

North Hyde Park Streetscape *Scoping Report*

D R A F T Report
For Town and VTrans Review



Prepared for the Town of Hyde Park
VTrans Project TAP TA13(1)
June, 2016

About this Report

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1 Introduction

This study was initiated by the Town of Hyde Park to evaluate pedestrian, streetscape and environmental/stormwater enhancements in the village of North Hyde Park, and was funded through the VTrans Transportation Alternatives program. The study was prompted by the lack of pedestrian infrastructure and high traffic speeds on Route 100, a desire to improve the village's appearance and economic vitality, and concerns about stormwater discharge from Route 100.

2 Project Purpose and Need

The purpose of this project is to identify issues, costs and feasibility for streetscape enhancements, and to develop an implementation plan and timeline. The need exists as there are currently no sidewalks in North Hyde Park village, nor any pedestrian amenities such as street trees or street lights. New pedestrian facilities should also consider opportunities to address stormwater within the public right-of-way, as currently some drainage from Route 100 flows directly into the Gihon River without any treatment. The Town of Hyde Park also seeks to enhance North Hyde Park with streetscape planting and amenities such as lighting, public spaces and focal points to support village revitalization.

Bicycle transportation is also a consideration, as the scenic Route 100 corridor between the Stowe/Morrisville and Jay Peak area is a popular bicycle tour route, with North Hyde Park being an ideal stopping point.

Providing bicycle lanes, or shoulders for bicycling, plus reducing vehicular traffic speeds to improve safety are project needs.

The study recommendations should also support the village's economic development. In recent years, the village store has closed. Many homes are currently vacant, and some in the foreclosure process. With the development of the Vermont Air National Guard maintenance facility, an attractive pedestrian network could attract visitors to the village and spur economic activity and local businesses.

3 Existing Conditions

The project area is shown on Figure 3.1, and encompasses the Route 100 and Ferry Street corridors through the more heavily developed village of North Hyde Park.

3.1 Land Uses

The village has a post office, an industrial park, a lumber yard, and several small businesses. There is no store in the village, though there is one just south of the study area on Route 100C. There is not a school in the village, but there is a day care center and school bus stops. The Vermont Army National Guard recently completed a vehicle maintenance facility, just north of the study area. Over time, this facility is expected to expand to host guard training events, bringing larger numbers of people to North Hyde Park, so that connections between the facility and village would be beneficial. Figure 3.1 shows the location of the village's major non-residential land uses.

Figure 3.1: Project Area Land Uses



3.2 Roadway Traffic

VT 100 is a significant traffic corridor, with just over 8% of the vehicles being trucks. Truck volumes have increased in recent years due to hauling waste from all of Chittenden County to the landfill in Coventry. Figure 3.2 shows the locations of traffic counts, and volumes of all vehicles and trucks. Overall traffic volumes have not grown in the past ten years, as shown in Figure 3.3.

Figure 3.2: Traffic Volume Counts for North Hyde Park

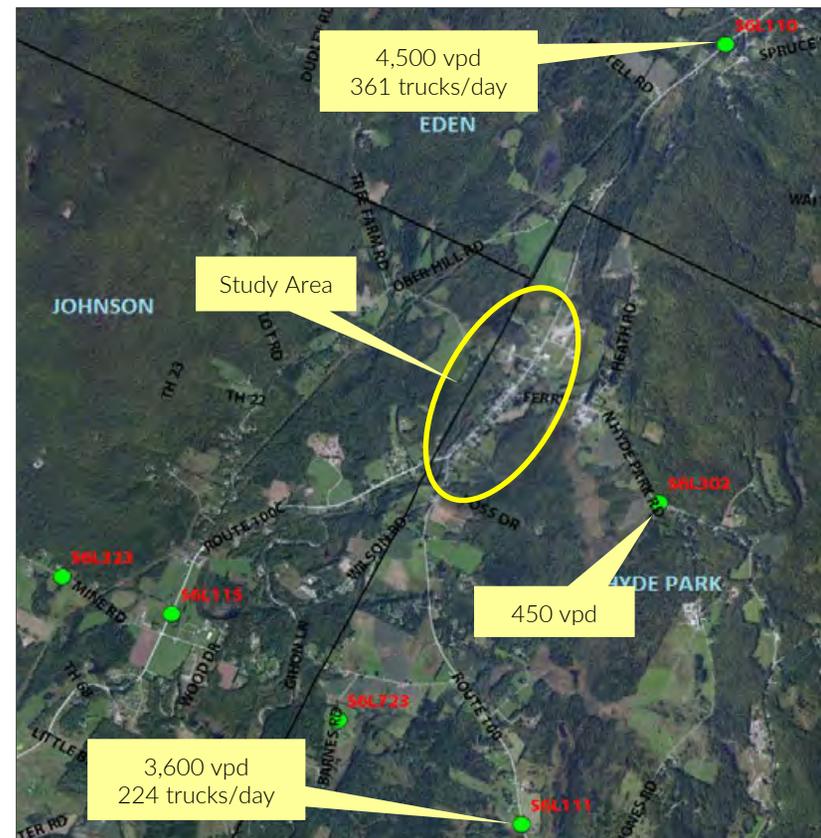
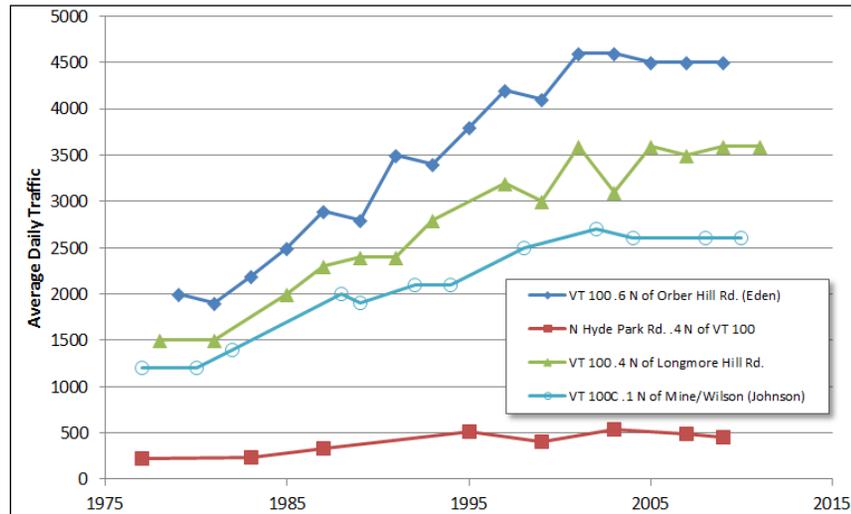


Figure 3.3: Traffic Count History for North Hyde Park Village



3.3 Safety

VTrans crash data from 2010 through 2016 was obtained from VTrans, and indicates that 30 crashes occurred over this period in the study area. There is also a high crash location, designated by VTrans based on crash rates, at the Route 100/Route 100C intersection. A map of crash locations is shown in Figure 3.4. An analysis of the types of crashes, shown in Table 3.1, indicates single vehicle (i.e. vehicle leaving road and crashing into roadside object) and rear end crashes are by far the most common type. The portion of crashes that result in injuries (11 out of 30) is relatively high compared to the statewide average (about 1 out of 4). VTrans is conducting a safety audit of this high crash location, and expected to propose recommendations within the year.

Figure 3.4: Crash locations in North Hyde Park, 2010-2016

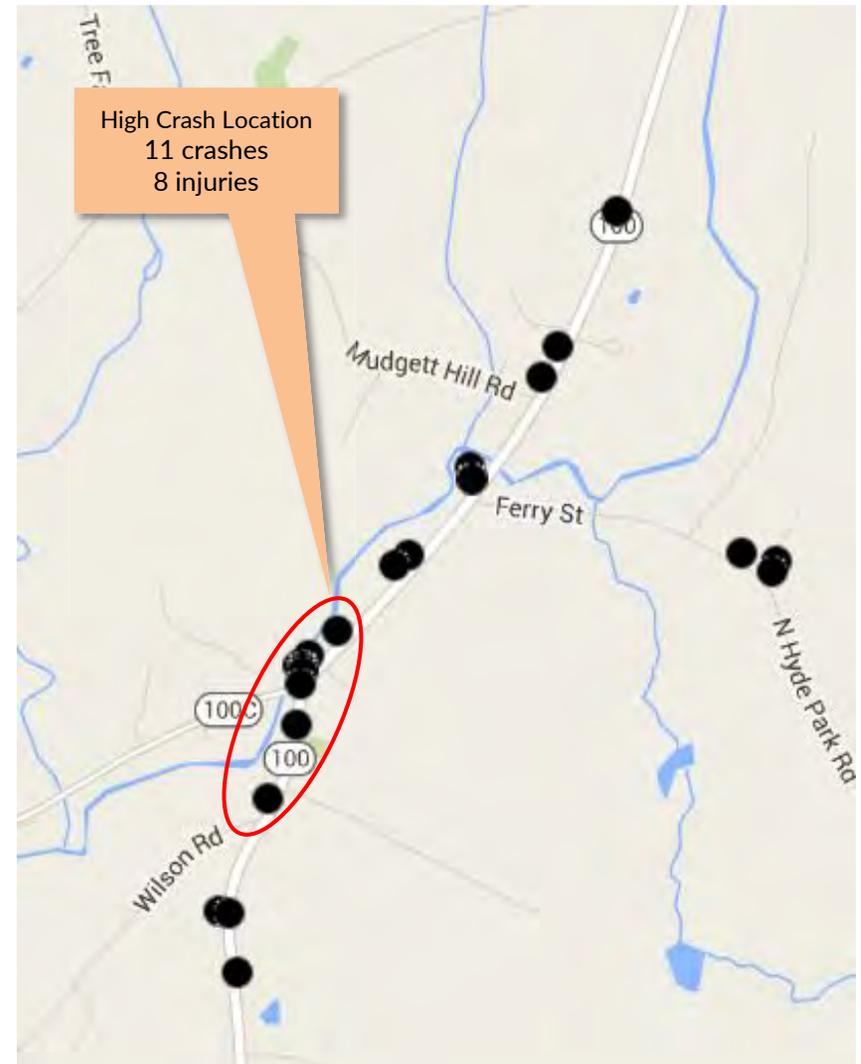


Table 3.1: Crash Summary

| Crash Outcome | Number |
|--------------------------------|--------|
| Injury | 11 |
| Property Damage Only | 19 |
| Type of crash | Number |
| Single Vehicle Crash | 12 |
| Head On | 1 |
| Opposite Direction Sideswipe | 1 |
| Rear End | 10 |
| Right Turn and Thru, Broadside | 2 |
| Left Turn and Thru, Broadside | 2 |
| Other | 2 |

The presence of a state high crash location, plus overall a high incidence of crashes in this study area, indicates that proposed projects or changes consider improving roadway safety among the project objectives.

