

**Mountain View Road
Improvements Update,
Williston, VT**



Prepared for:
CCRPC and Town of Williston

Prepared by:
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May 8, 2017

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1.0 INTRODUCTION

The purpose of this report is to expand the detail and information developed by the previous Mountain View Road Bicycle/Pedestrian Facilities Feasibility Study, dated February 4, 2014. The project area begins just east of the VT Route 2A/Industrial Avenue/Mountain View Road intersection and extends easterly approximately 13,000 feet (2.5 miles) along Mountain View Road to the Mountain View Road/North Williston Road intersection. The project area is shown below.

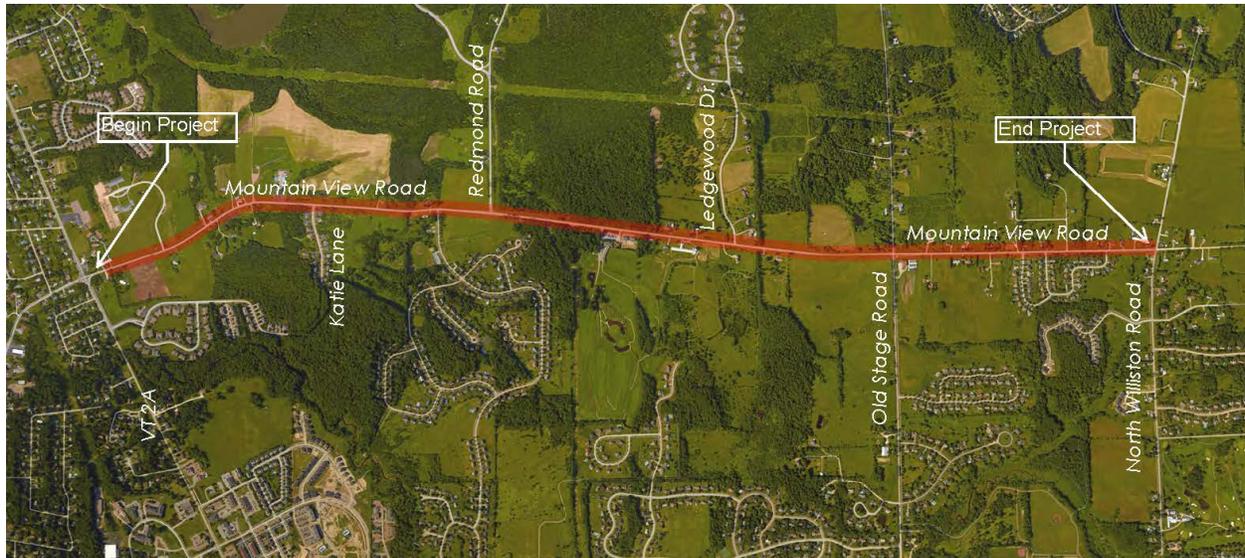


Figure 1: Project Area Plan

The 2014 Feasibility study included an alternatives analysis and a local participation process that consisted of a local concerns meeting, an alternative presentation and selectboard endorsement of a preferred alternative. The selected alternative was the widening of Mountain View Road from its existing 26 foot width to 30 feet. This provides 11 foot lanes and 4 foot shoulders.

This report focuses on the aspects of the project that support its viability to be funded and constructed. As with any project typical factors that influence its viability are natural and cultural resource impacts, permits and right-of way impacts. To understand the project's ability to avoid or minimize impacts, and possible permit issues, additional detail and engineering was developed for the alternative that was selected through the 2014 Feasibility Study process. This additional detail and engineering of the selected alternative included the following:

- Updated the natural resources on the corridor including wetlands, surface waters, flora/fauna, and endangered species.
- Performed an archeological resource and historic preservation assessment for the corridor.

- Performed a field review of the existing drainage to understand impacts of the widening.
- Reviewed and adjusted the roadway widening and its limits of construction to avoid or minimize impacts.
- Developed additional detail on the roadside drainage and culvert needs and their limits of construction.
- Incorporated consideration of stormwater treatment measures into the construction limits to further refine impacts.
- Updated construction costs based on the additional project detail provided.

The result is a thorough understanding of the project's ability to avoid or minimize impacts, the project permit requirements and the project's cost, while providing an important facility for bicycles and pedestrians.

2.0 PROPOSED PROJECT AND IMPACTS

The attached updated plans, found in Appendix A, contain the proposed typical sections, the refined widening and alignment, limits of construction relative to the highway right-of-way and wetlands, the existing utilities and areas of potential stormwater treatment via simple overland flow, known as "disconnect".

2.1 RIGHT-OF -WAY

Generally, the 4 feet of widening is readily accommodated with little direct impact to adjacent properties, wetland and cultural resources. The proposed widening shifts from north to south side to avoid and minimize impacts to these items. Temporary property easements for grading and construction will be needed and stormwater treatment by disconnect will require permanent easements on nine properties.

2.2 UTILITIES

The following utilities are within the corridor; aerial utility lines and poles, underground water and sewer, and underground gas lines. There is underground water, sewer and gas lines adjacent to roadway and they are shown on the plans. The primary utility work, required within the existing pavement area, will be adjusting manholes and other structures to match the new pavement elevation. The excavation for widening road base construction is proposed to be up to 41 inches deep is not expected to reach the depth of the water and sewer lines. It may reach the depth of the existing gas line. Based on the design this area of potential gas line impact is from station 5+00 to station 13+50. The proposed construction will need to be coordinated with Vermont Gas.

The existing aerial poles are within the highway's clear zone. The aerial pole locations and the clear zone is shown on the plans. The design does not change this existing condition. The need to relocate existing poles outside the clear zone, as part of this project, will need to be determined in the conceptual plan stage.

A summary of the anticipated impacts due to the roadway widening can be found in Appendix D.

2.3 WETLANDS

The project avoids direct impact to wetlands, but will have impacts to the 50-foot wetland buffer of the likely Vermont Class 2 wetlands located along the project corridor. Much of this 50-foot buffer is the existing roadway. The project will require a Vermont Individual Wetland Permit prior to construction. Through discussions with Tina Heath of the ANR Wetlands Program, it is understood the eventual permit application should demonstrate the project has minimized wetland impacts to the greatest extent practicable, and the selected alternative and design supports this.

2.4 STREAMS

The project is not proposing to directly affect any streams and a stream alteration permit is not required. There is a stream crossing with a 48" culvert at station 22+00 and a cross section was developed to determine the construction limits. By using guardrail with 8 foot posts and 1.5:1 stone fill slopes, the existing culvert length will accommodate the 4 feet of widening. Therefore, no culvert lengthening/replacement or stream alteration permit is required.

2.5 STORMWATER TREATMENT

This project provides 1.3 acres of new impervious area and will require an Operational Stormwater Permit. Approximately 0.65 acres of new impervious is in the Allen Brook water shed, an impaired stream, and the remaining 0.65 acres is in a tributary to the Winooski River watershed. Several stormwater treatment practices were consider and it was determined using Disconnect, or overland sheet flow, is very practical and cost effective. Disconnect is accomplished by providing flattened slope areas of vegetation and grass adjacent to the roadway to allow the roadway runoff to filter over the ground or infiltrate into it. There are ample areas along the corridor where the existing side slopes adjacent to the roadway can be used or flattened to provide this without impacting front lawns. The project plans and cross sections indicate where these can be located and the limits of their construction. Since these areas extend outside the highway ROW, grading and maintenance easements would be needed. If all required easements are difficult to obtain, dry swales could supplement the treatment. Existing NCRS soils information suggests the existing soils may not be conducive to infiltration so perforated underdrain pipe may be required below the swale.

2.6 CULTURAL RESOURCES

Hartgen Archeological Associates, Inc. conducted an Archeological Resource and Historic Preservation Assessment for the proposed Mountain View Road Bicycle and Pedestrian Project and

the full report is found in Appendix G. The report includes plans indicating the archeological sensitive areas along the corridor. The project is generally restricted to previously disturbed areas. However, some locations are within or directly adjacent to areas of archeological potential. In most cases the construction within these sensitive areas involves filling and will not excavate the area. If project plans change to intersect areas outside of existing disturbance, further review may be warranted.

The report also indicates the historic structures in the project area and there are no historic sidewalks, curbs, retaining walls, or other historic man-made landscape features located within the project area. It is noted several structures which are in excess of 50 years in age have mature plantings associated with them and impacts to plantings should be avoided. No mature plantings are anticipated to be impacted by the project.

2.7 MISCELLANEOUS RESOURCES

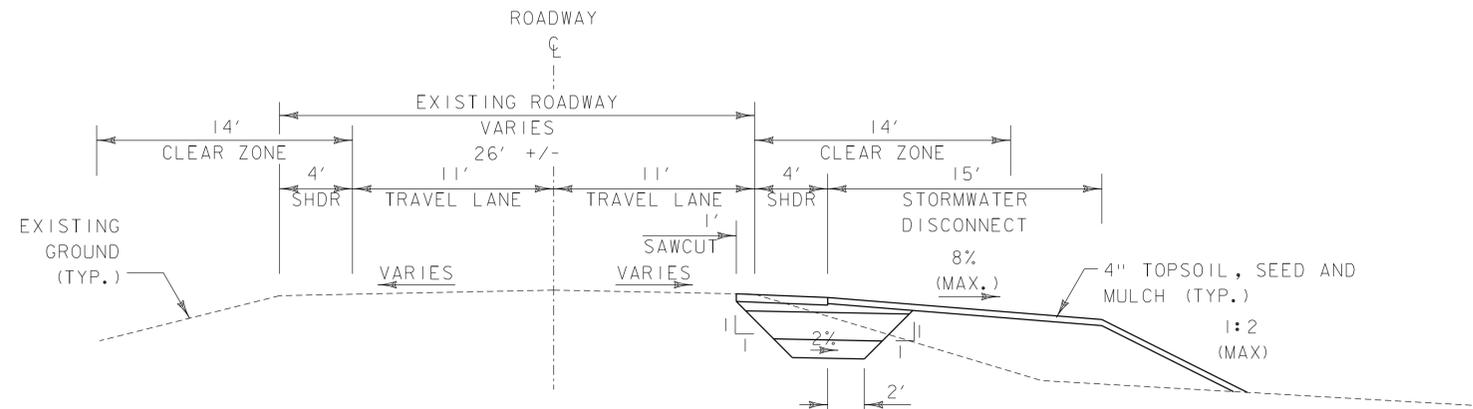
Other environmental resources considered include floodplains, threatened and endangered species, agricultural land, LWCF lands, Public and Recreation Land, and fish and wildlife habitat. These resources are described in the report but are of little consequence to the project.

2.8 PROJECT COST

The updated project cost is \$3.85 million. A breakdown of that cost can be found in Appendix B. This total includes cost estimates for preliminary engineering, construction engineering, construction, municipal project manager and legal fees. This does not include any potential ROW costs. Approximately \$500,000 of the total is due to a 2" overlaying for the length of Mountain View Drive.

APPENDIX A - PLANS

ROADWAY WIDENING CONSTRUCTION:
 2" SUPERPAVE BITUMINOUS CONCRETE PAVEMENT (1 LIFT - TYPE IIIIS)
 3" SUPERPAVE BITUMINOUS CONCRETE PAVEMENT (1 LIFT - TYPE IS)
 6" SUBBASE OF CRUSHED GRAVEL, FINE GRADED
 18" SUBBASE OF DENSE GRADED CRUSHED STONE
 12" SAND BORROW
 (MATCH EXISTING)



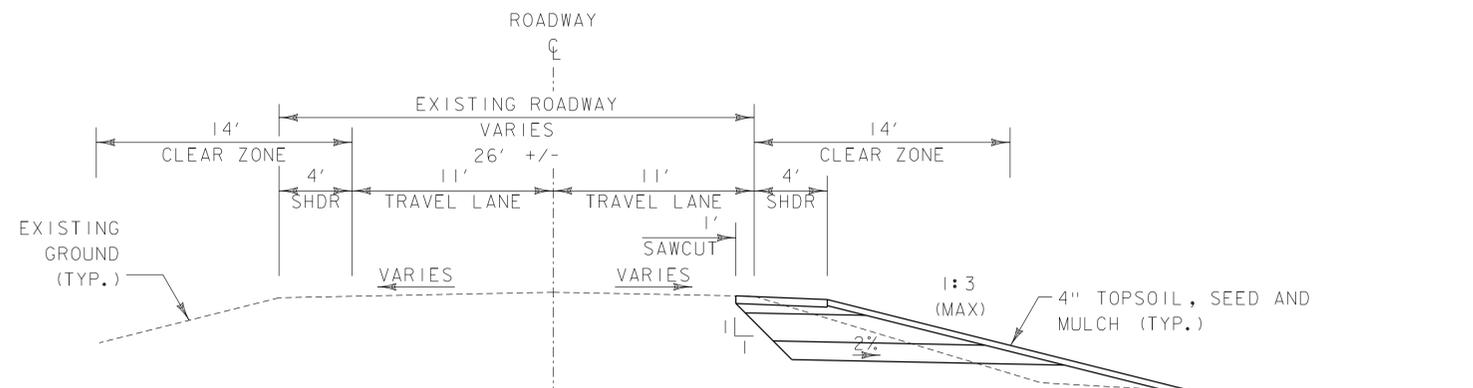
MOUNTAIN VIEW DRIVE

ROADWAY WIDENING, FILL SECTION
 N. T. S.

DISCONNECT AREA, LEFT
 STA. 5+50 TO STA. 6+75
 STA. 12+50 TO STA. 17+50
 STA. 26+75 TO STA. 29+00
 STA. 32+50 TO STA. 43+50
 STA. 52+25 TO STA. 57+00

DISCONNECT AREA, RIGHT
 STA. 6+75 TO STA. 12+50
 STA. 13+75 TO STA. 16+00
 STA. 88+50 TO STA. 96+75
 STA. 101+00 TO STA. 114+50

ROADWAY WIDENING CONSTRUCTION:
 2" SUPERPAVE BITUMINOUS CONCRETE PAVEMENT (1 LIFT - TYPE IIIIS)
 3" SUPERPAVE BITUMINOUS CONCRETE PAVEMENT (1 LIFT - TYPE IS)
 6" SUBBASE OF CRUSHED GRAVEL, FINE GRADED
 18" SUBBASE OF DENSE GRADED CRUSHED STONE
 12" SAND BORROW
 (MATCH EXISTING)



MOUNTAIN VIEW DRIVE

ROADWAY WIDENING, FILL SECTION
 N. T. S.

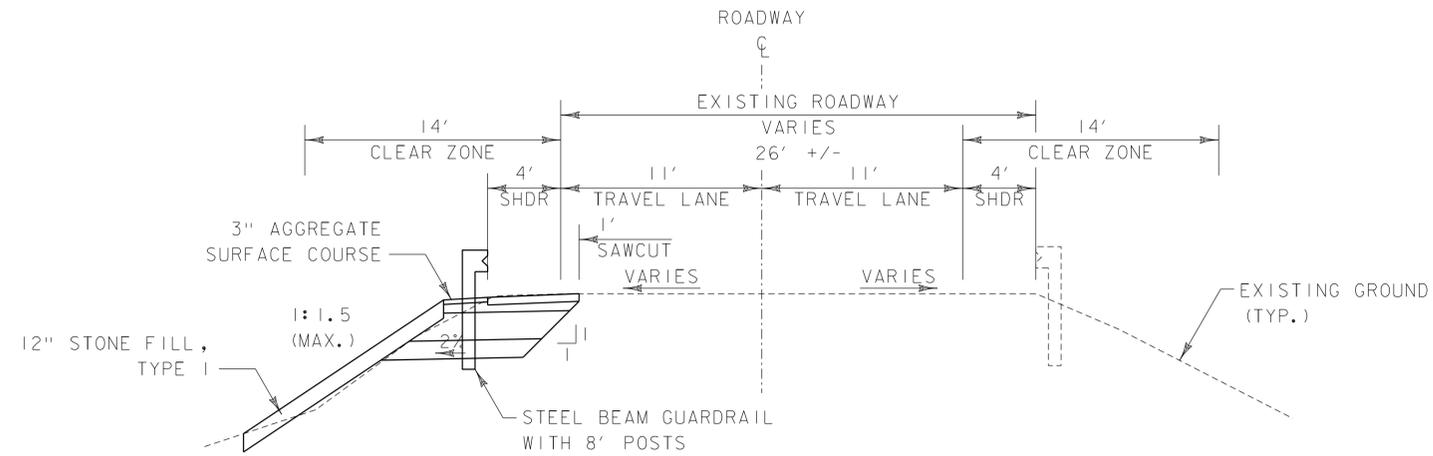
FILL AREA, LEFT
 STA. 17+50 TO STA. 21+00
 STA. 23+25 TO STA. 26+75
 STA. 57+00 TO STA. 58+00
 STA. 73+25 TO STA. 76+75
 STA. 88+00 TO STA. 95+50
 STA. 135+25 TO STA. 136+75
 STA. 139+25 TO STA. 143+00
 STA. 147+50 TO STA. 150+00

FILL AREA, RIGHT
 STA. 5+50 TO STA. 6+75
 STA. 12+50 TO STA. 13+75
 STA. 75+00 TO STA. 85+25
 STA. 96+75 TO STA. 101+00
 STA. 114+50 TO STA. 118+75
 STA. 128+25 TO STA. 140+50

NOTE:
 ROADWAY STRUCTURE MEETS THE TOWN OF
 WILLISTON PUBLIC WORKS STANDARD
 SPECIFICATIONS FOR TYPICAL URBAN
 (DRAWING E-6) AND TYPICAL GRID (DRAWING
 E-7) STREET SECTION.

MOUNTAIN VIEW DRIVE
 ROADWAY WIDENING

ROADWAY WIDENING CONSTRUCTION:
 2" SUPERPAVE BITUMINOUS CONCRETE PAVEMENT (1 LIFT - TYPE IIIIS)
 3" SUPERPAVE BITUMINOUS CONCRETE PAVEMENT (1 LIFT - TYPE IS)
 6" SUBBASE OF CRUSHED GRAVEL, FINE GRADED
 18" SUBBASE OF DENSE GRADED CRUSHED STONE
 12" SAND BORROW
 (MATCH EXISTING)

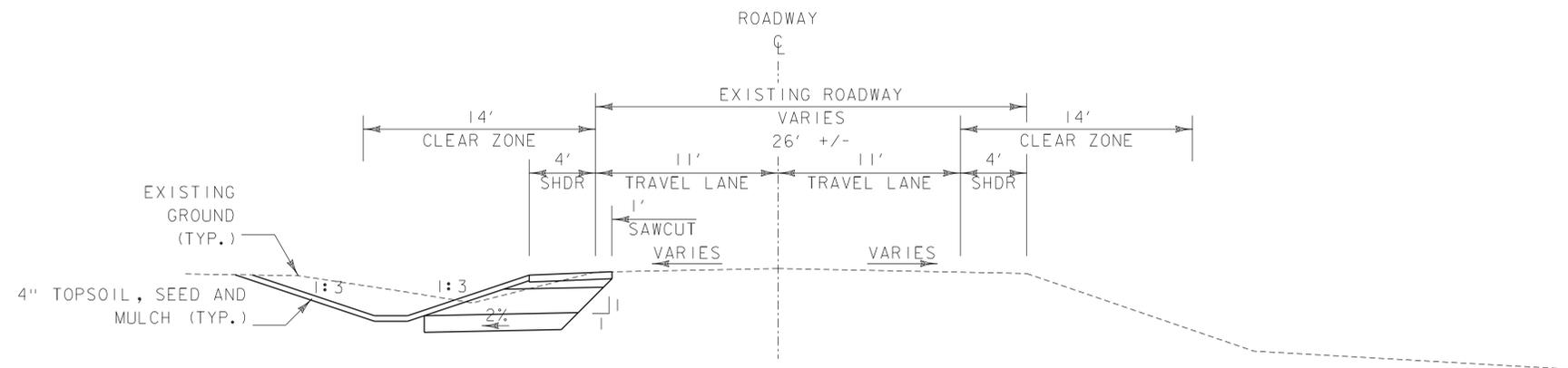


GUARDRAIL SECTION, LEFT
 STA. 21+00 TO STA. 23+25

MOUNTAIN VIEW DRIVE

ROADWAY WIDENING, GUARDRAIL SECTION
 N. T. S.

