TooleDesignGroup

33 Broad Street
Suite 405
Boston, MA 02109
617.619.9910
301.927.2800 fax
www.tooledesign.com

Memorandum

Subject: November 22, 2016

To:
Ana Janda, *Town of Shelburne, Director of Administration*
Paul Goodrich, *Town of Shelburne, Highway Superintendent*
Joe Colangelo, *Town of Shelburne, Town Manager*
Dean Pierce, *Town of Shelburne, Director of Planning and Zoning*
Kate Lalley, *Town of Shelburne, Resident/Planning Commission*
Peter Keating, *CCRPC, Senior Transportation Planner*
Sai Sarepalli, *CCRPC, Transportation Planning Engineer*
Katelin Brewer-Colie, *Local Motion, Community Technical Assistance Program Manager*
Marc Gamble, *Town of Shelburne, Bike and Pedestrian Paths Committee*
John Kerr, *Town of Shelburne, Selectboard*
Allen Fortin, *Town of Shelburne, Sergeant*

From:
Jason DeGray, *New England Regional Director, Toole Design Group*
Pete Robie, *Planner, Toole Design Group*
John Dempsey, *Project Manager, Toole Design Group*

Project: Bay Road Pedestrian and Bicycle Mobility Study

The Town of Shelburne, with assistance from the Chittenden County Regional Planning Commission (CCRPC), is examining walking and bicycling conditions along the Bay Road corridor. This memorandum summarizes the existing conditions assessment completed for the *Bay Road Pedestrian and Bicycle Mobility Study*. The existing conditions were presented at a Local Concerns Meeting on October 25, 2016 to validate these findings and gather feedback from the public. This memorandum presents:

- A draft purpose and need statement
- Characteristics of the Bay Road corridor
- Existing natural, cultural, and other resources
- Next steps
- Archeological Resource and Historic Preservation Assessment

The next step in this process is to develop an understanding of a desired facility alignment for all users in the Bay Road corridor, and its potential impacts.

Purpose and Need

Bay Road is currently heavily used by pedestrians, bicyclists, motorists, and recreational boaters/anglers providing direct access to Shelburne Bay, Shelburne Bay Park, Shelburne Farms, and the popular Ti Haul Recreation Path. The **purpose** of the *Bay Road Pedestrian/Bicycle Mobility Study* is to evaluate the walking and bicycling alternatives for developing a safe route on Bay Road between Harbor Road and US Route 7 (Shelburne Road) that supports access to the destinations along the corridor.

Specifically, this study is **needed** to:

1. Create a preferred alternative for walking and bicycling on Bay Road that connects existing paths with destinations along the corridor;
2. Maximize safety for users walking and bicycling in this corridor;
3. Support future walking and bicycling connections in the Town of Shelburne; and
4. Provide an estimate of the probable construction costs of concept alternatives to serve as a basis for the Town to apply for grant applications/funding.

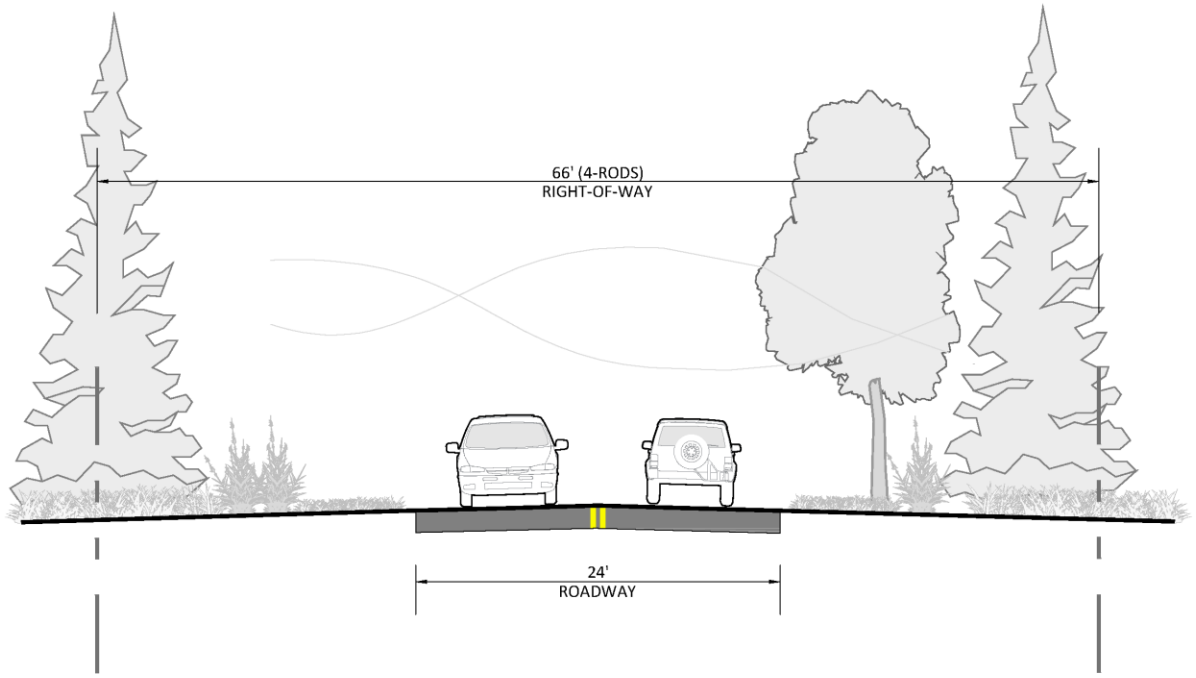

Figure 1: Bay Road existing conditions typical cross section

Study Area

The approximate 1.7 mile project study area includes rolling topography with a posted speed limit of 35 MPH. Bay Road generally runs in an east-west direction. Within the study area, Bay Road consists of two travel lanes with unmarked shoulders. As shown in **Figure 2**, the western terminus of Bay Road intersects at the Harbor Road/Northgate Road intersection allowing access to the primary entrance to