3.4 Public Transit

There is no fixed route public transit on this corridor. Paratransit is provided by the Rural Community Transportation agency, based in Newport and St Johnsbury VT.

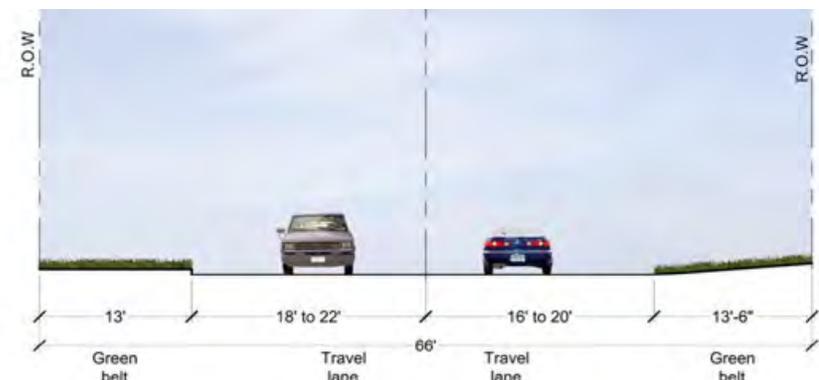
3.5 Right-of-way

The right-of-way of Route 100 through North Hyde Park has a complex history. The road was originally laid out by the Town of Hyde Park with a 4 rod (66 feet) right-of-way, which is reflected in historic maps and property records. In 1827, this corridor through the village was surveyed by the state of Vermont with a 5 rod right-of-way easement as part of the “Burlington–Derby Road.” In 1935, the Vermont Department of

Highways took ownership of the road and designated it Route 100. The State rebuilt the road in 1940, purchasing property as needed to secure a 3 rod right-of-way, and some additional width in selected locations due to topographic constraints. In 1983, the project BRF 029-2(16)S, replacing the bridge over the Gihon River, resulted in additional right-of-way acquisition in the vicinity of the bridge.

The figures on the following two pages show the records available through the VTrans Right-of-way viewer, which confirms that the state right of way is a minimum of 3 rods, and that the Town right-of-way extends beyond the State right-of-way to a distance of 4 rods (2 rods/33 feet on either side of the Route 100 centerline). For purposes of infrastructure planning, the 4 rod right-of-way can be considered to be available to the Town for transportation uses. However, there are a number of buildings that immediately abut the right-of-way, so it is recommended that a buffer between proposed sidewalks or paths and the adjacent buildings be provided. The existing width of Route 100 is shown in the section below, with 11 foot travel lanes and shoulders varying in width from 4 to 8 feet.

Figure 3.5: Existing Section of Route 100



Ferry Street has a 3 rod right-of-way, owned by the Town of Hyde Park.

Figure 3.6: VTrans Right-of-way Viewer for North Hyde Park (Southern Segment)

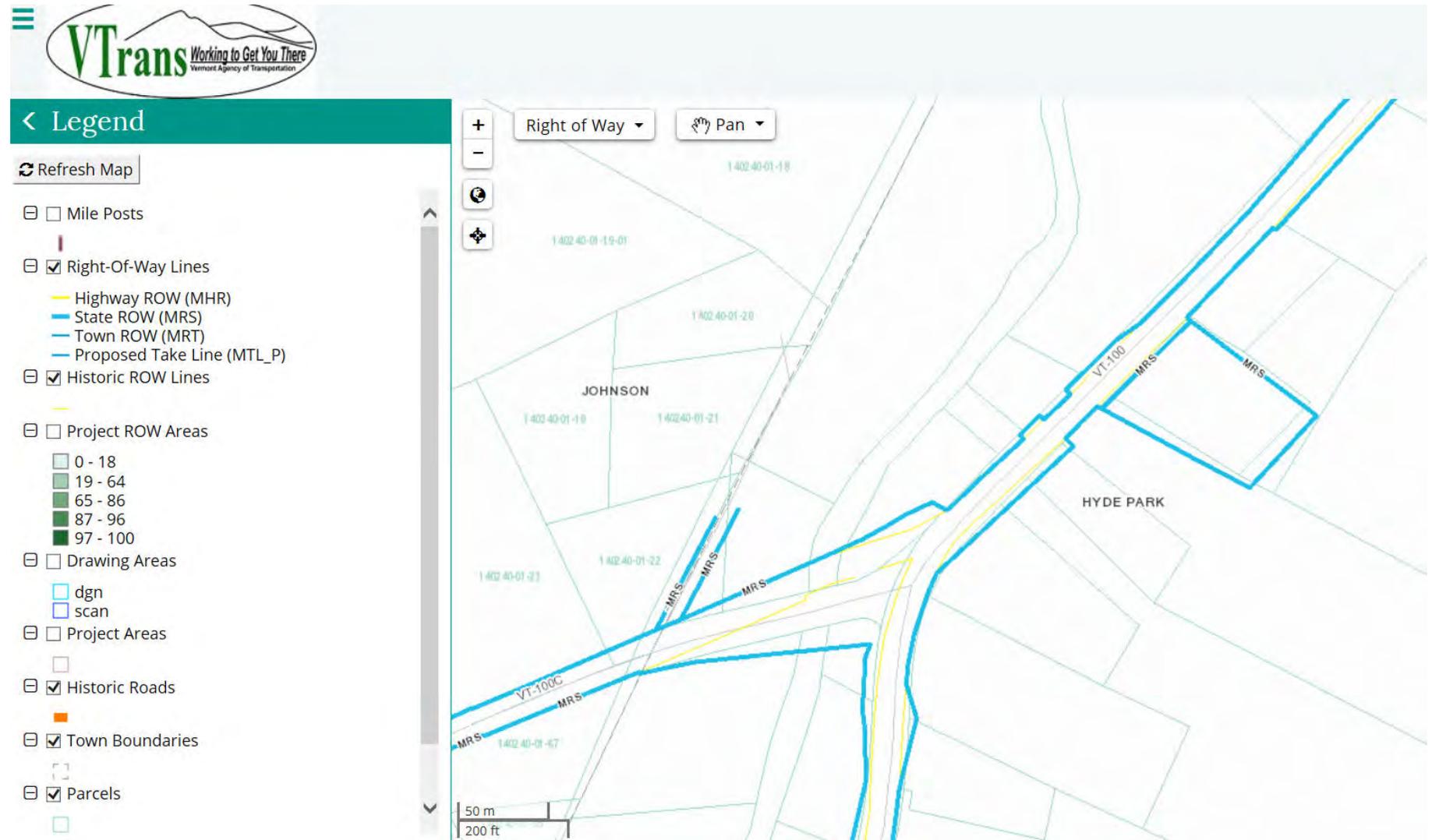
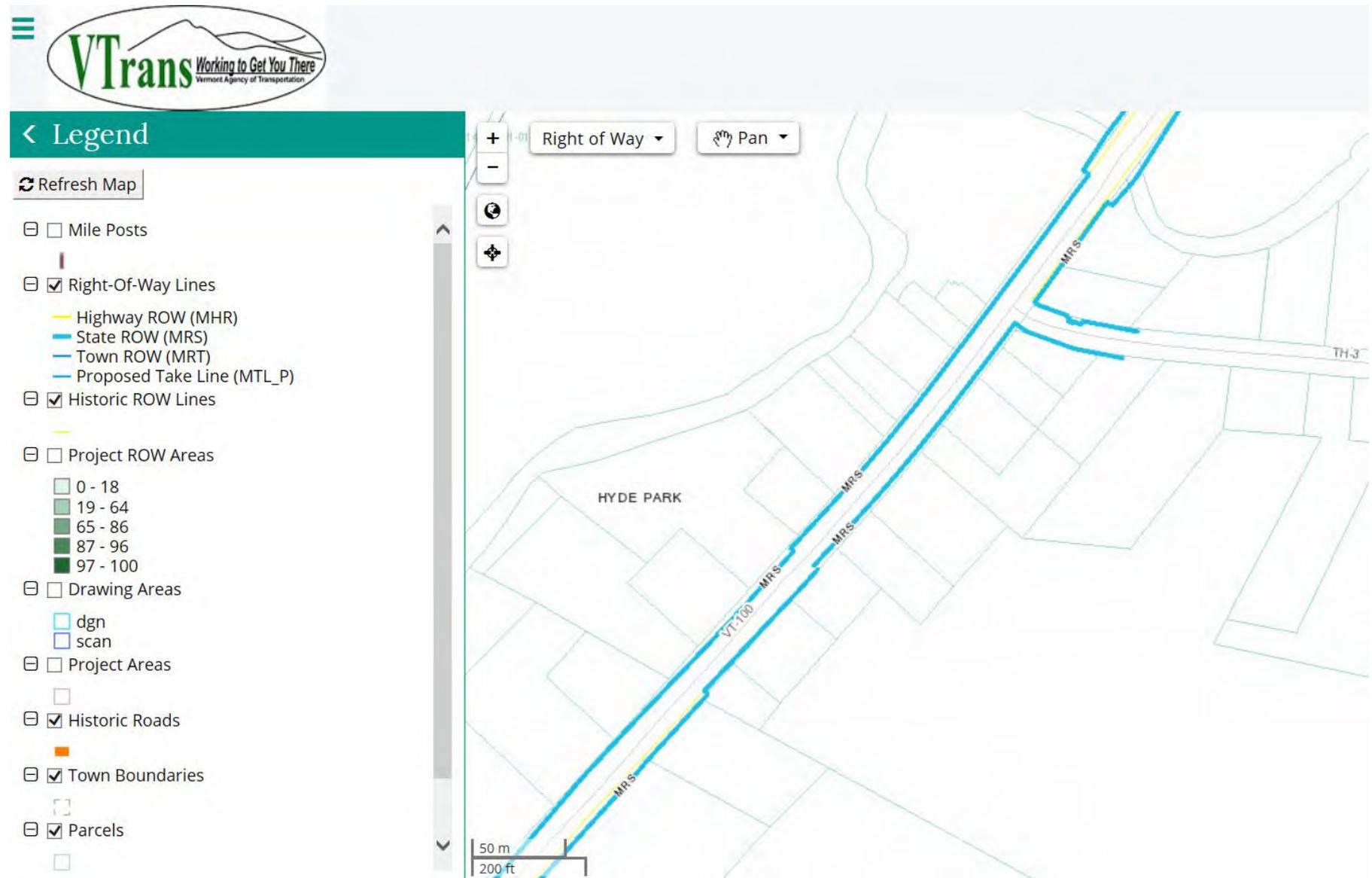