ROADWAY WIDENING CONSTRUCTION:
 2" SUPERPAVE BITUMINOUS CONCRETE PAVEMENT (1 LIFT - TYPE IIIIS)
 3" SUPERPAVE BITUMINOUS CONCRETE PAVEMENT (1 LIFT - TYPE IS)
 6" SUBBASE OF CRUSHED GRAVEL, FINE GRADED
 18" SUBBASE OF DENSE GRADED CRUSHED STONE
 12" SAND BORROW
 (MATCH EXISTING)



SWALE SECTION, LEFT
 STA. 29+00 TO STA. 32+50
 STA. 43+50 TO STA. 52+25
 STA. 76+75 TO STA. 88+00
 STA. 136+75 TO STA. 139+25
 STA. 143+00 TO STA. 147+50
 STA. 150+00 TO STA. 151+50

MOUNTAIN VIEW DRIVE

ROADWAY WIDENING, SWALE SECTION
 N. T. S.

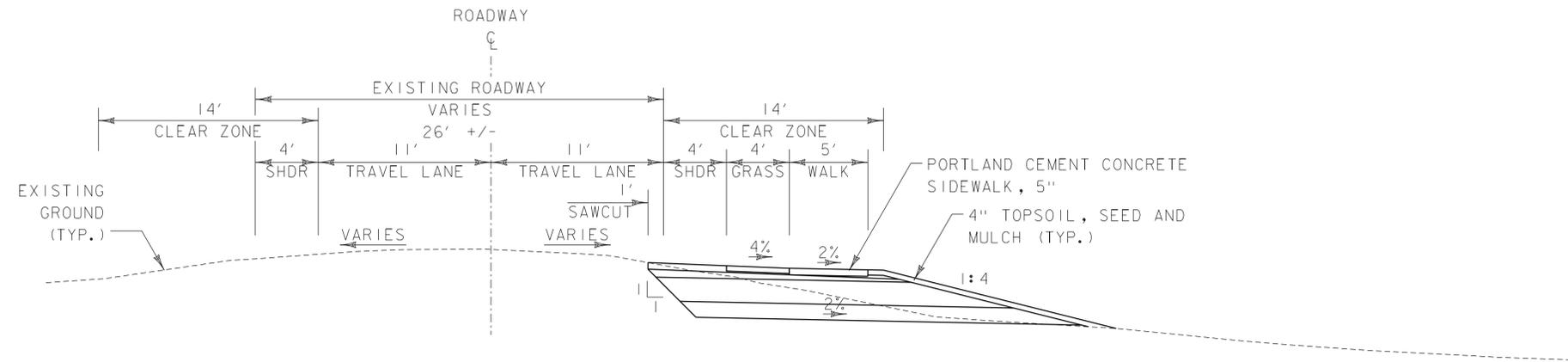
SWALE SECTION, RIGHT
 STA. 56+25 TO STA. 75+00

NOTE:
 ROADWAY STRUCTURE MEETS THE TOWN OF
 WILLISTON PUBLIC WORKS STANDARD
 SPECIFICATIONS FOR TYPICAL URBAN
 (DRAWING E-6) AND TYPICAL GRID (DRAWING
 E-7) STREET SECTION.

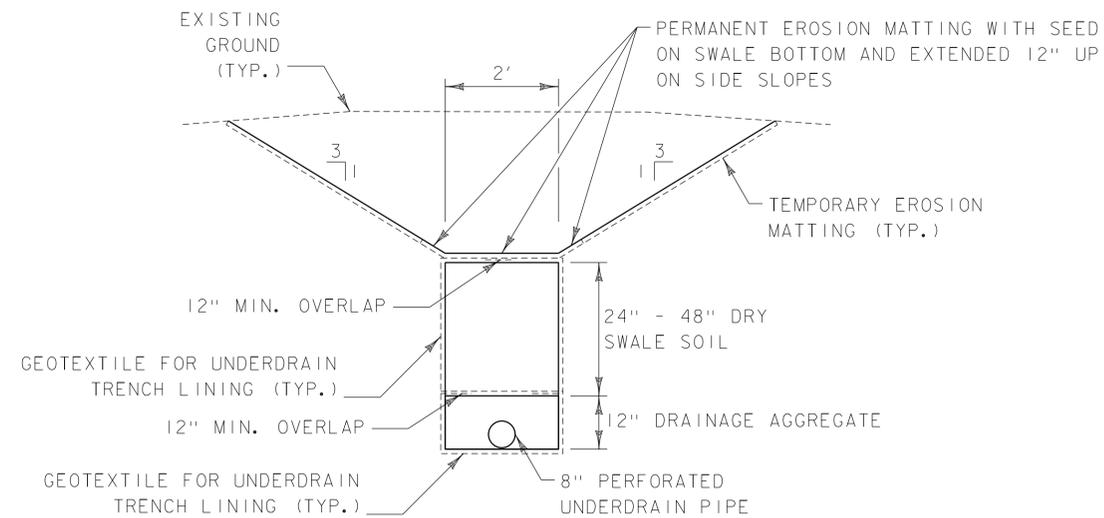
MOUNTAIN VIEW DRIVE
 ROADWAY WIDENING



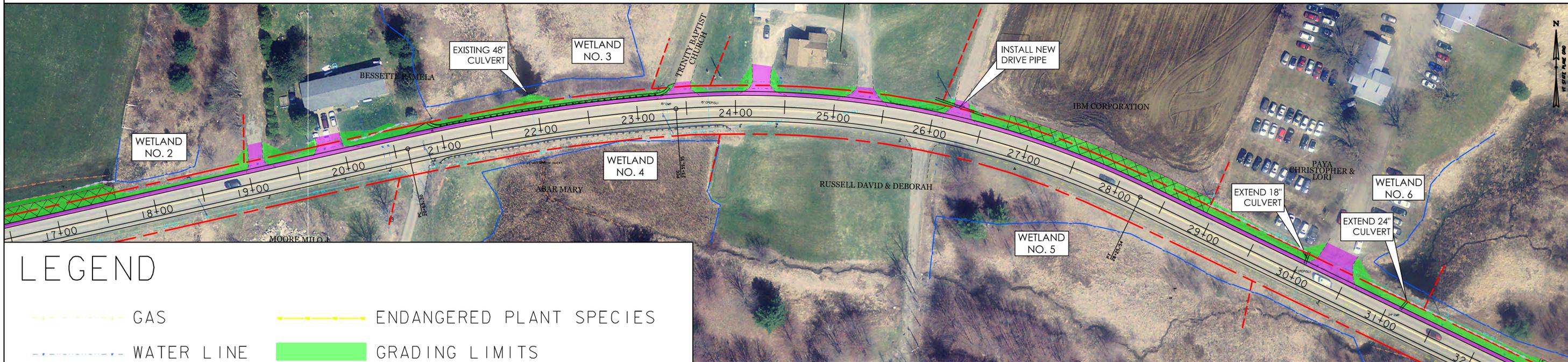
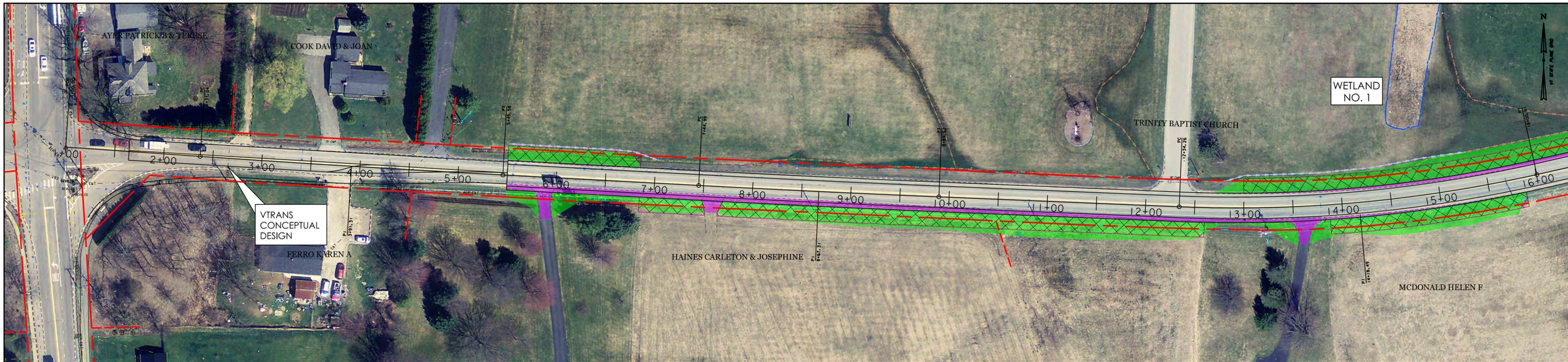
ROADWAY WIDENING CONSTRUCTION:
 2" SUPERPAVE BITUMINOUS CONCRETE PAVEMENT (1 LIFT - TYPE 111S)
 3" SUPERPAVE BITUMINOUS CONCRETE PAVEMENT (1 LIFT - TYPE 1S)
 6" SUBBASE OF CRUSHED GRAVEL, FINE GRADED
 18" SUBBASE OF DENSE GRADED CRUSHED STONE
 12" SAND BORROW
 (MATCH EXISTING)



SIDEWALK AREA, RIGHT
 STA. 118+75 TO STA. 128+25



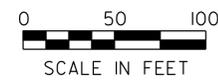
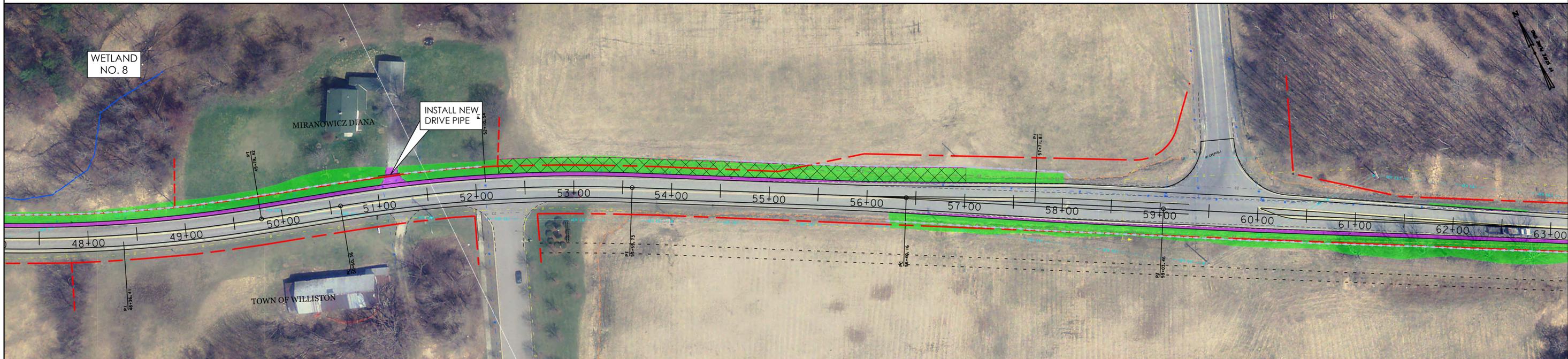
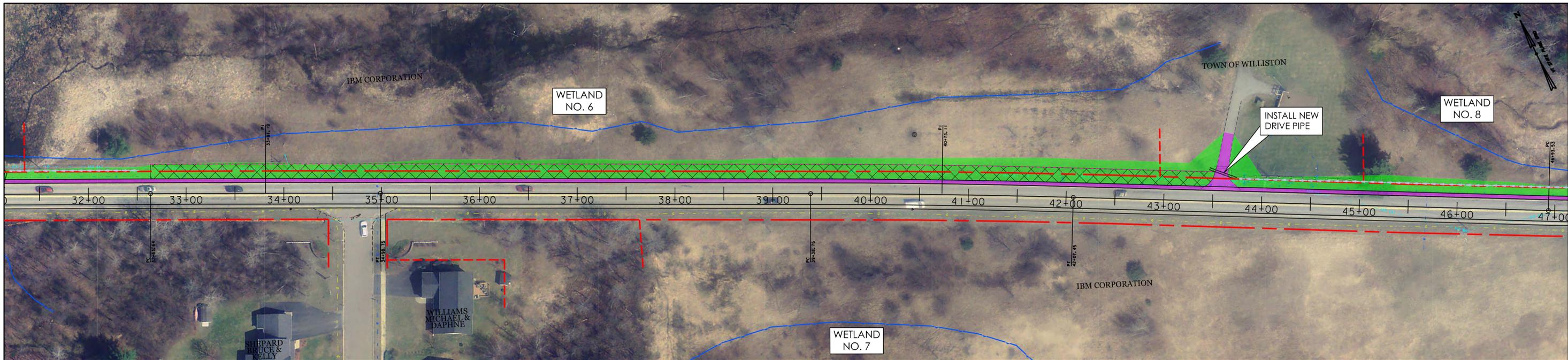
DRY SWALE
 TRENCH DETAIL
 N. T. S.

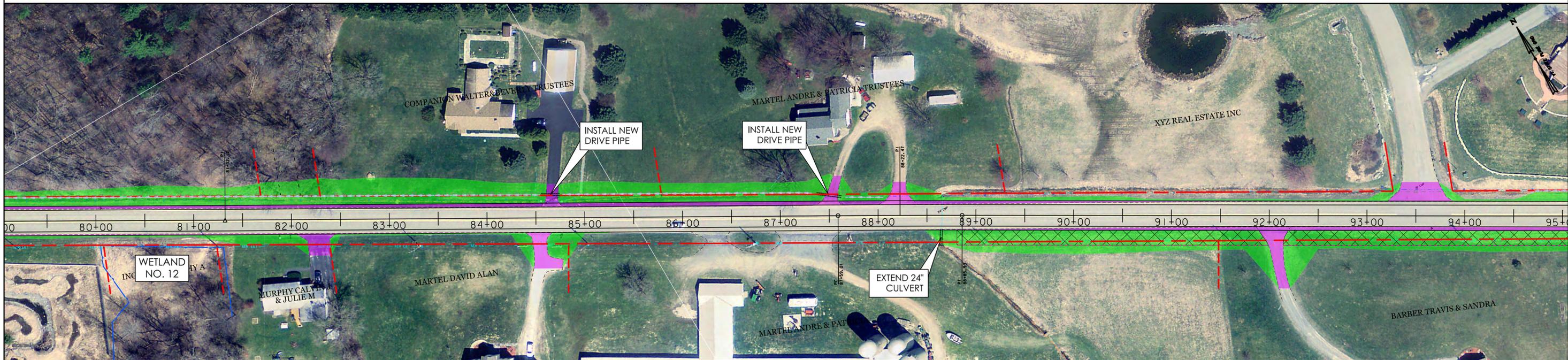
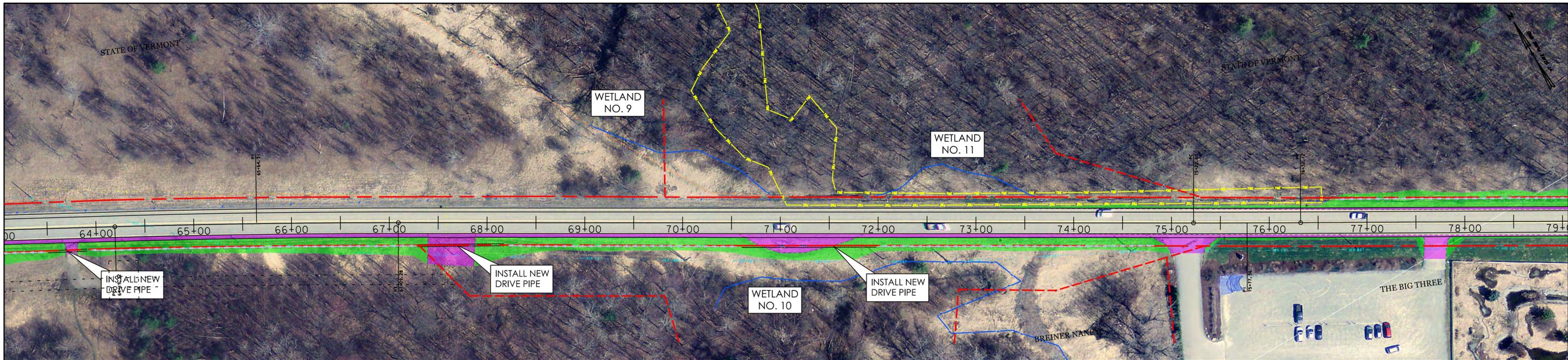