the welcome center at Shelburne Farms. This intersection is stop controlled for all approaches. To the east, Bay Road intersects with Shelburne Road (US Route 7). Shelburne Road has existing sidewalk and bicycle lane infrastructure providing access south to Shelburne Town Center and points north to South Burlington and Burlington. The intersection is signalized and is also equipped with pedestrian push button and countdown signals. A slip-lane from Shelburne Road (US Route 7) traveling south onto Bay Road is also provided. It was observed that motor vehicles do not slow down to negotiate the curve and continue onto Bay Road. The Bay Road corridor is a known walking and biking route in the Town of Shelburne despite the lack of pedestrian or bicycle facilities. Students have been observed walking along the south side, including local families and other visitors who routinely walk on the north side between Shelburne Farm and Shelburne Bay Park.

As described in the Town of Shelburne 2014 Comprehensive Plan, the Town actively pursues the creation of shared use paths for priority linkages to 1) connect Shelburne with surrounding towns, 2) connect key destinations within the Town, and 3) connect neighborhoods to main pathways. There are currently no formal walking or bicycling facilities along the Bay Road corridor, however the corridor provides direct access to the Ti Haul Recreation Path and Shelburne Bay Park trail network.

Figure 2: Project Study Area

The Bay Road corridor has two bridge structures within the project study area. Traveling west to east, the user will encounter the LaPlatte River Bridge first. This bridge is approximately 24 feet wide (curb to curb). The width does not meet current standards for vehicular use and does not currently permit designated sidewalk or bicycle facilities. The minimum width required by Vermont State Standards is 28 feet to accommodate two 10 foot travel lanes and two 4 foot shoulders. Horizontal and vertical geometry east of the LaPlatte River Bridge also creates limited sight lines for all users. In addition, the current width and varying pedestrian, bicycle, and motor vehicle use has created conflicts between these user groups.

The second bridge along the Bay Road corridor is the Vermont Railway Bridge. The roadway under the railroad bridge varies in width from 20-21 feet. The approaches on either side widen slightly to a more uniform 24 foot wide corridor. The horizontal and vertical geometry, combined with the Vermont Railway Bridge abutment wing walls, restrict sight distances and present constrained site conditions. The CCRPC is currently conducting a pilot project for the Vermont Railway Bridge underpass. The pilot project is evaluating a temporary 11 foot wide, one-lane installation for the underpass. Stop control has been installed on both approaches at the underpass, including supplemental warning signage indicating the modified traffic patterns. The one-lane configuration for the underpass has created 4.5 foot buffers with flexible bollards dedicated for pedestrian and bicycle users. The final report is anticipated to be completed during the fall of 2016.

Figure 3: LaPlatte River Bridge (left) and Vermont Railway Bridge showing temporary one-lane installation (right)

Bay Road general characteristics are shown in **Table 1**. The existing pavement and pavement markings are generally in good condition. During the time of the project team's site visit in early August 2016, Bay Road was being resurfaced from the intersection of Bay Road/Harbor Road/Northgate Road to the Vermont Railway Bridge underpass.

Table 1: Roadway Characteristics (source: Vermont Agency of Transportation Route Log Data)

Bay Road	
Functional classification	Urban Collector
Jurisdiction	Town
Right-of-way width (feet)	4-Rods (66')*
Roadway width (feet)	24' (12' travel lanes)
Widths recommended by *VT State Design Standards*	11' travel lanes, 3' paved shoulders (to accommodate bicycles)
2012 AADT**	2,500
Posted speed limit	35 MPH
***Town of Shelburne** ****AADT= Average Annual Daily Traffic**	

The lack of a shoulder on Bay Road currently does not meet the *Vermont State Design Standards* for an urban collector. However, given the natural resources and utility constraints on either side of the corridor as shown in **Figure 4**, the potential for widening the road is likely costly and not feasible, so an off-road bicycle and walking route may be considered.

Figure 4: Bay Road looking west

Relevant Plans and Studies

The 2014 *Shelburne Comprehensive Plan,* the *2010 Bay Road Bridge Replacement Scoping Report,* and the *2004 Vermont Railway Over Bay Road Scoping Report* were consulted to ensure consistency with this study. There are a few noteworthy aspects in each of the previous plans specific to this project study area:

- *Shelburne Comprehensive Plan*
    - The *Shelburne Comprehensive Plan* identifies planning for transportation projects as an integral component to meet the needs of an ever evolving community and formally established a bike and pedestrian paths committee. The transportation section also recognizes the benefits to developing non-motorized forms of transportation.

- *Bay Road Bridge Replacement Scoping Report*
    - This scoping report specifically studied alternatives improving deficiencies for the LaPlatte River Bridge. The report studied five alternatives that ranged from a no-build to a total superstructure replacement. The bridge condition is assessed routinely on a

two-year frequency by the Vermont Agency of Transportation (VTrans), however the bridge is the responsibility of the Town of Shelburne. The report identified the LaPlatte River Bridge with an overall bridge rating of fair. A Federal Sufficiency Rating (FSR) is given to a bridge by the Federal Highway Administration (FHWA) to measure a bridge's sufficiency to remain in service and its eligibility for repair or replacement funding. The sufficiency rating of the LaPlatte River Bridge was 41.6 out of 100 during the 2008 evaluation. In order to qualify for federal funding, a bridge must have an FSR of 50 percent or less. The most recent bridge inspection, conducted in July 2016 documented a sufficiency rating of 40.6 for the bridge structure.

