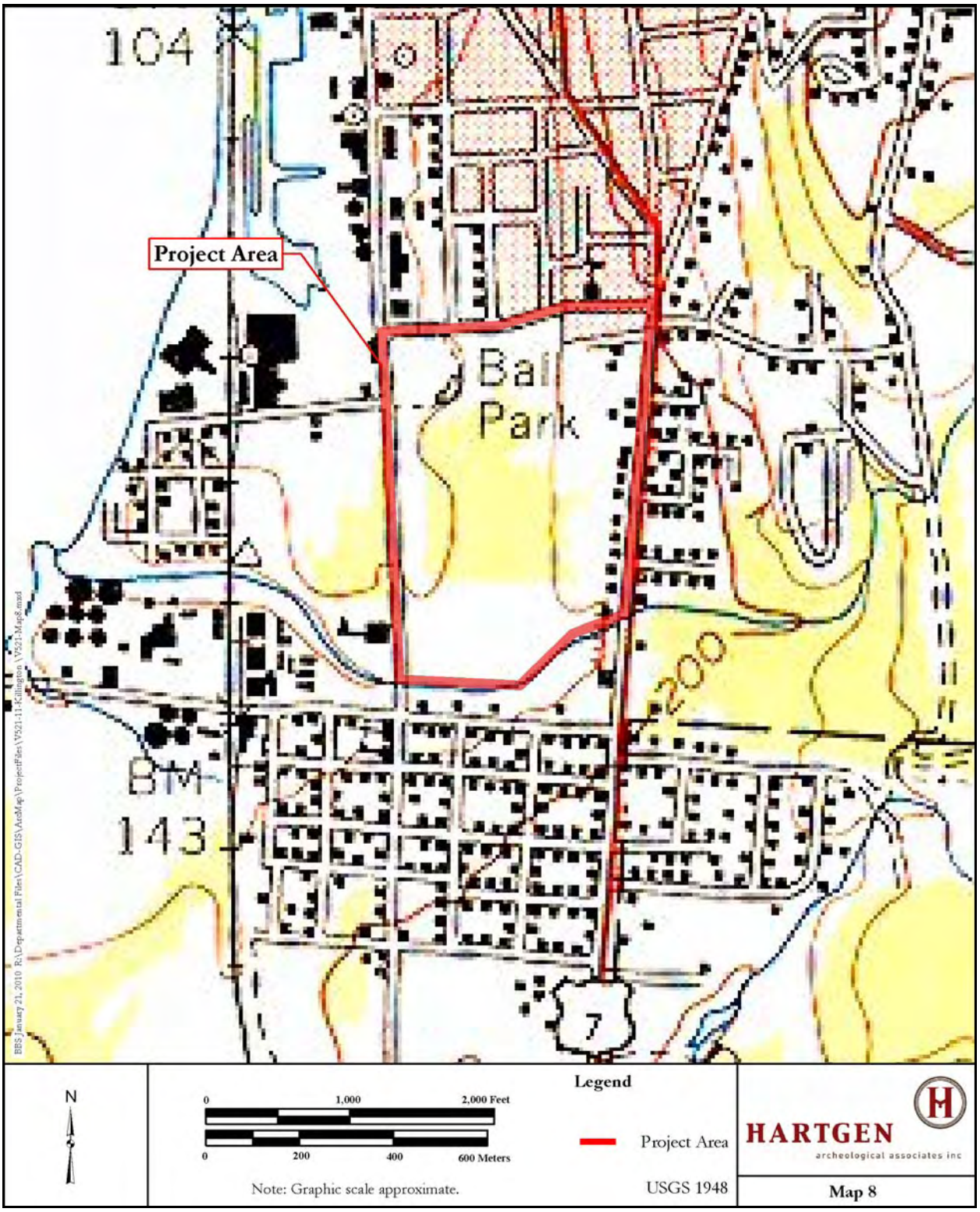




The 1857 Walling map and 1869 Beers map of Burlington depicts the project area as being primarily undeveloped – Locust and Pine Streets and Birchcliff Parkway had not yet been planned or laid out. Only Shelburne Street, which was the major thoroughfare leading south out of Burlington, had been established. The 1906 USGS map shows the increased development of the area south of Burlington,

including the presence of Pine Street, and an established street grid and neighborhoods south of Flynn Street and the APE. As illustrated by the 1948 USGS, by the mid-20th century, Locust Street had been established, along with neighborhoods to its north (Maps 7 and 8). On Locust Street, Callahan Park had been initially established as a "Ball Park". Charlotte Street is shown as containing five houses, including the two constructed by Mr. Hauke in the early 1930s. The Old Champlain School, build in 1909, is shown located on the west side of Pine Street.




104
Project Area
Ball
Park
200
BM
143
7
BBS January 21, 2010 R:\Departmental Files\CAD-GIS\ArcMap\ProjectFiles\V521-11-Killington\V521-Map8.mxd
N
0
1,000
2,000 Feet
0
200
400
600 Meters
Note: Graphic scale approximate.
Legend
Project Area
USGS 1948
HARTGEN
archeological associates inc
Map 8

The study of historic maps indicates that there was very little historic development of the entire project until the twentieth century. The project APE is considered to have a low historic archeological sensitivity.

SITE RECONNAISSANCE AND RECOMMENDATIONS

A site visit was conducted by Hartgen archeologist Elise Manning Sterling on February 5, 2013 to observe and photograph existing conditions within the project area. Overall, there has been a substantial amount of development within the APE, including the extensive landscaping of the Champlain Elementary School grounds and Callahan Park, as well as construction of the roads, sidewalks, drainages, driveways, houses, and modern businesses. Except in a few cases, which will be discussed below, the proposed SRTS improvements will be made in areas of previous disturbance.

At the northern end of the project area, a formal bituminous concrete path is proposed that connects Locust Street to Cherry Lane and Linden Terrace. The alignment of the path shown in Alternatives A and C follows along an extant path composed of disintegrating bituminous concrete path, and exposed and disturbed/previously landscaped ground surface (Photos 4 and 5). The cross country alignment shown in Alternative B veers off of the extant concrete path and follows along a grass slope to the east of tennis courts (Photo 6). This area has been disturbed through extensive landscaping associated with the construction of the athletic fields. Neither path alignment is considered to be archeologically sensitive.

In Alternative C, project plans entail the creation of a parking area near the eastern end of Locust Street. The proposed parking lot location is presently grass lawn with a few young trees (Photo 7). There was some ground disturbance noted, possibly associated with a septic system. This area is not considered to be archeologically sensitive for either historic or precontact material.

Along the western edge of Callahan Park, Alternative A proposes the installation of low shrubs between the extant sidewalk and the Pine Street (Photo 8). This area is considered to be disturbed from previous earthmoving associated with sidewalk and road construction. East of the sidewalk in this area are large trees, historic plantings associated with mid-20th century park landscaping.

Along the north side of Callahan Park, the Alternative plans propose a number of different scenarios, including the construction of a bituminous concrete on the existing park path, the removal of on-street parking and construction of a new sidewalk and curb, and the addition of new street trees. This area at the northern edge of the park has been previously disturbed through street construction and park landscaping (Photo 9). Project plans do not entail disturbance to the trees that line the west and north sides of Callahan Park. Nonetheless, it is recommended that project plans include avoidance of these trees, including their root systems.

At the northern portion of the Champlain Elementary School property, Alternative B proposes the construction of a new paved path that links Birchcliff Parkway to the school. The path extends from the parkway, crossing through the Champlain Chocolate Company parking lot, and leading on to the school's grass field (Photo 10). This area has been disturbed through earthmoving associated with the construction of parking lots and landscaping of the grass athletic fields. The proposed path alignment is not considered to be archeologically sensitive.

Photo 4. Photo shows the dilapidated bituminous walkway which leads onto Cherry Lane. View is to the north.

Photo 5. Photo shows the approximate location of the proposed path in Alternatives A and C, as well as landscaped terrain adjacent to tennis courts. View is to the west.

Photo 6. Photo shows the approximate location of the proposed path in Alternative B, as well as the landscaped terrain near playground and tennis courts. View is to the southeast.

Photo 7. Photo shows the proposed location of a new parking area at the eastern end of Locust Street. View is to the northeast.

Photo 8. Photo shows the sidewalk alignment on the east side of Pine Street, and the historic treeline bordering the western side of Callahan Park. View is to the south.

Photo 9. Photo shows the northern end of Callahan Park adjacent to Locust Street. Note the historic treeline, as well as recent construction disturbance. View is to the west.

Photo 10. Photo shows the alignment of the proposed cross country path located north of the Champlain Elementary School building. View is to the southeast.

A new gravel path and a new sidewalk are proposed to be constructed on a level terrace adjacent to the stream at the southern end of the APE. This area may contain intact, undisturbed soils, and is considered to have a high archeological sensitivity. The area of archeological sensitivity, shown on Maps 2, 3 and 4, begins at the top of the slope behind the Champlain Elementary School playground, extending eastward to Shelburne Road (Photo 11). At the top of the slope, the proposed path follows along a fenceline which demarcates a parking garage and parking lot to the north (Photo 1). A new sidewalk is proposed to be constructed adjacent to the driveway which links Shelburne Road to the parking garage complex (Photo 11). A relatively level wooded terrace situated above a stream channel is located to the south of the proposed path and sidewalk. During site reconnaissance, there were some soil push piles noted in the woods, which may have been deposited during the construction of the garage complex to the north. While there may have been some soil disturbance to this area in the past, overall, the terrace maintains natural contours that suggest that intact soils may be present.

If undisturbed, this area has high sensitivity for the presence of precontact material. It is recommended that a systematic archeological shovel test survey be conducted to determine the presence or absence of precontact material along the proposed path and sidewalk alignments.

Photo 11. Photo shows the Archeological Sensitivity Area, and the location of the proposed sidewalk alignment. View is to the west.

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Werner, S.U.
2001 *NH 121-1(1) Kennedy Drive Improvements, City of South Burlington, Chittenden County, Vermont, Letter Report, Limited Phase IA Study (Site Inspection with Impact Assessment).* Werner Archaeological Consulting, Albany, New York. Report on file at the Vermont Division for Historic Preservation, Montpelier, Vermont.

Werner Archaeological Consulting
1997 *Lands of Willis Subdivision Shunpike Road, Town of Williston Chittenden County, Vermont: Cultural Resources Investigation, Phase I Identification Study.* Report on file at the Vermont Division for Historic Preservation, Montpelier, Vermont.

Werner Archaeological Consulting
2007 *Lands of Willis Subdivision Shunpike Road, Town of Williston Chittenden County, Vermont: Cultural Resources Investigation, Phase I Identification Study.* Report on file at the Vermont Division for Historic Preservation, Montpelier, Vermont.

APPENDIX 1: Environmental Predictive Model – Champlain Elementary School

Vermont Division for Historic Preservation
Archeological Resources Assessment Form
Champlain Elementary School

DHP#
Organization & Recorder: **HAA. INC./ E. Manning**
Date: 2/11/2013

Envronmental Predictive Model				ArcheoMapTool GIS Model	Field Inspection Comments
Variable	Proximity	Value	Assigned Score	Variable	
A. Rivers and Streams (Existing or relict)					
1) Proximity to Rivers and Permanent Streams	0–90 m	12	**12**	Layer 1: Proximity to Rivers and Permanent Streams (0-180 m)	
	90-180 m	6			
2) Proximity to Intermittent Streams	0–90 m	12		-	
	90-180 m	6			
3) Proximity to Permanent River/Stream Confluences	0–90 m	8		Layer 6: Proximity to River/Stream Confluences (0-180 m)	
	90-180 m	4			
4) Proximity to Intermittent Stream Confluences	0–90 m	12		-	
	90-180 m	6			
5) Proximity to Waterfalls	0–90 m	8		Layer 7: Proximity to Waterfalls (0-180 m)	
	90-180 m	4			
6) Proximity to Heads of Drainages	0–90 m	8		Layer 5: Proximity to Heads of Permanent Drainages (0-300 m)	
	90-180 m	4			
7) Major Floodplain - Alluvial Terrace	0–90 m	8		Layer 10: Floodplain Soils Presence	
	90-180 m	4			
8) Knoll or Swamp Island		32		Layer 1: Proximity to Rivers and Permanent Streams (0-180 m)	
9) Stable Riverine Island		32		Layer 2: Proximity to Waterbodies (0-180 m)	
B. Lakes and Ponds					
10) Proximity to Pond or Lake	0–90 m	12		Layer 2: Proximity to Waterbodies (0-180 m)	
	90-180 m	6			
11) Proximity to Stream-Waterbody Confluences	0–90 m	12		Layer 4: Proximity to Stream-Waterbody Confluences (0-180 m)	
	90-180 m	6			
12) Lake Coves, Peninsulas, and Bayheads	0–90 m	12		Layer 2: Proximity to Waterbodies (0-180 m)	
	90-180 m	6			
C. Wetlands					
13) Proximity to Wetlands*	0–90 m	12	**12**	Layer 3: Proximity to Wetlands (0-180 m)	
	90-180 m	6			

Envronmental Predictive Model				ArcheoMapTool GIS Model	Field Inspection Comments
Variable	Proximity	Value	Assigned Score	Variable	
14) Knoll or Swamp Island		32		Layer 3: Proximity to Wetlands (0-180 m)	
D) Valley edge and Glacial Landforms					
15) High Elevated Landform (e.g. Knoll Top, Ridge Crest, Promontory)		12		See Landmarks (Info Layers) and Catchment layers (Water-related Layers)	
16) Valley Edge Features (e.g. Kame Outwash Terrace)		12	**12**	Layer 9 Glacial Outwash and Kame Terrace Soils	
17) Marine/Lake Delta Complexes		12		Layer 9 Glacial Outwash and Kame Terrace Soils Presence	
18) Champlain Sea or Glacial Lake Shore Line**		12	**12**	Layer 8: Paleo Lake Soils Proximity (0-180 m)	
E. Other Environmental Factors					
19) Caves and Rockshelters		32		-	
20) Natural Travel Corridors (e.g. Drainage Divides)		12	**12**	See Landmarks (Info Layers) and catchment layers (Water-related Layers)	
21) Existing or Relict Springs	0–90 m	8		-	
	90–180 m	4			
22) Potential or Apparent Prehistoric Quarry for Lithic Material Procurement	0–90 m	8		See Soils with "M" parent material (Under Construction)	
	90–180 m	4			
23) Special Environmental or Natural Area~	0–180 m	32		-	
F. Other High Sensitivity Layers					
24) High Likelihood of Burials		32		See VAI layer (Under Construction)	
25) High Recorded Archeological Site Density		32		See VAI layer (Under Construction)	
26) High likelihood of containing significant site based on recorded or archival data or oral tradition		32		See VAI layer (Under Construction)	

Envronmental Predictive Model				ArcheoMapTool GIS Model	Field Inspection Comments
Variable	Proximity	Value	Assigned Score	Variable	
G. Negative Factors					
27) Excessive (>15%) or Steep Erosional (>20%) Slopes		-32		See Slope Layer (Info Layers folder)	
28) Previously Disturbed Land***		-32	**-32**	See Land Use ND Building Footprint Layers (Info Layers folder)	
Total Score:			**28**		

** remains incompletely mapped; digital layer includes paleo lakes and wetlands based on soils data
*** as evaluated by a qualified archeological professional or engineer based on coring, earlier as-built plans, or obvious surface evidence (such as a gravel pit)
~such as Milton acquifer, mountain top, etc. (historic or prehistoric sacred or traditional site locations, other prehistoric site types)
*Environmental predictive model limits wetlands to those > one acre in size; ArchSensMap