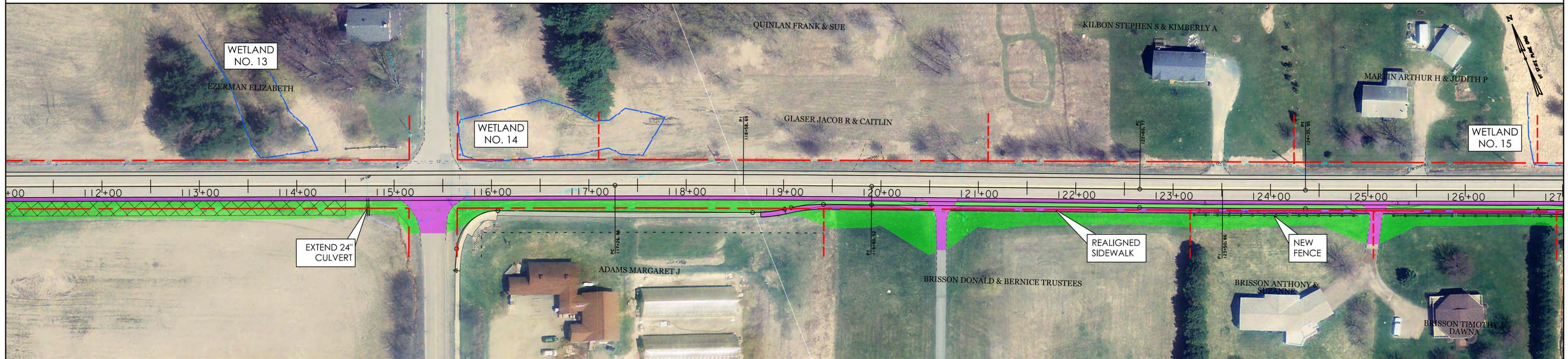
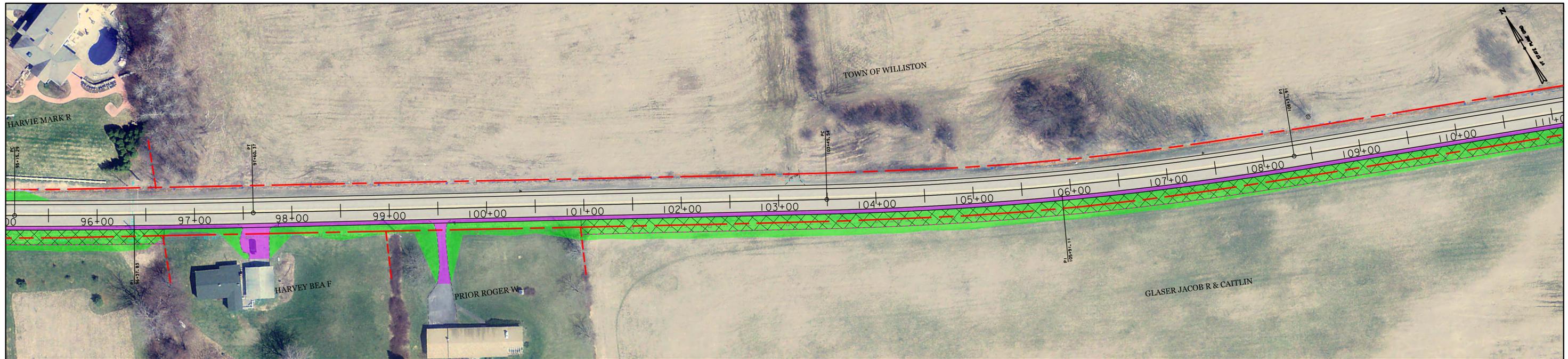
LEGEND

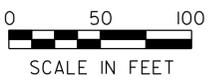
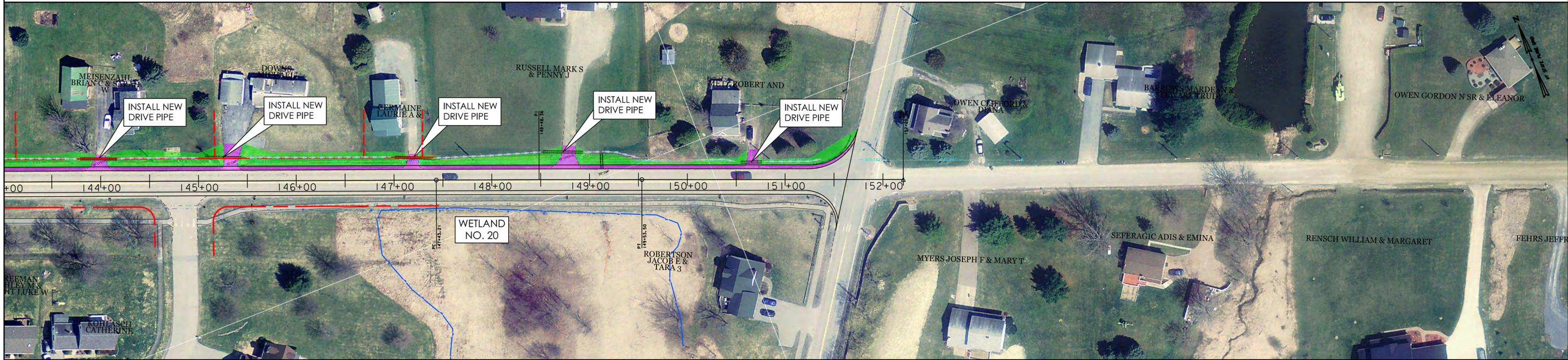
- - - - - GAS
- - - - - WATER LINE
- - - - - ELECTRIC
- - - - - SEWER
- — — — — WETLANDS
- — — — — ROW
- - - - - EXISTING DRAINAGE PATTERN
- - - - - ENDANGERED PLANT SPECIES
- GRADING LIMITS
- ROADWAY WIDENING AND DRIVEWAY RECONSTRUCTION
- PROPOSED DITCH
- DISCONNECTION AREA











APPENDIX B – COST ESTIMATE

 55 Green Mountain Drive South Burlington, VT 05403	TOWN of WILLISTON MOUNTAIN VIEW DRIVE ROADWAY WIDENING			
	CONCEPTUAL COST ESTIMATE		Initials	Date
	Calc'd By:	TFD	1/17/17	
	Checked By:			

				Roadway Widening	
VTrans Item No.	Description	Unit	Unit Price ¹	Quantity	Extension
201.10	Clearing and Grubbing, Including Individual Trees and Stumps	LS	-	1	\$10,000.00
203.15	Common Excavation	CY	\$25.00	13,000	\$325,000.00
203.31	Sand Borrow	CY	\$22.00	2,300	\$50,600.00
301.26	Subbase of Crushed Gravel, Fine Graded	CY	\$70.00	2,500	\$175,000.00
301.35	Subbase of Dense Graded Crushed Stone	CY	\$60.00	6,100	\$366,000.00
401.10	Aggregate Surface Course	CY	\$50.00	100	\$5,000.00
404.65	Emulsified Asphalt - Widening	CWT	\$30.00	40	\$1,200.00
404.65	Emulsified Asphalt - Overlay	CWT	\$30.00	290	\$8,700.00
490.30	Superpave Bituminous Concrete Pavement - Widening	TON	\$80.00	1,800	\$144,000.00
490.30	Superpave Bituminous Concrete Pavement - Overlay	TON	\$80.00	5,000	\$400,000.00
601.2615	18" CPEP(SL)	LF	\$65.00	900	\$58,500.00
613.10	Stone Fill, Type I	CY	\$55.00	50	\$2,750.00
618.10	Portland Cement Concrete Sidewalk, 5 Inch	SY	\$85.00	600	\$51,000.00
618.30	Detectable Warning Surface	SF	\$55.00	40	\$2,200.00
621.205	Steel Beam Guardrail, Galvanized W/8 Feet Posts	LF	\$25.00	300	\$7,500.00
	Pavement Markings - Overlay	LF	\$1.50	58,600	\$87,900.00
	Erosion Control	LS	-	1	\$15,000.00
	Grass Reestablishment ³	LS	-	1	\$118,000.00
	Wood Fence	LF	\$150.00	400	\$60,000.00
	Landscaping	LS	-	1	\$50,000.00
Subtotal					\$1,938,350.00
Mobilization/Demobilization (20%)					\$387,670.00
Traffic Control (10%)					\$193,835.00
Contingency (15%)					<u>\$377,978.25</u>
Subtotal					\$2,897,833.25
Rounded Cost					\$2,900,000.00
Preliminary Engineering (15%)					\$435,000.00
Construction Engineering (10%)					\$290,000.00
Municipal Project Manager (7%)					\$203,000.00
Legal Fees					\$25,000.00
Right-of-Way Costs					TBD
Total Estimated Opinion of Probable Cost					\$3,853,000.00

Notes

1. The unit prices are drawn from recent VTrans Project Bid Tab or 5-yr Average
2. 6,200 CY of EARTH BORROW required, waste volume will be 6,800 CY
3. Grass Reestablishment includes: 2,800 CY Topsoil, 500 LB Seed, 2,600 LB Fertilizer and 10 T Mulch
4. Approximate unit price for Dry Swale construction is \$80 / LF

APPENDIX C – DESIGN SUMMARY

Reference: Mountain View Drive – Summary

and the other four pipes are corrugated metal pipes. These pipe extensions should be straight forward construction operations with the 30" extension being more challenging based on the pipe size.

- There are limited to no end sections of headwalls at the ends of these roadway culverts. In some locations, the end of the pipe is just off the edge of pavement. In some of these locations this end treatment could pose some danger to the traveling public. During the next phases of this project, the Town could investigate the end treatments of these culverts and potentially make the conditions safer.
- 16 existing driveway culverts may need to be replaced during construction. In these areas the driveways require reconstruction and the existing drainage patterns are changing enough to require a new pipe alignment or a longer pipe be installed. In the locations where pipes are in good condition, the Town could elect to reuse existing pipes and extend them as required with the construction.

There are two locations along the corridor where the Town could benefit from further drainage investigation. Drainage patterns in these areas appear to be disjointed and the flow line appears circuitous as it flows from the north to the south:

The eastern side of the Martel Farm

- The drainage pattern in this area flows southwesterly from Ledgewood Drive
- Runoff gets captured in the roadside ditch on the northern side of Mountain View Drive
- It then flows to the northwest along the roadway
- There is approximately 450 feet of ditch between Ledgewood Drive and an existing culvert inlet
- The water then needs to turn 90° to enter a 24" corrugated metal pipe and crosses under the roadway
- The runoff then flows back to the southeast as it crosses the farm field
- Per USGS StreamStats, this culvert handles approximately 24 acres of area with an approximate peak flow of 6 CFS, in a 10-yr storm event
- The capacity of this existing culvert could be confirmed
- A straighter alignment of the flow path could be investigated

Western side of the Old Stage Road intersection

- The drainage pattern in this area flows southeasterly from Ledgewood Drive
- Runoff gets captured in the roadside ditch on the northern side of Mountain View Drive
- It then flows to the southeast along the roadway
- There is approximately 2,100 feet of ditch between Ledgewood Drive and an existing culvert inlet
- The water then needs to turn 90° to enter a 24" corrugated metal pipe and crosses under the roadway
- The runoff then continues to flow to the south along a ditch on the western side of Old State Road
- Per USGS StreamStats, this culvert handles approximately 22 acres of area with an approximate peak flow of 5 CFS, in a 10-yr storm event
- The capacity of this existing culvert could be confirmed
- A straighter alignment of the flow path could be investigated

Reference: Mountain View Drive – Summary**Identify Natural Resources and Cultural Resources**Wetlands

Stantec used the Vermont Agency of Natural Resources (ANR) Natural Resources Atlas mapping program to assess the likelihood of the presence of mapped Vermont Significant Wetland Inventory (VSWI) wetlands. According to this program, there are no Class 2 VSWI wetlands mapped within the project corridor, but areas mapped as “wetland advisory” are found along the project corridor.

Based on field investigations, numerous wetlands were identified throughout the project corridor, and some of these are directly connected to mapped Vermont Class 2 wetlands located adjacent to but outside of the study corridor. In these cases, the unmapped wetlands would also be considered Vermont Class 2 wetlands.

Vegetation in the wetlands varies, but they are primarily palustrine emergent and scrub/shrub wetlands. Dominant species present include cattail (*Typha latifolia*), common reed (*Phragmites australis*), reed canarygrass (*Phalaris arundinaceae*), spotted joe pye weed (*Eutrochium maculatum*), purple loosestrife (*Lythrum salicaria*), willows (*Salix* spp.), and meadowsweet (*Spiraea alba*).

Floodplains

The Federal Emergency Management Agency (FEMA), Flood Insurance Rate Maps were downloaded from the FEMA website and referenced into our project files. The referenced map numbers are 50007C0278D, 50007C0279D and 50007C0283D. The maps show no presence of floodplains along the project corridor.

Fish and Wildlife Habitats

The streams within the project corridor likely provide habitat for fish. The project will not result in direct impacts to streams, and there will be no adverse impacts on fish habitat.

Threatened and Endangered Species

After consulting the Vermont Agency of Natural Resources (ANR) Natural Resources Atlas (Atlas), a confidential rare plant species is known in the project corridor. The plant species was found on the northern side of Mountain View Drive near the Catamount Country Club. This plant is rare in Vermont but not listed as Endangered or Threatened. During the design phase of the project, seasonally-appropriate surveys should be conducted along the corridor for this and other rare, Threatened, and Endangered species.

The entire State of Vermont is considered habitat for the Northern Long Eared Bat, which is a federally Threatened and Vermont Endangered species. During the design phase of the project, a survey should be conducted to confirm the presence of bat habitat. Should the construction require any significant tree clearing, time-of-year restrictions may be placed on the contractor.

Reference: Mountain View Drive – SummaryAgricultural Land

According to the *NRCS Web Soil Survey for Chittenden County, Vermont*, the project corridor includes soils rated as Prime Farmland, Farmland, Statewide, Statewide (A) and Statewide (B) soil types. Soils of Statewide Importance. However, any proposed improvements would be constructed within a narrow strip alongside the existing pavement within and adjacent to existing ROW. Note that any proposed work outside of existing ROW may require authorization from the NRCS via form CPA-106, the Farmland Conversion Impact Rating form for corridor projects. This form should be submitted during the design phase of the project.

LWCF Lands

After consulting the State of Vermont Land and Water Conservation Fund website, no relevant LWCF Land was found.

Public and Recreation Land

The southern side of Mountain View Drive is zoned Residential. The northern side is zoned Agricultural/Rural Residential. Refer to the Town of Williston 2016-2024 Future Land Use Plan. There are no State managed lands along the corridor. There are a few public/recreational spaces along the corridor:

Williston Community Gardens

- The roadway widening is proposed to be on the northern side of the road in this area
- There should be no impact to this property

Catamount Country Club

- The widening is shifting from the south to the north in this area
- There should be a limited amount of roadway widening, limited slope impact and driveway reconstruction for the property
- Most of this work can be completed within the Town's ROW

Adams Apple Orchard & Farm Market

- The widening is proposed to be on Adams' side of the roadway in this area
- Most of the slope work could be limited to within the existing grass strip between the road and the sidewalk
- A section of existing sidewalk will need to be shifted to provide separation between the newly widened roadway and the sidewalk

Brennan Park, with baseball fields and a playground, is at the entrance to Brennan Woods. These facilities are approximately 550 feet away from Mountain View Drive, and will not be impacted by the roadway widening.

Reference: Mountain View Drive – Summary**Environmental Permitting**ANR Wetlands Permit

Based on reconnaissance-level field investigations, wetlands were identified along the project corridor. The project as currently designed avoids direct impact to these wetlands, but will result in impacts to the 50-foot buffer of likely Vermont Class 2 wetlands. The project will require a Vermont Individual Wetland Permit prior to construction. This effort will include wetland delineations and a verification site visit from ANR to be conducted during the growing season prior to submittal of the permit application.

ANR Stream Alterations Permit

The project is not proposing to directly affect any streams. Therefore, no ANR Stream Alteration Permits are anticipated to be required.

Stormwater Treatment and Permitting*Manual*

The ANR is currently under a manual change. As of July 1, 2017, all projects will need to comply with the updated stormwater manual. 2017 Vermont Stormwater Management Manual Rule; Environmental Protection Rule Chapter 36; Vermont Agency of Natural Resources; July 1, 2017, was used during stormwater treatment consideration for the project update.

Definition

Simple Disconnection: Disconnection involves directing flow from impervious surfaces to pervious area, where it can soak into or filter over the ground.

- Required Elements:
 - o A permeable, vegetated treatment flow path equal in length to the impervious surface
 - o Vegetated area shall be 8% or less
 - o Maximum impervious flow path shall be 75 feet

Dry Swale: A linear channel soil filter system that temporarily stores and then filters a desired runoff volume for treatment. Dry swales rely on a pre-mixed soil media filter below the channel surface. If the native soils are permeable, runoff infiltrates into the underlying soils. Otherwise, the runoff treated by the soil media flows into an underdrain, which conveys treated runoff further downstream or safely daylighted down-gradient.

- Required Elements:
 - o Bottom of the dry swale shall be located at or above the seasonal high groundwater table (SHGWT)
 - o If a swale is designed to infiltrate stormwater through the bottom of the practice into the native soil, the infiltration rate of the soil shall be at least 0.2 in/hr
 - o Swale shall be totally drained within 48 hours
 - o Longitudinal channel slope shall be less than or equal to 5%, or check dams will be required

Reference: Mountain View Drive – Summary

Site Balancing: A tool that may be used when control or treatment of certain areas of expanded or redeveloped impervious surface is not reasonably feasible. Under site balancing, the impact from those areas is compensated for by providing equivalent treatment of surfaces within the project limits that would not otherwise be subject to treatment or control requirements. (i.e. treating existing impervious area)

Chapter 6 – Public Transportation Projects

- This project can follow Section 6.1.2 Redevelopment with Expansion: “renovation of the existing public transportation project along the existing alignment with net increase of existing impervious surface, and do not generally change the direction of runoff.”
- 2 watersheds within the project area
 - o SN/001 – Tributary to the Winooski River
 - o SN/002 – Allen Brook
- Allen Brook is an urban stormwater impaired watershed
- Water Quality (WQv) Treatment Standard shall apply to the expanded portion
- 100% of the expanded impervious area will need to be treated, pursuant to Section 2.2.4
 - o SN/001 New Impervious Area = 0.65 AC
 - o SN/002 New Impervious Area = 0.64 AC
- The net increase of impervious area, within any one receiving water, does not exceed 1 acre. Therefore; Groundwater Recharge Treatment Standard, Channel Protection Treatment Standard, Overbank Flooding Treatment Standard and Extreme Flooding Treatment Standard will not apply, in accordance with Section 6.1.2.

Some Potential Pretreatment Practices

4.1.1 Pre-Treatment Swale (Grass Channels)

- 5% longitudinal slopes without check dams
- 6% longitudinal slopes with check dams
- Bottom width between 2' and 8'
- Trapezoidal cross section with side slopes less than 2:1

4.1.3 Sediment Forebay – not feasible within Town's Right-of-Way (ROW)

4.1.4 Deep Sump Catch Basins – majority of existing drainage throughout the project area is open drainage

Available Treatment

- Manual Section 4.2.2 – Treatment by Disconnection:
 - o 1.82 AC of disconnection area may be available for treatment
 - SN/001 Disconnection Area available = 1.05 AC
 - SN/002 Disconnection Area available = 0.77 AC
 - o Some of this disconnection area is outside of the Town's ROW; the Town would need to attain drainage easements in the disconnection areas outside ROW limits, to maintain them per ANR requirements
 - o Based on NRCS Web Soil Survey Hydrologic Soil Group, approximately 75% of the existing soils in the project area are C/D soils; therefore, during the design phase of the project, the infiltration rates should be confirmed for the corridor.
- Manual Section 4.3.2 – Treatment by Dry Swale:

Reference: Mountain View Drive – Summary

- 1.75 AC of impervious area may be able to be treated
 - SN/001 Swale Area available = 1.46 AC
 - SN/002 Swale Area available = 0.29 AC
- Bottom of the dry swale trench shall be at or above seasonal high groundwater table (SHGWT)
- Some of this swale area is outside of the Town's ROW; the Town would need to attain drainage easement in swale areas outside ROW limits, to maintain them per ANR requirements
- Based on NRCS Soil Survey Hydrologic Soil Group, approximately 75% of the existing soils in the project area are C/D soils; therefore, during the design phase of the project, the infiltration rates should be confirmed for the corridor.
- The swales would be required to infiltrate the WQv. The native soil shall have an infiltration rate of at least 0.2 inches/hour, as confirmed by on-site soil testing.
- If the infiltration capability of the existing soils is lower than required, the bottom of the dry swale trench should include perforated underdrain pipe.