- *Vermont Railway Over Bay Road Scoping Report*
    - This scoping report specifically studied the alternatives for the Vermont Railway Bridge underpass on Bay Road. The report examined five alternatives that ranged from a no-build to realignment of the railroad tracks. The railroad bridge is the responsibility of the Vermont Railway. The most recent bridge inspection was conducted in November 2015 and was given a rating of 4 (serious deterioration) on a numerical rating scale from 1-9. At the conclusion of the study, the Town decided that the project lacked the necessary support to move forward with implementation.

Existing Resources

This section assesses existing resources to understand potential impacts of any alternatives. Each of the resource types specified in the *VTrans Project Scoping Manual* are addressed below. The data referenced in this section was obtained from the Vermont Center for Geographic Information and the Vermont Agency of Natural Resources, unless otherwise noted.

Parcel Data and Property Ownership

Bay Road has a mix of private residences throughout the corridor, conservation lands which include Shelburne Bay Park and LaPlatte River Conservation Land, and designated rural lands (primarily west of the LaPlatte River Bridge).

Natural Resources

Lakes/Ponds/Streams/Rivers

Shelburne Bay is located on the north side of the project study area. The LaPlatte River flows through the conservation lands on the south side of Bay Road and feeds into Shelburne Bay and Lake Champlain. Munroe Brook is located approximately at the intersection of Bay Road and Shelburne Road (US Route 7). The watershed associated with Munroe Brook has been identified as an impaired urban watershed. The impaired status attempts to limit and allocate discharge loads among various dischargers in order to assure water quality standards. Refer to **Figure 5**.

River Corridors

The lateral area around the LaPlatte River and Munroe Brook has been identified as a river corridor. This area is necessary to achieve and maintain a stable condition of the river and brook. Refer to **Figure 5**.

Figure 5: Lands/Ponds/Streams/Rivers

Wetlands

Class II wetlands are identified within the corridor in vicinity of the LaPlatte River Bridge and Shelburne Bay Park. Class II wetlands are greater than 0.5 acres and must generally remain in their natural vegetation, however may be crossed by roads, trails or utility lines where there is no feasible alternative alignment. Class II wetlands include a designated 50 foot buffer zone to protect those functions that make a wetland significant to an existing ecosystem. The wetland advisory layer is a non-regulatory and unprotected data source. Hydric soils are generally classified as natural poorly draining soils and may be prone to excessive wetness in association with minimal slopes, thus a limiting factor. **Figure 6** shows the Class II wetlands, wetland advisory areas, and hydric (poorly draining) soils.