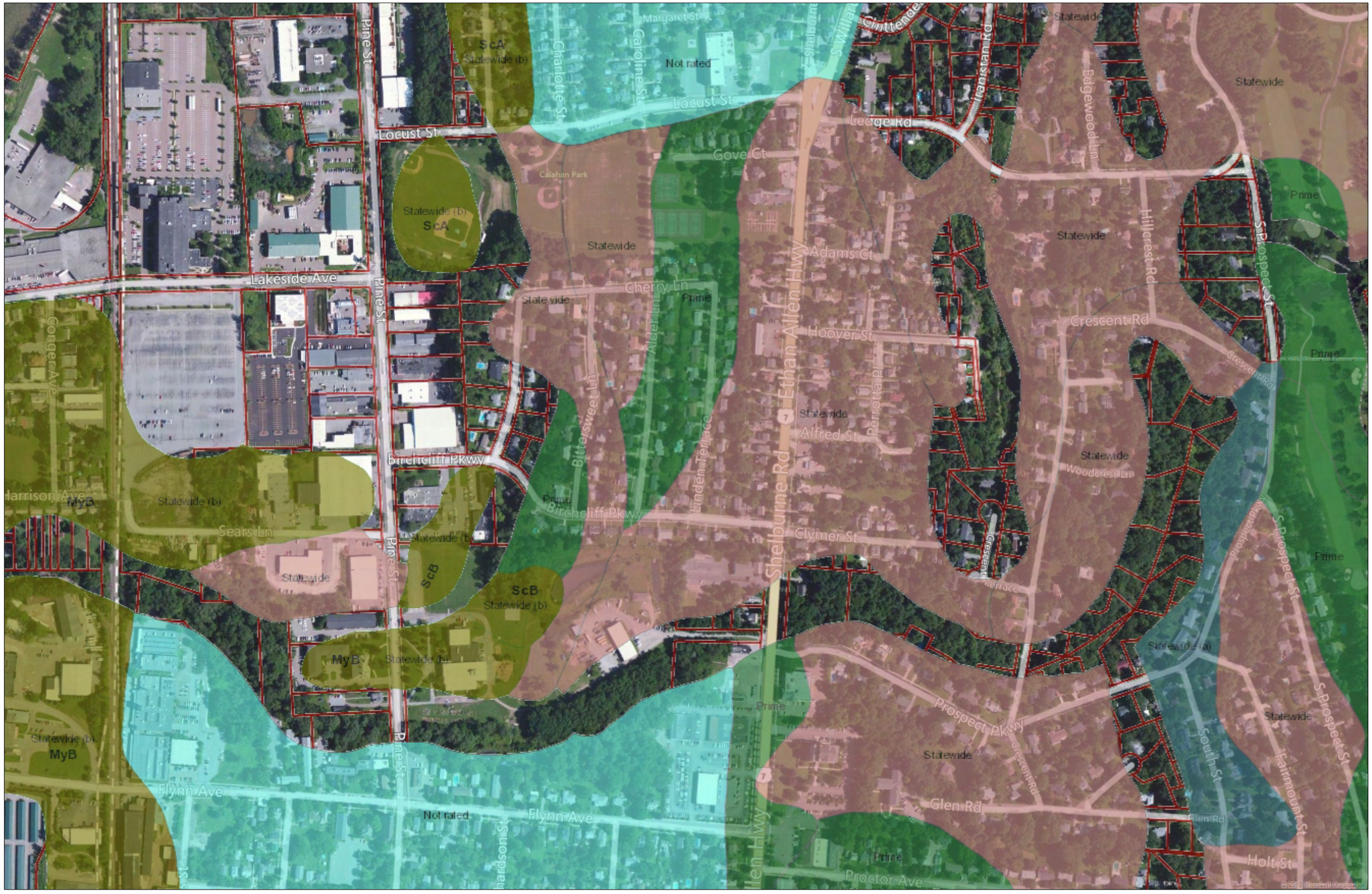
Appendix C

Agency of Natural Resources Environmental Interest Locator Plan for the Project Area

Champlain Elementary School SRTS - Prime Ag and Hydric Soils

Vermont Agency of Natural Resources

vermont.gov



LEGEND

- Soils - Hydric
- Soils - Prime Agricultural
  - Local
  - Local (b)
  - Not rated
  - Prime
  - Prime (b)
  - Prime (f)
  - Statewide
  - Statewide (a)
  - Statewide (b)
  - Statewide (c)
- Parcels (where available)

1: 4,713

January 26, 2013

785.0 0 392.00 785.0 Feet

WGS_1984_Web_Mercator_Auxiliary_Sphere

NOTES

Map created using ANR's Natural Resources Atlas

Champlain Elementary School SRTS - Haz Mat Sites

Vermont Agency of Natural Resources

vermont.gov

LEGEND

- Hazardous Waste Site
- Hazardous Waste Generators
- Parcels (where available)

1: 4,713

January 26, 2013

785.0 0 392.00 785.0 Feet

WGS_1984_Web_Mercator_Auxiliary_Sphere

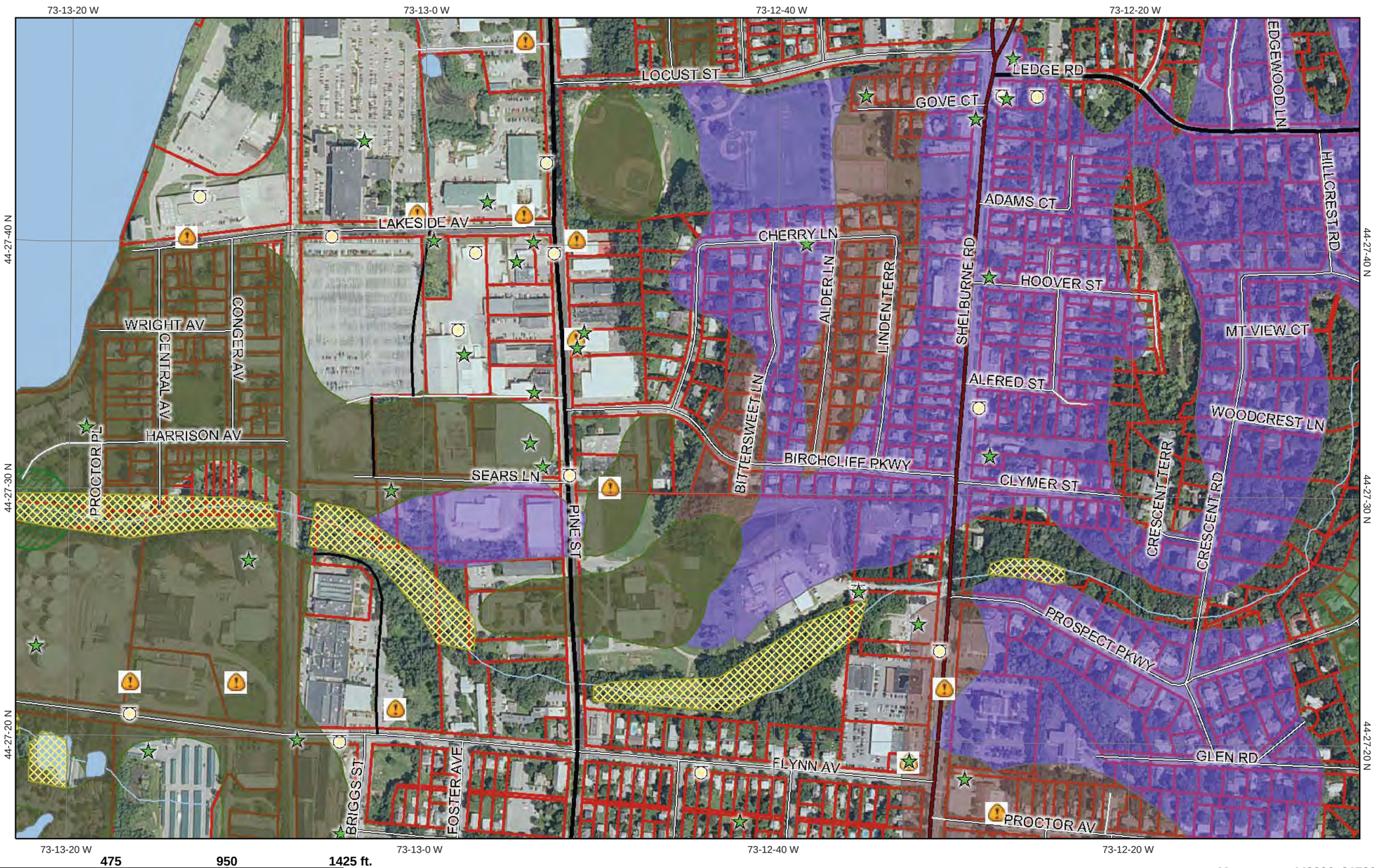
NOTES

Map created using ANR's Natural Resources Atlas

ANR Environmental Interest Locator

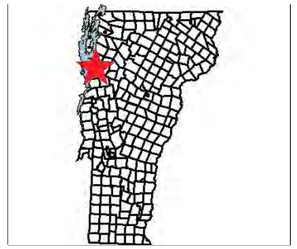
Vermont Agency of Natural Resources (ANR)

Champlain Elementary SRTS



0 475 950 1425 ft.

Map center: 443296, 217895



Legend

- Brownfields
- Hazardous Waste Site
- Hazardous Waste Site Generator
- Underground Storage Tank

Roads

- US Highway
- Vermont State Highway
- Class One
- Class Two
- Legal Trail
- Emergency U-Turn Area
- Proposed Class Two
- Proposed Class Three
- Proposed Vermont State Highway
- Proposed US Highway
- Proposed Interstate
- Discontinued Interstate
- Class Three
- Class Four
- State/National Forest Highway
- Military Road (No Public Access)
- Private Road

Wetland Advisory Layer: Class 3 Wetlands

VSWI

- Class 1 Wetland
- Class 2 Wetland

Rare, Threatened, and Endangered Species

- Threatened or Endangered
- Rare (Not T or E)

Significant Natural Communities

- Palustrine
- Terrestrial

Hydrography Lakes and Ponds (VHD 5k)

Hydrography (VHD 5k)

Deer Wintering Areas

Indiana Bat Hibernacula By Town

Indiana Bat Summer Range By Town

- Observed
- Potential

Hydric Soils

- Hydric Soils

Soils - Prime Agricultural

- Local
- Local (b)
- Prime
- Prime (b)
- Prime (c)
- Statewide
- Statewide (a)
- Statewide (b)
- Statewide (c)

Parcels (incomplete)

NAIP Color Orthophotos 2009

VT State Plane Meters (NAD83)

N

Scale: 1:4,968

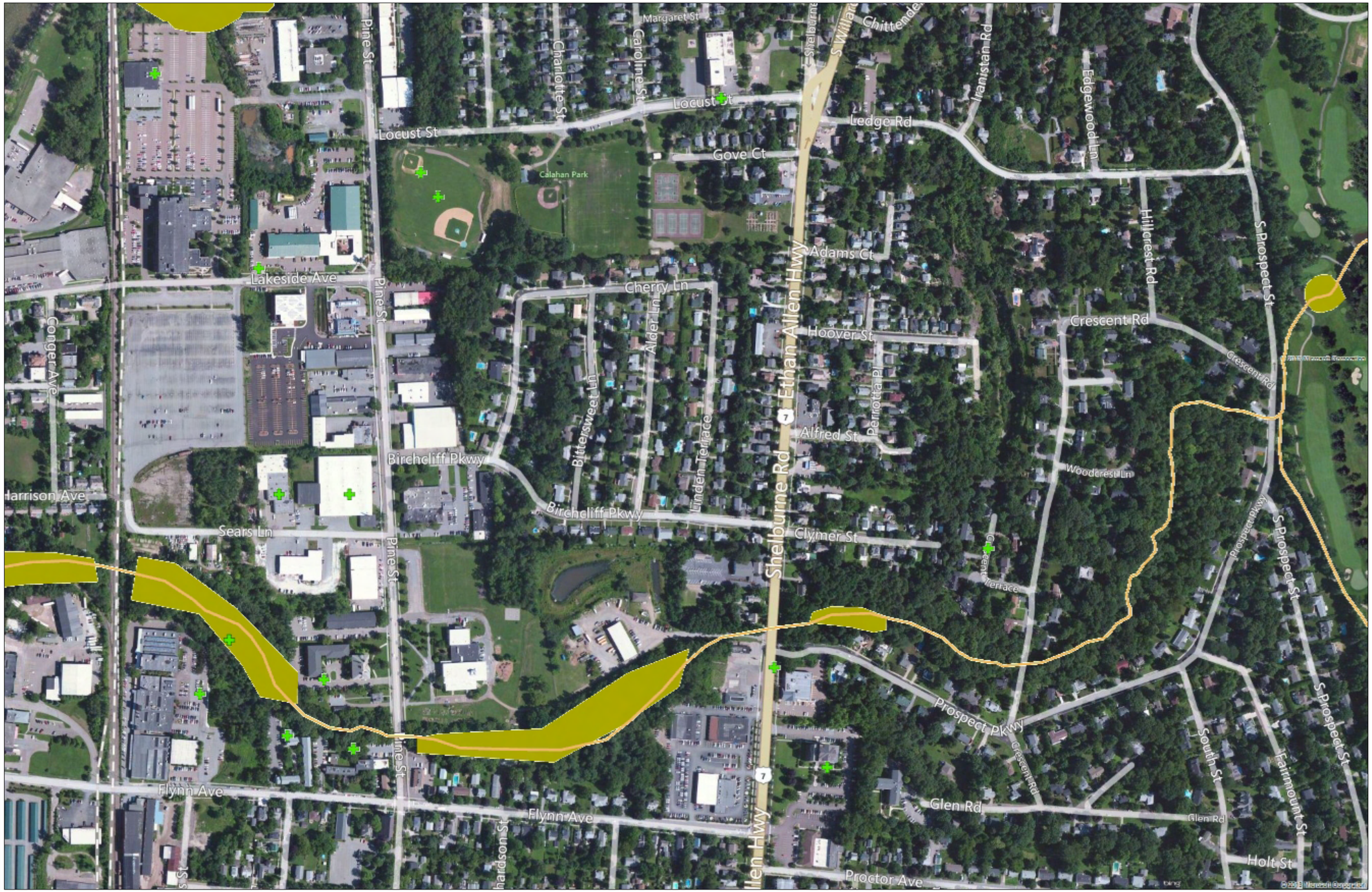
URL: http://maps.vermont.gov/imf/sites/ANR_NATRESViewer/jsp/launch.jsp

5/5/11

Champlain Elementary School SRTS - Streams and Wetlands

Vermont Agency of Natural Resources

vermont.gov



LEGEND

- Stormwater Permits (Issued)

VT List of Priority Rivers and Streams

- B (no TMDL required)
- C (further assessment)
- D (approved TMDL)
- E (altered exotic species)
- F (altered flow reg.)
- G (channel alteration)

Wetlands - VSWI

- Class 1 Wetland
- Class 2 Wetland

1: 4,713

January 26, 2013

785.0 0 392.00 785.0 Feet

WGS_1984_Web_Mercator_Auxiliary_Sphere

NOTES

Map created using ANR's Natural Resources Atlas

Appendix D

Alternatives Plans

Legend

- Existing Edge of Pavement / Curbing
- Existing Sidewalks
- New Crosswalks
- New Edge of Pavement / Curbing
- New Sidewalk
- New Gravel Path
- New Bituminous Concrete Path
- New Shrubs / Plantings

Champlain Elementary School Safe Routes To School Feasibility Study

N

Alternative A
November 2012
Scale: 1" = 80'

Lamoureux & Dickinson
14 Morse Drive, Essex, VT 05452
802-878-4450 www.LDengineering.com

Legend

- Existing Edge of Pavement / Curbing
- Existing Sidewalks
- New Crosswalks
- New Edge of Pavement / Curbing
- New Sidewalk
- New GravelPath
- New Bituminous ConcretePath
- New Shrubs / Plantings

Champlain Elementary School Safe Routes To School Feasibility Study

N

Alternative B

Scale: 1" = 80'

Lamoureux & Dickinson
14 Morse Drive, Essex, VT 05452
802-878-4450 www.LDengineering.com

Legend

- Existing Edge of Pavement / Curbing
- Existing Sidewalks
- New Crosswalks
- New Edge of Pavement / Curbing
- New Sidewalk
- New Gravel Path
- New Bituminous Concrete Path
- New Shrubs / Plantings

Champlain Elementary School Safe Routes To School Feasibility Study

N

Alternative C

Scale: 1" = 80'

Lamoureux & Dickinson
14 Morse Drive, Essex, VT 05452
802-878-4450 www.LDengineering.com

Appendix E

Alternatives Matrix

Champlain Elementary School SRTS Bicycle and Pedestrian Planning and Feasibility Study
Alternatives Matrix
December 2012