Figure 3.7: VTrans Right-of-way Viewer for North Hyde Park (Northern segment)



3.6 Access Management

The Route 100 and Ferry St corridors through the study area have numerous access curb cuts. There are several locations, particularly in the vicinity of the post office, where there are opportunities to reduce the width of vehicular access points. This can make the corridor safer for pedestrians by reducing conflicts, and provide for a more attractive streetscape.

3.7 Utilities

The public utilities serving North Hyde Park village include water and overhead electric, and are both considerations in the design of pedestrian facilities.

3.7.1 Overhead Electric

Overhead electric lines are located throughout the length of the study area at varying offsets. These were located in the field and are shown on the accompanying project plan sheets, attached to this report. In general, the aerial electric/communication utility poles run along the east side of Route 100.

Figure 3.8 View looking south on Route 100 in North Hyde Park



3.7.2 North Hyde Park Village Water Supply

The water supply system for North Hyde Park village was constructed in 1985, and utility locations were located using the project plans. The plans show that the water lines have at least 6 feet of cover, so that the construction of a sidewalk and associated features should not impact the water system. However, at the request of the Roger Audet, director of the water department, any sidewalks constructed over the water line should be asphalt to make future repairs easier.

3.7.3 VTrans Stormwater Infrastructure

The stormwater infrastructure in the study area includes numerous catch basins and culverts to manage and treat runoff from VT Route 100. Any changes or expansion of impervious surfaces will require further stormwater management, and need to comply with new regulations that govern stormwater runoff from transportation infrastructure. It is expected that state and local highways will be subject to requirements to reduce runoff and improve water quality, and this study will seek opportunities to incorporate these activities into the streetscape recommendations. A map of the village's stormwater system is shown in Figure 3.9 and Figure 3.10

The D&K team staff held a meeting with ANR ecosystem management staff to identify priority locations for addressing stormwater impacts and the most appropriate approach for mitigation. The village area's stormwater system has several outfalls that discharge directly into the Gihon River. These drainages are the focus of exploring opportunities to provide stormwater management and treatment either before water enters the system, or divert stormwater to a treatment facility before it is discharged. The most critical outfalls for water quality are noted in the following figures, as well as possible concepts to mitigate runoff.

Figure 3.9: North Hyde Park Stormwater Infrastructure-Northern Segment-Issues (blue)/ Concepts (green)

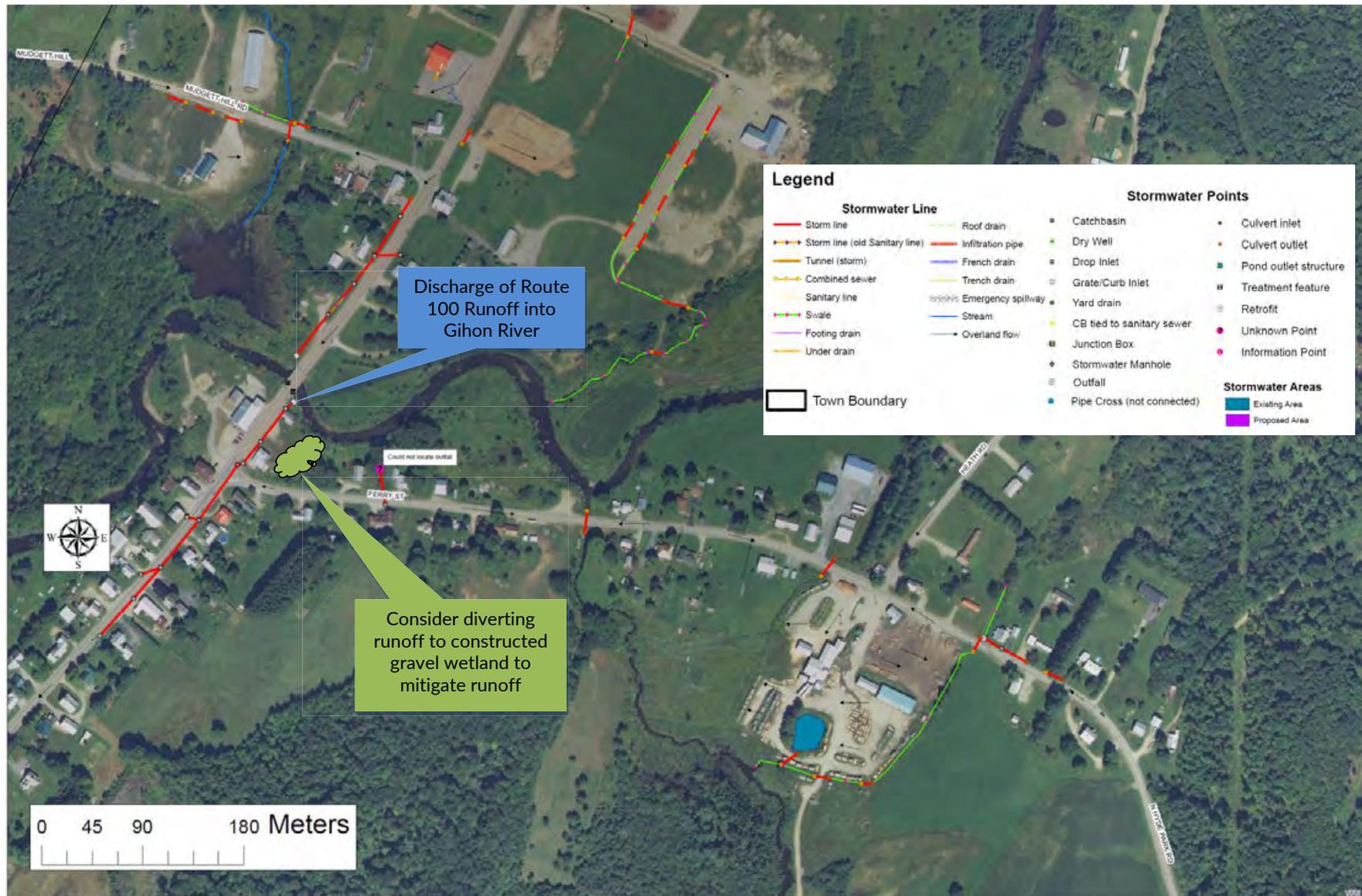
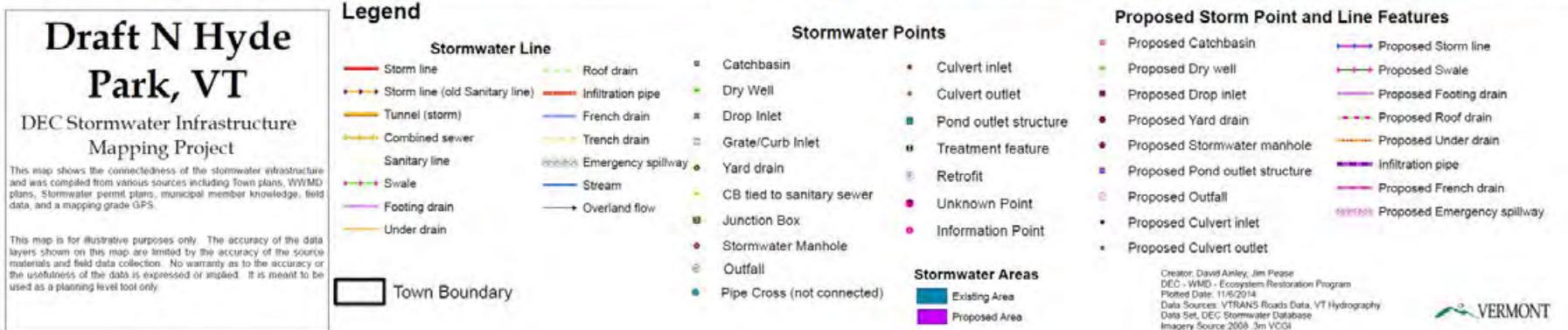
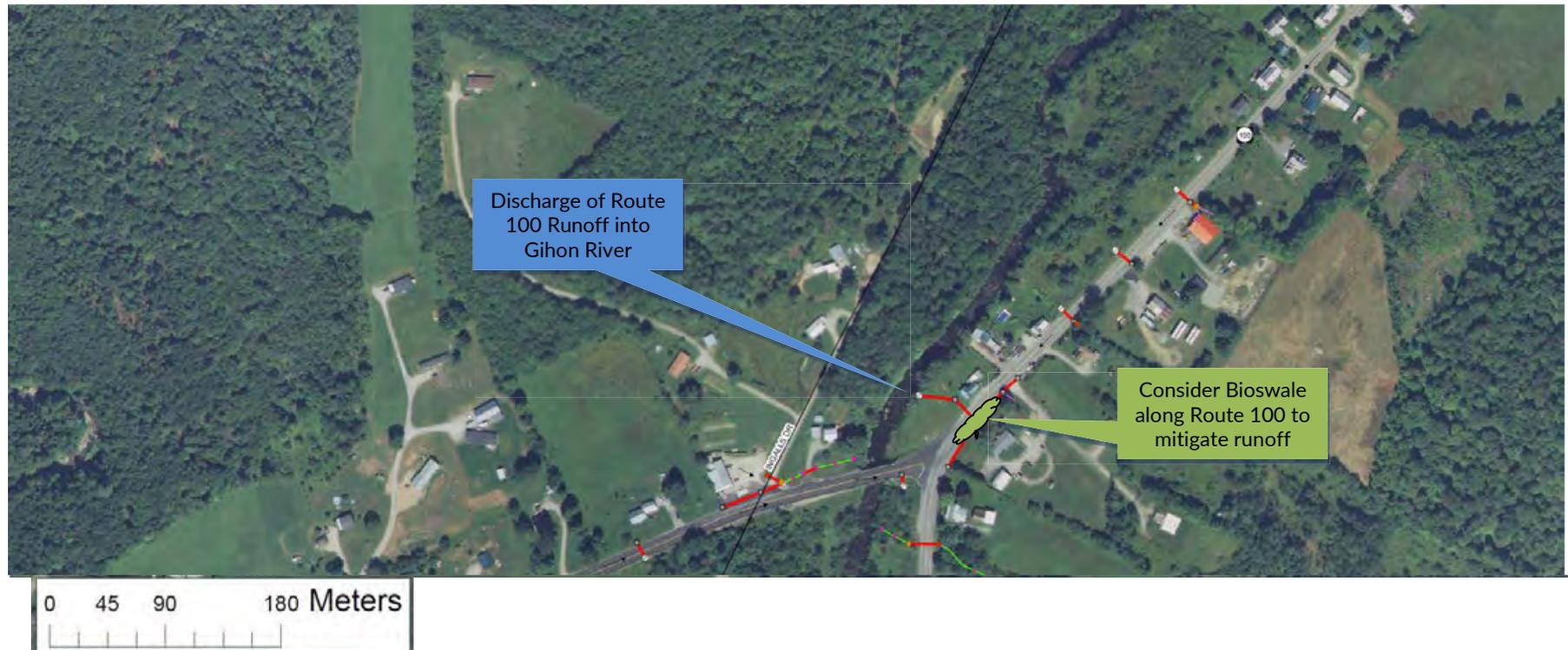