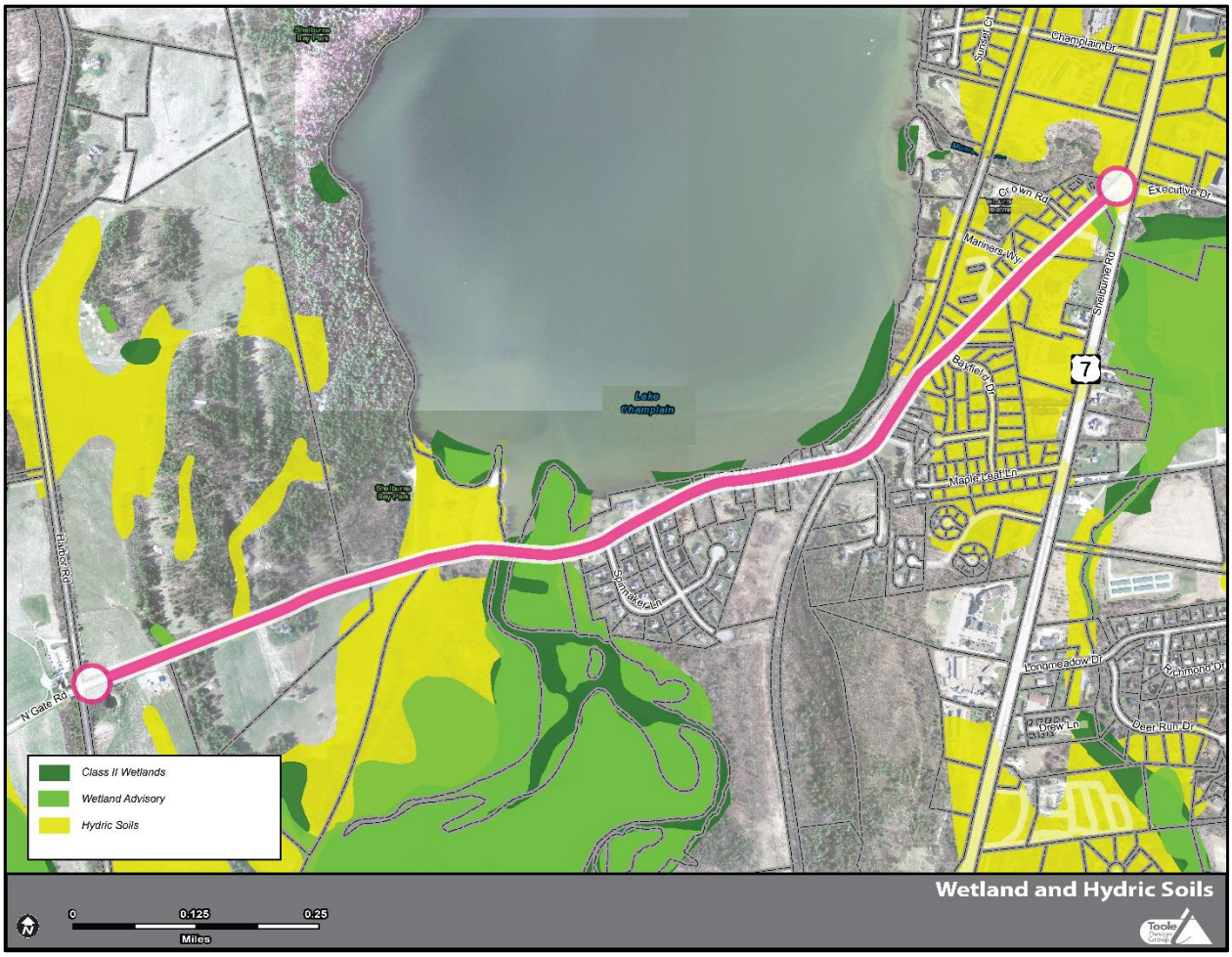

Figure 6: Wetland and Hydric Soils

Agricultural Lands

The majority of the soil types in the Bay Road corridor are designated as having statewide importance. Prime agricultural potential of soils within the Bay Road corridor are limited. Prime farmlands may have the best combination of physical and chemical characteristics for producing food and are also available for theses uses. In addition to Prime agricultural lands, Statewide (a) and (b) are is important for the production of food, however not as highly sought as Prime. Much of the project study area has been previously disturbed and the likelihood of reverting back to active farmland is minimal. Refer to **Figure 7**.

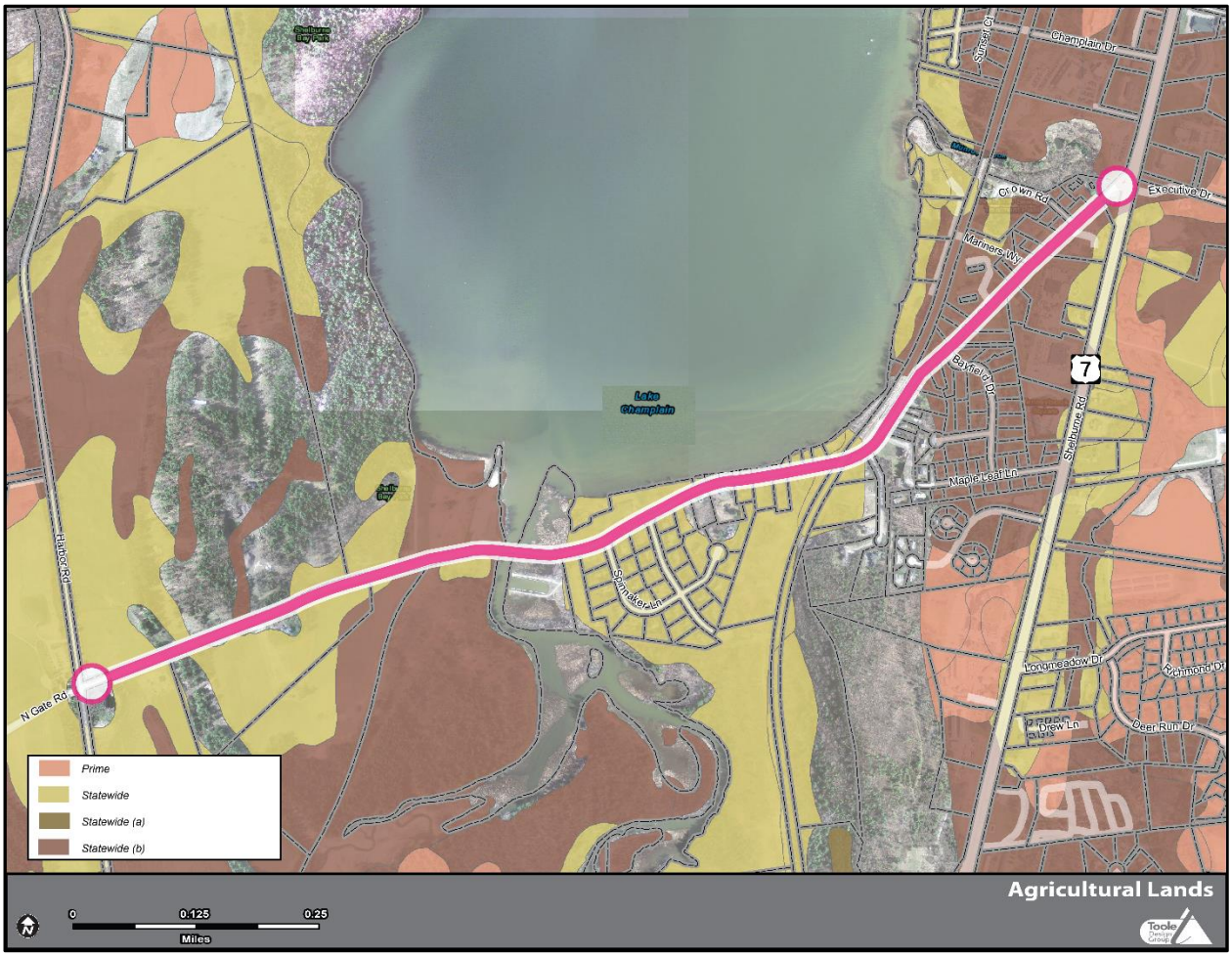

Figure 7: Agricultural Lands

Flood Hazard Areas

Flood hazard area mapping identifies the areas along the shoreline of Shelburne Bay and the LaPlatte River as an AE Zone, meaning that it is susceptible to a 1 percent annual chance of flooding. Refer to **Figure 8**.