			Bicycle and Pedestrian Alternatives		
	Category	***Do Nothing***	***Alternative A***	***Alternative B***	***Alternative C***
Project	Pedestrian and bicycle connection improvements to existing sidewalk and bicycle networks	None	Sidewalk extensions on Locust Street, Birchcliff Parkway, and improved sidewalk / path connection from Prospect Parkway intersection	Sidewalk extensions on Locust Street, Birchcliff Parkway, and improved sidewalk / path connection from Prospect Parkway intersection	Sidewalk extensions on Locust Street and improved sidewalk / path connection from Prospect Parkway intersection
	Traffic calming measures	None	Curb extensions on Locust Street, speed table and narrowed road on Birchcliff Parkway	Speed tables and curb extensions on Locust Street, speed tables on Birchcliff Parkway	Curb extensions on Locust Street, speed tables and narrowed road on Birchcliff Parkway
	Improved pedestrian and bicycle circulation at Champlain Elementary School	None	Reorganized parking areas with potential expansion area to separate vehicles from pedestrians and bicyclists, improved bike rack area near front entry	Reorganized parking areas to separate vehicles from pedestrians and bicyclists, improved bike rack area near front entry	Reorganized parking areas to separate vehicles from pedestrians and bicyclists, improved bike rack area near front entry
	Bus and parent drop off area	None	Relocated to Pine Street with direct pedestrian connections to school entry	Off street area bordering reorganized parking area with direct pedestrian connections to school entry	Off street area bordering reorganized parking area with direct pedestrian connections to school entry
Engineering	Needs Additional Land / Easements	No	Callahan Park easement for path connection, Lake Champlain Chocolates property easement for path connection, easement for path from Callahan Park to Linden Terrace / Cherry Street	Callahan Park easement for sidewalk and path connection, easement for path from Callahan Park to Linden Terrace / Cherry Street	Callahan Park easement for sidewalk and path connection, easement for path from Callahan Park to Linden Terrace / Cherry Street
	Short / Long Term Phasing	None	Recommended phasing for school improvements, sidewalk segments, signage and traffic calming improvements	Recommended phasing for school improvements, sidewalk segments, signage and traffic calming improvements	Recommended phasing for school improvements, sidewalk segments, signage and traffic calming improvements
	Work in City ROWs	No	Locust Street, Pine Street, Birchcliff Parkway and Linden Terrace / Cherry Street	Locust Street, Pine Street, Birchcliff Parkway and Linden Terrace / Cherry Street	Locust Street, Pine Street, Birchcliff Parkway and Linden Terrace / Cherry Street
Natural and Cultural Resources Present	Wetlands	Not Affected	Not Affected in areas of improvements	Not Affected in areas of improvements	Not Affected in areas of improvements
	Floodplains	Not Present	Not Present	Not Present	Not Present
	Groundwater Table	Not Affected	Not Affected	Not Affected	Not Affected
	Fish & Wildlife	None Affected	None Affected	None Affected	Not Affected
	Rare, Threatened & Endangered Species	None Present	None Present	None Present	None Present
	4(f) Public Lands	None Affected	Possibly - Historic district?	Possibly - Historic District?	Possibly - Historic District?
	6(f) LWCF Lands	None	None (check on Callahan Park status)	None	None
	Hazardous Waste Sites / Materials	None	None Affected in areas of improvements	None Affected in areas of improvements	None Affected in areas of improvements
	Historic Structures	None Affected	Possibly - Historic district?	Possibly - Historic District?	Possibly - Historic District?

Champlain Elementary School SRTS Bicycle and Pedestrian Planning and Feasibility Study
Alternatives Matrix
December 2012

			Bicycle and Pedestrian Alternatives		
	Category	***Do Nothing***	***Alternative A***	***Alternative B***	***Alternative C***
Natural and Cultural Resources Present	Archaeological Resources	None Affected	Possibly	Possibly	Possibly
	Utilities	Overhead Utilities, Municipal Water, Wastewater, Stormwater - No Impacts	Municipal Stormwater system impacts for traffic calming improvements on roadways and sidewalks / paths in Callahan Park, may need additional stormwater improvements at School for parking areas	Municipal Stormwater system impacts for traffic calming improvements on roadways and parking, sidewalks, paths in Callahan Park, will need additional stormwater improvements at School for parking areas	Municipal Stormwater system impacts for traffic calming improvements on roadways and parking, sidewalks, paths in Callahan Park, will need additional stormwater improvements at School for parking areas
	Agricultural Lands	Prime ag soils present, already disturbed - No Change to Impacts	Prime ag soils present, already disturbed - No Change to Impacts	Prime ag soils present, already disturbed - No Change to Impacts	Prime ag soils present, already disturbed - No Change to Impacts
Local / Regional Issues	Satisfies Purpose & Need	No	Yes	Yes	Yes
	Safety Concerns	Yes	Addressed traffic safety concerns with traffic calming devices, improved pedestrian connections with sidewalks, crosswalks and signage	Addressed traffic safety concerns with traffic calming devices, improved pedestrian connections with sidewalks, crosswalks and signage	Addressed traffic safety concerns with traffic calming devices, improved pedestrian connections with sidewalks, crosswalks and signage
	Aesthetics	No improvements	Improved overall streetscape appearance for pedestrian friendly facilities	Improved overall streetscape appearance for pedestrian friendly facilities	Improved overall streetscape appearance for pedestrian friendly facilities
	Alternative Transportation / Community Character	No improvements	Improved overall streetscape appearance for pedestrian friendly facilities	Improved overall streetscape appearance for pedestrian friendly facilities	Improved overall streetscape appearance for pedestrian friendly facilities
	Economic Impacts	Negative	Positive - Allows for better pedestrian and bicycle access to school and neighboring businesses	Positive - Allows for better pedestrian and bicycle access to school and neighboring businesses	Positive - Allows for better pedestrian and bicycle access to school and neighboring businesses
	Landowner Issues	None	City concerned about sidewalk in lower Callahan Park; Lake Champlain Chocolates Owner not interested in improvements	None	None

Champlain Elementary School SRTS Bicycle and Pedestrian Planning and Feasibility Study
Alternatives Matrix
December 2012

			Bicycle and Pedestrian Alternatives		
	Category	***Do Nothing***	***Alternative A***	***Alternative B***	***Alternative C***
Required Permits and Clearances	Stormwater Discharge Permit	No	Possibly	Possibly	Possibly
	Erosion Prevention & Sediment Control Permit	No	Possibly if improvements disturb over 1 acre of land	Possibly if improvements disturb over 1 acre of land	Possibly if improvements disturb over 1 acre of land
	Act 250	No	Not Likely	Not Likely	Not Likely
	401 Water Quality	No	No	No	No
	Stream Alteration Permit	No	Not Likely	Not Likely	Not Likely
	404 COE Permit (Army Corps of Engineers)	No	No	No	No
	State Conditional Use Determination (wetlands)	No	No	No	No
	Rare, Threatened & Endangered Species	None present	No	No	No
	Agricultural Soils Clearance	No	Not Likely	Not Likely	Not Likely
	State Historic Preservation Officer Clearance	No	Possibly	Possibly	Possibly
Other	Maintenance Costs	None	Minor increase to City	Minor increase to City and School	Minor increase to City and School
	Noise Control	None	Not Likely	Not Likely	Not Likely

Appendix F

Preferred Conceptual Plan

Legend

- Existing Edge of Pavement / Curbing
- Existing Sidewalks
- New Crosswalks
- New Edge of Pavement / Curbing
- New Sidewalk
- New Gravel Path
- New Bituminous Concrete Path
- New Shrubs / Plantings

Champlain Elementary School Safe Routes To School Feasibility Study

N

Preferred Alternative

March 2013

Scale: 1" = 80'

Lamoureux & Dickinson
14 Morse Drive, Essex, VT 05452
802-878-4450 www.LDengineering.com

Appendix G

Public Involvement:

PowerPoint Presentation and Meeting Notes

Safe Routes to School Project: Champlain Elementary School Bicycle and Pedestrian Planning and Feasibility Study

Final Presentation Meeting Notes

April 3, 2013

Attendees: Leslyn Hall, Champlain parent
Mike Fisher, Champlain parent
Mike Ballard, Champlain parent
Chip Mason, Champlain parent
David Casey, resident
Jason Van Driesche, Local Motion
Nicole Losch, Burlington Public Work Department
Gail Henderson-King, Lamoureux & Dickinson (L&D)

Discussion

1. Introductions

Nicole Losch introduced the project and gave a quick overview. She introduced Gail Henderson-King, who briefly reviewed the agenda and goals for the evening. She outlined the study area, which includes:

- Birchcliff Parkway and how it intersects with the Birchcliff Parkway Neighborhood, Callahan Park and the Five Sisters Neighborhood;
- Locust Street and how it intersects with the Five Sisters Neighborhood and Callahan Park;
- Pine Street from Locust Street to the School;
- Shelburne Street / Prospect Parkway intersection to the School; and
- Champlain Elementary School.

2. Brief Review of Final Report

Ms. Henderson-King reviewed the goals and objectives for this study, which are as follows.

The *Goal* of this study is to determine the feasibility of creating safer pedestrian and bicycle routes to the Champlain Elementary School, located on Pine Street, from several surrounding South End neighborhoods and Shelburne Street (Route 7).

The *Objectives* are to:

- Create safe, continuous bicycle route and pedestrian path connections from Five Sisters, Birchcliff Parkway and Prospect Parkway Neighborhoods to the Champlain Elementary School.
- Provide traffic calming measures to help slow vehicular traffic.

- Provide improved pedestrian and bicycle routes and facilities on the Champlain Elementary School campus.

The process that was undertaken for this project started with a Local Concerns Meeting held on October 13, 2011. Meetings were held with the Burlington Public Works and Parks and Recreation Departments in August 2012 to review proposed elements within the City road rights-of-ways and Callahan Park. A meeting was held with the Champlain Elementary School Staff in November 2012 to review and discuss alternatives for addressing safe access to and on the school grounds by pedestrians and bicyclists.

Following these meetings, the three alternatives were refined. In February 2013, Hartgen Archaeological Associates conducted a historic and archaeological resource assessment and completed an ARA Report. An Alternatives Presentation meeting was held on February 21, 2013 and a preferred alternative was discussed. Following the Alternatives Presentation meeting, a preferred conceptual plan was developed and is included in the final plan.

3. Presentation of Preferred Conceptual Plan

Ms. Henderson-King explained the preferred conceptual plan was developed based on the public input at the Alternatives Presentation meeting. Some of the elements included in the preferred conceptual plan consist of the following:

- Curb extensions with crosswalks and plantings for traffic calming and safer pedestrian crossing areas;
- Speed tables and raised intersections for traffic calming;
- Chicane roadway layout for traffic calming; and
- Textured crosswalks and pedestrian activated crossing signals for safer pedestrian crossing areas and traffic calming.

The preferred conceptual plan includes the following elements, which are presented by each section.

Locust Street

- A new path within Callahan Park on south side of street and connecting with the existing sidewalk. It will start with a new curbed sidewalk segment at the Pine Street intersection and then change to a new path within the park;
- New curb extensions with textured crosswalks at each of the side road intersections;
- Adjusted perpendicular parking to eliminate excess pavement (for inclusion in the Callahan Park master plan);
- Expanded rain gardens for storm water treatment; and
- Additional pedestrian signage.

Callahan Park

- A paved path connection to Cherry Lane along the existing gravel path. This path connects with the new path within Callahan Park that is on the south side of Locust Street;
- A new sidewalk connection to Gove Court;
- Improved storm drainage measures including a new rain garden.

Pine Street

- Move sidewalks away from roadway and add plantings in green strips;
- Consolidate /reduce curb cuts where possible; and
- Improved pedestrian signage.

Birchcliff Parkway

- New speed table with pedestrian activated crossing light at the Cherry Lane intersection;
- Reduce roadway width and add a new sidewalk on the north side of the downhill curve;
- A new sidewalk on the north side of the street from Cherry Lane intersection to Pine Street;
- New textured crosswalks at the other roadway intersections;
- New chicane roadway layout for traffic calming;
- A new cross country path with a bridge from Birchcliff Parkway to the school; and
- Street tree pruning.

Champlain Elementary School

- New one way parent drop off area with consolidated parking areas in the northwest corner of the site. This will include eliminating the on street drop off area on Pine Street except for the buses, and the parking area on the north and east side of the school;
- New and improved pedestrian circulation to the school entrances with new sidewalk segments;
- New paved bike rack areas on the north and south sides of the school; and
- A new paved path and sidewalk connection from Shelburne Street.

Ms. Henderson-King presented the estimated costs for each section.

Locust Street and Callahan Park:	*$524,600*
Birchcliff Parkway:	*$145,000*
Champlain Elementary School:	*$610,600*

With engineering and permitting, mobilization, and a 10% contingency, the total estimate for the entire project is $2,027,916.

Since these improvements won't happen all at once, some recommendations for possible phasing was done. There are recommended short and long term improvements without prioritization to allow for flexibility when funding opportunities become available.

Recommended Short Term Improvements

- Work with Lake Champlain Chocolates and the abutting property owner to the east to obtain an easement and construct the cross country path.
- Work with Parks and Recreation Department to include recommended improvements in Callahan Park updated master plan.
- Work with Public Works Department to install speed tables, curb extensions and crosswalks on Locust Street and Birchcliff Parkway.
- Install bike racks at the school.
- Expand and reorganize the parking area.

Long Term Improvements

- Work with Public Works Department to install the chicane traffic calming measure on Birchcliff Parkway.
- Create sidewalk and paved path from Shelburne Street to the school.
- Work with City Public Works Department to enhance bicycle and pedestrian network on Pine Street. This could dovetail with the installation of the Champlain Parkway project improvements.

4. Open Discussion / Public Comments

The meeting shifted to a discussion of the various alternatives elements advantages and disadvantages. Below is a summation of the comments provided during the meeting.

- Is there an easement for the existing path that connects Locust Street and Cherry Lane through Callahan Park? The City Parks and Recreation Department has not been able to find evidence of this.

- Can the path be made wider between the two residential properties on Cherry Lane? It is very narrow right now and probably not wide enough for a sidewalk plow.

- Is the City Public Works Department going to maintain this path in the winter? From the discussions that have occurred to date, the Public Works department is willing to maintain this path since it will be considered part of the route to the school.

- The adjusted parking area along Locust Street and the storm drainage issues / improvements should be included in the Callahan Park master plan process.

- The Pine Street improvements are recommendations. However, the City Public Works Department won't do any improvements within this area of Pine Street until the Champlain Parkway project is complete. Right now, the Champlain Parkway project is working on its Act 250 permit.

- There is no stop sign at the Birchcliff Parkway intersection with Pine Street. It is recommended to add one here since cars often don't stop here.

- There is concern about removing the Pine Street drop off area in front of the school. Will there be the same number of new drop off spots in the new area? There is a shortage now of drop off spaces and people often end up using the Lake Champlain Chocolates parking area. It is proposed to be a similar number of drop off spaces. However, the overall goal is to encourage students walk or ride their bikes to school rather than get dropped off.

- What is the number of existing parking spaces compared to the new parking spaces? It would be helpful to include this on the plans.

- The path from the Prospect Parkway / Shelburne Street intersection would be good to be paved.

- Several people mentioned the final report should include a recommendation to recreate / reinvigorate the Safe Routes to School Committee for advocating for the recommended improvements.

- The School and the Community and Economic Development Office (CEDO) should work together for obtaining the easement for the cross country path from Birchcliff Parkway to the school.

- Include a list of organizations and contacts in the report.

5. Summary of Meeting

The recommendations that have been discussed from the Final Presentation will be incorporated into the Final Report. The Final Report should be available by the end of April.

The above is my summation of the Champlain Elementary School SRTS Bicycle and Pedestrian Planning and Feasibility Study Final Presentation Meeting. If you have any additions and/or corrections, please contact me for incorporation into these notes.

Prepared By: Gail Henderson-King, PLA, ASLA
Lamoureux & Dickinson

Champlain Elementary School Safe Routes to School (SRTS) Bicycle And Pedestrian Planning and Feasibility Study

Final Presentation Meeting

April 3, 2013

SafeRoutes
Vermont Safe Routes to School

Lamoureux & Dickinson
Consulting Engineers, Inc.

Final Presentation Meeting - Agenda

1. Introductions
2. Brief Review of Final Report
   - Goals and Objectives for Study
   - Process
   - Alternatives Considered
   - Preferred Conceptual Plan
3. Presentation of Preferred Conceptual Plan
   - Preferred Conceptual Plan
   - Estimated Costs
   - Possible Phasing
4. Open Discussion / Public Comments
5. Summary of Meeting

Project Study Area

The study area includes:

- ✓ **Birchcliff Parkway** and how it intersects with the Birchcliff Parkway Neighborhood, Callahan Park and the Five Sisters Neighborhood,
- ✓ **Locust Street** and how it intersects with the Five Sisters Neighborhood and Callahan Park,
- ✓ **Pine Street** from Locust Street to the School,
- ✓ **Shelburne Street / Prospect Parkway** intersection to the School, and
- ✓ **Champlain Elementary School.**

Project Goals and Objectives

The **Goal** of this study is to determine the feasibility of creating safer pedestrian and bicycle routes to the Champlain Elementary School, located on Pine Street, from several surrounding South End neighborhoods and Shelburne Street (Route 7).