*Other Potential Treatment Practices***4.3.1 Bioretention**

- At or above SHGWT
- Need a test pit to find infiltration rate of native soils
- Underdrain can be installed at the bottom of the swale

4.3.3 Infiltration Trenches

- Need a test pit to find infiltration rate of native soils
- Bottom of infiltration practice shall be separated from SHGWT by at least 3 feet

4.3.4 Filtering Systems

- At or above SHGWT
- Need a test pit to find infiltration rate of native soils

4.3.5 Treatment Wetlands – not feasible within the Town's ROW**4.3.6 Wet Ponds – not feasible within the Town's ROW; however, should pond construction be necessary to meet stormwater requirements, there appears to be available area relatively close to the roadway, outside the more residential parcels. To construct these ponds, and maintain the facility per ANR requirements, the Town will need to purchase property from the landowners. This property take may require more in-depth ROW negotiations.****5.1 Dry Detention Ponds – not suitable for meeting WQv, not feasible within the Town's ROW***Project Permit Requirements*

- Due to the topography of the project, not all new impervious area can be directly treated.
- Chosen stormwater treatment practices will need to use site balancing to meet the required treatment area and treat an equivalent amount of existing impervious area.
- Individual Stormwater Permit would be required due to the use of site balancing.

Existing Stormwater Permits

There are several existing stormwater permits along the project corridor, with some stormwater infrastructure near the existing roadway edge. It appears that this project will not have any effect on the existing stormwater infrastructure. This should be confirmed during the design phase of the project.

Reference: Mountain View Drive – SummaryConstruction General Permit

Based on initial completion of the ANR Appendix A – Risk Evaluation, this construction project will need to file a Notice of Intent for Stormwater Discharges Associated with Construction Activities on Moderate Risk Sites Under Vermont Construction General Permit 3-9020. This risk evaluation should be reevaluated during the design phase of the project. A few reasons for the Moderate Risk score:

- The total limit of disturbance for the construction project along the entire project corridor is approximately 8 acres
- Part of the project is being constructed within the Allen Brook watershed, which is an Urban Stormwater Impaired Watershed per the ANR 303(d) list.
- Based on NRCS Web Soil Survey, approximately 48% of the soil along the corridor is considered highly erodible.

Alignment UpdateRoadway Widening

Based on the above information that was reviewed and verified during this phase of the project, adjustments were made to the project alignment and the roadway widening location. The following is a summary of what has changed to the plan since the feasibility study:

VT2A Intersection

VTrans has an intersection realignment project at the VT2A/Mountain View Drive intersection. We received the conceptual realignment and reviewed their plan. It appears that much of the widening at the intersection will be to the south. To match the VTrans limit and to tie into the end of their project, we shifted our widening to the southern side of the road.

VT2A Intersection to Redmond Road

To avoid impacting the wetlands during the feasibility study, the widening needed to shift from the north to the south and back four times. Based on updated wetland information and limits, the roadway widening can remain on the northern side of the road in this section.

Redmond Road to the Martel Farm

During the feasibility study, the widening was shown on the northern side of the road. Based on new mapping from the ANR Natural Resources Atlas, there is an endangered plant species on the northern side of the road near the entrance to Catamount Country Club. Avoiding impact to this plant required widening on the southern side of the road. After the mapped boundary area, the widening shifts back to the north to avoid impact to the Martel Farm.

Martel Farm to Old Stage Road

During the feasibility study, the widening was shown on the northern side of the road. If the roadway is widening on the northern side in this section, the existing roadside ditch would

Reference: Mountain View Drive – Summary

need to be pushed farther to the north. Instead of cutting a new roadside ditch, the widening was shifted to the southern side of the road to take advantage of a fill typical section.

Old Stage Road to North Williston Road

The widening has not changed since the feasibility study. We have now included a section of sidewalk reconstruction to the east of Adams Apple Orchard & Farm Market. The widening in this area is on the southern side of the road and the existing sidewalk is close to the roadway. To provide a 4-foot grass strip between the new edge of road and sidewalk, the sidewalk must shift farther to the south. An existing fence will need to be replaced south of the edge of the sidewalk.

Roadway Culverts

The construction limits have been updated and are shown on the concept plans. In any location where the limit of construction extends past the end of an existing culvert, this existing culvert may need to be extended. It is assumed 5 existing culverts will need to be extended due to the roadway widening.

Stormwater Concepts

- Initial calculations indicate the amount of total expanded impervious area will be greater than 1 acre. Therefore, the project will need to apply for an ANR Operational Stormwater Permit.
- Initial calculations indicate that the required treatment area could be met by using either disconnection or linear treatment practices.
- Along the corridor, there are many fill sections and farm fields adjacent to the roadway. To take advantage of these, the concept plans show maximizing the amount of impervious area being treated by simple disconnection.
- Disconnection is never proposed directly adjacent to houses that were close to the road. Roadside swales were proposed in these locations to limit the area of construction disturbance.
- The project could construct roadside swales in areas adjacent to houses or any location where the Town find it is more advantageous.
- Anywhere a new swale crosses an existing driveway, the existing drive pipe will need to be removed and replaced. Given the condition of the existing pipe, it may be able to be reused and replaced.
- Due to the location of the Town's ROW, any of these treatment practices will require drainage easements.
- In the case more robust stormwater treatment practices are required, stormwater pond construction be necessary to meet stormwater requirements. There appears to be available area relatively close to the roadway, outside the more residential parcels.

Construction ChallengesChallenging Construction Locations

Reference: Mountain View Drive – Summary

- Construction in people's front yards
 - o Being mindful of public near the work
 - o Being cognizant of people's property

- Construction near the existing 48" metal pipe
 - o Steep slopes
 - o Long guardrail post installation
 - o Maintaining construction outside the wetland limits
 - o Building the steep slope able to hold the stone fill

- Construction near wetlands
 - o The project construction limits will need to be very clearly defined
 - o Barrier fencing may need to be installed to identify wetland locations and ensure construction stays clear

Side of Roadway Work

Location	Direction	Location	Direction	Work
5+50	LT	6+50	LT	Fill
5+50	RT	15+50	RT	Fill
13+00	LT	28+50	LT	Fill
29+00	LT	32+50	LT	Ditch
33+00	LT	43+50	LT	Fill
44+00	LT	52+00	LT	Ditch
52+50	LT	57+50	LT	Fill
56+50	RT	70+50	RT	Ditch
71+00	RT	71+50	RT	Fill
72+00	RT	74+50	RT	Ditch
73+50	LT	76+50	LT	Fill
75+00	RT	85+00	RT	Fill
77+00	LT	88+00	LT	Ditch
88+50	LT	95+50	LT	Fill
89+00	RT	140+50	RT	Fill
135+50	LT	136+50	LT	Fill
137+00	LT	139+00	LT	Ditch
139+50	LT	142+50	LT	Fill
143+00	LT	147+00	LT	Ditch
147+50	LT	152+00	LT	Fill

APPENDIX D - UTILITIES

Utility Conflicts

Mountain View Drive Widening

Utility Structures

Utility	Location	Offset (ft)	Direction	Description	Work to be completed	Required
Water	5+55		LT-RT	Service	Widening	
Aerial	6+12	19	RT	Utility Pole	Excavation	-
Aerial	8+58	18	RT	Utility Pole	Fill	-
Water	10+73	35	RT	Water Shut Off	Fill	Adjust to grade
Aerial	10+86	21	RT	Utility Pole	Fill	-
Water	13+51	19	LT	Gate Valve	Fill	Adjust to grade
Water	13+52	23	LT	Hydrant	Fill	Adjust to grade
Water	13+61	20	LT	Gate Valve	Fill	Adjust to grade
Water	13+78		LT-RT	Service	Widening	
Aerial	15+75	22	RT	Utility Pole	Fill	-
Water	20+24	25	LT	Water Shut Off	Fill	Adjust to grade
Water	20+38		LT-RT	Service	Widening	
Water	20+44		LT-RT	Service	Widening	
Water	24+44	23	LT	Water Shut Off	Fill	Adjust to grade
Water	26+12		LT-RT	Service	Widening	
Aerial	26+16	31	LT	Utility Pole	Excavation	-
Water	27+21	21	LT	Gate Valve	Fill	Adjust to grade
Water	27+23	25	LT	Hydrant	Fill	Adjust to grade
Aerial	28+92	26	LT	Utility Pole	Fill	-
Aerial	34+06	24	LT	Utility Pole	Fill	-
Water	34+50	20	LT	Gate Valve	Fill	Adjust to grade
Water	34+58	24	LT	Hydrant	Fill	Adjust to grade
Water	34+59	18	LT	Gate Valve	Fill	Adjust to grade
Water	34+96		LT-RT	Service	Widening	
Aerial	36+58	24	LT	Utility Pole	Fill	-
Aerial	39+18	24	LT	Utility Pole	Fill	-
Water	39+59	15	LT	Gate Valve	Fill	Adjust to grade
Aerial	41+60	21	LT	Utility Pole	Fill	-
Water	41+96	20	LT	Hydrant	Fill	Adjust to grade
Water	41+97	16	LT	Gate Valve	Fill	Adjust to grade
Water	43+82	19	LT	Gate Valve	Fill	Adjust to grade
Water	43+82	23	LT	Gate Valve	Fill	Adjust to grade
Water	43+86	21	LT	Hydrant	Fill	Adjust to grade
Aerial	44+11	21	LT	Utility Pole	Ditch	Relocate Pole
Water	44+27	21	LT	Hydrant	Ditch	Adjust to grade
Water	44+30	21	LT	Gate Valve	Ditch	Adjust to grade
Water	44+51	18	LT	Gate Valve	Ditch	Adjust to grade

Water	44+56	24	LT	Gate Valve	Ditch	Adjust to grade
Water	45+68		LT-RT	Service	Widening	
Aerial	48+88	26	LT	Utility Pole	Ditch	Relocate Pole
Water	50+09	16	LT	Gate Valve	Ditch	Adjust to grade
Water	50+16	17	LT	Gate Valve	Ditch	Adjust to grade
Water	50+17	22	LT	Hydrant	Ditch	Adjust to grade
Water	51+07		LT-RT	Service	Widening	
Water	51+45	21	LT	Water Shut Off	Ditch	Adjust to grade
Water	52+10		LT-RT	Service	Widening	
Aerial	56+75	29	RT	Utility Pole	Ditch	Relocate Pole
Water	59+05	13	LT	Gate Valve	Overlay	Adjust to grade
Water	60+04	14	LT	Gate Valve	Overlay	Adjust to grade
Aerial	65+55	27	RT	Utility Pole	Ditch	Relocate Pole
Water	77+98	23	LT	Hydrant	Ditch	Adjust to grade
Water	86+66	21	LT	Hydrant	Ditch	Adjust to grade
Aerial	89+13	27	RT	Utility Pole	Fill	-
Aerial	91+60	24	RT	Utility Pole	Fill	-
Aerial	96+36	26	RT	Utility Pole	Fill	-
Aerial	99+06	22	RT	Utility Pole	Fill	-
Aerial	115+15	39	RT	Utility Pole	Fill	-
Aerial	115+76	26	RT	Utility Pole	Fill	-
Aerial	120+85	34	RT	Utility Pole	Fill	-
Water	123+18	26	RT	Hydrant	Fill	Adjust to grade
Aerial	124+92	26	RT	Utility Pole	Fill	-
Sewer	125+50	10	LT	Sewer Manhole	Overlay	Adjust to grade
Sewer	128+87	11	LT	Sewer Manhole	Overlay	Adjust to grade
Sewer	131+02	12	LT	Sewer Manhole	Overlay	Adjust to grade
Sewer	136+76	10	LT	Sewer Manhole	Overlay	Adjust to grade
Aerial	139+57	17	RT	Utility Pole	Fill	-
Aerial	139+59	21	LT	Utility Pole	Culvert Installation	Relocate Pole
Sewer	142+89	6	LT	Sewer Manhole	Overlay	Adjust to grade
Aerial	144+55	19	LT	Utility Pole	Ditch	Relocate Pole
Aerial	145+14	20	LT	Utility Pole	Ditch	Relocate Pole
Sewer	145+91	6	LT	Sewer Manhole	Overlay	Adjust to grade
Aerial	147+82	19	LT	Utility Pole	Fill	-
Aerial	150+85	20	LT	Utility Pole	Fill	-

Utility Main

Utility	Location	Offset (ft)	Direction	Location	Offset (ft)	Direction
Water	5+50	19	RT	10+72	22	RT
Gas	5+50	13	RT	58+63	32	RT
Water	5+50	12	LT	115+68	23	LT
Gas	58+63	33	RT	58+63	28	LT
Gas	58+63	28	LT	67+59	29	LT
Gas	67+59	29	LT	67+59	43	RT
Water	115+68	23	LT	115+67	22	RT
Water	115+67	22	RT	148+53	33	RT

*The water main, the gas main and the utility services are directly adjacent to the road, or they cross the road. This utility infrastructure could be affected by the 41" typical depth roadway widening. Further coordination with the utility companies should be completed in later phases of this project.

*A full field survey was not completed for the project corridor, subsurface information could be incomplete. Subsurface information shown was provided by Vermont Gas records. Therefore, there could be additional utility conflicts, and further coordination with the utility companies should be completed in later phases of this project.

APPENDIX E - STORMWATER

APPENDIX A - RISK EVALUATION

Accurately answering the questions in this appendix will allow you to determine whether a proposed construction project is considered a Low Risk or Moderate Risk project, which defines the application and permit requirements that are applicable to your project.

The risk evaluation procedure consists of two parts. Part I is a Basic Risk Evaluation, which determines if a project is automatically categorized as Low Risk based upon the answers to a few basic questions.

If a project is not automatically categorized as Low Risk based upon the Basic Risk Evaluation, you must complete Part II, Detailed Risk Evaluation, to determine the risk category for your project. This part includes questions on more detailed aspects of the project.

Once the appropriate risk category has been determined, refer to Part III for the application requirements.

You should be aware that each completed Appendix A is incorporated by reference and included in the terms of this general permit, and each permittee shall undertake its construction activities in accordance with the completed Appendix A, as a condition of this permit. Failure to comply with the completed Appendix A shall be deemed a violation of this permit and subject to enforcement action.

APPENDIX A

Part I – Basic Risk Evaluation

A project may automatically be categorized as Low Risk based on a few basic project characteristics. Answer each question below to determine if a project is automatically categorized as Low Risk. For definitions of terms used in the following questions (e.g. disturbance, vegetated buffer) refer to Appendix C.

Basic Risk Evaluation					
	Criteria	Answer		Score Direction	Enter Score
1.	Will the proposed independent project alone disturb more than 2 acres of land?	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>		If YES, enter 1, if NO enter 0	1
2.	Is the project within a watershed impaired due to stormwater or sediment as specified on Part A of the Vermont 303(d) list?	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>		If YES, enter 1, if NO enter 0	1
3.	Will the project have any stormwater discharges from the construction site to receiving water(s) that do not first pass through a 50 ft vegetated buffer area?	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>		If YES, enter 1, if NO enter 0	0
4.	Will the project have disturbed earth in any one location for more than 14 consecutive calendar days without temporary or final stabilization?	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>		If YES, enter 1, if NO enter 0	0
5.	Will the project have more than five acres of disturbed earth at any one time?	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>		If YES, enter 1, if NO enter 0	0
Total Score for Basic Risk Evaluation (add score from questions 1-5)					2

If the Total Score for Basic Risk Evaluation is 0, the proposed project is eligible for coverage under this permit as a Low Risk project. Proceed to Part IV of Appendix A for a summary of the application requirements for Low Risk Projects. If not, proceed to Part II.

Criterion 1: Only include the disturbance planned for an independent project. For example, if a lot owner is only building on a single house lot in a residential subdivision, only consider the disturbance associated with that lot, not the entire common plan. Refer to Appendix C for definitions of independent project and disturbance.

Criterion 2: Refer to the following web page for a list of waters in these categories:
http://www.vtwaterquality.org/stormwater/htm/sw_cgpeeligibility.htm

Criterion 3: Refer to the Appendix C for the definition of vegetated buffer area.

Criterion 4: Refer to Appendix C for definitions of temporary and final stabilization.

Criterion 5: Refer to Appendix C for the definition of disturbed earth.

Part II – Detailed Risk Evaluation

For projects not automatically categorized as Low Risk in Part I, this Detailed Risk Evaluation must be completed to determine if a project is Low Risk, Moderate Risk, or requires an Individual Permit. This evaluation determines the risk category by weighing the balance of factors which contribute to and mitigate against the risk of a discharge of sediment from the construction project. Complete all questions in Part II for the independent project. For definitions of terms used in the evaluation, refer to Appendix C.

Detailed Risk Evaluation – Identify Risk Factors				
Criteria		Answer	Score Direction	Enter Score
A.	Will the proposed project have earth disturbance within 100 ft (horizontal) upslope of any lake or pond or 50 feet (horizontal) upslope of any rivers or stream (perennial or seasonal)?	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	If YES, enter 1, if NO enter 0	1
B.	Will the project have stormwater discharges by direct conveyance (tributary, channel, ditch, storm sewer, etc.) to a water of the state listed on the 303 (d) Part A list as being impaired by stormwater or sediment; a Class A Water; or an Outstanding Resource Water?	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	If YES, enter 1, if NO enter 0	0
C.	Will the project have more than five acres of disturbed earth at any one time?	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	If YES, enter 1, if NO enter 0	0
D.	Will the project have disturbed earth in any one location for more than 14 consecutive calendar days without temporary or final stabilization?	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	If YES, enter 1, if NO enter 0	0
E.	Will the project include more than one acre of disturbance on soil that is greater than 15% slope?	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	If YES, enter 1, if NO enter 0	0
F.	Will the project include more than one acre of disturbance of soils with a high ($K > 0.36$) erodibility rating?	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	If YES, enter 1, if NO enter 0	1
G.	Total Score for Risk Factors (add A through F)			2

Criterion A: Measure lake distance from mean water level, and stream or river distance from top of bank. Do not include disturbance for the installation of stormwater treatment facilities or road stream crossings if there are no reasonable alternative locations.

Criterion B: Refer to http://www.vtwaterquality.org/stormwater/htm/sw_cgpeligibility.htm for the listing.

Criterion C: The maximum allowable for Low Risk Projects is 7 acres. **Moderate risk projects over 5 acres may be required to file an Individual Discharge Permit application if determined necessary by the Secretary.**

Criterion D: The maximum allowable for Low Risk Projects is 21 days. **Moderate risk projects over 21 days may be required to file an Individual Discharge Permit application if determined necessary by the Secretary.**

Criterion E: Include disturbance for the duration of the project, not at any one point in time. Slope determinations should be based on a site survey of the future disturbance area.

Criterion F: Include disturbance for the entire individual project, not at any one point in time. The Erosion Factor K, is a measure of the inherent erodibility of a soil type. Refer to NRCS soil maps for your county. If soils data is not available (e.g. if the site is built on assorted fill material), contact ANR for directions on evaluating soil erodibility.