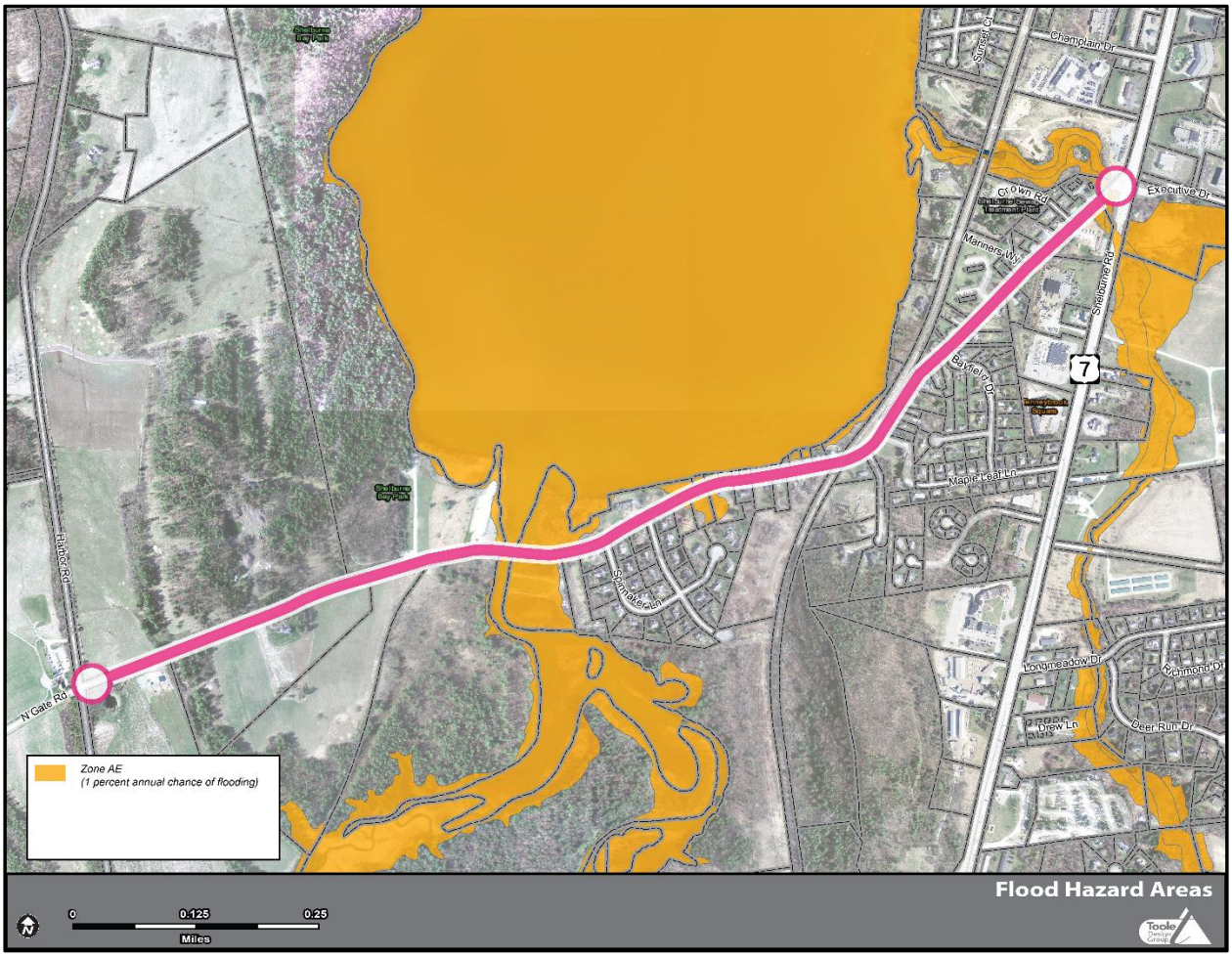

Figure 8: Flood Hazard Areas

Rare, Threatened, or Endangered Species

Rare, threatened, or endangered species have been identified within the Bay Road project study area and are primarily located in the vicinity of the LaPlatte River Bridge. The project corridor has been previously disturbed by general maintenance, clearing, filling, and construction activities. As noted in **Figure 9**, there are uncommon species found adjacent to the LaPlatte River Bridge area. Once a preferred alternative has been identified, a comprehensive survey should be considered to identify potential impacts on existing species.