The **Objectives** are to:

- **Create safe, continuous bicycle route and pedestrian path connections** from Five Sisters, Birchcliff Parkway and Prospect Parkway Neighborhoods to the Champlain Elementary School.
- **Provide traffic calming measures** to help slow vehicular traffic.
- **Provide improved pedestrian and bicycle routes and facilities** on the Champlain Elementary School campus.

Purpose and Needs

The Purpose of this Project is to:

- **Determine the feasibility of creating safer pedestrian and bicycle routes** to the Champlain Elementary School from several surrounding South End neighborhoods: the Five Sisters, Birchcliff Parkway and Shelburne Street;
- **Analyze current and proposed pedestrian and bicycle routes** that can link existing sidewalks and trails;
- **Study and analyze potential traffic calming measures** to create safer pedestrian and bicycle networks; and
- **Analyze existing pedestrian and bicycle facilities at the Champlain Elementary School** and recommend improvements that will eliminate conflicts with vehicles, increase safety, and encourage greater use.

Purpose and Needs

The **Need** for this project is based on:

- **Unsafe roadway / intersection crossings** within the study area as a result of vehicle driver behavior.
- **Perceived speeding traffic that creates unsafe conditions for pedestrians and bicyclists** to safely cross and use local roadways.
- **Lack of continuous sidewalks** on one or both sides of neighborhood streets.
- **Lack of crosswalks at some intersections** where pedestrians are crossing.
- **Limited or lack of facilities for students to safely access the School.**

Public Involvement / Input

Held Local Concerns Meeting on October 13, 2011

Met with Burlington Public Works and Parks and Recreation Departments in August 2012

Met with Champlain Elementary School Staff in November 2012

Hartgen Archaeological Associates completed ARA Report February 2013

Held Alternatives Presentation Meeting on February 21, 2013

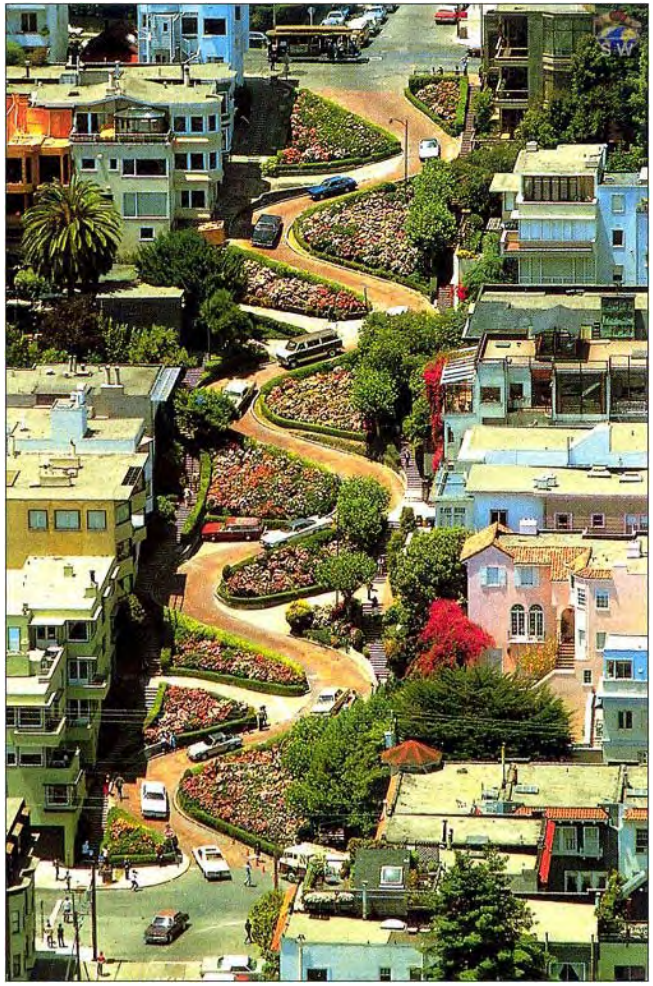
Preferred Conceptual Plan Features

Curb Extensions with Crosswalks and Plantings

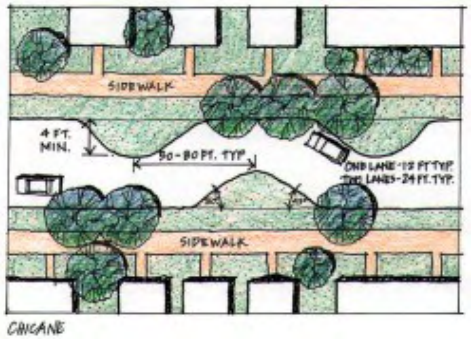
Preferred Conceptual Plan Features

Speed Tables and Raised Intersections

Preferred Conceptual Plan Features



Chicane Roadway Layout



Preferred Conceptual Plan Features

Textured Crosswalks and
Pedestrian Activated Crossing Signal

Preferred Conceptual Plan Features

- Locust Street:

  New Path within Callahan Park on South Side of Street

  New Curb Extensions with Textured Crosswalks at Intersections

  Expanded Rain Gardens

  Improved Signage

- Callahan Park:

  Paved Path Connection to Cherry Lane along existing gravel path with rain garden

  Sidewalk Connection to Gove Court

- Pine Street:

  Move Sidewalks away from roadway and add plantings in green strips

  Consolidate / Reduce Curb Cuts where Possible

  Improved Signage

Preferred Conceptual Plan Features

- Birchcliff Parkway:

  New Speed Table with pedestrian activated crossing light at Cherry Lane Intersection

  Reduce Roadway width and add new sidewalk on the downhill curve of Birchcliff Parkway

  Textured Crosswalks at other roadway intersections

  New Chicane roadway layout

  New Cross Country Path from Birchcliff Parkway to School

  Street Tree Pruning

- School:

  New One Way Parent Drop Off Area and Consolidated Parking Areas

  New and Improved Pedestrian Circulation to school entrances

  New bike rack areas

  New Paved Path and Sidewalk connection from Shelburne Street

Champlain Elementary School Safe Routes to School (SRTS)
Bicycle And Pedestrian Planning and Feasibility Study

Preferred Conceptual Plan

Preferred Conceptual Plan

Champlain Elementary School Safe Routes to School (SRTS)
Bicycle And Pedestrian Planning and Feasibility Study

Preferred Conceptual Plan

Legend

- Existing Edge of Pavement / Curbing
- Existing Sidewalks
- New Crosswalks
- New Edge of Pavement / Curbing
- New Sidewalk
- New Gravel Path

Champlain Elementary School Safe Routes To School Feasibility Study

N

Preferred Alternative
March 2013
Scale: 1" = 80'

Preferred Conceptual Plan – Estimated Costs

	Item	Unit	Quantity	Cost	Total
Locust Street and Callahan Park					
1	New Curb (for curb extensions)	LF	930	$35	$32,550
2	New Concrete Sidewalk (Extension from Gove Court)	LF	240	$100	$24,000
3	New Bituminous Concrete Path (Parallel to Locust Street)	LF	1000	$150	$150,000
4	New Bituminous Concrete Path (To Cherry Lane)	LF	1000	$150	$150,000
5	Future Gravel Path	LF	780	$80	$62,400
6	New Textured Crosswalks	LF	210	$35	$7,350
7	New Speed Tables	Each	3	$8,000	$24,000
8	New / Expanded Rain Gardens	SF	4600	$15	$69,000
9	Topsoil and Seed	CY	65	$60	$3,900
10	New Signage	Each	4	$350	$1,400
				Subtotal	*$524,600*
Birchcliff Parkway					
11	New Curb (for curb extensions)	LF	1450	$35	$50,750
12	New Concrete Sidewalk	LF	480	$100	$48,000
13	New Textured Crosswalks	LF	260	$35	$9,100
14	New Speed Tables	Each	2	$8,000	$16,000
15	Topsoil and Seed	CY	140	$60	$8,400
16	New Signage	Each	8	$350	$2,800
17	New Signage (Pedestrian Activated Flashing Sign)	Each	2	$5,000	$10,000
				Subtotal	*$145,050*

Preferred Conceptual Plan – Estimated Costs

Champlain Elementary School					
17	New Curb	LF	950	$35	$33,250
18	New Concrete Sidewalks	LF	360	$100	$36,000
19	New Paved Path (from Shelburne Street)	LF	900	$150	$135,000
20	New Paved Path (from Birchcliff Parkway)	LF	800	$150	$120,000
	New Gravel Subbase for Bituminous Concrete Pavement	CY	390	$50	$19,500
21	New Parking Area Bituminous Concrete Pavement	Ton	780	$250	$195,000
22	New Parking Area Striping - Painted Lines	LF	1650	$2	$3,300
23	New Bike Racks	Each	2	$1,500	$3,000
24	New Pavement for Bike Rack Areas	SF	1850	$25	$46,250
25	New Removable Bollards	Each	3	$500	$1,500
26	New Pedestrian Bridge (for path from Birchcliff Parkway)	Each	1	$15,000	$15,000
27	New Signage	Each	8	$350	$2,800
				Subtotal	*$610,600*
				Subtotal of all Areas	$1,280,250
				Mobilization (10%)	$128,025
				SubTotal	$1,408,275
				Contingency (20%)	$281,655
				Subtotal	$1,689,930
				Engineering and Permitting (20%)	$337,986
				TOTAL Estimated Costs	***$2,027,916***

Preferred Conceptual Plan – Recommended Phasing

Recommended Short Term Improvements

- Work with Lake Champlain Chocolates and the abutting property to the east to obtain an easement and construct the cross country path.
- Work with Parks and Recreation Department to include recommended improvements in Callahan Park updated master plan.
- Work with Public Works Department to install speed tables, curb extensions and crosswalks on Locust Street and Birchcliff Parkway.
- Install bike racks at the school.
- Expand and reorganize the parking area.

Preferred Conceptual Plan – Recommended Phasing

Long Term Improvements

- Work with Public Works Department to install the chicane traffic calming measure on Birchcliff Parkway.
- Create sidewalk and paved path from Shelburne Street to the school.
- Work with City Public Works Department to enhance bicycle and pedestrian network on Pine Street. This could dovetail with the installation of the Champlain Parkway project improvements.

Final Presentation Meeting

Thank You for Attending Tonight!

Safe Routes to School Project: Champlain Elementary School Bicycle and Pedestrian Planning and Feasibility Study
Alternatives Presentation Meeting Notes
February 21, 2013

Attendees: Michael Fisher
Stu Lindsay
Greg Fanslow
Christine McConnell
Carin Lilly
Jim Sullivan
Maggie Leugers, Burlington Parks and Recreation Department
Jason Van Driesche, Local Motion
Nicole Losch, Burlington Public Work Department
Gail Henderson-King, Lamoureux & Dickinson (L&D)

Discussion

1. Introductions
Ms. Losche introduced herself and gave a quick overview of the project. She introduced Ms. Henderson-King, who welcomed everyone.

2. Brief Overview of Project
She gave a quick overview of the Champlain Elementary School Bicycle and Pedestrian Planning and Feasibility Study project. She described the study area which includes:

- Birchcliff Parkway and how it intersects with the Birchcliff Parkway Neighborhood, Callahan Park and the Five Sisters Neighborhood,
- Locust Street and how it intersects with the Five Sisters Neighborhood and Callahan Park,
- Pine Street from Locust Street to the School, and
- Shelburne Street / Prospect Parkway intersection to the School.

Ms. Henderson-King reviewed the overall goals and objectives of the study along with the project purpose and needs statement. The Purpose of this Project is to:

- Determine the feasibility of creating safer pedestrian and bicycle routes to the Champlain Elementary School from several surrounding South End neighborhoods: the Five Sisters, Birchcliff Parkway and Shelburne Street;
- Analyze current and proposed pedestrian and bicycle routes that can link existing sidewalks and trails;
- Study and analyze potential traffic calming measures to create safer pedestrian and bicycle networks; and
- Analyze existing pedestrian and bicycle facilities at the Champlain Elementary School and recommend improvements that will eliminate conflicts with vehicles, increase safety, and encourage greater use.

The Need for this project is based on:

- Unsafe roadway / intersection crossings within the study area as a result of vehicle driver behavior.
- Perceived speeding traffic that creates unsafe conditions for pedestrians and bicyclists to safely cross and use local roadways.
- Lack of continuous sidewalks on one or both sides of neighborhood streets.
- Lack of crosswalks at some intersections where pedestrians are crossing.
- Limited or lack of facilities for students to safely secure bicycles when arriving at school.
- Limited or lack of facilities for students to safely access the School.

3. Brief Review of Existing Conditions / Site Analysis Documentation and Local Concerns Meeting Summary

Ms. Henderson-King gave a brief reviewed the existing conditions of the project area. For discussion purposes, the project area is broken down by street. The following physical limitations are noted.

Locust Street

Physical Limitations:

- Long pedestrian crossings across Locust Street.
- Sidewalk ends at Callahan Park on south side of road.
- Parking area conflicts with mid block pedestrian crossings.
- Steep grades bordering Locust Street near Pine Street.
- Lack of sidewalk on south side of Locust Street along Callahan Park and to Pine Street.

Traffic:

- Conflicts between traffic cutting through neighborhood and pedestrians and bicyclists.
- Pedestrians and bicyclists must cross Locust Street either mid block or at Pine Street

Birchcliff Parkway

Physical Limitations:

- Can visually see Champlain Elementary School from Birchcliff Parkway, but access is through private parking areas, where there is concern about safety.
- Sight distance limitations at mid block crossings.
- Undefined streetscape through industrial area.

Traffic:

- Conflicts between traffic cutting through neighborhood and pedestrians and bicyclists.
- Sight distance concerns, especially at S curve.

Champlain Elementary School and Shelburne Street

Physical Limitations:

- No sidewalk from Prospect Parkway /Shelburne Street intersection to school.
- Pedestrian path from Prospect Parkway / Shelburne Street crossing is behind fence. It is very narrow and traverses through a wooded area creating safety concerns.
- Sidewalk bordering parking area is narrow.
- Conflicts between parent drop off area and students walking and biking to school.
- Bike racks on north side of school often full.
- Bike rack in unpaved area off, far removed from front door of school.

Ms. Henderson-King gave a brief update on the activities that have occurred over the past several months.

- Held a Local Concerns Meeting on October 13, 2011.
- Met with Burlington Public Works and Parks and Recreation Departments in August 2012 to discuss Callahan Park and public road rights-of-way.
- Met with Champlain Elementary School Staff in November 2012 to review proposed alternatives for the school campus.
- Hartgen Archaeological Associates completed Archaeological Resource Assessment (ARA) Report February 2013. There is one area identified as archaeologically sensitive – the area along the stream along the southern property lines of the school and school maintenance facility.

4. Presentation of Alternatives

Ms. Henderson-King presented the three alternatives. She gave a brief overview of some of the traffic calming elements that are included in the alternatives:

- Curb extensions with crosswalks and plantings: curb extensions help to make the shortest possible distance for pedestrians to cross a roadway. Plantings can help make curb extensions attractive, be used for stormwater gardens, and be another visual element to help slow traffic.
- Speed tables and raised intersections force car drivers to slow down on a street.
- Textured crosswalks and crosswalk lighting options help give vehicle drivers visual elements to slow down for pedestrians.

Ms. Henderson-King presented three alternatives for the project area.
Alternative A features include:

- Locust Street: New on street parking area, a new sidewalk on south side of street, new curb extensions with textured crosswalks at street intersections, expanded rain gardens, and improved signage.
- Callahan Park: Paved path connection to Cherry Lane with rain garden, and a sidewalk connection to Gove Court.
- Pine Street: New plantings in green strips, reduced curb cuts where possible, and improved signage.
- Birchcliff Parkway: New speed table at one intersection, new textured crosswalks, reduced roadway width, new sidewalk on north side of street, and street tree pruning.
- School: New parent drop off area on Pine Street, consolidated parking areas, new path from Birchcliff Parkway to school, new and improved pedestrian circulation to school entrances, new bike rack area, and new gravel path and sidewalk connection from Shelburne Street.

Alternative B features include:

- Locust Street: reorganized and expanded on street parking, new sidewalk on south side of street, new speed tables at two intersections, new curb extensions at intersections, new textured crosswalks, and improved signage.
- Callahan Park: New paved path connection to Cherry Lane, sidewalk connections to Gove Court, and expanded rain gardens.
- Pine Street: Reduced curb cuts where possible, and improved signage.
- Birchcliff Parkway: New speed tables at three intersections, new textured crosswalk at one intersection, reduce roadway width, and street tree pruning.