Part II Continued – Detailed Risk Mitigation Factor Evaluation

Detailed Risk Evaluation – Identify Risk Mitigation Factors				
Criteria		Answer	Score Direction	Enter Score
H.	Will stormwater leaving the construction site pass through at least 50 feet of established vegetated buffer before entering a receiving water?	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	If YES, enter 1, if NO enter 0	1
I.	Will the project be limited to two acres or less of disturbed earth at any one time?	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	If YES, enter 1, if NO enter 0	1
J.	Will the project have a maximum of 7 consecutive days of disturbed earth exposure in any location before temporary or final stabilization is implemented?	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	If YES, enter 1, if NO enter 0	1
K.	Will the project disturb less than two acres of soil with an erodibility higher than K=0.17?	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	If YES, enter 1, if NO enter 0	0
L.	Will the project include less than two acres of disturbance on soil that is greater than 5% slope?	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	If YES, enter 1, if NO enter 0	0
M.	Total Score for Risk Mitigation Factors (add H through L.)			3

Criterion H: Refer to Appendix C for a definition of vegetated buffer.

Criterion I: Refer to Appendix C for a definition of earth disturbance.

Criterion J: Refer to Appendix C for definitions of temporary and final stabilization.

Criterion K: Include disturbance for the duration of the project, not at any one point in time. The Erosion Factor K, is a measure of the inherent erodibility of a soil type. Refer to NRCS soil maps available at USDA-NRCS District Offices. If soils data are not available (e.g. if the site is built on assorted fill material), contact DEC for directions on evaluating soil erodibility.

Criterion L: Include disturbance for the duration of the project, not at any one point in time. Slope determinations should be based on a site survey of the proposed disturbance area.

Total Risk Score		
N.	Moderate Risk Base Score	2
O.	Enter Score from Line G above (Risk Factor Total)	2
P.	Add lines N and O	4
Q.	Enter Score from Line M above (Risk Mitigation Factor Total)	3
R.	OVERALL RISK SCORE: Subtract line Q from line P	1

Part III– Interpreting the Detailed Risk Evaluation

OVERALL SCORE	Risk Category	Directions for Filing for Permits
<1	Low Risk	<p>The proposed project is eligible for the Construction General Permit as a Low Risk project provided that the requirements of Subpart 2 are met. If these requirements cannot be met, contact DEC to determine if the project should seek coverage as a Moderate Risk project or under an Individual Discharge Permit.</p> <p>Refer to Part IV of Appendix A for a summary of the application requirements for Low Risk projects.</p>
1-2	Moderate Risk	<p>The proposed project is eligible for the Construction General Permit as a Moderate Risk project provided that the requirements of Subpart 3 are met. If these requirements cannot be met, contact DEC to determine if the project should seek coverage as a Moderate Risk project or under an Individual Discharge Permit.</p> <p>Refer to Part IV of Appendix A for a summary of the application requirements for Moderate Risk projects.</p>
>2	Requires Individual Permit	<p>The proposed project is not eligible for coverage under the Construction General Permit, and therefore requires coverage under an Individual Discharge Permit. Please refer to Stormwater Section on the Water Quality Division website for more information: www.vtwaterquality.org/stormwater.htm.</p>

Part IV – Filing Directions

1. Low Risk Projects

Projects that qualify as Low Risk are required to implement the applicable practices detailed in the *Low Risk Site Handbook for Erosion Prevention and Sediment Control*. To obtain coverage under General Permit 3-9020 as a Low Risk project, applicants must submit the following to DEC:

1. A completed Notice of Intent form for General Permit 3-9020;
2. A completed Appendix A;
3. The required processing fee.

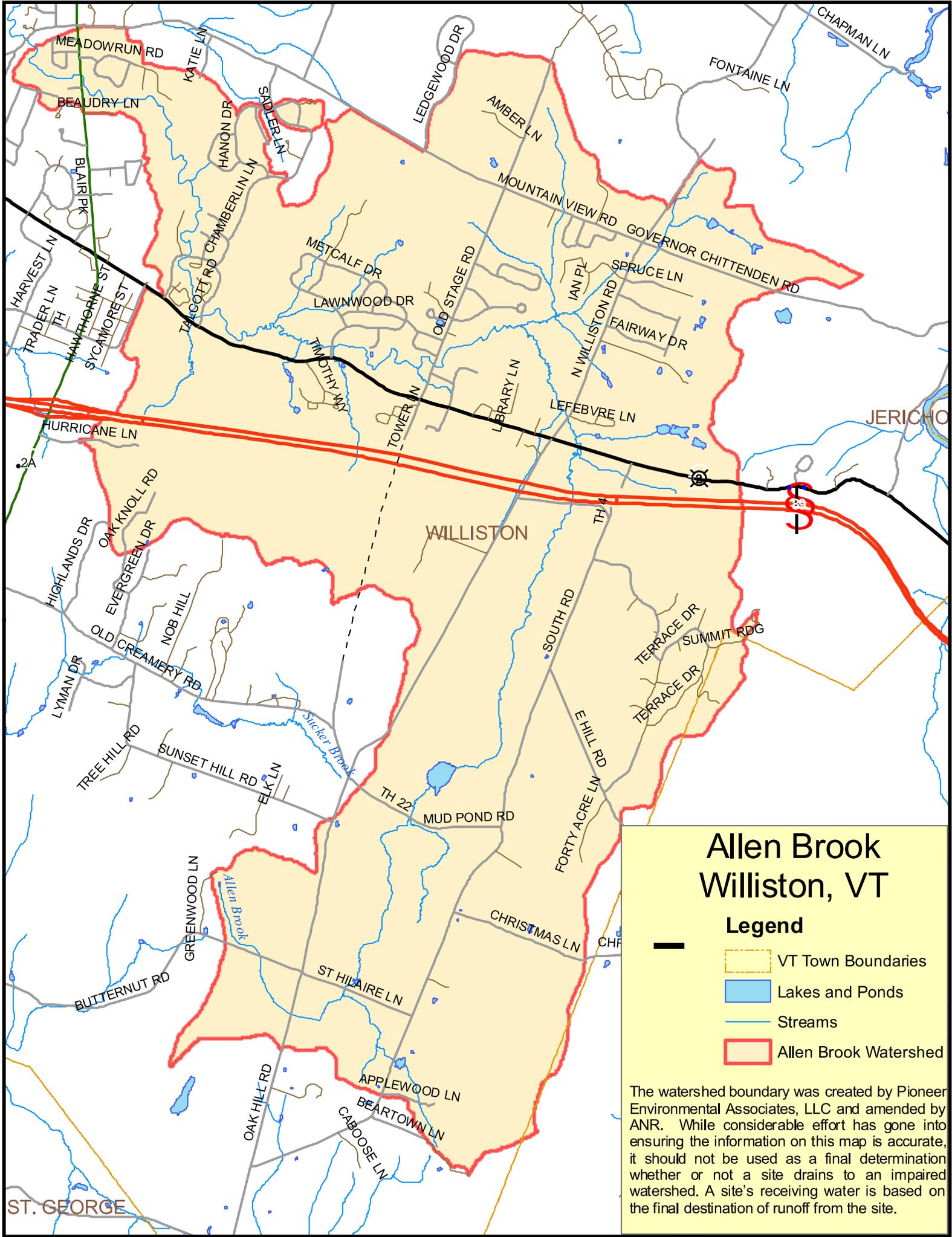
To satisfy the public comment requirement, **applicants must file a copy of the completed Notice of Intent form, including a copy of Appendix A, with the municipal clerk in the municipalities where the project will occur prior to submitting this information to ANR. Details of the public notice process are in Part 2 of the general permit.**

2. Moderate Risk Projects

Projects that qualify as Moderate Risk are required to implement a site-specific Erosion Prevention and Sediment Control (EPSC) Plan that conforms to *The Vermont Standards and Specifications for Erosion Prevention and Sediment Control*. To obtain coverage under General Permit 3-9020 as a Moderate Risk project, applicants must submit the following to DEC:

1. A completed Notice of Intent form for General Permit 3-9020;
2. A completed Appendix A;
3. A site-specific EPSC Plan;
4. A certification by the plan preparer that the EPSC Plan conforms to *The Vermont Standards and Specifications for Erosion Prevention and Sediment Control*;
5. The required processing fee.

To satisfy the public comment requirement, **applicants must file a copy of the completed Notice of Intent form, including a copy of Appendix A, with the municipal clerk in the municipalities where the project will occur prior to submitting this information to ANR. Details of the public notice process are in Part 3 of the general permit.**



Allen Brook Williston, VT

Legend

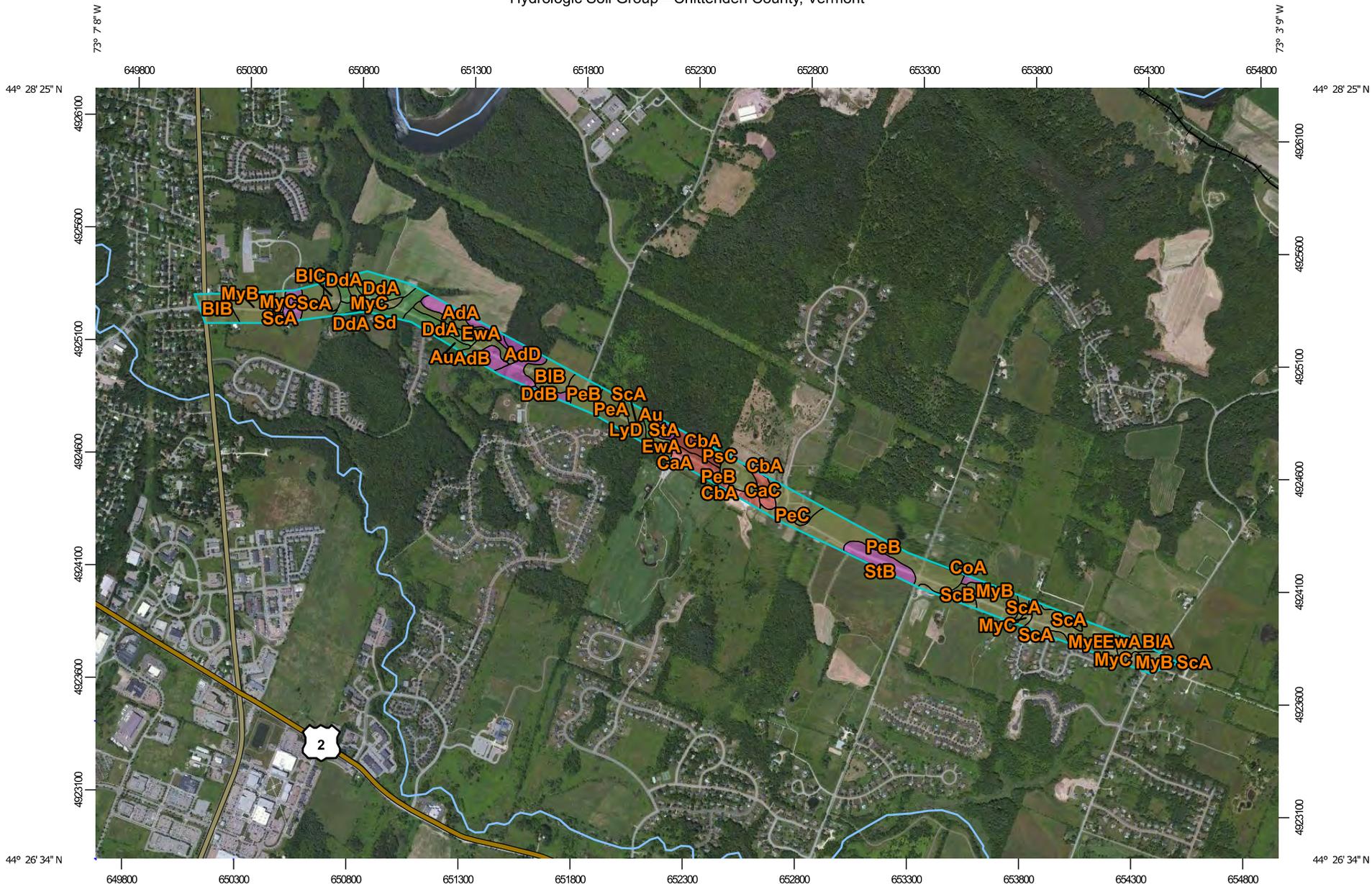
-  —
-  VT Town Boundaries
-  Lakes and Ponds
-  Streams
-  Allen Brook Watershed

The watershed boundary was created by Pioneer Environmental Associates, LLC and amended by ANR. While considerable effort has gone into ensuring the information on this map is accurate, it should not be used as a final determination whether or not a site drains to an impaired watershed. A site's receiving water is based on the final destination of runoff from the site.

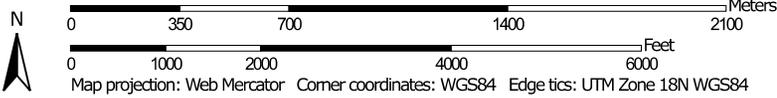
ST. GEORGE

JERICHO

Hydrologic Soil Group—Chittenden County, Vermont



Map Scale: 1:24,100 if printed on A landscape (11" x 8.5") sheet.



MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

Soil Rating Polygons

 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Lines

 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Points

 A
 A/D
 B
 B/D

 C
 C/D
 D
 Not rated or not available

Water Features

 Streams and Canals

Transportation

 Rails
 Interstate Highways
 US Routes
 Major Roads
 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Chittenden County, Vermont
 Survey Area Data: Version 19, Sep 15, 2016

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 28, 2010—Oct 8, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Hydrologic Soil Group— Summary by Map Unit — Chittenden County, Vermont (VT007)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
AdA	Adams and Windsor loamy sands, 0 to 5 percent slopes	A	6.5	4.1%
AdB	Adams and Windsor loamy sands, 5 to 12 percent slopes	A	2.5	1.6%
AdD	Adams and Windsor loamy sands, 12 to 30 percent slopes	A	5.1	3.2%
Au	Au Gres fine sandy loam	A/D	2.4	1.5%
BIA	Belgrade and Eldridge soils, 0 to 3 percent slopes	C/D	0.0	0.0%
BIB	Belgrade and Eldridge soils, 3 to 8 percent slopes	C/D	10.1	6.3%
BIC	Belgrade and Eldridge soils, 8 to 15 percent slopes	C/D	2.1	1.3%
CaA	Cabot silt loam, 0 to 3 percent slopes	D	4.0	2.5%
CaC	Cabot silt loam, 3 to 15 percent slopes	D	2.6	1.6%
CbA	Cabot silt loam, 0 to 3 percent slopes, very stony	D	5.6	3.5%
CoA	Colton gravelly loamy sand, 0 to 5 percent slopes	A	0.6	0.4%
DdA	Duane and Deerfield soils, 0 to 5 percent slopes	A/D	12.4	7.8%
DdB	Duane and Deerfield soils, 5 to 12 percent slopes	A	1.2	0.7%
EwA	Enosburg and Whately soils, 0 to 3 percent slopes	C/D	10.4	6.5%
LyD	Lyman-Marlow complex, 5 to 30 percent slopes, very rocky	D	0.3	0.2%
MyB	Munson and Raynham silt loams, 2 to 6 percent slopes	C/D	26.4	16.6%

Hydrologic Soil Group— Summary by Map Unit — Chittenden County, Vermont (VT007)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
MyC	Munson and Raynham silt loams, 6 to 12 percent slopes	C/D	4.7	3.0%
PeA	Peru fine sandy loam, 0 to 5 percent slopes	C/D	4.3	2.7%
PeB	Peru fine sandy loam, 5 to 12 percent slopes	C/D	27.2	17.1%
PeC	Peru fine sandy loam, 12 to 20 percent slopes	C/D	5.9	3.7%
PsC	Peru fine sandy loam, 0 to 20 percent slopes, very stony	C/D	0.5	0.3%
ScA	Scantic silt loam, 0 to 2 percent slopes	C/D	9.9	6.2%
ScB	Scantic silt loam, 2 to 6 percent slopes	C/D	2.5	1.5%
Sd	Scarboro loam	A/D	4.8	3.0%
StA	Stetson gravelly fine sandy loam, 0 to 5 percent slopes	A	1.7	1.1%
StB	Stetson gravelly fine sandy loam, 5 to 12 percent slopes	A	5.6	3.5%
Totals for Area of Interest			158.9	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

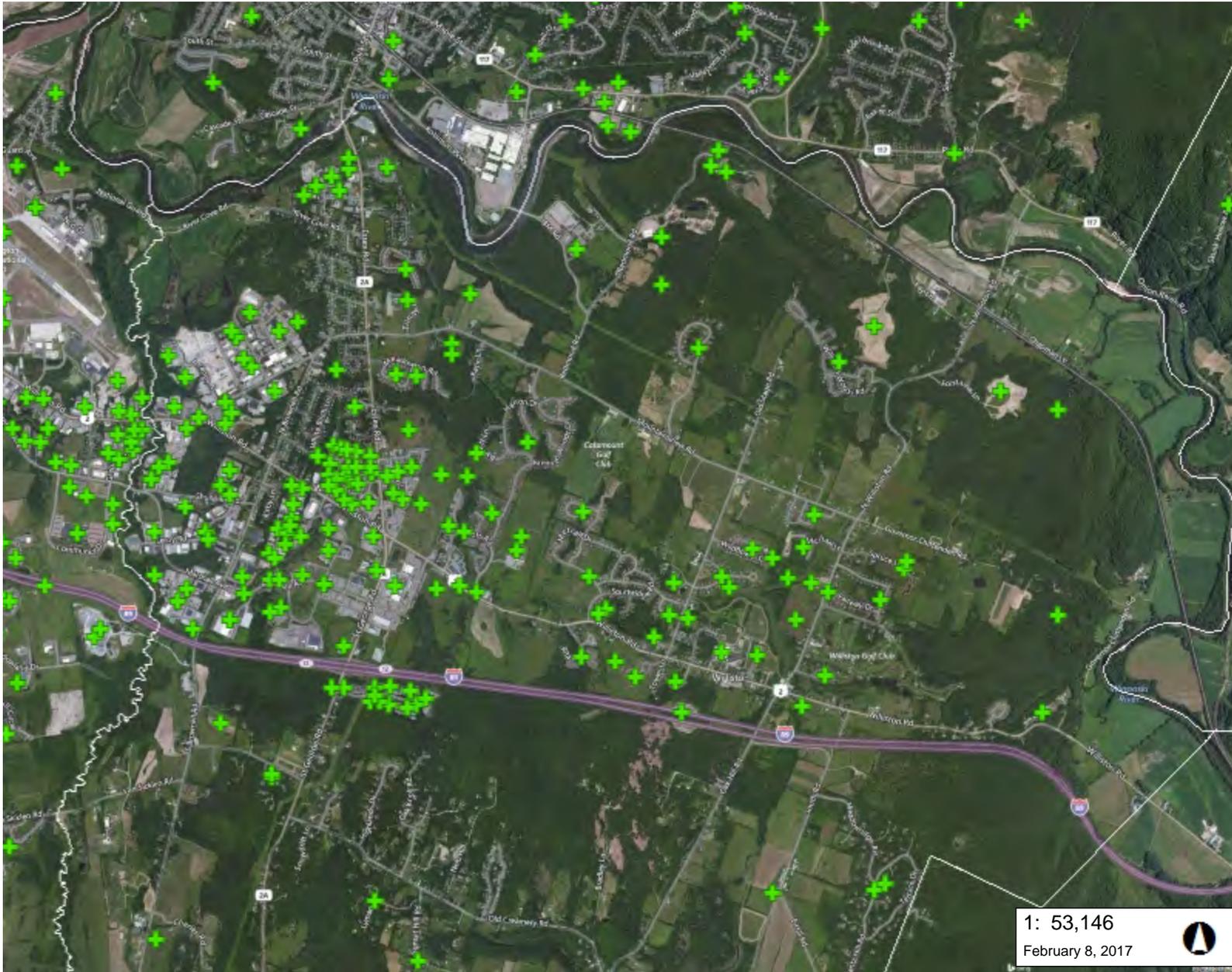
If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher



LEGEND

- + Stormwater Permits (Issued)
- Town Boundary

1: 53,146

February 8, 2017



NOTES

Map created using ANR's Natural Resources Atlas

2,700.0 0 1,350.00 2,700.0 Meters

WGS_1984_Web_Mercator_Auxiliary_Sphere

1" = 4429 Ft. 1cm = 531 Meters

© Vermont Agency of Natural Resources

THIS MAP IS NOT TO BE USED FOR NAVIGATION

DISCLAIMER: This map is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. ANR and the State of Vermont make no representations of any kind, including but not limited to, the warranties of merchantability, or fitness for a particular use, nor are any such warranties to be implied with respect to the data on this map.