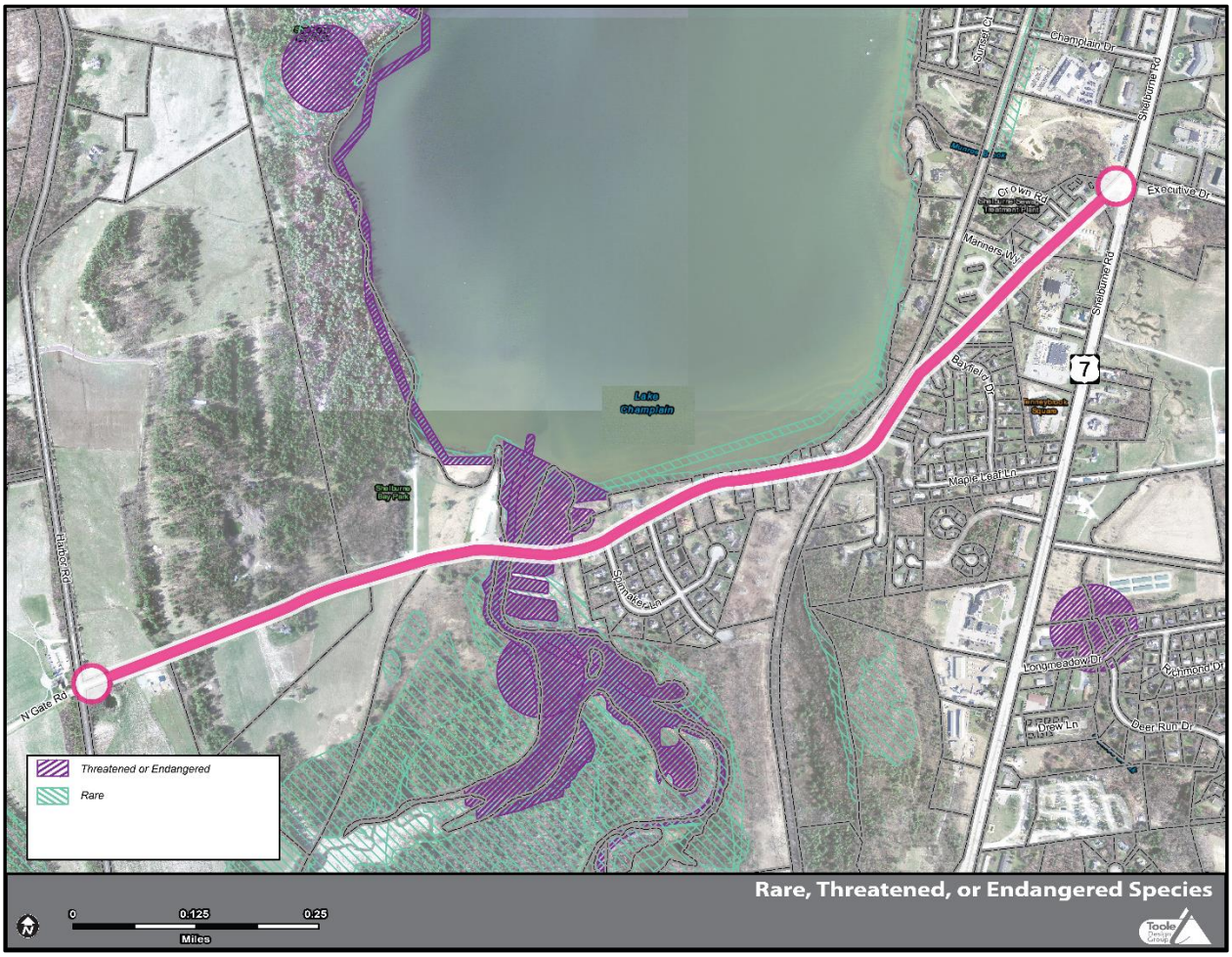

Figure 9: Rare, Threatened, or Endangered Species

Section 4(f) and 6(f) properties

Section 4(f) properties include publicly owned park and recreation areas that are open to the general public, publicly owned wildlife and waterfowl refuges, and public or privately owned historic sites. Section 6(f) properties are properties acquired with Land and Water Conservation Act funds and are coordinated with the US Department of the Interior. These lands cannot be taken from a publicly owned park, recreation area, wildlife or waterfowl refuge, or historic site unless there is no feasible or prudent alternative to the use of land and the action includes all possible planning to minimize harm to the property resulting from such use.

Shelburne Bay Park is situated on the north side of the Bay Road project study area, west of the LaPlatte River Bridge. This property includes a boating access area managed by the Vermont Fish and Game Department. The park has received Land and Water Conservation Fund (LWCF) funding in the past, and is therefore protected under Section 6(f) as described above. The LaPlatte River Marsh Natural Area, which is owned by The Nature Conservancy, is located within the project study area on the south side of the road, west of the LaPlatte River Bridge. The Shelburne Bay public park and the LaPlatte River Marsh Natural Area private conservation property are both likely subject to section 4(f) consideration. It is

anticipated that potential impacts to these areas would require a *de minimus* impact, which is one that will not adversely affect the activities, features, or attributes of the property. Refer to **Figure 10**.