- School: Better parent drop off area separated from consolidated parking areas, improved pedestrian circulation to school entrances, new bike rack area, and new gravel path and sidewalk connection from Shelburne Street.

Alternative C features include:

- Locust Street: New off street parking area, new sidewalk on south side of street, new street trees, new curb extensions at intersections, and improved signage.
- Callahan Park: Paved path connection to Cherry Lane, and a sidewalk connection to Gove Court.
- Pine Street: Reduced curb cuts where possible, and improved signage.
- Birchcliff Parkway: New speed tables at intersections, reduce roadway width, and street tree pruning.
- School: Better parent drop off area, consolidated parking areas, improved pedestrian circulation to school entrances, new bike rack area, and new gravel path and sidewalk connection from Shelburne Street.

5. Open Discussion / Public Comments of Alternatives

The meeting shifted to a discussion of the various alternatives elements advantages and disadvantages. Below is a summation of the comments provided during the meeting.

Alternative A

- Recommend adding a stop sign at Birchcliff Parkway / Pine Street intersection. Apparently there is no stop sign there today.
- Consider narrowing pavement on the curved downhill section of Birchcliff Parkway to 20 or 22 feet wide (10 or 11 foot travel lanes) to help slow down traffic even more.
- Make proposed paved paths a minimum of 10 feet wide.
- Investigate formalizing the cut through path from the Callahan Park wooded area to the northwest corner of Cherry Lane. This would be over private property, but is used now by children walking to school.
- Like path off street within Callahan Park instead of sidewalk along street on south side of Locust Street between Locust Terrace and Pine Street.
- Instead of a sidewalk along the perpendicular parking by soccer fields in Callahan Park, it was recommended to keep the 10 foot wide shared use path continuous through this area connecting with the other proposed paths.
- Recommend eliminating the northern entrance to the school parking lot so it is not possible for cut through drop off traffic.
- Make shared use path across school soccer field intersect with the school access road at the curve and eliminate path along northern side of this road.
- Like the Pine Street drop off area. However, there are concerns about children safely crossing the road from the west side of the street. Also, it would be difficult to add in a bike lake with the drop off area in this location.
- Add some sort of feature to Prospect Parkway / Shelburne Road intersection to enhance the stop light. A suggestion is to include a strobe light with the pedestrian signal.
- Add bike racks on the north side of the school where the parking spaces were eliminated. Bicyclists come from the north, too.
- Pave the path from Shelburne Road to the school so it can be plowed in the winter.

Alternative B

- The proposed path on the east side of the tennis courts in Callahan Park is not a good idea. It is very wet and a circuitous route for children to walk. Drainage would need to be addressed for any path in this area because of stormwater flowing down hill. There was a path here many years ago. However, it was felt that children would continue to use the existing gravel road as the preferred route to get to Cherry Lane.
- The preferred walkway on the southern side of Locust Street should be a path within the park rather than a sidewalk along the street.
- Add in some speed control on approach to Bittersweet Lane – maybe speed bumps.
- Add crosswalks at all four roads that intersect Birchcliff Parkway. Extend the speed tables to avoid conflicts with driveways.
- The school parking lot should have an exit only on north end of lot.
- Add the path across the east side of parking lot behind Lake Champlain Chocolates to connect Birchcliff Parkway with the school.

Alternative C

- Likes consolidated parking and drop off areas at school.
- The two paths on the north side of Callahan Park will conflict with maintenance vehicles. Suggest separating them.
- Speed tables on Birchcliff Parkway are critical to have.
- Add pedestrian activated lights at crosswalk at Birchcliff Parkway / Cherry Lane intersection.
- Maybe add a pedestrian crossing barrel in the middle of street at Birchcliff Parkway / Cherry Lane. This could be problematic for the City to maintain.
- Work with businesses along Pine Street to move sidewalk back and add in a green strip separating it from the roadway. Another idea is to eliminate on street parking and move the curb closer to the centerline of the road.
- Close off teacher parking area before parents start arriving to drop off students. This would help reduce further conflicts between pedestrians and vehicles.
- Install lighting along new paths.
- Need crosswalks at all of the streets intersecting with Locust Street. There are quite a few children from the Locust Terrace neighborhood that cross Locust Street and having a better pedestrian connection into Callahan Park here would be good.

Preferred Alternative

After much discussion and consideration of each of the alternatives, a preferred alternative was recommended. Following is a list of the proposed elements by street.

<u>Callahan Park / Locust Street</u>

- Preference is for path within Callahan Park parallel to Locust Street instead of a sidewalk along the south side of the street to Pine Street. The possibility of a pervious pavement surface for this walk could help address stormwater runoff, but should be looked into further.
- Include a crosswalk at Locust Terrace on east side to connect the existing sidewalk on the east side of Locust Terrace with a new sidewalk and path in Callahan Park.
- For the proposed parking along Locust Street, there was no consensus as to which was the best option. It was felt this needed more study and not be dealt with now. This should be looked at as part of the Callahan Park master plan.

- For the proposed path through Callahan Park from Locust Street to Cherry Street, it is recommended to keep alignment along the existing gravel path.
- Look into formalizing a path through the woods in Callahan Park and securing an easement for the path between homes on Cherry Lane to connect near the Cherry Lane curve. There is a dirt path here now that is heavily used by children, and the property owners seem agreeable to allowing children to cross their properties.
- Include crosswalks on all legs of each intersection on Locust Street, except western leg of Locust Terrace where there is no sidewalk.
- Include speed tables and curb extensions at all three Locust Street intersections.
- Keep on street parking, but adjust depth to narrow roadway.

<u>Birchcliff Parkway</u>

- Include a speed table and add a pedestrian activated flashing sign (RRFB or similar) at the Cherry Lane/ Birchcliff Parkway intersection.
- Add the sidewalk on the downhill curve of Birchcliff Parkway. Suggest narrowing the street to 22' or even 20' wide.
- The speed table at Bittersweet Lane is good. This will help slow vehicles before heading down the hill.
- Consider a chicane design along Birchcliff Parkway from Shelburne Road to Bittersweet Lane. The chicane design could shift at each roadway intersection.
- Investigate securing a ROW for a path between homes across from Linden Terrace intersection with Birchcliff Parkway to access the school property.
- Add sidewalk on last section of Birchcliff Parkway – on the north side along new Lake Champlain Chocolates warehouse.
- The general consensus is the best place to have a path connecting Birchcliff Parkway and the school is on the east side of the Lake Champlain Chocolates parking area and along the east side of the school field.

<u>School Site</u>

- Add bike parking on the north side of the school and upgrade parking on the south side to meet current accepted bike parking standards.
- Make a path that comes from Lake Champlain Chocolates parking lot intersect the school drive at the apex of its northeast curve.
- Prohibit all vehicle traffic on the drive around the school except for deliveries and service vehicles and add a physical barrier to exclude vehicles. Redesign the drive around the north and east sides of the school as a wide pedestrian walkway that accommodates service vehicles, rather than as a vehicle lane that accommodates pedestrians.
- Use the parent drop off area layout from Alternative A with modifications. Make one way entrance on south side and one way exit on north side. Add a one way drop off lane on east side of loop, with 15-minute angled nose-in parking spaces along the west side of the drop-off lane. Recommend closing off parking area closest to road with removable barriers during parent drop off times.
- General recommendations for Pine Street: move sidewalk further away from curb and add a green strip, consolidate curb cuts where possible, and look into adding a bike lane or cycle track on roadway.
- Figure out how to incorporate an on-street bus stop/drop-off area without allowing on street drop off for cars.

- Path from Prospect Parkway to school to be paved so it can be plowed in winter.

6. Summary of Meeting and Next Steps

Ms. Henderson-King wrapped up the discussion with an explanation of the next steps in the process.

The preferred conceptual plan will be created based on selected alternative elements. A conceptual cost estimate of the various elements will be done along with recommended phasing. The final feasibility report will be prepared and a final presentation will be held before the end of March.

The above is my summation of the Champlain Elementary School SRTS Bicycle and Pedestrian Planning and Feasibility Study Alternatives Presentation Meeting. If you have any additions and/or corrections, please contact me for incorporation into these notes.

Prepared By: Gail Henderson-King, PLA, ASLA
Lamoureux & Dickinson

Champlain Elementary School Safe Routes to School (SRTS) Bicycle And Pedestrian Planning and Feasibility Study

Alternatives Presentation Meeting

February 21, 2013

SafeRoutes
Vermont Safe Routes to School

Lamoureux & Dickinson
Consulting Engineers, Inc.

Alternatives Presentation Meeting - Agenda

1. Introductions
2. Brief Overview of Project:
   Goals and Objectives for Study, Project Purpose and Needs Statement
3. Brief Review of Existing Conditions / Site Analysis Documentation and Local Concerns Meeting Summary
4. Presentation of Alternatives
   Alternative Plans A, B, and C
   Matrix Comparison of Each
5. Open Discussion / Public Comments of Alternatives
6. Summary of Meeting and Next Steps

Project Study Area

The study area includes:

- ✓ **Birchcliff Parkway** and how it intersects with the Birchcliff Parkway Neighborhood, Callahan Park and the Five Sisters Neighborhood,
- ✓ **Locust Street** and how it intersects with the Five Sisters Neighborhood and Callahan Park,
- ✓ **Pine Street** from Locust Street to the School,
- ✓ **Shelburne Street / Prospect Parkway** intersection to the School, and
- ✓ **Champlain Elementary School.**

Project Goals and Objectives

The **Goal** of this study is to determine the feasibility of creating safer pedestrian and bicycle routes to the Champlain Elementary School, located on Pine Street, from several surrounding South End neighborhoods and Shelburne Street (Route 7).

The **Objectives** are to:

- **Create safe, continuous bicycle route and pedestrian path connections** from Five Sisters, Birchcliff Parkway and Prospect Parkway Neighborhoods to the Champlain Elementary School.
- **Provide traffic calming measures** to help slow vehicular traffic.
- **Provide improved pedestrian and bicycle routes and facilities** on the Champlain Elementary School campus.

Purpose and Needs

The Purpose of this Project is to:

- **Determine the feasibility of creating safer pedestrian and bicycle routes** to the Champlain Elementary School from several surrounding South End neighborhoods: the Five Sisters, Birchcliff Parkway and Shelburne Street;
- **Analyze current and proposed pedestrian and bicycle routes** that can link existing sidewalks and trails;
- **Study and analyze potential traffic calming measures** to create safer pedestrian and bicycle networks; and
- **Analyze existing pedestrian and bicycle facilities at the Champlain Elementary School** and recommend improvements that will eliminate conflicts with vehicles, increase safety, and encourage greater use.

Purpose and Needs

The **Need** for this project is based on:

- **Unsafe roadway / intersection crossings** within the study area as a result of vehicle driver behavior.
- **Perceived speeding traffic that creates unsafe conditions for pedestrians and bicyclists** to safely cross and use local roadways.
- **Lack of continuous sidewalks** on one or both sides of neighborhood streets.
- **Lack of crosswalks at some intersections** where pedestrians are crossing.
- **Limited or lack of facilities for students to safely access the School.**

Project Area Existing Conditions / Site Analysis

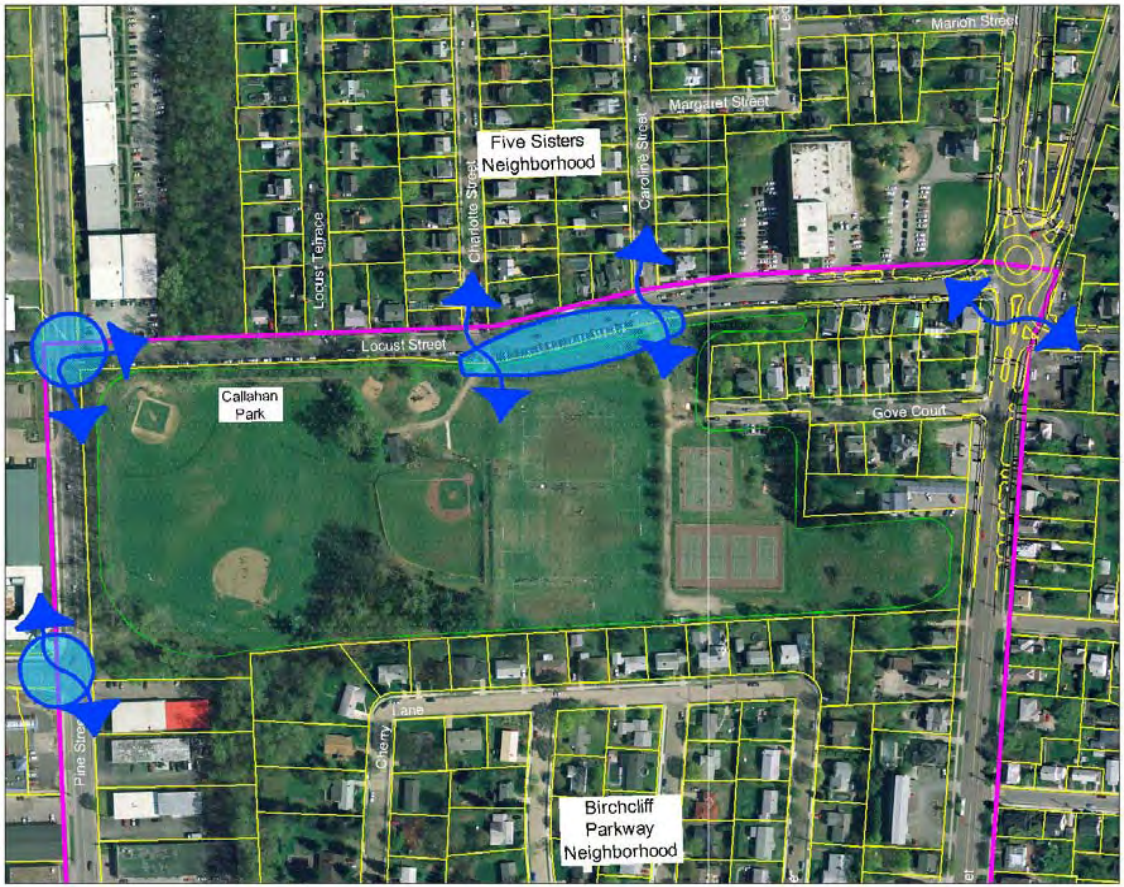
Existing Conditions: Locust Street

Physical Limitations:

- Long Pedestrian Crossings across Street
- Sidewalk ends at Callahan Park on south side of road
- Parking Area Conflicts with Mid Block Crossings
- Steep grades bordering Locust Street near Pine Street

Traffic:

- Conflicts between traffic cutting through neighborhood and pedestrians / bicyclists



Project Area Existing Conditions / Site Analysis

Existing Conditions: Locust Street

- Lack of sidewalk on south side of Locust Street along Callahan Park
- Steep grades of concern to Pine Street
- Pedestrians and bicyclists must cross Locust Street either mid block or at Pine Street