STATE OF VERMONT
AGENCY OF NATURAL RESOURCES
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

DISCHARGE PERMIT

In compliance with provisions of 10 V.S.A. 1263 and 10 V.S.A. 1264

The Snyder Group, Inc.
15 Brickyard Road
Essex Jct., VT 05452

and in accordance with "Terms and Conditions" hereinafter specified, the above named permittee is hereby granted permission to discharge stormwater runoff from the roadways, parking, and roofs from Synder-Brennan Residential Subdivision, located on Mountain View Road, Williston, VT to Allen Brook and wetlands contiguous with Allen Brook.

1. Expiration Date:**December 31, 2001.**

Note: This permit, unless revoked, shall be valid until the designated expiration date despite any intervening change in water quality, effluent, or treatment standards of the classification of the receiving waters. However, any such changed standard or classification shall be applied in determining whether or not to renew the permit pursuant to 10 V.S.A. 1263.

Re-apply for a discharge permit by June 30, 2001.

2. Revocation:

10 V.S.A. 1267 provides as follows: "The Secretary may revoke any permit issued by him pursuant to this subchapter if he finds that the permit holder submitted false or inaccurate information in his application or has violated any requirement, restriction, or condition of the permit issued. Revocation shall be effective upon actual notice thereof to the permit holder."

3. Transfer of Permit:

This permit is not transferable without prior written approval of the Secretary. The permittee shall notify the Secretary immediately, in writing, of any sale or other transfer of ownership of the property from which the discharge originates. The permittee shall provide a copy of this permit to the new owner or tenant and shall also inform the new owner or tenant of his responsibility to make application for a permit which shall be issued in his name. Any failure to do so shall be considered a violation of this permit.

4. Right of Entry:

The permittee shall allow the Secretary or their authorized representative, upon presentation of credentials, to enter the permittee's premises where the effluent sources authorized by this permit are located and at reasonable times to have access to copy any records required to be kept under the terms and conditions of this permit or to inspect any treatment device, monitoring equipment, or monitoring method required in this permit and to sample any discharge of pollutants.

5. Receiving Waters: Allen Brook and wetlands contiguous with Allen Brook.

6. Manner of Discharge:

S/N 001: Stormwater from the north portion of "Chamberlin Lane" and the associated residential lot development, collected in a catchbasin system, discharging overland through vegetated terrain to wetlands contiguous with Allen Brook.

S/N 002: Stormwater from "O'Neill Lane", "Greatwoods Lane", "Sadler Lane", a portion of "Chamberlin Lane", "Bartlett Lane" and the associated residential lot development, collected in a catch basin system, conveyed via piping to a sedimentation/detention basin, then discharging via a rip-rapped swale to Allen Brook.

S/N 003: Stormwater from "Carey Lane" and the associated residential lot development, collected in catch basin system, then discharging overland through vegetated terrain to wetlands contiguous with Allen Brook.

7. Wastes Permitted:

S/N 001 through S/N 003: Stormwater runoff from the roadways, parking, and roofs, after treatment and detention of the runoff in a sedimentation/detention basin and by flow through vegetated terrain.

8. Volumes Permitted: Such volumes as required by the discharges specified in No. 6 above

9. Frequency of Discharge: As necessary

10. Operation and Treatment:

Operation as specified in #7 above. For design on the treatment of stormwater runoff for this project see the Lamoureux, Stone & O'Leary Consulting Engineers Sheets ST1, ST2, 10,11,14,15,16,19, and 25 dated 1/23/97 and 6/13/96 last revised 1-22-97, and supporting information.

11. Maintenance and Maintenance Reporting Requirements:

- a. The permittee shall maintain as necessary, all basins, swales, and related stormwater devices to design treatment specifications and shall inspect these devices **annually**, as a minimum
- b. Should any erosional problems occur, the permittee is required to immediately correct all such problems.
- c. Any sediment removed from the detention basin systems shall be disposed of properly and not within 100 feet of Waters of the State.
- d. By **SEPTEMBER 30 OF EACH YEAR** a written report shall be submitted to the Department of Environmental Conservation, 103 South Main Street, Waterbury, VT 05671-0405. This report shall include, as a minimum:
 - i. the dates and details of the cleaning and maintenance operations carried out in the preceding year.
 - ii. a narrative summarizing the results of the inspections conducted in the preceding year.
- e. Any basins, swales or related stormwater devices used during construction for erosion control shall be inspected and cleaned as necessary to design specifications immediately after construction has been completed.
- f. Paved parking lots and roads should be swept on a regular basis when seasonally practicable to minimize contaminants carried to the treatment device by runoff.

12. Personnel and Training Requirements: Such personnel and training as necessary to fulfill the requirements of #10 above.

13. Monitoring and reporting Requirement: No monitoring required; reporting requirement as specified in #11 above.

14. Miscellaneous Requirements: none

15. Issue Date of Permit: _____

AGENCY OF NATURAL RESOURCES

Canute E. Dalmasse, Commissioner
Department of Environmental Conservation

By _____
Marilyn J. Davis, Director
Wastewater Management Division

Prepared and Reviewed by

TRANSFER APPLICATION

I, _____, hereby apply for permission to discharge waste into the waters of the State of Vermont under the provisions of Discharge Permit No. 1-1272, previously issued to The Snyder Group, Inc.

Signed: _____

Address: _____

Telephone: _____

STATE OF VERMONT
AGENCY OF ENVIRONMENTAL CONSERVATION
DEPARTMENT OF WATER RESOURCES

Page 1 of 3

TEMPORARY
POLLUTION PERMIT

File No. 04-17-022

Permit No. 2-0231

In compliance with provisions of 10 V.S.A. §1265

Leo Campagna and Thomas Blanchette
31 Drury Drive
Essex Junction, Vermont 05452

are hereby granted permission to discharge waste into the waters of the State in accordance with "Terms and Conditions" herein after specified, from Pleasant Acres Residential Subdivision, Mountain View Road, Williston, Vermont.

TERMS AND CONDITIONS

1. Expiration Date: July 1, 1985
2. Pollution Charges: Pollution charges may be assessed pursuant to 10 V.S.A. §1265.
3. Revocation: 10 V.S.A. §1267 provides as follows:

"The Secretary may revoke any permit issued by him pursuant to this subchapter if he finds that the permit holder submitted false or inaccurate information in his application or has violated any requirement, restriction or condition of the permit issued. Revocation shall be effective upon actual notice thereof to the permit holder."

4. Transfer of Permit: Subject to written approval of the Secretary, this permit must be transferred to a new permittee upon transferral of the property from which the permitted discharge originates. The above named permittee shall notify the Permits and Compliance Section of the Agency (828-3341) of any pending sale, lease, or other transfer of ownership thirty days prior to such transfer, and shall concurrently provide the prospective new owner with a copy of this permit, calling attention to the transfer application on Page 3.

FAILURE TO COMPLY WITH THE ABOVE SHALL BE DEEMED A VIOLATION OF THIS PERMIT AND MAY RESULT IN THE PERMITTEE'S REMAINING LIABLE UNDER THIS PERMIT AFTER THE PROPERTY TRANSFER.

5. Manner of Discharge: S/N 001 - Via grassed swales and catch basins to grassed swale which discharges to Allen Brook. For details of this project see Pleasant Acres, Sheets 1,2,4,6 and 7, Hamlin Consulting Engineers, Inc., dated 5/17/83.
6. Wastes Permitted: Stormwater runoff from paved roadway (Pleasant Acres Drive) and natural terrain with treatment as specified in item #5.
7. Volumes Permitted: Such volumes as necessary for the discharge specified in Items #5 and #6.
8. Frequency of Discharge: Daily
9. Operation and Treatment Requirements: Stone rip-rap shall be placed at all pipe outfalls.
10. Maintenance and Maintenance Reporting Requirements:
All catch basins, settling ponds, recharge basins or other treatment devices or facilities shall be maintained in good operating order at all times and shall be cleaned quarterly and at such other times as necessary to maintain design treatment levels. NO LATER THAN JANUARY 31 OF EACH YEAR A WRITTEN REPORT SHALL BE SUBMITTED TO THE DEPARTMENT OF WATER RESOURCES, NPDES PERMIT SECTION, MONTPELIER, VERMONT 05602, PROVIDING THE DATES AND NATURE OF CLEANING OPERATIONS CARRIED OUT IN THE PRECEDING YEAR.

Paved parking lots and roads should be swept on a regular basis when seasonally practicable to minimize contaminants carried to the treatment device by runoff.
11. Personnel and Training Requirements: None
12. Monitoring and Reporting Requirements: None
13. Miscellaneous Requirements: During the life of this permit, the permittee may be requested to furnish certain data in support of the investigation of the environmental effect of storm drainage on the receiving stream. If, prior to July 1, 1985, an acceptable method of treatment is adopted or applicable legislative changes are enacted, the permit will be amended to reflect the approved changes.

14. Issue Date of Permit: May 23, 1984

AGENCY OF ENVIRONMENTAL CONSERVATION


By _____
Commissioner
Department of Water Resources
and Environmental Engineering

TRANSFER APPLICATION

I, _____, hereby apply for permission to discharge waste into the waters of the State of Vermont under the provisions of Temporary Pollution Permit No. 2-0231, previously issued to _____.

Signed: _____

109.1030

VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION
AUTHORIZATION TO DISCHARGE UNDER
GENERAL PERMIT 3-9010 AMENDED (MAY 2007)

A determination has been made that the applicant:

Trinity Baptist Church
300 Trinity Drive
Williston, VT 05495
(Impervious area: 3.91 acres)

meets the criteria necessary for inclusion under General Permit 3-9010 Amended (May 2007). Here after the named applicant shall be referred to as the permittee. Subject to the conditions of General Permit No. 3-9010 Amended (May 2007), the permittee is authorized to discharge stormwater from the Trinity Baptist Church located at 300 Trinity Drive in Williston, Vermont to an unnamed tributary of the Winooski River as previously described General Permit Authorization No. 3100-9010:

Manner of Discharge:

S/N 001: Stormwater runoff from gravel and paved drives and parking areas, roofs, concrete walks, and natural terrain that is collected in catch basins and conveyed to a detention pond. Discharge from the pond and stormwater runoff from grassed areas that is collected below the pond is routed through an 18 inch pipe to a riprapped area and natural swale then to an unnamed tributary of the Winooski River.

Compliance with General Permit 3-9010 Amended (May 2007) and this Authorization

The permittee shall comply with this authorization and all the terms and conditions of General Permit 3-9010 Amended (May 2007), including the payment of annual operating fees to the Department. A billing statement for such fees will be sent to the permittee each year. The first year's statement is enclosed. Any permit non-compliance, including a failure to pay the annual operating fee, constitutes a violation of 10 V.S.A. Chapter 47 and may be grounds for an enforcement action or revocation of this authorization to discharge.

Transferability

This authorization to discharge is not transferable to any person except in compliance with Part VI.D. of General Permit 3-9010 Amended (May 2007). A copy of General Permit 3-9010 Amended (May 2007) is available from the Department via the internet at http://www.vtwaterquality.org/stormwater/htm/sw_3-9010.htm

Changes to Permitted Development

In accordance with Part V.G. of General Permit 3-9010 Amended (May 2007), the permittee shall notify the Department of any planned development or facility expansions or changes that may result in new or increased stormwater discharges. The Department shall determine the appropriateness of continued inclusion under General Permit 3-9010 Amended (May 2007) by the modified development or facility.

Annual Inspection and Report

The stormwater collection, treatment and control system authorized herein shall be properly operated and maintained. An inspection shall be conducted between the conclusion of spring snow melt and June 15th of each year. The inspection shall evaluate the operation and maintenance and condition of the stormwater collection, treatment and control system. The permittee shall prepare an annual inspection report on a form available from the Department. The permittee shall submit an inspection report to the Department by July 15th of each year or by July 30th if performed by a utility or municipality pursuant to a duly adopted stormwater management ordinance.

Restatement of Compliance

Every 3 years, the permittee shall submit to the Department a written statement signed by a designer that the stormwater collection, treatment and control system authorized herein is properly operating and maintained. The first re-statement of compliance is due January 27, 2013. Failure to submit a designer's restatement of compliance shall constitute a violation of General Permit 3-9010 Amended (May 2007) and may result in the revocation of this authorization to discharge.

Filing of this Authorization with Local Land Records

In accordance with Part VI.N. of General Permit 3-9010 Amended (May 2007), the permittee shall file a copy of this authorization to discharge in the land records within seven (7) days of its issuance and a copy of the recording shall be provided to the Department within fourteen (14) days of the permittee's receipt of a copy of the recording from the local land records.

Rights to Appeal to the Environmental Court

Pursuant to 10 V.S.A. Chapter 220, any appeal of this decision must be filed with the clerk of the Environmental Court within 30 days of the date of the decision. The appellant must attach to the Notice of Appeal the entry fee of \$250.00, payable to the state of Vermont. The Notice of Appeal must specify the parties taking the appeal and the statutory provision under which each party claims party status; must designate the act or decision appealed from; must name the Environmental Court; and must be signed by the appellant or their attorney. In addition, the appeal must give the address or location and description of the property, project or facility with which the appeal is concerned and the name of the applicant or any permit involved in the appeal. The appellant must also serve a copy of the Notice of Appeal in accordance with Rule 5(b)(4)(B) of the Vermont Rules for Environmental Court Proceedings. For further information, see the Vermont Rules for Environmental Court Proceedings, available on line at www.vermontjudiciary.org. The address for the Environmental Court is 2418 Airport Road, Suite 1, Barre, VT 05641 (Tel. # 802-828-1660).

Effective Date and Expiration Date of this Authorization

This authorization to discharge shall become effective on January 27, 2010 and shall continue until January 27, 2020. The permittee shall reapply for coverage at least sixty (60) days prior to January 27, 2020.

Dated at Waterbury, VT this 27th day of January, 2010.

Justin G. Johnson, Commissioner
Department of Environmental Conservation

By 
Padraic Monks
Stormwater Program Manager

Permit Number 3152-9010.R
Project ID Number EJ96-0010

VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION
AUTHORIZATION TO DISCHARGE UNDER
GENERAL PERMIT 3-9010

A determination has been made that the applicant:

Ledgewood Drive Homeowner's Association
1138 Ledgewood Drive
Williston, VT 05495
(Impervious area: 3.71 acres)

meets the criteria necessary for inclusion under General Permit 3-9010. Hereinafter the named applicant shall be referred to as the permittee. Subject to the conditions of General Permit No. 3-9010, the permittee is authorized to discharge stormwater from Ledgewood Drive Residential Subdivision located on Ledgewood Drive in Williston, Vermont to unnamed tributaries of the Winooski River as previously described and modified in General Permit No.3152-9010:

Manner of Discharge:

S/N 001: Stormwater from buildings, roadways, and drives collected via vegetated swales to an extended detention basin, discharging via a controlled outlet structure, then via sheet flow and existing drainage patterns to an unnamed tributary of the Winooski River.

S/N 002: Stormwater from buildings, roadways, and drives collected via vegetated swales then via sheet flow and existing drainage patterns to an unnamed tributary of the Winooski River.

S/N 003: Stormwater from buildings, roadways, and drives collected via vegetated swales then via sheet flow and existing drainage patterns to an unnamed tributary of the Winooski River.

Compliance with General Permit 3-9010 and this Authorization

The permittee shall comply with this authorization and all the terms and conditions of General Permit 3-9010, including the payment of annual operating fees to the Department. A billing statement for such fees will be sent to the permittee each year. The first year's statement is enclosed. Any permit non-compliance, including a failure to pay the annual operating fee, constitutes a violation of 10 V.S.A. Chapter 47 and may be grounds for an enforcement action or revocation of this authorization to discharge.

Transferability

This authorization to discharge is not transferable to any person except in compliance with Part VI.D. of General Permit 3-9010. A copy of General Permit 3-9010 is available from the Department via the internet at

http://www.vtwaterquality.org/stormwater/htm/sw_3-9010.htm

Changes to Permitted Development

In accordance with Part V.G. of General Permit 3-9010, the permittee shall notify the Department of any planned development or facility expansions or changes that may result in new or increased stormwater discharges. The Department shall determine the appropriateness of continued inclusion under General Permit 3-9010 by the modified development or facility.

Annual Inspection and Report

The stormwater collection, treatment and control system authorized herein shall be properly operated and maintained. An inspection shall be conducted between the conclusion of spring snow melt and June 15th of each year. The inspection shall evaluate the operation and maintenance and condition of the stormwater collection, treatment and control system. The permittee shall prepare an annual inspection report on a form available from the Department. The permittee shall submit an inspection report to the Department by July 15th of each year or by July 30th if performed by a utility or municipality pursuant to a duly adopted stormwater management ordinance.

Restatement of Compliance

Every 3 years, the permittee shall submit to the Department a written statement signed by a designer that the stormwater collection, treatment and control system authorized herein is properly operating and maintained. The first re-statement of compliance is due November 30, 2013. Failure to submit a designer's restatement of compliance shall constitute a violation of General Permit 3-9010 and may result in the revocation of this authorization to discharge.

Filing of this Authorization with Local Land Records

In accordance with Part VI.N. of General Permit 3-9010, the permittee shall file a copy of this authorization to discharge in the land records within fourteen (14) days of its issuance and a copy of the recording shall be provided to the Department within fourteen (14) days of the permittee's receipt of a copy of the recording from the local land records.

Rights to Appeal to the Environmental Court

Pursuant to 10 V.S.A. Chapter 220, any appeal of this decision must be filed with the clerk of the Environmental Court within 30 days of the date of the decision. The appellant must attach to the Notice of Appeal the entry fee of \$250.00, payable to the state of Vermont. The Notice of Appeal must specify the parties taking the appeal and the statutory provision under which each party claims party status; must designate the act or decision appealed from; must name the Environmental Court; and must be signed by the appellant or their attorney. In addition, the appeal must give the address or location and description of the property, project or facility with which the appeal is concerned and

the name of the applicant or any permit involved in the appeal. The appellant must also serve a copy of the Notice of Appeal in accordance with Rule 5(b)(4)(B) of the Vermont Rules for Environmental Court Proceedings. For further information, see the Vermont Rules for Environmental Court Proceedings, available on line at www.vermontjudiciary.org. The address for the Environmental Court is 2418 Airport Road, Suite 1, Barre, VT 05641 (Tel. # 802-828-1660).