Figure 3.10 North Hyde Park Stormwater Infrastructure-Southern Segment-Issues (blue)/ Concepts (green)



3.8 Environmental Resources

Dubois and King retrieved relevant environmental resource information from the Vermont Agency of Natural Resources. Environmental information obtained for this study includes wetlands, rare and threatened/endangered species, animal habitat, special flood hazard areas, and hazardous waste sites. Figure 3.11 shows resource mapping of the project area.

3.8.1 Wetlands

There are several Class 2 wetlands in the study area or immediate vicinity, primarily along the Gihon River and several tributaries. Potential class 3 wetlands are **likely** to be present in locations adjacent to **the Gihon River**, but unlikely to be affected by any pedestrian projects from this study as they are focused on the Route 100 corridor, which does not **abut** any wetland areas.

3.8.2 Endangered Species

The Vermont Natural Resources Atlas indicates that there are no known rare, threatened or endangered species in the study area or immediate vicinity.

3.8.3 Flora and Fauna

The Vermont Natural Resources Atlas indicates that there are no natural communities of significant or concern within the study area or vicinity.

3.8.4 Hazardous Wastes

The Vermont Agency of Natural Resources lists a total of 4 hazardous waste sites within the study area, plus one just outside the study area at

the River Valley Store. Figure 3.11 shows the hazardous waste sites identified in the study area. Table 3.2 shows the contaminant, source of contamination, site status, priority, and project status of each site. Site #4, located along Ferry Street, is not yet resolved and undergoing monitoring. Any excavation for a sidewalk in this vicinity will need to be disposed of properly and treated as hazardous materials.

3.8.5 Cultural Resources

An Archeological Resource and Historic Preservation Assessment of the study area was conducted by Hartgen Archeological Associates which included a detailed analysis of the area's environmental and developmental history. The full report is attached, and the following considerations apply for any proposed construction in this study area:

3.8.5.1 Archaeological Resources

While there are no identified archaeological sites in the project area, lands along the Gihon River should be considered archeologically sensitive. However, most of the area immediately adjacent to the roads in the area has been disturbed and no longer contains intact resources.

3.8.5.2 Historic Structures

The study area comprises the North Hyde Park historic district, and contains many historic buildings representing vernacular architecture of the mid-19th century. Historic preservation concerns relate to the close proximity of structures to the roadside and possible impacts to a stone wall. Because many historic structures are so close to the road edge, any sidewalk project should be accompanied by appropriate landscaping to screen homes from pedestrian traffic and maintain privacy.