Project Area Existing Conditions / Site Analysis

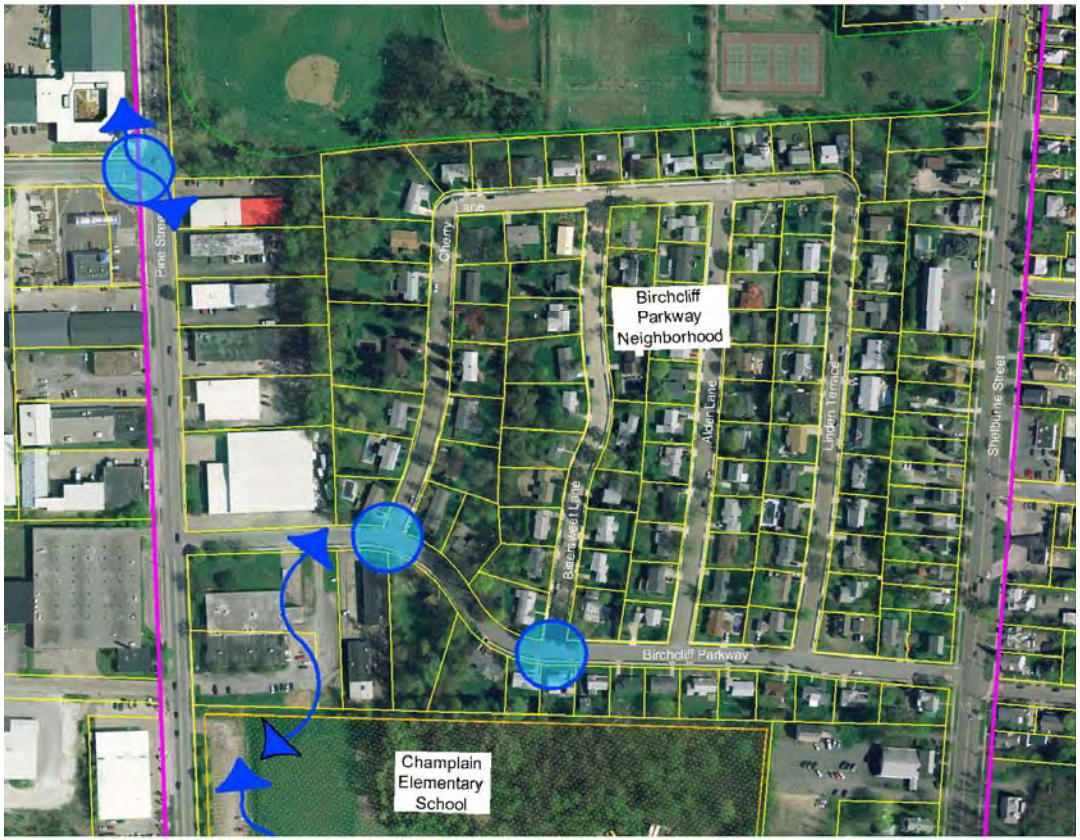
Existing Conditions: Birchcliff Parkway

Physical Limitations:

- Pedestrian path connections on private property from Callahan Park to Birchcliff Parkway – concern about safety
- Sight distance limitations at mid block crossings

Traffic:

- Conflicts between traffic cutting through neighborhood and pedestrians / bicyclists
- Sight distance concerns



Project Area Existing Conditions / Site Analysis

Existing Conditions: Birchcliff Parkway

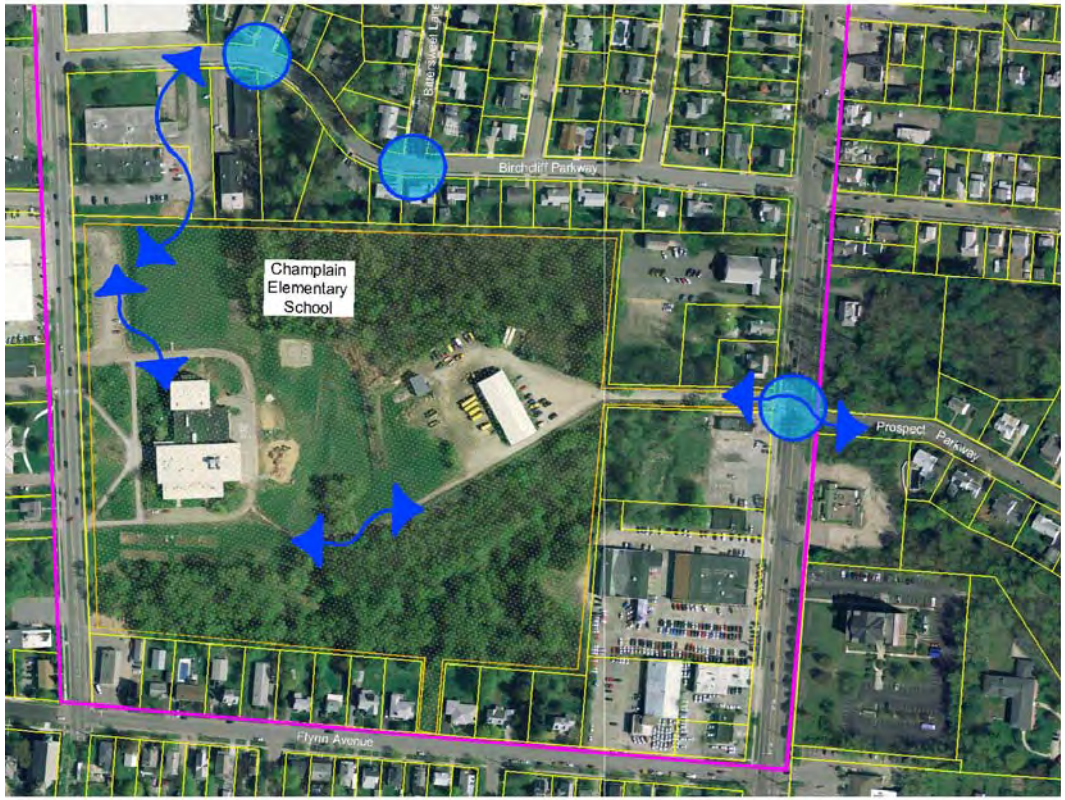
- Informal paths through Callahan Park connect with Birchcliff Parkway through private property
- Can visually see Champlain Elementary School from Birchcliff Parkway, but access is through private parking areas
- Undefined streetscape through industrial area

Project Area Existing Conditions / Site Analysis

Existing Conditions: School and Shelburne Street

Physical Limitations:

- No sidewalk from Prospect Parkway intersection
- Pedestrian path from Prospect Parkway crossing is behind fence – very narrow, safety concerns
- Path fenced behind school
- Sidewalk bordering parking area is narrow
- Bike racks on north side of school often full, no defined area
- Conflicts between parent drop off area and students walking



Project Area Existing Conditions / Site Analysis

Existing Conditions: School and Shelburne Street

- Path connection from Shelburne Street in Wooded area
- Bike rack in unpaved area off, far removed from front door of school
- Sidewalk ends along parking area and path exists to Lake Champlain Chocolates parking area

Project Area Existing Conditions / Site Analysis

Held Local Concerns Meeting on October 13, 2011

Met with Burlington Public Works and Parks and Recreation Departments in August 2012

Met with Champlain Elementary School Staff in November 2012

Hartgen Archaeological Associates completed ARA Report February 2013

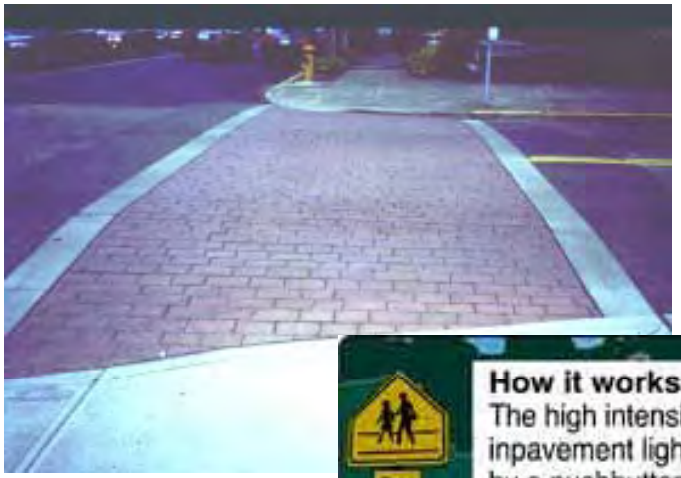
Alternatives Features

Curb Extensions with Crosswalks and Plantings

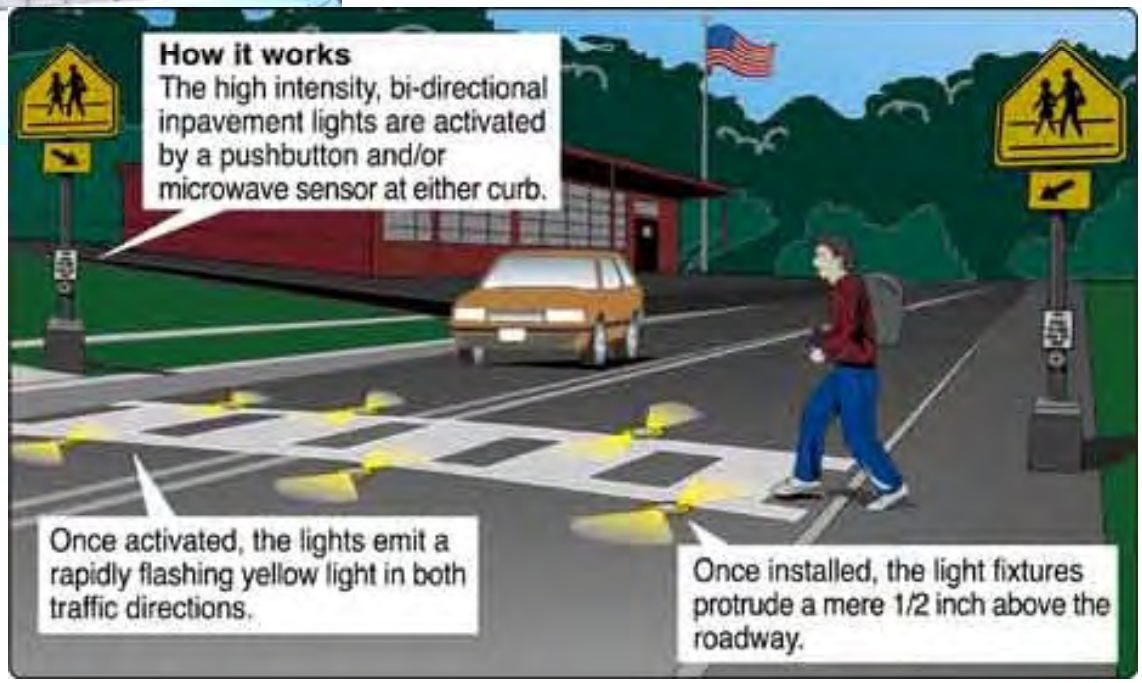
Alternatives Features

Speed Tables and Raised Intersections

Alternatives Features



Textured Crosswalks and Lighting Options



Alternative A – Features

- **Locust Street**: New On Street Parking Area, New Sidewalk on South Side of Street, New Curb Extensions with Textured Crosswalks at Intersections, Expanded Rain Gardens, Improved Signage
- **Callahan Park**: Paved Path Connection to Cherry Lane with Rain Garden, Sidewalk Connection to Gove Court
- **Pine Street**: New Plantings in Green Strips, Reduce Curb Cuts where Possible, Improved Signage
- **Birchcliff Parkway**: New Speed Table at 1 Intersection, New Textured Crosswalks, Reduce Roadway Width, New Sidewalk on North Side of Street, Street Tree Pruning
- **School**: New Parent Drop Off Area on Pine Street, Consolidated Parking Areas, New path from Birchcliff Parkway to School, New and Improved Pedestrian Circulation to school entrances, New bike rack area, New Gravel Path and Sidewalk connection from Shelburne Street

Alternative A

Alternative A

Alternative A

Alternative B – Features

- Locust Street: Reorganized/Expanded On Street Parking, New Sidewalk on South Side of Street, New Speed Tables at 2 Intersections, New Curb Extensions at Intersections, New Textured Crosswalks, Improved Signage
- Callahan Park: New Paved Path Connection to Cherry Lane, Sidewalk Connections to Gove Court, Expanded Rain Gardens
- Pine Street: Reduce Curb Cuts where Possible, Improved Signage
- Birchcliff Parkway: New Speed Tables at 3 Intersections, New Textured Crosswalk at 1 Intersection, Reduce Roadway Width, Street Tree Pruning
- School: Better Parent Drop Off Area Separated from Consolidated Parking Areas, Improved Pedestrian Circulation to school entrances, New bike rack area, New Gravel Path and Sidewalk connection from Shelburne Street

Alternative B

Champlain Elementary School Safe Routes to School (SRTS)
Bicycle And Pedestrian Planning and Feasibility Study

Alternative B

Alternative B

Alternative C – Features

- Locust Street: New Off Street Parking Area, New Sidewalk on South Side of Street, New Street Trees, New Curb Extensions at Intersections, Improved Signage
- Callahan Park: Paved Path Connection to Cherry Lane, Sidewalk Connection to Gove Court
- Pine Street: Reduce Curb Cuts where Possible, Improved Signage
- Birchcliff Parkway: New Speed Tables at Intersections, Reduce Roadway Width, Street Tree Pruning
- School: Better Parent Drop Off Area, Consolidated Parking Areas, Improved Pedestrian Circulation to school entrances, New bike rack area, New Gravel Path and Sidewalk connection from Shelburne Street

Alternative C

Alternative C

Alternative C

Alternatives Matrix Comparison

			Bicycle and Pedestrian Alternatives		
	Category	***Do Nothing***	***Alternative A***	***Alternative B***	***Alternative C***
Project	Pedestrian and bicycle connection improvements to existing sidewalk and bicycle networks	None	Sidewalk extensions on Locust Street, Birchcliff Parkway, and improved sidewalk / path connection from Prospect Parkway intersection	Sidewalk extensions on Locust Street, Birchcliff Parkway, and improved sidewalk / path connection from Prospect Parkway intersection	Sidewalk extensions on Locust Street and improved sidewalk / path connection from Prospect Parkway intersection
	Traffic calming measures	None	Curb extensions on Locust Street, speed table and narrowed road on Birchcliff Parkway	Speed tables and curb extensions on Locust Street, speed tables on Birchcliff Parkway	Curb extensions on Locust Street, speed tables and narrowed road on Birchcliff Parkway
	Improved pedestrian and bicycle circulation at Champlain Elementary School	None	Reorganized parking areas with potential expansion area to separate vehicles from pedestrians and bicyclists, improved bike rack area near front entry	Reorganized parking areas to separate vehicles from pedestrians and bicyclists, improved bike rack area near front entry	Reorganized parking areas to separate vehicles from pedestrians and bicyclists, improved bike rack area near front entry
	Bus and parent drop off area	None	Relocated to Pine Street with direct pedestrian connections to school entry	Off street area bordering reorganized parking area with direct pedestrian connections to school entry	Off street area bordering reorganized parking area with direct pedestrian connections to school entry
Engineering	Needs Additional Land / Easements	No	Callahan Park easement for path connection, Lake Champlain Chocolates property easement for path connection, easement for path from Callahan Park to Linden Terrace / Cherry Street	Callahan Park easement for sidewalk and path connection, easement for path from Callahan Park to Linden Terrace / Cherry Street	Callahan Park easement for sidewalk and path connection, easement for path from Callahan Park to Linden Terrace / Cherry Street
	Short / Long Term Phasing	None	Recommended phasing for school improvements, sidewalk segments, signage and traffic calming improvements	Recommended phasing for school improvements, sidewalk segments, signage and traffic calming improvements	Recommended phasing for school improvements, sidewalk segments, signage and traffic calming improvements
	Work in City ROWs	No	Locust Street, Pine Street, Birchcliff Parkway and Linden Terrace / Cherry Street	Locust Street, Pine Street, Birchcliff Parkway and Linden Terrace / Cherry Street	Locust Street, Pine Street, Birchcliff Parkway and Linden Terrace / Cherry Street
Natural and Cultural Resources Present	Wetlands	Not Affected	Not Affected in areas of improvements	Not Affected in areas of improvements	Not Affected in areas of improvements
	Floodplains	Not Present	Not Present	Not Present	Not Present
	Groundwater Table	Not Affected	Not Affected	Not Affected	Not Affected
	Fish & Wildlife	None Affected	None Affected	None Affected	Not Affected
	Rare, Threatened & Endangered Species	None Present	None Present	None Present	None Present
	4(f) Public Lands	None Affected	Possibly - Historic district?	Possibly - Historic District?	Possibly - Historic District?
	6(f) LWCF Lands	None	None (check on Callahan Park status)	None	None
	Hazardous Waste Sites / Materials	None	None Affected in areas of improvements	None Affected in areas of improvements	None Affected in areas of improvements
	Historic Structures	None Affected	None Affected	None Affected	None Affected
	Archaeological Resources	None Affected	Path along Brook Archaeoligically Sensitive	Path along Brook Archaeoligically Sensitive	Path along Brook Archaeoligically Sensitive
	Utilities	Overhead Utilities, Municipal Water, Wastewater, Stormwater - No Impacts	Municipal Stormwater system impacts for traffic calming improvements on roadways and sidewalks / paths in Callahan Park, may need additional stormwater improvements at School for parking areas	Municipal Stormwater system impacts for traffic calming improvements on roadways and parking, sidewalks, paths in Callahan Park, will need additional stormwater improvements at School for parking areas	Municipal Stormwater system impacts for traffic calming improvements on roadways and parking, sidewalks, paths in Callahan Park, will need additional stormwater improvements at School for parking areas
	Agricultural Lands	Prime ag soils present, already disturbed - No Change to Impacts	Prime ag soils present, already disturbed - No Change to Impacts	Prime ag soils present, already disturbed - No Change to Impacts	Prime ag soils present, already disturbed - No Change to Impacts