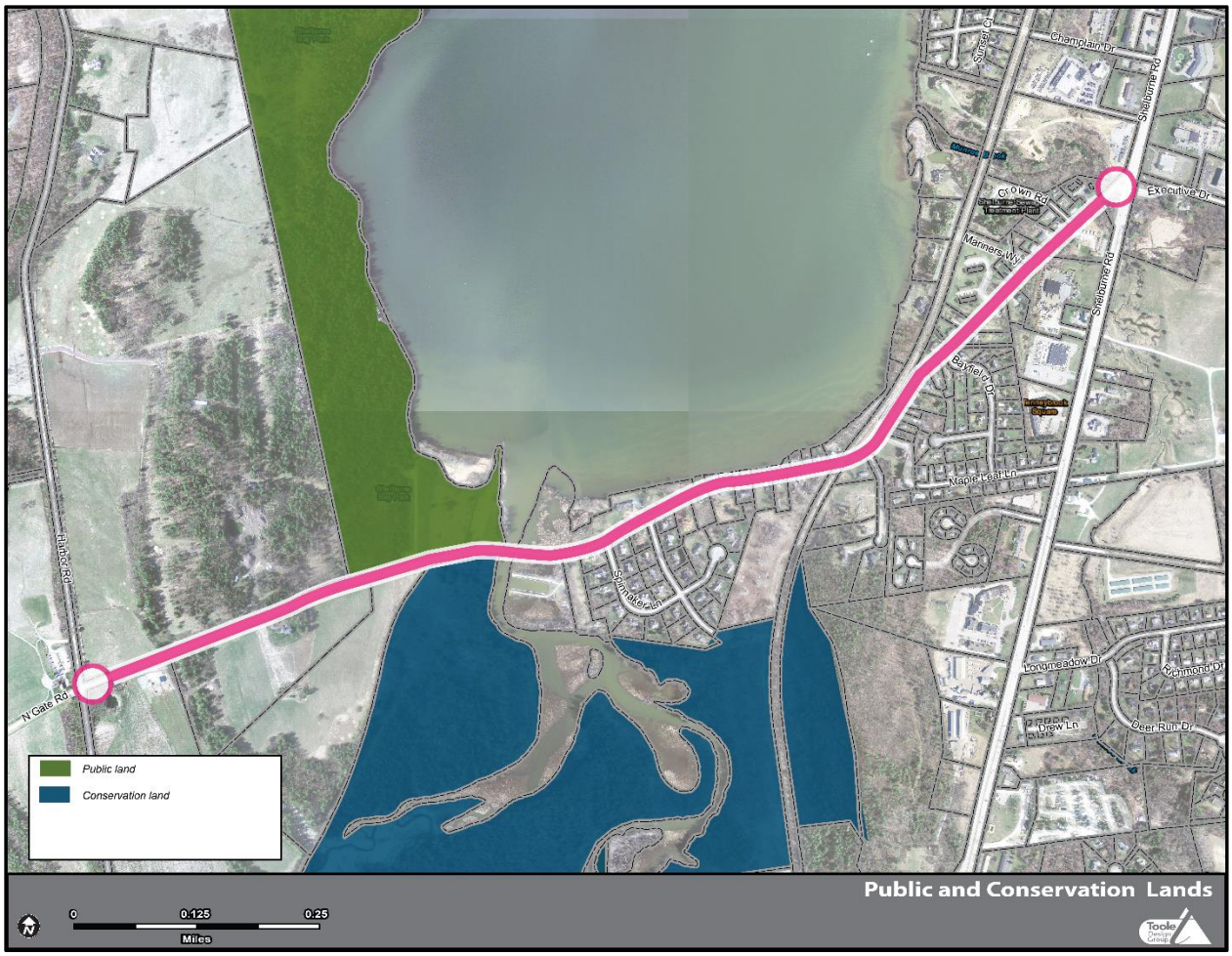

Figure 10: Public and Conservation Lands

Built Environment

Hazardous Material Sites

The data mapped for hazard material sites documented several sites adjacent to the Bay Road project corridor. Refer to **Figure 11**.