Figure 3.11: Vermont Natural Resource Atlas for North Hyde Park Village

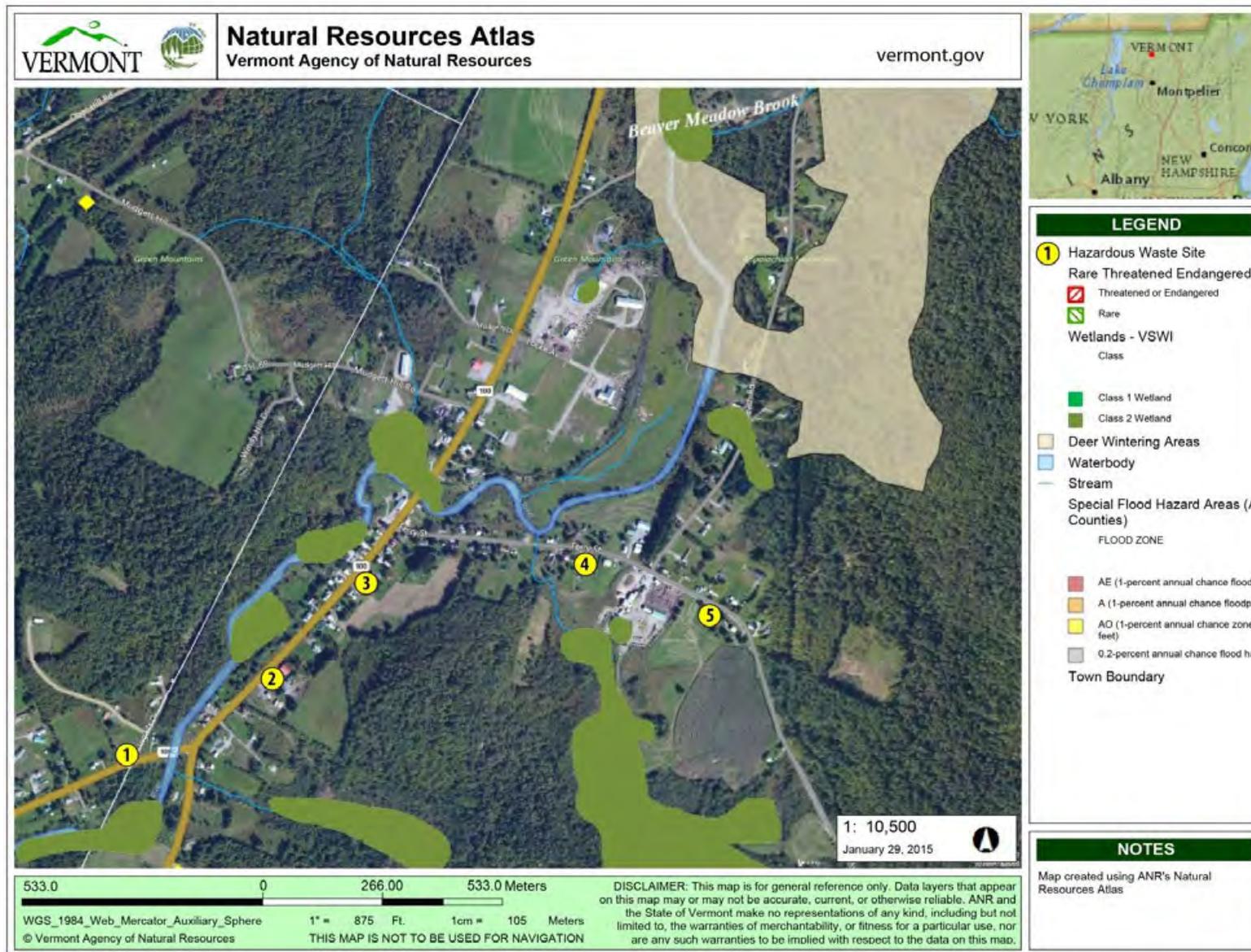


Table 3.2: ANR Hazardous Waste Sites

| # | ANR Site Number | Site Name | Site Use | Address | Source of Contamination | Contaminant | Site Status | Priority | Project Status | Site Closure Date |
|---|-----------------|--------------------|-------------|--------------------|------------------------------|------------------|------------------|---|---|-------------------|
| 1 | 20134426 | River Valley Store | Business | 4495 VT Route 100C | UST - Diesel, UST - Gasoline | Diesel, Gasoline | Voluntary Action | SMAC - Site Management Activities Completed | Minor contamination discovered during the removal of a gasoline UST. Vertical and horizontal limit of contamination determined with a PID. No evidence of groundwater impact was identified. All properties in the area are served by the municipal drinking water system. | 11/18/2013 |
| 2 | 870092 | A O T | Gov't | Route 100 | UST - Diesel | Diesel | none listed | SMAC - Site Management Activities Completed | UST contamination discovered in 1986. DOH was monitoring adjacent water supply. Limited site investigation conducted in March 2006. No contamination found in vicinity of old UST. | 9/11/2006 |
| 3 | 982544 | LaRose's Market | Business | Route 100 | UST - Gasoline | none listed | none listed | SMAC - Site Management Activities Completed | Initial investigation complete. 1 off site MW ND, 1 off site MW with minor contamination at VGES. Abandoned heating oil UST removed, clean. All other MWs below VGES. SMAC | 11/2/1999 |
| 4 | 20033156 | Germaine Release | Residential | 238 Ferry St. | UST - Heating Oil | Heating Oil | none listed | LOW - Site with contamination to soils or groundwater, but no effect on sensitive receptors | Petroleum contaminated water supply, POET installed. Soil removal completed. Water Supply of Stokesbury residence ~40ft away showed signs of contamination from Germaine release. Quarterly monitoring set up. 2 consecutive rounds of clean sampling triggered request to dismantle POET. Stokesbury noticed fuel oil odor before dismantling of the POET. Water supply tested and a reoccurrence of Napthelene appeared. 9/2/10 Requested REA to continue sampling EPA 8021B on annual basis. | none listed |
| 5 | 20043208 | Moore Property | Residential | 460 Ferry St. | Above Ground Storage Tank | Heating Oil | none listed | LOW - Site with contamination, but no effect on sensitive receptors | SMS did limited qualitative assessment 4/22/04. Soil removal completed | none listed |

3.9 Street Trees

Meetings were held with the Lamoille County forester to discuss street trees in the study area, and identify priorities for tree preservation in the areas where sidewalks or paths are proposed. There are very few trees within the state or town right-of-way. With local support for streetscape features that would contribute to a more attractive village and traffic calming, any pedestrian project in the village should also include street tree planting in appropriate locations.

4 Project Alternatives

There are a number of options for the Town of North Hyde Park to enhance the village streetscape including: new or reconstructed sidewalks, gateways, crosswalks, street lighting, and incorporating public spaces into the street frontages (i.e. pocket parks or rain gardens). There are also a range of options to address stormwater, including the incorporation of bioswales or “green gutters” into the roadside, or providing stormwater treatment in a bioretention facility, such as a gravel wetland or rain garden.

4.1 Village Pedestrian Network

A. The map in Gihon River bridge to Vermont Guard Facility Figure 4.1 shows a network of sidewalks and pathways to connect the village’s residents with destinations including the Post Office; the sawmill, the Industrial Park, Vermont National Guard maintenance facility, and public properties including the Grange, a town-owned riverfront parcel, and an informal river access. Connecting these places with attractive pedestrian facilities will allow residents to access and

1. Sidewalk
 2. Gravel path
- B. Ferry Street from Route 100 to Heath & Sons Lumber
1. Sidewalk
 2. Gravel pathway
- C. Route 100 Old School to Town parcel
1. Sidewalk along Route 100
 2. Seasonal gravel path outside of right-of-way
- D. Route 100 from Town Parcel to Convenience Store (Johnson)
1. Sidewalk along Route 100
 2. Pedestrian shoulder (minimum 5 ft wide)
- E. Route 100 Stormwater Management
1. Bioswale along Route 100
 2. Gravel wetland near Gihon River outfall
- F. Southern Gateway and Safety Enhancement
1. Traffic calming island, tree plantings and bioswale

The above streetscape project segments can be done separately or in combination. Attached to this report are plan view sheets that show location-specific design recommendations and considerations. Cost estimates are presented in the next section.

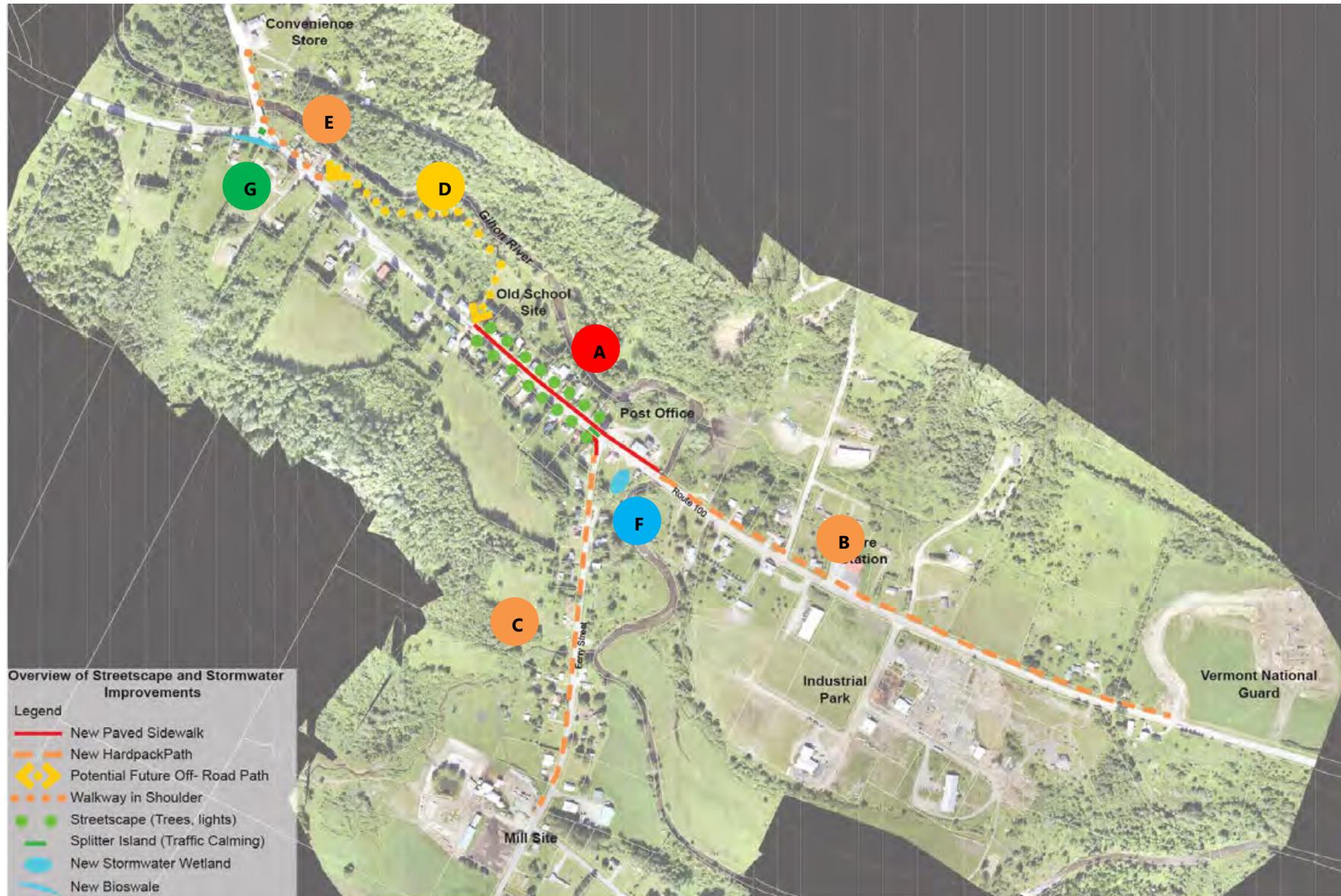
enjoy the destinations in their village, and access employment or services. With the prospect of increasing employment and activity at the Vermont Guard site, economic activity could be increased as well.

The following sections in this report discuss design alternatives for each of the segments A through F, with cross section diagrams for some segments.