Alternatives Matrix Comparison

			Bicycle and Pedestrian Alternatives		
	Category	***Do Nothing***	***Alternative A***	***Alternative B***	***Alternative C***
Local / Regional Issues	Satisfies Purpose & Need	No	Yes	Yes	Yes
	Safety Concerns	Yes	Addressed traffic safety concerns with traffic calming devices, improved pedestrian connections with sidewalks, crosswalks and signage	Addressed traffic safety concerns with traffic calming devices, improved pedestrian connections with sidewalks, crosswalks and signage	Addressed traffic safety concerns with traffic calming devices, improved pedestrian connections with sidewalks, crosswalks and signage
	Aesthetics	No improvements	Improved overall streetscape appearance for pedestrian friendly facilities	Improved overall streetscape appearance for pedestrian friendly facilities	Improved overall streetscape appearance for pedestrian friendly facilities
	Alternative Transportation / Community Character	No improvements	Improved overall streetscape appearance for pedestrian friendly facilities	Improved overall streetscape appearance for pedestrian friendly facilities	Improved overall streetscape appearance for pedestrian friendly facilities
	Economic Impacts	Negative	Positive - Allows for better pedestrian and bicycle access to school and neighboring businesses	Positive - Allows for better pedestrian and bicycle access to school and neighboring businesses	Positive - Allows for better pedestrian and bicycle access to school and neighboring businesses
	Landowner Issues	None	City concerned about sidewalk in lower Callahan Park; Lake Champlain Chocolates Owner has not weighed in on improvements	None	None
Required Permits and Clearances	Stormwater Discharge Permit	No	Possibly	Possibly	Possibly
	Erosion Prevention & Sediment Control Permit	No	Possibly if improvements disturb over 1 acre of land	Possibly if improvements disturb over 1 acre of land	Possibly if improvements disturb over 1 acre of land
	Act 250	No	Not Likely	Not Likely	Not Likely
	401 Water Quality	No	No	No	No
	Stream Alteration Permit	No	Not Likely	Not Likely	Not Likely
	404 COE Permit (Army Corps of Engineers)	No	No	No	No
	State Conditional Use Determination (wetlands)	No	No	No	No
	Rare, Threatened & Endangered Species	None present	No	No	No
	Agricultural Soils Clearance	No	Not Likely	Not Likely	Not Likely
	State Historic Preservation Officer Clearance	No	Possibly	Possibly	Possibly
Other	Maintenance Costs	None	Minor increase to City	Minor increase to City and School	Minor increase to City and School
	Noise Control	None	Not Likely	Not Likely	Not Likely

Open Discussion/Public Comments of Alternatives

- Advantages / disadvantages of each alternative
- Other ideas that should be considered
- Phasing options
- Maintenance
- Elements for Preferred alternative

Next Steps

- Preferred Conceptual Plan based on Selected Alternative Elements
- Recommended Phasing and Conceptual Costs
- Final Report
- Final Presentation: March 2013

Alternatives Presentation Meeting

Thank You for Attending Tonight!

Safe Routes to School Project: Champlain Elementary School Bicycle and Pedestrian Planning and Feasibility Study
Local Concerns Meeting Notes
October 13, 2011

Attendees: Matt Bushey
Ellen Andersen, Project Steering Committee
Mike Fisher
Patrick Halladay, Ward 5 School Board
Jason Van Drieche, Local Motion
Bryan Davis, CCRPC
Nicole Losch, Burlington Public Work Department
Gail Henderson-King, Lamoureux & Dickinson (L&D)

Discussion

1. Introductions

Ms. Henderson-King welcomed everyone and introduced herself. She gave a quick overview of the Champlain Elementary School Bicycle and Pedestrian Planning and Feasibility Study project. She described the study area which includes:

- Birchcliff Parkway and how it intersects with the Birchcliff Parkway Neighborhood, Callahan Park and the Five Sisters Neighborhood,
- Locust Street and how it intersects with the Five Sisters Neighborhood and Callahan Park,
- Pine Street from Locust Street to the School, and
- Shelburne Street / Prospect Parkway intersection to the School.

2. Overview of Project Goals and Objectives for Study, Review Draft Project Purpose and Needs Statement

Ms. Henderson-King presented the overall goal of the study, which is to determine the feasibility of creating safer pedestrian and bicycle routes to the Champlain Elementary School, located on Pine Street, from several surrounding South End neighborhoods and Shelburne Street (Route 7). The project objectives are to create safe, continuous bicycle route and pedestrian path connections from Five Sisters, Birchcliff Parkway and Prospect Parkway neighborhoods to the Champlain Elementary School; provide traffic calming measures to help slow vehicular traffic; and to provide improved pedestrian and bicycle routes and facilities on the Champlain Elementary School campus.

The Purpose of this Project is to:

- Determine the feasibility of creating safer pedestrian and bicycle routes to the Champlain Elementary School from several surrounding South End neighborhoods: the Five Sisters, Birchcliff Parkway and Shelburne Street;
- Analyze current and proposed pedestrian and bicycle routes that can link existing sidewalks and trails;
- Study and analyze potential traffic calming measures to create safer pedestrian and bicycle networks; and

- Analyze existing pedestrian and bicycle facilities at the Champlain Elementary School and recommend improvements that will eliminate conflicts with vehicles, increase safety, and encourage greater use.

The Need for this project is based on:
- Unsafe roadway / intersection crossings within the study area as a result of vehicle driver behavior. Vehicle drivers often fail to stop for crossing guards or traffic lights, or for pedestrians in crosswalks, making it unsafe for pedestrians to cross roadways.
- Perceived speeding traffic that creates unsafe conditions for pedestrians and bicyclists to safely cross and use local roadways. Recent traffic counts indicate there is speeding traffic using cut through roads: Locust Street and Birchcliff Parkway between Shelburne Street and Pine Street.
- Lack of continuous sidewalks on one or both sides of neighborhood streets. Several roadways: Locust Street and Birchcliff Parkway do not have continuous sidewalks on the south side of the streets.
- Lack of crosswalks at some intersections where pedestrians are crossing.
- Limited or lack of facilities for students to safely secure scooters and bicycles when arriving at school. There is no scooter rack or storage area. The existing bike racks are often full on sunny days, causing bicycles to be left in other areas.

It was noted that there now is a scooter rack at the school. The last bullet under "needs" of the project is adjusted as follows:
- Limited or lack of facilities for students to safely secure bicycles when arriving at school. The existing bike racks are often full on sunny days, causing bicycles to be left in other areas.

3. Review Existing Conditions / Site Analysis Documentation
Ms. Henderson-King reviewed the existing conditions of the project area. For discussion purposes, the project area is broken down by street. The following physical limitations are noted.

Locust Street
- Excessive pavement width exists on Locust Terrace between Shelburne Street and Caroline Street, which results in increased vehicle speeds in this area.
- The sidewalk on the south side of the road ends at the gravel driveway in Callahan Park across from Caroline Street. This forces students walking to school to walk on the north side of Locust Street and cross at the Pine Street intersection.
- The Locust Street / Pine Street intersection has limited sight distances, which is problematic for pedestrians trying to cross.
- When vehicles turn on and off of Pine Street onto Locust Street, they are often in a hurry and are not always aware of pedestrians and bicyclists wanting to cross.
- There is on-street parallel parking on both sides of Locust Street between Shelburne Street and Caroline Street. There is on-street unmarked perpendicular parking and parallel parking spaces on the south side of the street between Caroline Street and Pine Street. There are no protected curb extensions for the crosswalks at the Caroline Street and Charlotte Street intersections. As a result, pedestrians end up crossing at some of the widest roadway widths and end up in large undefined and unprotected areas that conflict with parked vehicles.

- Several of the side road intersections have sidewalks with ramps but no crosswalks, forcing pedestrians to cross unprotected.
- Steep grades exist on Locust Street between the Charlotte Street intersection and Pine Street.
- Traffic conflicts often occur as a result of vehicles cutting through neighborhood from Shelburne Street to Pine Street. These vehicles are often not paying attention to pedestrians and bicyclists.

Birchcliff Parkway
- Pedestrian path connections exist on private property from Callahan Park to Birchcliff Parkway. There is a concern about safety.
- There are sight distance limitations at mid block crossing at Cherry Lane and Bittersweet Lane.
- Crosswalk markings at the Pine Street intersection appear to be worn off.
- There are conflicts between vehicles cutting through neighborhood and pedestrians / bicyclists trying to cross at the Pine Street intersection.
- Can visually see Champlain Elementary School from Birchcliff Parkway, but access is cross-lots through private parking areas to the school parking area.
- Undefined streetscape through industrial area near Pine Street with no sidewalk on the north side of Birchcliff Parkway between Cherry Lane and Pine Street.

Champlain Elementary School and Shelburne Street
- There are no pedestrian signals or push buttons at the Pine Street/Lakeside Avenue intersection, making it difficult to cross Pine Street.
- There are quite a few commercial driveways that must be crossed between Lakeside Avenue and the School, which is problematic for pedestrians and bicyclists.
- There is no sidewalk from the Shelburne Street/Prospect Parkway crossing. There is a very narrow pedestrian path on the south side of the school maintenance driveway behind an existing chain link fence that links to the school property. There are safety concerns, especially in the winter.
- The existing sidewalk bordering the school parking area along Pine Street is narrow and only separated by a bumper curb stop. This sidewalk ends at the north end of the parking area and a path exists to Lake Champlain Chocolates parking area that students use to walk and bike to and from Birchcliff Parkway.
- Bike racks on the north side of the school are often full. They are in an unpaved lawn area and are far from the school entrances.
- There are conflicts between the parent drop off area and students walking and bicycling to school.

Vehicular Traffic Data
Locust Street – East of Pine Street
Speed: 85% at 30 mph (Data from September 2006)

Birchcliff Parkway
Speed: 85% at 30 mph (Data from August 2004)

Pine Street – Between Flynn Avenue and Birchcliff Parkway
Speed: 85% at 33 and 35 mph (Data from August 2010)
AADT: 14,968 (Data from August 2010)

Shelburne Street – South of Ledge Street
AADT: 20,000 (Data from 2010)

4. Relevant Studies/Projects for Creating Safe Pedestrian and Bicycle Facilities in Study Area

Several relevant studies and projects that are either underway or are long term include the following.

- Safe Routes to School Project for Improved Pedestrian Signage along Shelburne Street. This project should be installed next year.
- Roundabout Design Project for Shelburne Street/Locust Street area includes new sidewalks and crossings. It is in Preliminary Design at the VT Agency of Transportation.
- Champlain Parkway Plans include improvements to Locust Street/Pine Street intersection. This project is in Act 250 permitting.
- City Transportation Plan recommends a Complete Streets approach to Shelburne Street, which could possibly include a road diet to shrink vehicular lanes and increase other forms of alternative transportation.
- The Public Works Department is considering a citywide bicycle/pedestrian master plan, which will expand on the 2002 Burlington North/South Bicycle & Pedestrian Route Study.
- Local Motion's Pedestrian and Bike Mapping Project completed several years ago include suggestions for improvements for bicycle and pedestrian facilities to the school.

5. Open Discussion / Public Comments of Initial Issues or Concerns

The meeting shifted to a discussion of some thoughts on existing issues and ideas for consideration during the project. Initial comments were directed to understand what types of users are anticipated; where people are currently walking and biking to access the School; what limitations, problem spots and opportunities exist, and potential maintenance needs and concerns. Below is a summation of the comments provided during the meeting.

Locust Street and Callahan Park

- A suggestion for making a continuous sidewalk on the south side of Locust Street is to eliminate two parking spaces at the western end of the road to make a sidewalk connection to Pine Street.
- Having a walkway on the south side of Locust Street to Pine Street will eliminate the need to cross at Pine Street.
- There should be traffic calming along Locust Street from Shelburne Street to Caroline Street to help slow down traffic.
- Suggest installing pavement markings to define parking spaces at Callahan Park.
- The path through Callahan Park that accesses Cherry Lane supposedly has a legal right-of-way. This path could be formalized and winter maintained, which currently is not done.
- Callahan Park is maintained by the City Parks and Recreation department, not the Public Works department. Public Works can't maintain a sidewalk or path through a city park. The Public Works department (DPW) would let the Parks and Recreation department use DPW equipment for plowing city park sidewalks. However, the Parks and Recreation department has not done this.

- Is there any way for the Public Works department to maintain a more formal path through Callahan Park if it is really serving the public in other capacities other than recreation? While it seems unlikely, it would be worth checking into further.

Birchcliff Parkway

- The Birchcliff Parkway/Pine Street intersection is very sharp for bicyclists to maneuver.
- The trees bordering the sidewalk on the south side of Birchcliff Parkway bordering Lake Champlain Chocolates have low branches that often conflict with bicyclists.
- There was a suggestion for a pedestrian activated light at the Cherry Lane/Birchcliff Parkway intersection. This would make it safer for pedestrians and bicyclists to cross.
- The Lake Champlain Chocolates parking area is safer to cross from Birchcliff Parkway than Pine Street.

School Campus and Pine Street

- Along Pine Street between Lakeside Avenue and Birchcliff Parkway, there is little or no green space. There is no separation between fast moving traffic and pedestrians and bicyclists, which can be very dangerous if someone falls or slips.
- There are lots of commercial driveways that must be crossed on Pine Street to access the school.
- There is no pedestrian signal or push buttons at the Lakeside Avenue intersection.
- The proposed Champlain Parkway improvements will add more traffic heading north from the Lakeside Avenue along Pine Street. There are proposed pedestrian and bicycle improvements as part of this plan, which is scheduled to be constructed in 2013.
- There is no margin of safety with the green space between the sidewalk and Pine Street heading south from Locust Street. This green space slopes towards the road and if a bicyclist falls or veers off, they could fall into oncoming traffic.
- What is the ROW width of Pine Street? Could the existing sidewalk be shifted to include a green space?
- There are pedestrian and bicyclist conflicts at the school parking areas. Vehicles accessing the parking area on the north side of the school building often conflict with pedestrians and bicyclists using the sidewalk from the northern parking area.
- The Lake Champlain Chocolates parking lot on the east side of the building, which is very wide, could be adjusted to accommodate a sidewalk.
- The drop off area at the north parking lot has some conflicts. Vehicles leaving this parking lot at the north end are either turning left or right and are often not paying attention to bicyclists and pedestrians. Children are not aware of the vehicle driver movement here, which creates a dangerous situation.
- Maybe there could be a walking path from the northern school property line that could include a bridge and cross on the back side of the sports fields to the school. This could connect with a path connection to Birchcliff Parkway.
- Children enter the school on three sides: south, west or east, depending upon where their classrooms are located. This is done to prevent a bottleneck of students all entering in one location.
- The parking area on the north side of the school is for teachers, but is often used by parents for drop off.
- There needs to be more bike racks at the school! Right now, the bike racks are located on the south side of the school in a low, wet spot. It would be great to relocate them where it is not so wet. One suggestion is to relocate the bike racks to the southwest corner of

the school near the community gardens. Another suggestion is to locate them in the paved area on the south side of the school, where the 4 squares markings exist. This area is not used very often and could work well for the bike racks.

- One suggestion is to make a crescent drop off area in front of the school for separating buses and parent drop off areas from bicyclists and pedestrians.
- There are crossing guards in front of the school and at Flynn Avenue intersection to help students cross Pine Street safely.

Prospect Parkway

- There is a crossing guard at the Prospect Parkway/Shelburne Street intersection, but it is still unsafe. Vehicles will try to speed through the intersection before the light turns from the south.
- The traffic signals at the Prospect Parkway/Shelburne Street intersection are pedestal pole mounted offset on the sides of the street. Mostly all of the other traffic signals on Shelburne Street (and citywide) are overhead mounted. These existing traffic signals don't appear to be as visible as overhead mounted signals. Is there any evidence that these existing traffic signals are not as safe as the overhead mounted signals?
- Maybe the Prospect Parkway/Shelburne Street intersection is a good place for a white strobe light (in the red signal) to get vehicle drivers' attention better.
- Shelburne Street is a Class I city maintained highway.
- Could this study recommend improvements to the Prospect Parkway/Shelburne Street intersection?
- The path along the school property from Prospect Parkway is not maintained in the winter. It gets packed down and often becomes icy and treacherous to walk.