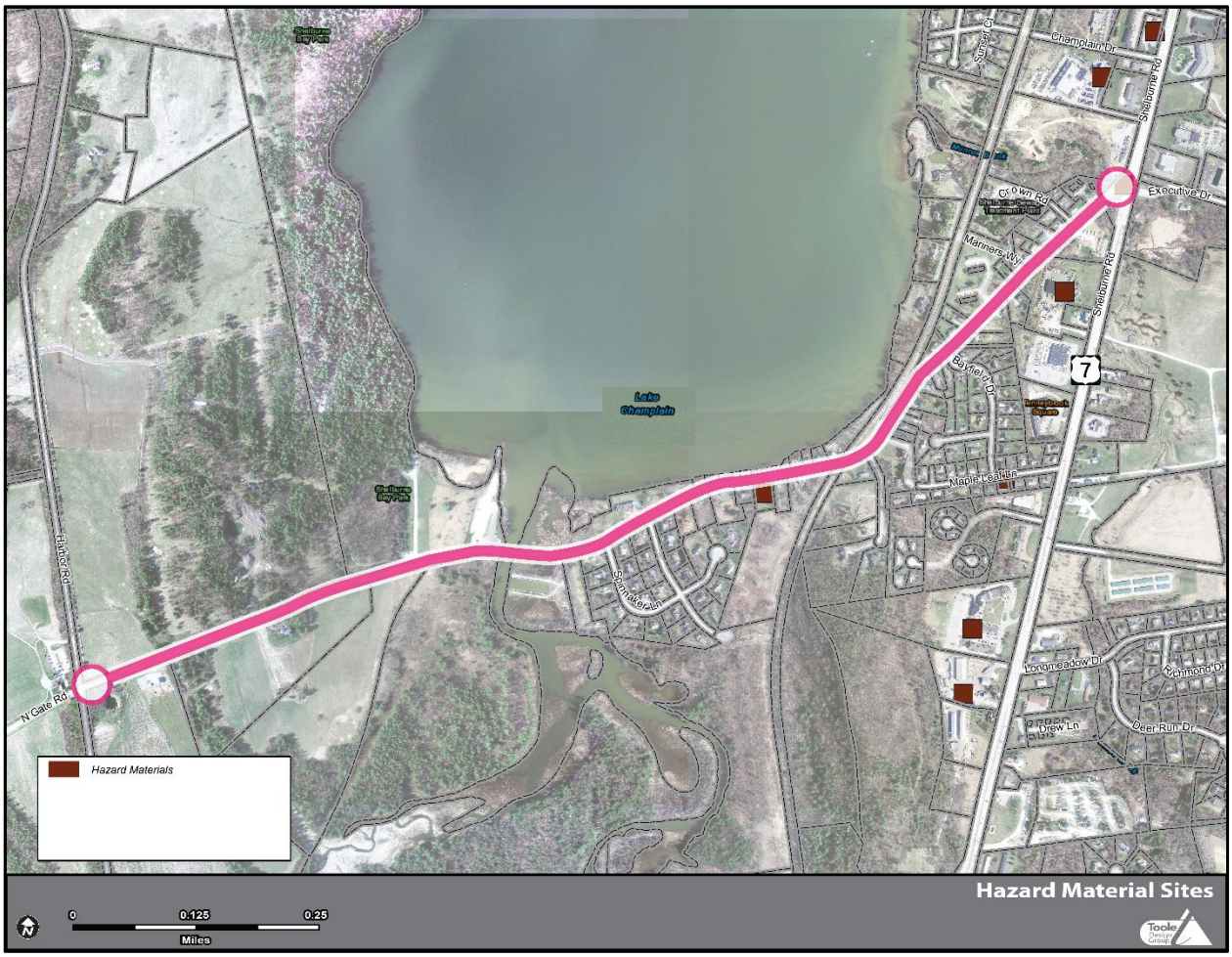

Figure 11: Hazard Waste Sites

Utilities

The Town of Shelburne is served by Vermont Gas, local water, and sewer service. Refer to **Figure 12**. Any future construction projects for the corridor would be coordinated with the utility companies.

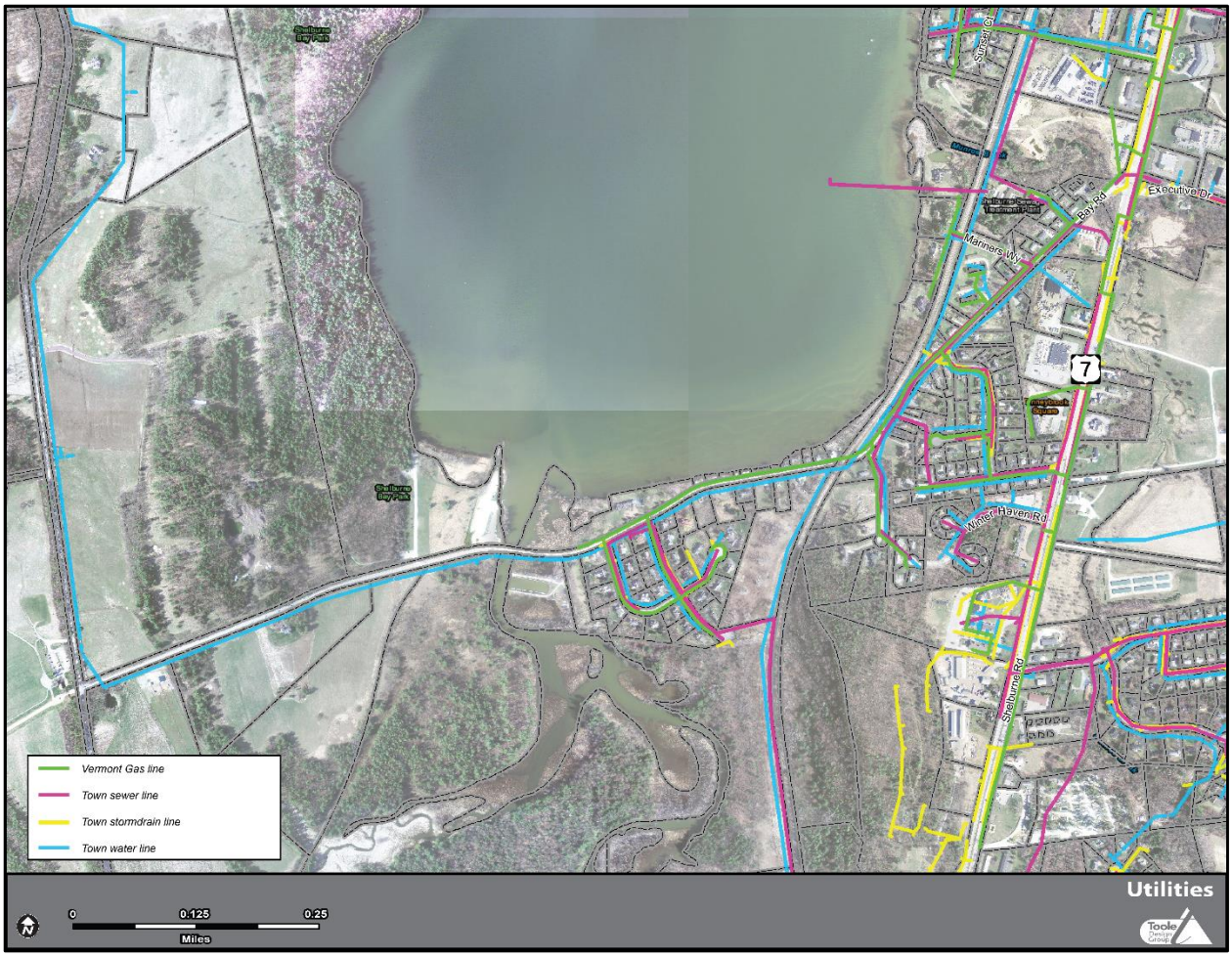

Figure 12: Existing Utilities

Cultural Resources

Hartgen Archeological Associates, Inc. conducted the Archeological Resource Assessment (ARA) and Historic Preservation Assessment to identify potential areas of archeological sensitivity based on environmental factors, known site information, and historic information for the project Area of Potential Effect (APE). The complete report can be found in **Attachment A**.

Public Input

Public comments and input was gathered during the Local Concerns Meeting. Residents unable to attend the meeting were encouraged to submit comments electronically. Overall, there was general support for a pedestrian and bicycle facility on Bay Road. Meeting attendees also recognized the challenges with the corridor and details of this study may have an impact within the community. The Local Concerns meeting summary can be found in **Attachment B**.

Next Steps

The findings from public input will be further reviewed and incorporated into concept alternatives. Potential connections for people walking and bicycling in the Bay Road corridor will be considered and analyzed in light of the resources noted in this memorandum to identify impacts.