- G. Route 100 between Old School and Gihon River bridge
 - 1. Sidewalks and streetscape enhancements (lights, trees)
 - 2. Shared Use Path and streetscape enhancements
- H. Gihon River bridge to Vermont Guard Facility
 - 1. Sidewalk
 - 2. Gravel path
- I. Ferry Street from Route 100 to Heath & Sons Lumber
 - 1. Sidewalk
 - 2. Gravel pathway
- J. Route 100 Old School to Town parcel
 - 1. Sidewalk along Route 100
 - 2. Seasonal gravel path outside of right-of-way
- K. Route 100 from Town Parcel to Convenience Store (Johnson)
 - 1. Sidewalk along Route 100
 - 2. Pedestrian shoulder (minimum 5 ft wide)
- L. Route 100 Stormwater Management
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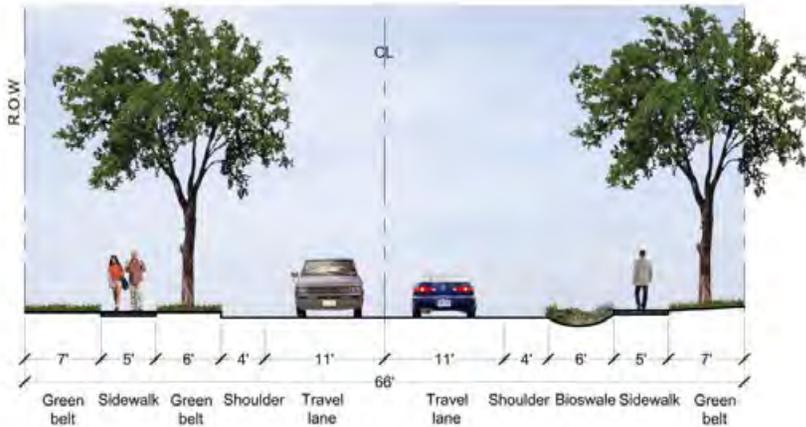
Figure 4.1: Overview of pedestrian network



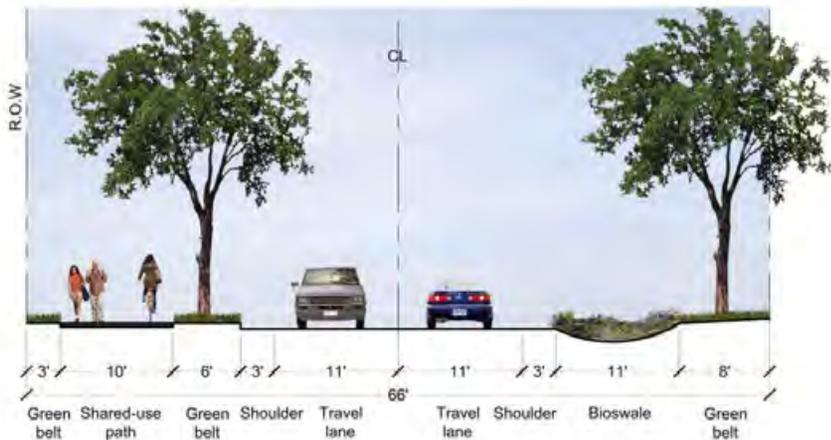
4.2 Project Alternatives

4.2.1 Segment A - Route 100 through Village and Northern Gateway

Alternative A1 has sidewalks on both sides, with a bioswale to capture and treat runoff from Route 100.



Alternative A2 has a shared use path on one side, and a bioswale on the other to treat and manage stormwater runoff.



Street lighting can be both attractive on a village street and increase safety. As North Hyde Park is a village with few commercial activities, the style and placement of street lighting should be compatible with rural historic setting. Lighting at the Ferry St/Route 100 intersection would improve safety and reinforce the village's character



After consideration of the village pedestrian alternatives, it is recommended that a 6 foot asphalt sidewalk be proposed on the west side of Route 100, for the following reasons:

- Avoids conflicts with utility poles lining the east side of Route 100.
- Connects the Post Office, informal river access just downstream of the Gihon River Bridge, the Grange, the publicly owned former school site, and to a potential new trail between the old school and town-owned land at the south end of the village (shown in Figure 4.1).
- Connects to a pedestrian facility serving the Vermont Air National Guard facility without requiring street crossings.

The recommended sidewalk will prevent the customary on-street parking on Route 100, due to the landscaped a greenbelt with street trees. Parking is prevalent only during church services or other community events, so additional public parking may be needed. The Town of Hyde Park should consider purchasing vacant properties that become available, and develop for additional/overflow parking.

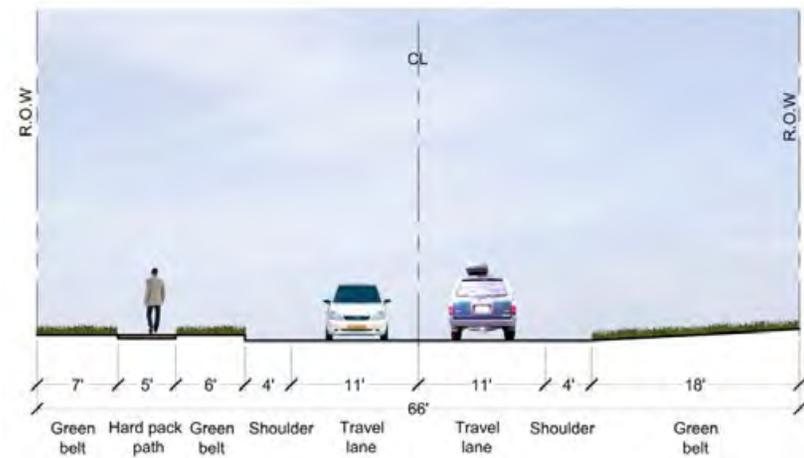
The northern gateway into the village, at the Ferry Street intersection, is an excellent location to develop an attractive gateway that can include a textured, mountable traffic calming island, crosswalk, tree planting, and street lights. This design is proposed following consultation with VTrans and adjacent landowners, and is designed to have a traversable median island so that larger trucks turning at Ferry Road can roll over the median.

Figure 4.2: Photosimulation of Northern Gateway and Streetscape (existing/proposed)



4.2.2 Segment B – Gihon River to Vermont Army National Guard

Alternative B1 and B2 generally have the same cross section, with either a sidewalk or gravel path along the west side of Route 100. Because the context of this segment is more rural and outside the historic village center, public comments suggested that a sidewalk was not desired as it would not blend in with the area’s character, so a gravel path is the preferred facility type.

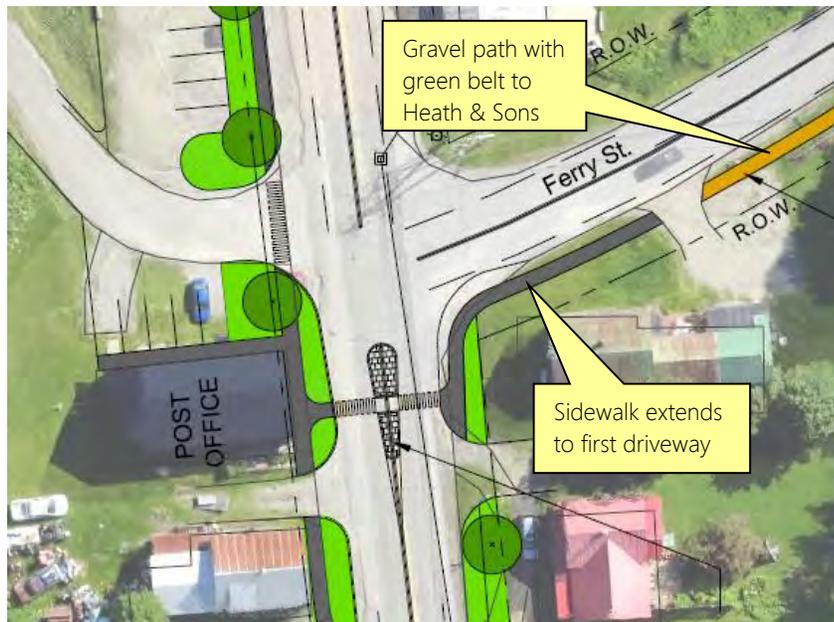


After consideration of which side of Route 100 is most appropriate for the path, it is recommended that it be on the west side of Route 100, which will connect the VANG facility with the village and connect to the proposed village sidewalk.

4.2.3 Segment C – Ferry Street

Ferry Street is currently the safest and most pleasant place to walk, despite the lack of sidewalks, as the traffic volumes and speeds are lower. The alternatives for Ferry Street include a gravel path or sidewalk on the south side of the street, due to the potential for floodway or wetland impacts with construction of a sidewalk or path on the north side.

Figure 4.3: Sidewalk (grey) and gravel path (orange) along Ferry Street



4.2.4 Segment D – Old School to Town Property

In order to promote access to and enjoyment of several town-owned properties in the village, a sidewalk or gravel path could be constructed from the school site along the river bank to a recently acquired property near the southern end of the village. This would also provide a way to walk to the south end of the village (near the store in Johnson and Day Care Center) without traveling on Route 100.

Figure 4.4: Possible Gravel Path Alignment connecting town properties



4.2.5 Segment E – Pedestrian Access to Convenience Store (Johnson)

The nearest store to the village of North Hyde Park is just over the town line in Johnson, along Route 100C. This is a frequent destination for people walking along Route 100, and a pedestrian connection is desired. The alternatives include a sidewalk or widened shoulders. The existing bridge over Route 100 is 30 feet wide, and it is assumed that a sidewalk could fit on the bridge without widening by narrowing the shoulders. Without this option, construction of a wider bridge or new pedestrian bridge makes a sidewalk alternative cost prohibitive. The other alternative proposed is to widen the shoulders along Route 100 and 100C on the north/east sides to at least 5 feet, and shifting the centerline of Route 100C on the bridge to maintain a 5 foot walking shoulder on the north side of the bridge for pedestrian travel.