6. Next Steps

Ms. Henderson-King wrapped up the discussion with an explanation of the next steps in the process. L&D will be stopping work on this project at the end of October. VTrans has requested all their SRTS consultants to stop working on these projects because they can't extend contracts. A new request for qualifications process is underway and consultants should be selected in the next month or two. Whether L&D or another consultant, the next step is the development of alternatives for bicycle and sidewalk network improvements, and traffic calming measures for the project area with an alternatives presentation to follow.

The above is my summation of the Champlain Elementary School SRTS Bicycle and Pedestrian Planning and Feasibility Study Local Concerns Meeting. If you have any additions and/or corrections, please contact me for incorporation into these notes.

Prepared By: Gail Henderson-King, RLA, ASLA
Lamoureux & Dickinson

Champlain Elementary School Safe Routes to School (SRTS) Bicycle And Pedestrian Planning and Feasibility Study

Local Concerns Meeting

October 13, 2011

SafeRoutes
Vermont Safe Routes to School

LAMOUREUX & DICKINSON
Consulting Engineers, Inc.

Local Concerns Meeting - Agenda

1. Introductions
2. Overview of Project Goals and Objectives for
   Study, Review Draft Project Purpose and Needs Statement
3. Review Existing Conditions / Site Analysis Documentation
4. Review previous studies for bicycle and pedestrian facilities in the Project Area
5. Open Discussion / Public Comments of Initial Issues or Concerns
   - Understand what types of users are anticipated,
   - Where people are currently walking and biking to access the School,
   - Limitations and problem spots,
   - What opportunities exist, and
   - Potential maintenance needs and concerns.
6. Next Steps

Project Study Area

The study area includes:

- ✓ Birchcliff Parkway and how it intersects with the Birchcliff Parkway Neighborhood, Callahan Park and the Five Sisters Neighborhood,
- ✓ Locust Street and how it intersects with the Five Sisters Neighborhood and Callahan Park,
- ✓ Pine Street from Locust Street to the School, and
- ✓ Shelburne Street / Prospect Parkway intersection to the School.

Project Goals and Objectives

The Goal of this study is to determine the feasibility of creating safer pedestrian and bicycle routes to the Champlain Elementary School, located on Pine Street, from several surrounding South End neighborhoods and Shelburne Street (Route 7).

The Objectives are to:

- Create safe, continuous bicycle route and pedestrian path connections from Five Sisters, Birchcliff Parkway and Prospect Parkway Neighborhoods to the Champlain Elementary School.
- Provide traffic calming measures to help slow vehicular traffic.
- Provide improved pedestrian and bicycle routes and facilities on the Champlain Elementary School campus.

Draft Purpose and Needs

The Purpose of this Project is to:

- Determine the feasibility of creating safer pedestrian and bicycle routes to the Champlain Elementary School from several surrounding South End neighborhoods: the Five Sisters, Birchcliff Parkway and Shelburne Street;
- Analyze current and proposed pedestrian and bicycle routes that can link existing sidewalks and trails;
- Study and analyze potential traffic calming measures to create safer pedestrian and bicycle networks; and
- Analyze existing pedestrian and bicycle facilities at the Champlain Elementary School and recommend improvements that will eliminate conflicts with vehicles, increase safety, and encourage greater use.

Draft Purpose and Needs

The Need for this project is based on:

- Unsafe roadway / intersection crossings within the study area as a result of vehicle driver behavior. Vehicle drivers often fail to stop for crossing guards or traffic lights, or for pedestrians in crosswalks, making it unsafe for pedestrians to cross roadways.
- Perceived speeding traffic that creates unsafe conditions for pedestrians and bicyclists to safely cross and use local roadways. Recent traffic counts indicate there is speeding traffic using cut through roads: Locust Street and Birchcliff Parkway between Shelburne Street and Pine Street.
- Lack of continuous sidewalks on one or both sides of neighborhood streets. Several roadways: Locust Street and Birchcliff Parkway do not have continuous sidewalks on the south side of the streets.
- Lack of crosswalks at some intersections where pedestrians are crossing.
- Limited or lack of facilities for students to safely secure scooters and bicycles when arriving at school. There is no scooter rack or storage area. The existing bike racks are often full on sunny days, causing bicycles to be left in other areas.

Project Area Existing Conditions / Site Analysis

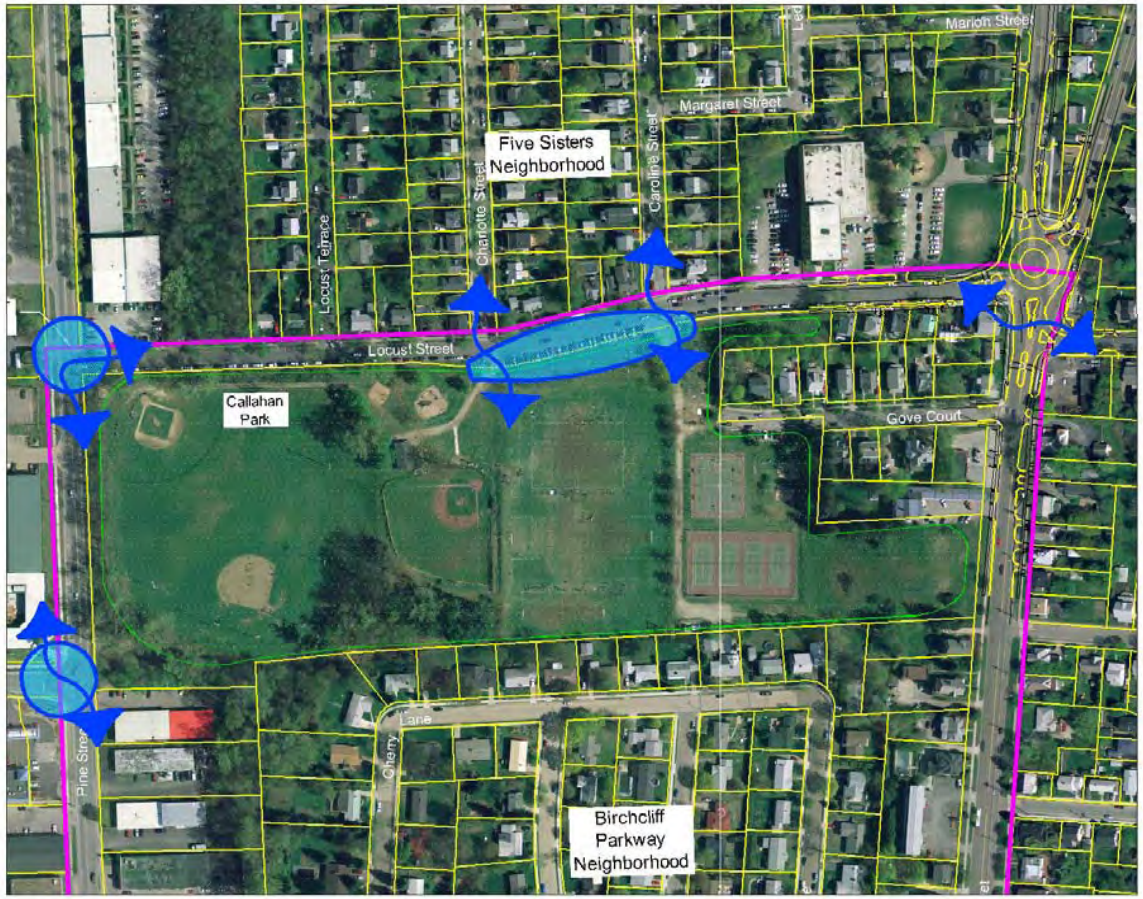
Existing Conditions: Locust Street

Physical Limitations:

- Long Pedestrian Crossings across Street
- Sidewalk ends at Callahan Park on south side of road
- Parking Area Conflicts with Mid Block Crossings
- Steep grades bordering Locust Street near Pine Street

Traffic:

- Conflicts between traffic cutting through neighborhood and pedestrians / bicyclists



Project Area Existing Conditions / Site Analysis

Existing Conditions: Locust Street

Lack of sidewalk on south side of Locust Street along Callahan Park

Steep grades of concern to Pine Street

Pedestrians and bicyclists must cross Locust Street either mid block or at Pine Street

Project Area Existing Conditions / Site Analysis

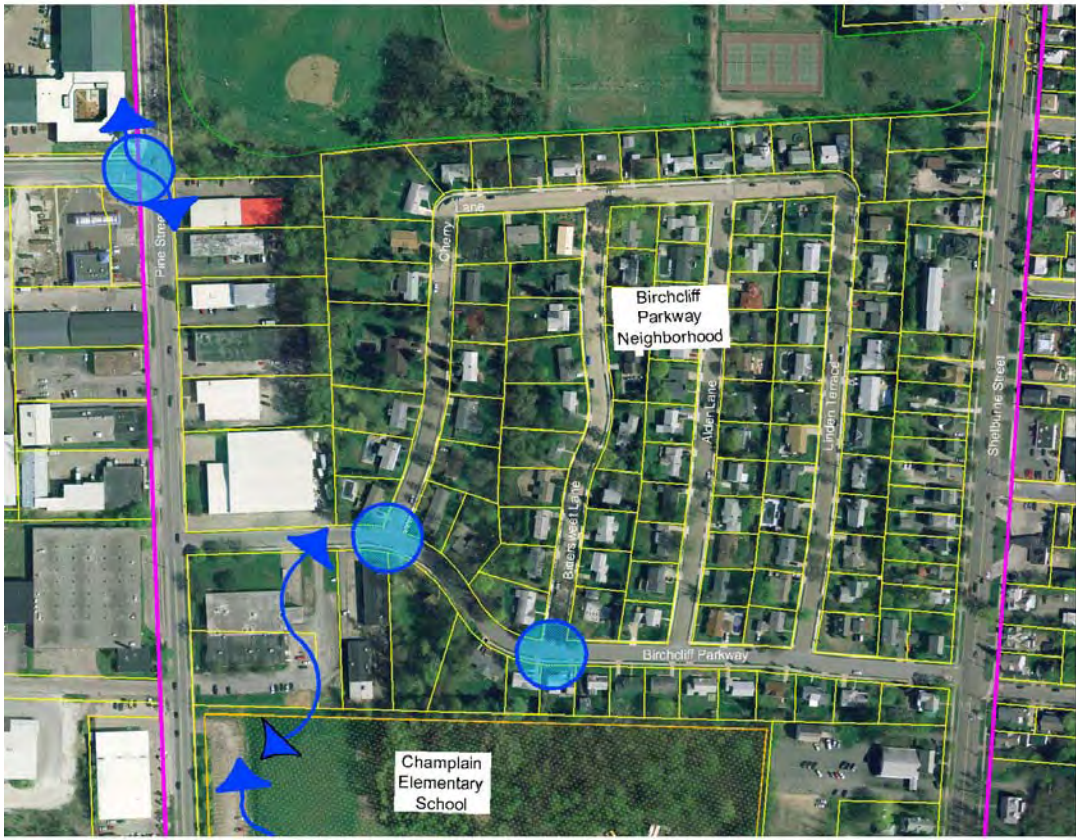
Existing Conditions: Birchcliff Parkway

Physical Limitations:

- Pedestrian path connections on private property from Callahan Park to Birchcliff Parkway – concern about safety
- Sight distance limitations at mid block crossings

Traffic:

- Conflicts between traffic cutting through neighborhood and pedestrians / bicyclists
- Sight distance concerns



Project Area Existing Conditions / Site Analysis

Existing Conditions: Birchcliff Parkway

Informal paths through Callahan Park connect with Birchcliff Parkway through private property

Can visually see Champlain Elementary School from Birchcliff Parkway, but access is through private parking areas

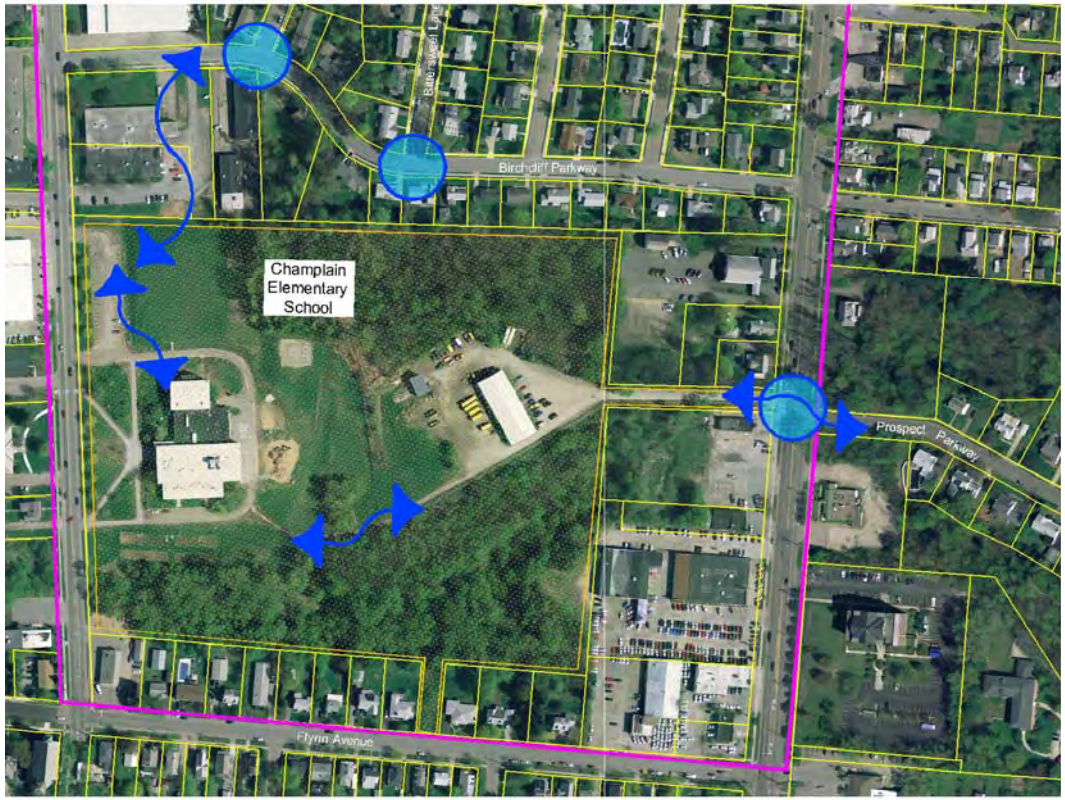
Undefined streetscape through industrial area

Project Area Existing Conditions / Site Analysis

Existing Conditions: School and Shelburne Street

Physical Limitations:

- No sidewalk from Prospect Parkway crossing
- Pedestrian path from Prospect Parkway crossing is behind fence – very narrow, safety concerns
- Path fenced behind school
- Sidewalk bordering parking area along Pine Street is narrow
- Bike racks on north side of school often full, no defined area
- Conflicts between parent drop off area and students walking



Project Area Existing Conditions / Site Analysis

Existing Conditions: School and Shelburne Street

Path connection from Shelburne Street

Bike rack in unpaved area off, far removed from front door of school

Sidewalk ends along parking area and path exists to Lake Champlain Chocolates parking area

Project Area Existing Conditions / Site Analysis

Existing Conditions: Vehicular Traffic Data

Locust Street – East of Pine Street
Speed: 85% at 30 mph (9/2006)

Birchcliff Parkway
Speed: 85% at 30 mph (8/2004)

Pine Street – Between Flynn Avenue and Birchcliff Parkway
Speed: 85% at 33 and 35 mph (8/2010)
AADT: 14,968 (8/2010)

Shelburne Street – North of Home Avenue
AADT: 23,800 (2002)

Relevant Studies/Projects for Creating Safe Pedestrian and Bicycle Facilities in Study Area

- Safe Routes to School Project for Improved Pedestrian Signage along Shelburne Street
- Roundabout Design Project for Shelburne Street/Locust Street area includes new sidewalks and crossings – in Preliminary Design
- Champlain Parkway Plans include improvements to Locust Street/Pine Street intersection - in permitting
- City Transportation Plan recommends a Complete Streets approach to Shelburne Street – possible road diet
- Public Works Department is considering expanding city bike routes to include north/south street
- Local Motion's Pedestrian and Bike Mapping Project

Open Discussion/Public Comments of Initial Issues or Concerns

- Understand what types of users are anticipated,
- Where people are currently walking and biking to access the School campus,
- Limitations and problem spots,
- What opportunities exist, and
- Potential maintenance needs and concerns.

Next Steps

Development of Alternatives for Bicycle and Sidewalk Network Improvements, and Traffic Calming Measures

Alternatives Presentation – Fall 2011

Preferred Conceptual Plan Development

Local Concerns Meeting

Thank You for Attending Tonight!