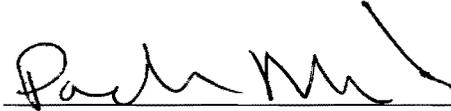
Effective Date and Expiration Date of this Authorization

This authorization to discharge shall become effective on November 30, 2010 and shall continue until November 30, 2020. The permittee shall reapply for coverage at least sixty (60) days prior to November 30, 2020.

Dated at Waterbury, VT this 30th day of November, 2010.

Justin G. Johnson, Commissioner
Department of Environmental Conservation

By



Padraic Monks
Stormwater Program Manager

Permit Number 3462-9010.R
Project ID Number EJ96-0201

VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION
AUTHORIZATION TO DISCHARGE UNDER
GENERAL PERMIT 3-9010

A determination has been made that the applicant:

Brennan Woods Homeowner's Association
In Care Of:
726 Hannon Drive
Williston, VT 05495
(Impervious area: 3.73 acres)

meets the criteria necessary for inclusion under General Permit 3-9010. Hereinafter the named applicant shall be referred to as the permittee. Subject to the conditions of General Permit No. 3-9010, the permittee is authorized to discharge stormwater from Brennan Woods Residential Subdivision located on Brennan Woods Drive, Casey Lane, Sadler Lane, Barrett Drive, O'Neil Lane and Hannon Drive in Williston, Vermont to an unnamed tributary of the Winooski River as previously described in General Permit No. 3462-9010:

Manner of Discharge:

S/N 003: Stormwater runoff from Casey Lane and associated residential lot development collected in a catchbasin system, then discharging overland through vegetated terrain to wetlands and an unnamed tributary of the Winooski River.

S/N 004: Stormwater runoff from a portion of Brennan Woods Drive and associated residential lot development collected in a catchbasin system, conveyed via piping to a vegetated swale discharging to wetlands and an unnamed tributary of the Winooski River.

S/N 005: Stormwater runoff from a portion of Brennan Woods Drive, associated residential lot development, and natural terrain collected in a catchbasin system, conveyed via piping to a vegetated swale discharging to an unnamed tributary of the Winooski River.

Compliance with General Permit 3-9010 and this Authorization

The permittee shall comply with this authorization and all the terms and conditions of General Permit 3-9010, including the payment of annual operating fees to the Department. A billing statement for such fees will be sent to the permittee each year. The first year's statement is enclosed. Any permit non-compliance, including a failure to pay the annual operating fee, constitutes a violation of 10 V.S.A. Chapter 47 and may be grounds for an enforcement action or revocation of this authorization to discharge.

Transferability

This authorization to discharge is not transferable to any person except in compliance with Part VI.D. of General Permit 3-9010. A copy of General Permit 3-9010 is available from the Department via the internet at

http://www.vtwaterquality.org/stormwater/hm/sw_3-9010.htm

Changes to Permitted Development

In accordance with Part V.G. of General Permit 3-9010, the permittee shall notify the Department of any planned development or facility expansions or changes that may result in new or increased stormwater discharges. The Department shall determine the appropriateness of continued inclusion under General Permit 3-9010 by the modified development or facility.

Annual Inspection and Report

The stormwater collection, treatment and control system authorized herein shall be properly operated and maintained. An inspection shall be conducted between the conclusion of spring snow melt and June 15th of each year. The inspection shall evaluate the operation and maintenance and condition of the stormwater collection, treatment and control system. The permittee shall prepare an annual inspection report on a form available from the Department. The permittee shall submit an inspection report to the Department by July 15th of each year or by July 30th if performed by a utility or municipality pursuant to a duly adopted stormwater management ordinance.

Restatement of Compliance

Every 5 years, the permittee shall submit to the Department a written statement signed by a designer that the stormwater collection, treatment and control system authorized herein is properly operating and maintained. The first re-statement of compliance is due January 3, 2016. Failure to submit a designer's restatement of compliance shall constitute a violation of General Permit 3-9010 and may result in the revocation of this authorization to discharge.

Filing of this Authorization with Local Land Records

In accordance with Part VI.N. of General Permit 3-9010, the permittee shall file a copy of this authorization to discharge in the land records within fourteen (14) days of its issuance and a copy of the recording shall be provided to the Department within fourteen (14) days of the permittee's receipt of a copy of the recording from the local land records.

Rights to Appeal to the Environmental Court

Pursuant to 10 V.S.A. Chapter 220, any appeal of this decision must be filed with the clerk of the Environmental Court within 30 days of the date of the decision. The appellant must attach to the Notice of Appeal the entry fee of \$250.00, payable to the state of Vermont. The Notice of Appeal must specify the parties taking the appeal and the statutory provision under which each party claims party status; must designate the act or decision appealed from; must name the Environmental Court; and must be signed by the appellant or their attorney. In addition, the appeal must give the address or location and description of the property, project or facility with which the appeal is concerned and the name of the applicant or any permit involved in the appeal. The appellant must also serve a copy of the Notice of Appeal in accordance with Rule 5(b)(4)(B) of the Vermont

Rules for Environmental Court Proceedings. For further information, see the Vermont Rules for Environmental Court Proceedings, available on line at www.vermontjudiciary.org. The address for the Environmental Court is 2418 Airport Road, Suite 1, Barre, VT 05641 (Tel. # 802-828-1660).

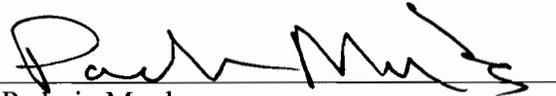
Effective Date and Expiration Date of this Authorization

This authorization to discharge shall become effective on January 3, 2011 and shall continue until January 3, 2021. The permittee shall reapply for coverage at least sixty (60) days prior to January 3, 2021.

Dated at Waterbury, VT this 3rd day of January, 2011.

Justin G. Johnson, Commissioner
Department of Environmental Conservation

By



Padraic Monks
Stormwater Program Manager

STATE OF VERMONT
AGENCY OF NATURAL RESOURCES
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

STORMWATER DISCHARGE PERMIT

STORMWATER RUNOFF TO WATERS OF THE STATE

In compliance with provisions of 10 V.S.A. §1264, and in accordance with "Terms and Conditions" hereinafter specified,

474 Mountain View Road, LLC
P.O. Box 2265
South Burlington VT 05407

Impervious Area: 1.12 acres

the permittee, is hereby granted permission to discharge stormwater runoff from 474 Mountain View Road project located in Williston, Vermont to a unnamed tributary to the Winooski River.

1. Expiration Date: Five years from issuance date of final permit. Note: This permit, unless revoked, modified or suspended, shall be valid until the designated expiration date not withstanding any intervening change in water quality, effluent, or treatment standards, or classification of the receiving waters including groundwater. However, any such changed standard or classification, and any applicable requirement in a total maximum daily load (TMDL), shall be applied in determining whether or not to renew this permit, and in determining the conditions of a renewed permit.

The permittee shall reapply for a renewed discharge permit ninety days prior to the expiration date of this permit.

2. Revocation: 10 V.S.A. §1267 provides as follows:
The Secretary may, after notice and opportunity for a public hearing, revoke, modify or suspend this permit if it is found that the permittee submitted false or inaccurate information in its application or has violated any requirement, restrictions, or condition of this permit, or if there is any change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge. The Secretary shall impose conditions as the Secretary deems necessary for regulating the discharges of a permittee whose permit has been revoked, modified or suspended. Revocation shall be effective upon actual notice thereof to the permittee.
3. Operating Fees: This discharge is subject to operating fees under 3 V.S.A. §2822. The permittee shall submit the operating fees to the Agency in accordance with procedures provided by the Secretary.
4. Recording in Land Records: The permittee shall record a one-page notice of issuance of this discharge permit in the local land records within fourteen (14) days of issuance of this permit

on the form provided by the Secretary, per §22-312 of the Stormwater Management Rule for Stormwater-Impaired Waters and §18-312 of the Stormwater Management Rule. A copy of this form is available on the Stormwater Management Program website. The permittee shall provide a copy of the recording to the Stormwater Management Program within fourteen (14) days of the permittee's receipt of the copy of the recording from the local land records.

5. Transfer of Permit: This permit is not transferable without prior written approval of the Secretary. Provided all applicable fees under 3 V.S.A. §2822 have been paid, a permittee may submit a notice of transfer to the Stormwater Management Program. The notice shall be submitted at least five (5) days prior to the proposed date of transfer. The notice shall state that the prospective permittee has adequate funding to comply with this permit. The permittee shall provide a copy of this permit to the new owner or tenant and inform him of the responsibility to make application for a permit which shall be issued in his name. Any failure to do so shall be considered a violation of this permit.
6. Right of Entry: The permittee shall allow the Secretary, or his or her authorized representatives, at reasonable times, upon presentation of credentials, to enter upon and inspect the permitted premises, and the stormwater collection, treatment and control system; and to sample any discharge to determine compliance with this permit; and to have access to and inspect and copy any records required to be kept pursuant to this permit.
7. Receiving Waters: Unnamed tributary of the Winooski River
8. Manner of Discharge:
S/N 001: Stormwater runoff from driveways, sidewalks and rooftops will be disconnected and conveyed via overland flow and a portion will be captured in a Dry Detention Pond before discharging to an unnamed tributary of the Winooski River.
9. Wastes Permitted: Stormwater runoff from the above named areas of the project herein after treatment as specified in the manner of discharge.
10. Volumes Permitted and Frequency of Discharge: Such volumes and frequency as required by the discharge specified in the manner of discharge above.
11. Approved Project Design: This project shall be constructed and operated in accordance with the following site plans and details and supporting information prepared by Trudell Consulting Engineers. By reference, the following plans are made a part of this permit.

Sheet No.	Sheet Title	Date Created	Revision Date
C1-00	Legend and Notes	3/31/2016	01/18/2016
C1-02	Existing Conditions	3/31/2016	01/18/2016
C2-01	Site Plan	3/31/2016	05/10/2016
C4-01	Stormwater Plan	01/18/2016	05/10/2016
C8-07	Site Details	3/31/2016	01/18/2016
C8-08	Erosion and Landscape Details	3/31/2016	01/18/2016

12. Inspection and Maintenance Reporting Requirements:
 - a. The stormwater collection, treatment and control system, shall be maintained in good operating condition at all times and **shall be inspected annually and cleaned as**

necessary to maintain design specifications. The inspections shall be conducted between the conclusion of spring snow melt and June 15th of each year.

- b. Any sediment removed from the stormwater collection, treatment and control system shall be disposed of properly in accordance with state and federal statutes and regulations.
- c. **By July 15 of each year the permittee shall submit an annual inspection report to the Secretary; or by July 30 of each year if performed by a utility or municipality pursuant to a duly adopted stormwater management ordinance. Annual Inspection Reports shall be submitted to:**

DEC – Watershed Management Division
Stormwater Program
1 National Life Drive, Main 2
Montpelier, Vermont 05620-3522

Or by email to anr.wsmdstormwatergeneral@state.vt.us

This report shall include, at a minimum items c.i. through c.vii. below. The permittee(s) may utilize the Annual Inspection Report form available from the Stormwater Program if determined by inspector to be sufficient to fully document inspection and maintenance of the authorized system.

- i. Unless previously submitted by the permittee(s) under a previously issued authorization or discharge permit, the first report shall include an inspection and designer's certification that the project was built in compliance with the Approved Project Design;
 - ii. A description of any vegetated areas that require mowing or other maintenance;
 - iii. A description of any catch basins that require maintenance or sediment removed from sumps;
 - iv. A description of any illicit discharges to the system (illicit discharges would include dumping of oil, gas, detergent, vehicle wash water, etc.) and corrective action/preventative measures taken if applicable;
 - v. A description of any re-routing of stormwater to avoid the system;
 - vi. A description of any erosion noted during inspection (i.e. areas of exposed soil in channels, outlets, or on pond berms);
 - vii. A description of any cleaning, maintenance operations, or repairs needed to maintain design specifications, including a schedule for correction of any identified deficiencies;
- d. Should any erosion problems occur; the permittee is required to immediately correct any such problems.

- e. Any basins, grass channels, or related stormwater devices used during construction for erosion control shall be inspected and cleaned to design specifications immediately after construction has been completed.
13. Personnel and Training Requirements: Such personnel and training as necessary to fulfill the requirements of the Inspection and Maintenance Reporting above.
 14. Monitoring and Reporting Requirement: No monitoring required; reporting requirement as specified in the Inspection and Maintenance Reporting above.
 15. Other Requirements:
 - a. Treated stormwater runoff is the only waste authorized for disposal under the terms and conditions of this permit. The discharge of any hazardous materials or hazardous waste into the stormwater management system is prohibited.
 - b. The issuance of this permit does not relieve the permittee from the responsibility to obtain any other local, state or federal permits required by law.
 16. Compliance with Anti-degradation and Water Quality Standards: The Secretary has determined that the permitted discharges satisfy Vermont's Anti-Degradation Policy described in the Department of Environmental Conservation's Interim Anti-Degradation Implementation Procedure, because the procedure allows a presumption of compliance for discharges that are in compliance with the Vermont Stormwater Management Manual and any additional best management practices that will be used to control the stormwater discharge as described in Section IX.D.1.d of the Department's Interim Anti-Degradation Implementation Procedure. The Secretary has also determined that for such discharges that qualify for the presumption under IX.D.1.d, all existing uses of surface waters, and the level of water quality necessary to protect those existing uses will be maintained and protected. The Secretary has determined that if the permittee is in full compliance with all permit conditions, including approved plans, monitoring, reporting and recordkeeping conditions, and is fully implementing stormwater BMPs required by this permit, the permitted discharges will meet the requirements of the Vermont Stormwater Management Manual and qualify for the presumption described in Section IX.D.1.d of the Department's Interim Anti-Degradation Implementation Procedure and will be presumed to comply with the Vermont Water Quality Standards, including but not limited to §1-03 (Anti-degradation Policy).
 17. Renewable Energy Projects – Right to Appeal to Public Service Board: Any appeal of this decision must be filed with the clerk of the Vermont Public Service Board pursuant to 10 V.S.A. §8506 within 30 days of the date of this decision. The appellant must file with the Clerk an original and six copies of its appeal. The appellant shall provide notice of the filing of an appeal in accordance with 10 V.S.A. §8504(c)(2), and shall also serve a copy of the Notice of Appeal on the Vermont Department of Public Service. For information, see the Rules and General orders of the Public Service Board available on line at www.psb.vermont.gov. The address for the Public Service Board is 112 State Street Montpelier, Vermont 05620-2701 (Tel. #802-828-2358).
 18. All Other Projects – Right to Appeal to Environmental Court: Pursuant to 10 V.S.A. Chapter 220, any appeal of this decision must be filed with the clerk of the Environmental Court within 30 days of the date of the decision. The Notice of Appeal must specify the parties taking the appeal and the statutory provision under which each party claims party status; must designate

the act or decision appealed from; must name the Environmental Court; and must be signed by the appellant or their attorney. In addition, the appeal must give the address or location and description of the property, project or facility with which the appeal is concerned and the name of the applicant or any permit involved in the appeal. The appellant must also serve a copy of the Notice of Appeal in accordance with Rule 5(b)(4)(B) of the Vermont Rules for Environmental Court Proceedings. For further information, see the Vermont Rules for Environmental Court Proceedings, available online at www.vermontjudiciary.org or call (802) 951-1740. The address for the Environmental Court is 32 Cherry Street, 2nd Floor Suite 303 Burlington, Vermont 05401.

19. Dated this 12th day of July, 2016

Alyssa B. Schuren, Commissioner
Department of Environmental Conservation

By Padraic Monks
Padraic Monks, Program Manager
Stormwater Management Program

**NOTICE OF ISSUANCE OF STORMWATER DISCHARGE PERMIT
BY THE VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION**

Notice is hereby given that an individual stormwater discharge permit or an authorization to discharge pursuant to a general stormwater discharge permit has been issued by the Vermont Department of Environmental Conservation to Permittee(s) named herein for the discharge of stormwater runoff from impervious surfaces (e.g. roadways, rooftops, parking lots, walkways) pursuant to 10 V.S.A. Section 1264 for the property identified below. The permit/authorization requires treatment and control of stormwater runoff, long-term maintenance of the treatment and control structures and payment of yearly operational fees.

Permittee(s): 474 Mountain View Road, LLC

Permit/Authorization Number: 7533-INDS

911 Address of Property: 474 Mountain View Road

Name of condominium, subdivision or planned community association (if applicable):
474 Mountain View Road

Signature of Permittee or Authorized Representative: _____

Printed Name of Permittee or Authorized Representative: _____

Date of Signature: _____

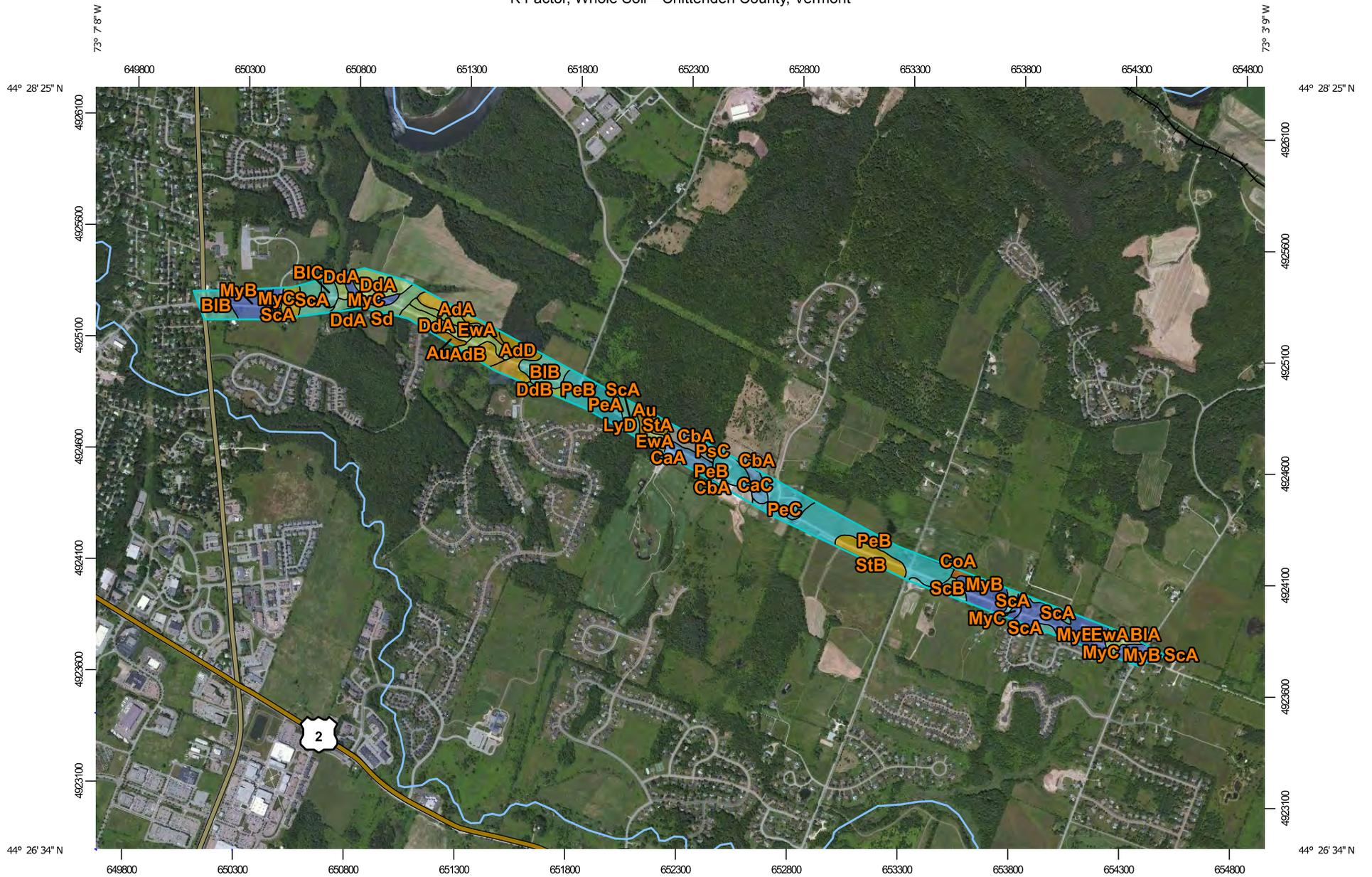
Recording information: Municipal clerks - please index this document listing the State of Vermont, Department of Environmental Conservation as "Grantee". Please index this document listing the above named Permittee(s) as "Grantor(s)". Additionally, if this notice lists the name of a condominium, subdivision or planned community association, please list the named association as an additional "Grantor".