Figure 4.5: Streetview of Route 100C bridge



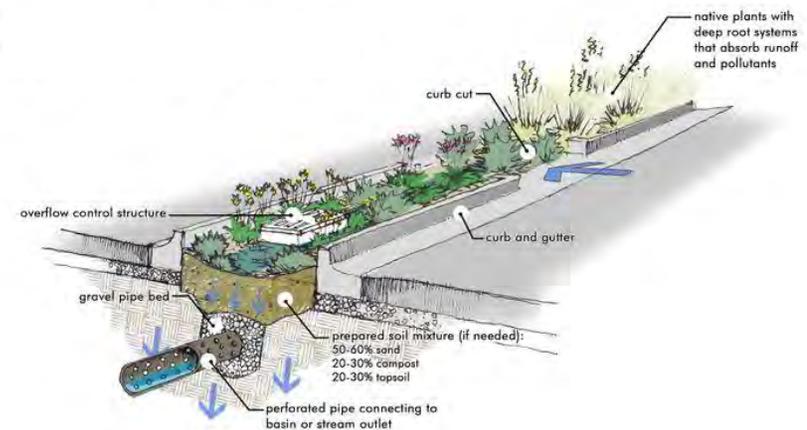
4.2.6 Segment F – Stormwater Management and Green Infrastructure

Based on discussions with ANR and local officials, and input from potentially affected landowners and consideration of costs, the following two options can be include in the project design to both mitigate the existing runoff from Route 100 and the potential increase impervious surface from sidewalk or path construction.

4.2.6.1 Bioswale

A Bioswale could be constructed along Route 100 in the village area, on one or both sides of Route 100. A Bioswale would capture runoff from the road, allow it to infiltrate pervious soil and be absorbed by plantings, with the excess entering the existing stormwater system. A Bioswale would need to be on both sides of Route 100 to provide treatment for the entire surface, which increases cost. It would also require retrofit of existing catch basins. The diagram below shows a typical Bioswale cross section.

Figure 4.6: Typical Bioswale cross section

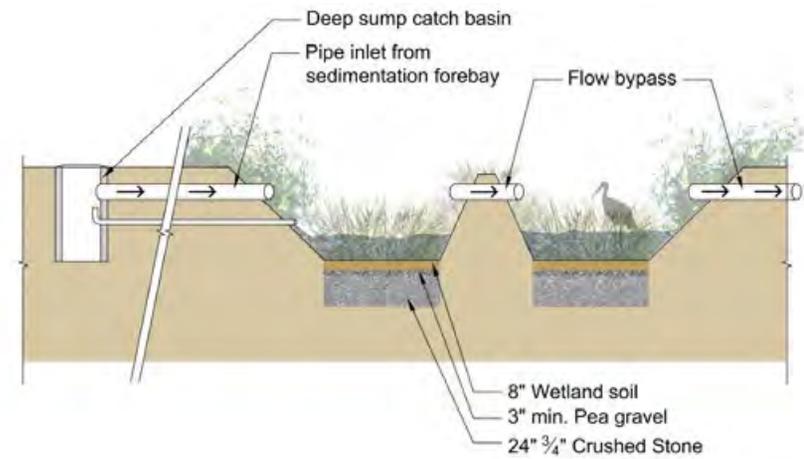


Source: <http://ecomerge.blogspot.com/2015/08/bioswale-solution-to-pollution.html>

Figure 4.7: Example of curbside bioswale



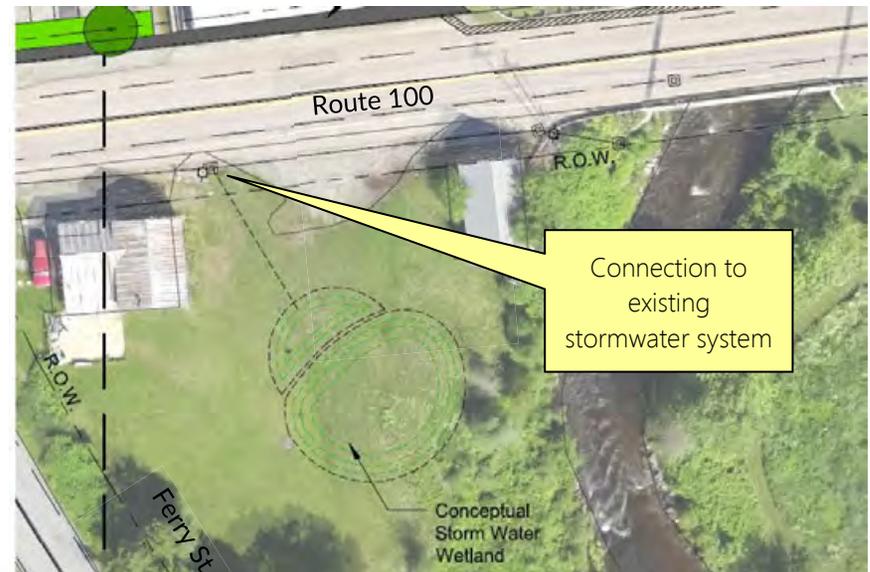
Figure 4.8: Typical Section of a gravel wetland



4.2.6.2 Gravel wetland

Another option to mitigate runoff from Route 100 is the development of a gravel wetland on private property near the intersection of Route 100 and Ferry Street, which is available for purchase at this time. The diagram in Figure 4.8 shows a conceptual cross section of a gravel wetland, and possible location and layout is shown in Figure 4.9.

Figure 4.9: Proposed gravel wetland location



4.2.7 Segment G – Southern Village Gateway

This alternative is proposed to address the high vehicle speeds in the village by establishing an attractive, distinctive gateway into North Hyde Park, and reduce speeds at this high crash location intersection. In the long term, VTrans should investigate options such as a roundabout to address the safety issues. This option consists of a mountable textured median island, tree planting at the gateway for screening, and a Bioswale along Route 100 to address runoff entering the Gihon River at the nearby outfall.



5 Alternatives Analysis

The alternatives as described above and shown in **Error! Reference source not found.** are summarized in **Table 5.1**. The priority segments are also shown on the attached plan sheets in greater detail.

Table 5.1: Analysis of Alternatives by Project Segment

| Category | Description | No Build | A1-Rte 100 Village Sidewalk and Streetscape | A2-Rte 100 Village Shared Use Path | B1-Rte 100 Sidewalk to VANG | B2-Rte 100 Path to VANG | C1-Ferry St Sidewalk | C2-Ferry St Gravel Path | D1-Sidewalk from School to Town Land | D2-Path from School to Town Land | E1-Rte 100 South to Store Sidewalk | E2-Rte 100 South to Store Shoulder | F 1-Route 100, Bioswale | F 2-Gravel Wetland | G 1-South Gateway (Island, Bioswale) | |
|------------------------------|--------------------------|-----------------------------------|---|---|------------------------------------|------------------------------|------------------------------------|------------------------------------|--------------------------------------|--|------------------------------------|------------------------------------|--------------------------------|--|--------------------------------------|------------------------------|
| Characteristics | Length (ft) | 0 | 1,100 | 1,100 | 2,700 | 2,700 | 1,900 | 1,900 | 850 | 1,000 | 720 | 720 | 1,600 | 80 | 300 | |
| | Width (ft) | 0 | 6 | 10 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 80 | 6 | |
| | Surface Type | n/a | Bituminous | Bituminous | Bituminous | Aggregate | Bituminous | Aggregate | Bituminous | Aggregate | Bituminous | Bituminous | vegetated | vegetated | vegetated | |
| | New Impervious (sq ft) | 0 | 6,600 | 11,000 | 13,500 | n/a | 9,500 | n/a | 5,100 | n/a | 3,600 | 3,600 | n/a | n/a | n/a | |
| Resource and Utility Impacts | Ag Lands | 0 | n/a | n/a | Possible | Possible | n/a | n/a | n/a | n/a | n/a | n/a | n/a | Possible | n/a | |
| | Archaeological | - | n/a | n/a | n/a | Possible | n/a | n/a | n/a | Possible | n/a | n/a | n/a | Possible | n/a | |
| | Historical | - | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | |
| | Floodplains | - | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | Possible | n/a | |
| | Fish & Wildlife | - | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | Beneficial to water quality | Beneficial to water quality | Beneficial to water quality |
| | Rare/Threatened Species | - | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | |
| | Public 4(f) | - | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | |
| | LVCP 6(f) | - | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | |
| | Noise | - | Benefit from traffic calming | Benefit from traffic calming | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | Benefit from traffic calming |
| | Wetland | - | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | Possible | n/a |
| | Utilities-aerial | - | n/a | n/a | Possible relocation | n/a | Possible relocation | n/a | Possible relocation | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| | Utilities-subsurface | - | Water line requires 6 ft cover | Water line requires 6 ft cover | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| Local/regional Issues | Concerns | Lack of Ped Safety and Aesthetics | Traffic calming designed to accommodate trucks; maintenance | Traffic calming designed to accommodate trucks; maintenance | Maintenance | Maintenance | Maintenance | Maintenance | Maintenance | Project on private property; maintenance | Maintenance | None | Maintenance | Project on private property; maintenance | Maintenance | |
| | Right of Way Impacts | - | Possible minor temporary easements | Possible minor temporary easements | Possible minor temporary easements | Possible permanent easements | Possible minor temporary easements | Possible minor temporary easements | Possible minor temporary easements | Acquisition or easement required | Possible minor temporary easements | None anticipated | None anticipated | Acquisition or easement required | None anticipated | |
| | Aesthetics | - | Benefit of streetscape amenities | Benefit of streetscape amenities | Neutral or insignificant | Neutral or insignificant | Neutral or insignificant | Neutral or insignificant | Neutral or insignificant | Neutral or insignificant | Neutral or insignificant | Neutral or insignificant | Benefit of landscape plantings | Benefit of landscape plantings | Benefit of landscape plantings | |
| | Community Character | - | Positive | Positive | Positive | Positive | Positive | Positive | Positive | Positive | Positive | Positive | Positive | Positive | Positive | |
| | Economic Impacts | - | Positive | Positive | Positive | Positive | Positive | Positive | Positive | Positive | Positive | Positive | Positive | Positive | Positive | |
| | Conforms to Town Plan | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | |
| | Satisfies Purpose & Need | No | Yes, partially | Yes, partially | Yes, partially | Yes, partially | Yes, partially | Yes, partially | Yes, partially | Yes, partially | Yes, partially | Yes, partially | Yes, partially | Yes, partially | Yes, partially | |

Table 53, Continued

| Category | Description | No Build | A1-Rte 100 Village Sidewalk and Streetscape | A2-Rte 100 Village Shared Use Path | B1-Rte 100 Sidewalk to VANG | B2-Rte 100 Path to VANG | C1-Ferry St Sidewalk | C2-Ferry St Gravel Path | D1-Sidewalk from School to Town Land | D2-Path from School to Town Land | E1-Rte 100 South to Store Sidewalk | E2-Rte 100 South to Store Shoulder | F 1-Route 100, Bioswale | F 2-Gravel Wetland | G 1-South Gateway (Island, Bioswale) | |
|----------|-------------------------|----------|---|--|--|---------------------------------------|--|---------------------------------------|--|---------------------------------------|--|--|--|-----------------------------------|--------------------------------------|-----------------------------------|
| Permits | Act 250 | | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated |
| | 401 Water Quality | | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated |
| | 404 Corps of Engineers | | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated |
| | Stream Alteration | | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated |
| | Cond'l Use Deter'n | | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Possible | Not anticipated |
| | Stormwater Discharge | | Possible if combined with larger project | Possible if combined with larger project | Possible if combined with larger project | Not anticipated due to gravel surface | Possible if combined with larger project | Not anticipated due to gravel surface | Possible if combined with larger project | Not anticipated due to gravel surface | Possible if combined with larger project | Possible if combined with larger project | Possible if combined with larger project | Addresses stormwater from project | Addresses stormwater from project | Addresses stormwater from project |
| | Lakes and Ponds | | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Possible | Not anticipated |
| | Threat/End Species | | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated |
| | S-PO | | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated | Not anticipated |
| Costs | Construction Cost | | \$ 338,900 | \$ 420,700 | \$ 540,000 | \$ 324,000 | \$ 418,000 | \$ 228,000 | \$ 136,000 | \$ 80,000 | \$ 172,800 | \$ 43,200 | \$ 72,000 | \$ 44,800 | \$ 21,600 | |
| | Contingency | | \$ 84,800 | \$ 105,200 | \$ 135,000 | \$ 81,000 | \$ 104,500 | \$ 57,000 | \$ 34,000 | \$ 20,000 | \$ 43,200 | \$ 10,800 | \$ 18,000 | \$ 11,200 | \$ 5,400 | |
| | Total Construction Cost | | \$ 423,700 | \$ 525,900 | \$ 675,000 | \$ 405,000 | \$ 522,500 | \$ 285,000 | \$ 170,000 | \$ 100,000 | \$ 216,000 | \$ 54,000 | \$ 90,000 | \$ 56,000 | \$ 27,000 | |
| | Design Eng (20%) | | \$ 84,800 | \$ 105,200 | \$ 135,000 | \$ 81,000 | \$ 104,500 | \$ 57,000 | \$ 34,000 | \$ 20,000 | \$ 43,200 | \$ 10,800 | \$ 18,000 | \$ 11,200 | \$ 5,400 | |
| | Constr'n Eng (15%) | | \$ 63,600 | \$ 78,900 | \$ 101,300 | \$ 60,800 | \$ 78,400 | \$ 42,800 | \$ 25,500 | \$ 15,000 | \$ 32,400 | \$ 8,100 | \$ 13,500 | \$ 8,400 | \$ 4,100 | |
| | Local Managt (10%) | | \$ 42,400 | \$ 52,600 | \$ 67,500 | \$ 40,500 | \$ 52,300 | \$ 28,500 | \$ 17,000 | \$ 10,000 | \$ 21,600 | \$ 5,400 | \$ 9,000 | \$ 5,600 | \$ 2,700 | |
| | Legal/ROW (5%) | | \$ 12,800 | \$ 15,800 | \$ 20,300 | \$ 12,200 | \$ 15,700 | \$ 8,600 | \$ 5,100 | \$ 3,000 | \$ 6,500 | \$ 1,700 | \$ 2,700 | \$ 1,700 | \$ 900 | |
| | TOTAL PROJECT COST | | \$ 627,300 | \$ 778,400 | \$ 999,100 | \$ 599,500 | \$ 773,400 | \$ 421,900 | \$ 251,600 | \$ 148,000 | \$ 319,700 | \$ 80,000 | \$ 133,200 | \$ 82,900 | \$ 40,100 | |

Notes
Costs rounded up to nearest hundred

Based on cost effectiveness and public input, the following options are recommended for further consideration:

- A1-Route 100 Village Sidewalk and Streetscape
- B2-Path to VANG
- C2-Ferry Street Path
- D2-Path from school site to town property
- E2-Shoulder on Route 100 for pedestrians
- F2-Gravel Wetland
- G1-Southern Gateway

6 Maintenance

The sidewalk network and streetscape enhancements will be owned and maintained by the Town of Hyde Park. The following are considerations for maintaining this infrastructure:

- For a small village with a limited sidewalk network, special equipment is not required; rather the Town can contract with a local vendor for snow removal services with a snow blower or small plowing equipment.
- The Green Stormwater Infrastructure (Bioswale and gravel wetland) will need extra care and maintenance during the first year, such as frequent watering to establish the plantings, but that is typically included in the construction contract. Weeding and clearing debris from these facilities is the primary ongoing maintenance activity for the Town. Gaining the cooperation of adjacent residents for the weeding activity can be a great help to the town.

7 Public Involvement

The study was conducted with a process that included consultation with staff from the Town of Hyde Park, North Hyde water department, the Lamoille County Forester, ANR Ecosystem Restoration, abutting landowners, and the general public.

7.1 Public Meetings

There were three public meetings over the course of this scoping study:

- Local Concerns Meeting-October 15, 2014.
- Alternatives Presentation-June 11, 2015
- Final Project Presentation-October 15, 2015

7.2 Review of Hyde Park Planning Documents

A Review of the Hyde Park Comprehensive Plan (2012) indicates support for the concepts proposed in this report, with designs that are compatible with the village's historic setting, and that will promote economic development.

- To promote **greater pedestrian access and safety**, the Selectboard, Village Trustees and Planning Commission support efforts to expand sidewalks within Hyde Park Village and the North Village.
- The North Village [has] **existing buildings** capable of supporting **mixed-use redevelopment**, wherein dwelling units are interspersed with businesses and office space.
- Hyde Park supports and encourages **economic development and reinvestment** within the Village of Hyde Park and the North Village. However, all new construction and renovations within these designated historic districts should be compatible with the **existing character** of the villages.

8 Project Implementation Timeline

The size and cost of the streetscape recommendations suggests that the Town would want to seek state and/or federal transportation funding. At the time of this report, the following programs could possibly provide funding implementation of some or all of the project components:

- Transportation Alternatives (VTrans)-Sidewalks, paths, crosswalks, traffic calming, green stormwater infrastructure, streetscape elements (trees, benches, etc)
- Bicycle-Pedestrian (VTrans)-Sidewalks, paths, may be more limited on streetscape, trees, lights. May not fund green infrastructure unless required for permitting.

- Community Development Block Grants (Vermont Agency of Commerce and Community Development ACCD) – Sidewalks, paths, street trees, streetscape, parking
- Vermont Recreational Trails Program (ANR – Forest, Parks and Recreation)- Recreational paths.
- Urban and Community Forestry Program (ANR – Forest, Parks and Recreation)-Street tree plantings (funding amount very limited)

The following table summarizes the possible grant programs that could work for each project segment. As these program priorities and eligibility requirements sometimes shift over time, this table should be revisited as the Town considers applying for various grant programs to confirm the eligibility.

Table 8.1: Implementation Options

| Segment | Bicycle Pedestrian | Transportation Alternatives | CBDG | Recreational Trail |
|---------|--------------------|-----------------------------|------|--------------------|
| A | ✓ | ✓ | ✓ | |
| B | ✓ | ✓ | | ✓ |
| C | ✓ | ✓ | | ✓ |
| D | | | | ✓ |
| E | ✓ | ✓ | | |
| F | | ✓ | | |
| G | | ✓ | | |

Based on a review of the analysis of alternatives, and consultation with the Town and public input, the highest priority for implementation includes the following segments:

- A1-Sidewalk and streetscape enhancements
- B2-Path to VANG Facility

- F2-Gravel wetland for stormwater management
- G1-Southern gateway and landscape

A project combining these elements could be funded by the VTrans Transportation Alternatives Program, which is likely to accept applications in the fall of 2016. The following table shows a typical timeline for projects in this grant program, which require state and federal approvals at numerous points during the project development.

Figure 8.1: Typical Project Timeline for VTrans Transportation Alternatives Program

| | 2016 | 2017 | 2018 | 2019 | 2020 |
|---------------------------|------|------|------|------|-------|
| Project Initiation | ■ | | | | |
| Prelim Design/Permitting | | ■ ■ | | | |
| Right of way | | | ■ | | |
| Final Design/Bid Document | | | | ■ ■ | |
| Bidding | | | | ■ | |
| Construction | | | | | ■ ■ ■ |

9 Project Viability

The projects described in this report have enjoyed strong support from the public, landowners, VTrans and the Town of Hyde Park. The recommendations will address long standing goals for enhancing the village streetscape, and their implementation will bring numerous benefits to North Hyde Park. The local economy, as well as the safety of pedestrians will be greatly enhanced. The project will result in very few environmental or property impacts, and there are minimal permitting requirements.

ATTACHMENTS

- 1) Plan sheets with detailed design recommendations and considerations
- 2) Historic and archaeological resources report
- 3) Public meeting minutes and presentations