Please mail this stamped/recorded/completed form to:

**DEC – Watershed Management Division
Stormwater Management Program
1 National Life Drive, Main 2
Montpelier, VT 05620-3522**

Or email to: anr.wsmdstormwatergeneral@vermont.gov

K Factor, Whole Soil—Chittenden County, Vermont



Map Scale: 1:24,100 if printed on A landscape (11" x 8.5") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

Soil Rating Polygons

-  .02
-  .05
-  .10
-  .15
-  .17
-  .20
-  .24
-  .28
-  .32
-  .37
-  .43
-  .49
-  .55
-  .64
-  Not rated or not available

Soil Rating Lines

-  .02
-  .05
-  .10
-  .15
-  .17
-  .20

-  .24
-  .28
-  .32
-  .37
-  .43
-  .49
-  .55
-  .64
-  Not rated or not available

Soil Rating Points

-  .02
-  .05
-  .10
-  .15
-  .17
-  .20
-  .24
-  .28
-  .32
-  .37
-  .43
-  .49
-  .55
-  .64
-  Not rated or not available

Water Features

-  Streams and Canals
- Transportation**
-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads
- Background**
-  Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Chittenden County, Vermont
 Survey Area Data: Version 19, Sep 15, 2016

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 28, 2010—Oct 8, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

K Factor, Whole Soil

K Factor, Whole Soil— Summary by Map Unit — Chittenden County, Vermont (VT007)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
AdA	Adams and Windsor loamy sands, 0 to 5 percent slopes	.15	6.5	4.1%
AdB	Adams and Windsor loamy sands, 5 to 12 percent slopes	.15	2.5	1.6%
AdD	Adams and Windsor loamy sands, 12 to 30 percent slopes	.15	5.1	3.2%
Au	Au Gres fine sandy loam	.10	2.4	1.5%
BIA	Belgrade and Eldridge soils, 0 to 3 percent slopes	.32	0.0	0.0%
BIB	Belgrade and Eldridge soils, 3 to 8 percent slopes	.32	10.1	6.3%
BIC	Belgrade and Eldridge soils, 8 to 15 percent slopes	.32	2.1	1.3%
CaA	Cabot silt loam, 0 to 3 percent slopes	.43	4.0	2.5%
CaC	Cabot silt loam, 3 to 15 percent slopes	.43	2.6	1.6%
CbA	Cabot silt loam, 0 to 3 percent slopes, very stony		5.6	3.5%
CoA	Colton gravelly loamy sand, 0 to 5 percent slopes	.05	0.6	0.4%
DdA	Duane and Deerfield soils, 0 to 5 percent slopes	.24	12.4	7.8%
DdB	Duane and Deerfield soils, 5 to 12 percent slopes	.20	1.2	0.7%
EwA	Enosburg and Whately soils, 0 to 3 percent slopes	.24	10.4	6.5%
LyD	Lyman-Marlow complex, 5 to 30 percent slopes, very rocky		0.3	0.2%
MyB	Munson and Raynham silt loams, 2 to 6 percent slopes	.49	26.4	16.6%

K Factor, Whole Soil— Summary by Map Unit — Chittenden County, Vermont (VT007)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
MyC	Munson and Raynham silt loams, 6 to 12 percent slopes	.49	4.7	3.0%
PeA	Peru fine sandy loam, 0 to 5 percent slopes	.37	4.3	2.7%
PeB	Peru fine sandy loam, 5 to 12 percent slopes	.37	27.2	17.1%
PeC	Peru fine sandy loam, 12 to 20 percent slopes	.37	5.9	3.7%
PsC	Peru fine sandy loam, 0 to 20 percent slopes, very stony		0.5	0.3%
ScA	Scantic silt loam, 0 to 2 percent slopes	.32	9.9	6.2%
ScB	Scantic silt loam, 2 to 6 percent slopes	.32	2.5	1.5%
Sd	Scarboro loam	.28	4.8	3.0%
StA	Stetson gravelly fine sandy loam, 0 to 5 percent slopes	.15	1.7	1.1%
StB	Stetson gravelly fine sandy loam, 5 to 12 percent slopes	.15	5.6	3.5%
Totals for Area of Interest			158.9	100.0%

Description

Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and saturated hydraulic conductivity (Ksat). Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

"Erosion factor Kw (whole soil)" indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Layer Options (Horizon Aggregation Method): Surface Layer (Not applicable)

APPENDIX F - WETLANDS

CCRPC Mt View Drive Project Meeting with Tina Heath, ANR Wetlands

Date/Time: February 21, 2017 / 1:00 PM
Place: Vermont Department of Environmental Conservation
111 West St, Essex Junction, Vermont
Next Meeting: N/A
Attendees: Tina Heath, VT ANR Wetlands
Marc Foisy, Stantec
Polly Harris, Stantec
Distribution: Attendees; Greg Edwards, Stantec; Todd Duguay, Stantec

The purpose of the meeting was to introduce the CCRPC Mt. View Drive Bicycle/Pedestrian Facilities Project to Tina Heath and answer any wetland or project-related questions.

Item:**Action:**

Prior to the meeting, Polly Harris sent Tina Heath the 2014 Scoping Study and recent project plans for her review.

Marc Foisy introduced the project, describing the increase in traffic on Mt View Drive and the town of Williston's interest in a bicycle/pedestrian facility. He then summarized the Scoping Study, describing the alternatives of a 10-foot separate path and 4-foot widening. The Town selected the 4-foot road widening alternative. The current proposal transitions the widening on either the north or south side of the existing road to avoid and minimize impacts to wetlands, utilities, driveways, etc.

Tina asked about stormwater treatment facilities. Marc described the use of disconnection given the availability of relatively flat, grassy terrain. There will be no direct wetland impacts resulting from the stormwater treatment and there should be little change in wetland hydrology.

Tina expressed concern about the proposed road widening near the eastern end of the project corridor where there is an existing, separate recreation path. This path required a wetland permit. She questioned the need for the road widening in this area if there is an existing path. She asked about the extent of impacts. Polly described the estimate of 51,000 SF of buffer impact, including approximately 39,500 SF on the same side of the road as the proposed widening, and approximately 11,500 SF on the opposite side of the road. Tina explained that ANR does review all wetland buffer impact but acknowledges that buffer across a road has minimal protection function.

Tina was pleased that the preferred alternative for the project is road widening rather than a separate path since it minimizes impacts. The next steps will include wetland delineations during the growing season and a verification site visit. In the wetland permit application, she will want a description of the project need, avoidance and minimization measures, and potentially some sort of mitigation proposal such as buffer

Wetland delineations and verification site visit with ANR to occur during growing season

Design with community in mind

February 21, 2017

meeting with Tina Heath
Page 2 of 2

Item:

enhancement plantings, if warranted. She will want to see if the project has minimized impacts to the greatest practicable extent. She stated that the project is relatively straightforward given the existing road, and her biggest concern is the proposed widening in the vicinity of the existing recreation path at the eastern end of the project corridor.

Action:

Wetland Permit
application to be
submitted at future
date

The meeting adjourned at 1:30pm

The foregoing is considered to be a true and accurate record of all items discussed. If any discrepancies or inconsistencies are noted, please contact the writer immediately.

Polly Harris

Project Manager

Phone: 802-497-6407

Polly.harris@stantec.com

c. see above

**APPENDIX G – ARCHEOLOGIC &
HISTORIC**

ARCHEOLOGICAL RESOURCE AND HISTORIC PRESERVATION ASSESSMENT

Mountain View Road Bicycle and Pedestrian Facilities Project

Town of Williston
Chittenden County, Vermont

HAA # 5062-11

Submitted to:

Stantec
55 Green Mountain Drive
South Burlington, Vermont 05403-7824

Prepared by:

Hartgen Archeological Associates, Inc.

P.O. Box 81
Putney, VT 05346
p +1 802 387 6020
f +1 802 387 8524
e hartgen@hartgen.com

www.hartgen.com

An ACRA Member Firm
www.acra-crm.org

February 2017

MANAGEMENT SUMMARY

Involved State and Federal Agencies: *Vermont Agency of Transportation (VTTrans), Chittenden County Regional Planning Commission (CCRPC)*

Phase of Survey: *Archeological Resource and Historic Preservation Assessment*

LOCATION INFORMATION

Municipality: *Town of Williston*

County: *Chittenden County, Vermont*

SURVEY AREA

Length: *2.86 miles (4.6 km)*

Width: *38 feet (11.6 m)*

Area: *10.4 acres (4.2 ha)*

RESULTS OF RESEARCH

Archeological sites within one mile: *28*

Surveys in or adjacent: *2*

NR/NRE sites in or adjacent: *4*

Precontact Sensitivity: *high*

Historic Sensitivity: *low*

RECOMMENDATIONS

Most of the APE is located within previous disturbance related to road construction and utility installation. If the project disturbance can stay within such previous disturbance, no further archeological review is recommended. If project plans extend outside of existing disturbance, further archeological review is recommended. There are no historic preservation concerns for the project.

Report Authors: *Thomas R. Jamison and Walter R. Wheeler*

Date of Report: *February 2017*

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Photo 3. Project APE at Station 34+80 from Katie Lane. Note drainage ditch and road embankment. View to the southeast. 7

Photo 4. Project alignment at Station 89+75 at Structure 27, west of Ledgewood Drive. Note road embankment. View to the northwest. 8

Photo 5. Project APE at Station 114+80 from Old Stage Road. Note open fields on either side and road embankment and drainage ditch. View to the northwest..... 8

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ARCHEOLOGICAL RESOURCE AND HISTORIC PRESERVATION ASSESSMENT

1 Introduction

Hartgen Archeological Associates, Inc. (Hartgen) conducted an Archeological Resource and Historic Preservation Assessment for the proposed Mountain View Road Bicycle and Pedestrian Project (Project) located in the Town of Williston, Chittenden County, Vermont (Map 1). The Project requires approvals by the Vermont Agency of Transportation (VTrans). This investigation was conducted to comply with Section 106 of the National Historic Preservation Act of 1966, as amended, and will be reviewed by the VTrans. This investigation adheres to the Vermont State Historic Preservation Office's (SHPO) *Guidelines for Conducting Archeology in Vermont* (2002).

2 Project Information

A site visit was conducted by Elise Manning-Sterling on October 13 and 27, 2016 to observe and photograph existing conditions within the Project Area. The information gathered during the site visit is included in the relevant sections of the report.

2.1 Project Location

The project area is located along Mountain View Road, extending from Essex Road in the west to North Williston Road in the east (Map 2a to Map 2c).

2.2 Description of the Project

The project includes the following components:

- Widening of 26-foot (7.9 m) wide Mountain View Road between Essex Road (Route 2A) and North Williston Road to create a 30-foot (9.1 m) wide road with two 4-foot (1.2 m) shoulders.
- Some areas of filling outside of the widened road width.
- Approximately 2.86 miles (4.6 km) of alignment.

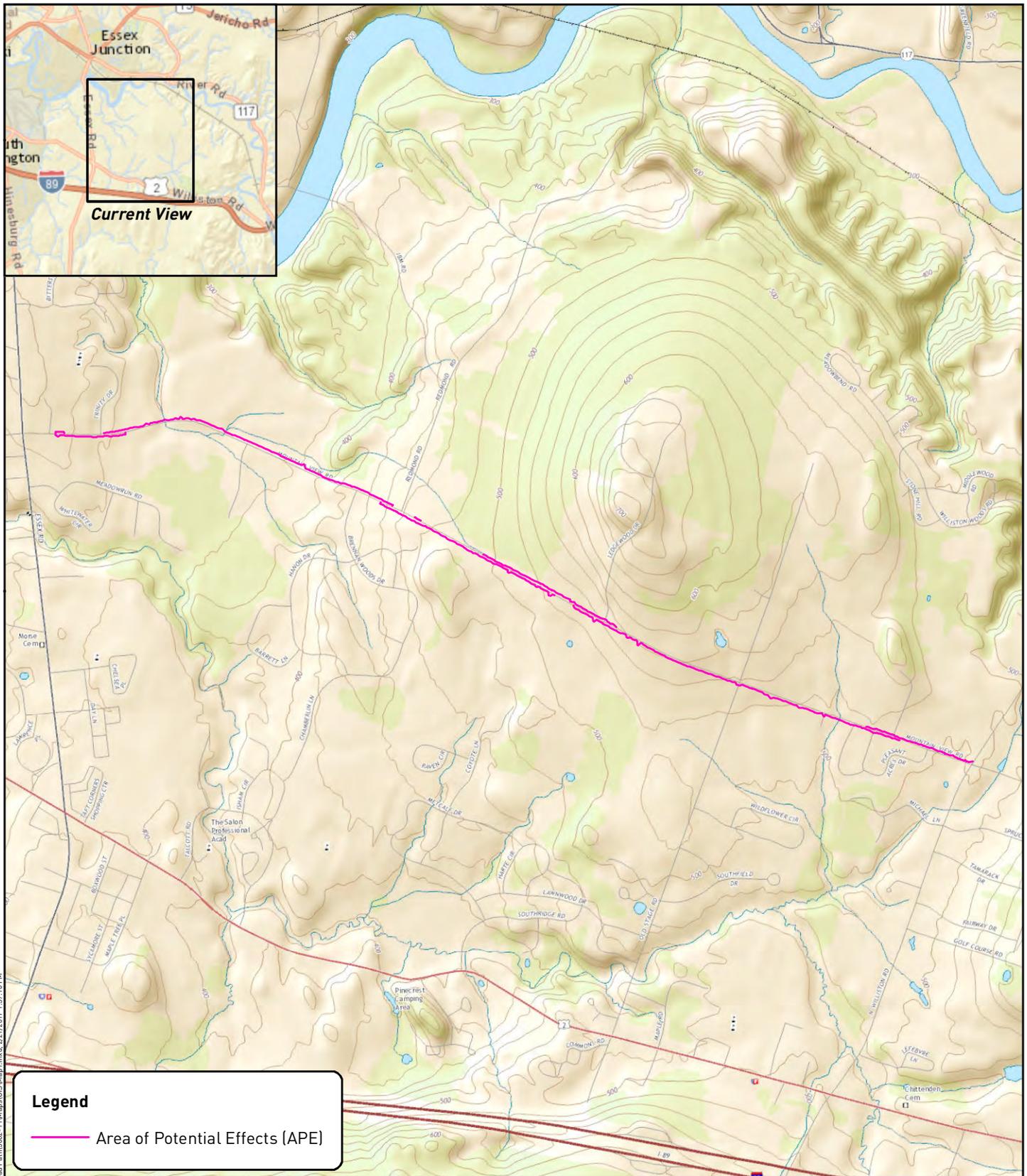
2.3 Description of the Area of Potential Effects (APE)

The area of potential effects (APE) includes all portions of the property that will be directly or indirectly altered by the proposed undertaking. Based on the proposed effects listed above, the APE includes approximately 10.4 acres (4.2 ha).

3 Environmental Background

The environment of an area is significant for determining the sensitivity of the Project Area for archeological resources. Precontact and historic groups often favored level, well-drained areas 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 may contain chert or other resources that may have been quarried by precontact groups. Soil conditions can provide a clue to past climatic conditions, as well as changes in local hydrology.

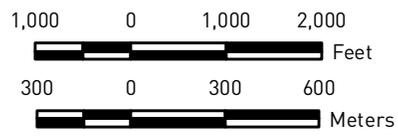
Mountain View Road Bicycle-Pedestrian Project, Town of Williston, Chittenden County, Vermont
 Archeological Resource and Historic Preservation Assessment



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Legend

— Area of Potential Effects (APE)

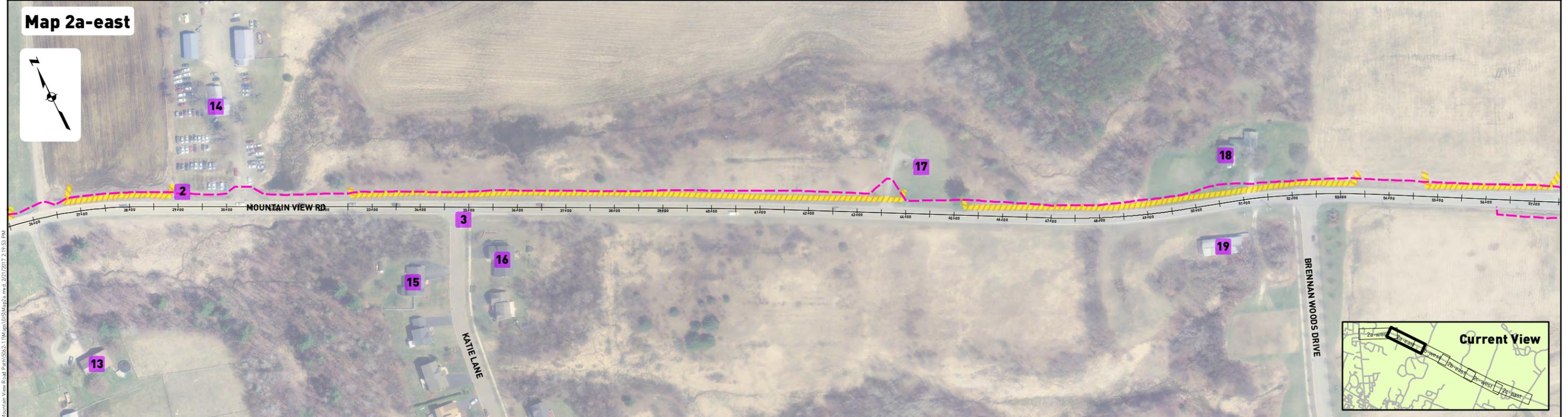


Note: Contour interval is 20 feet.

Project Location (USGS 2016)

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Map 1



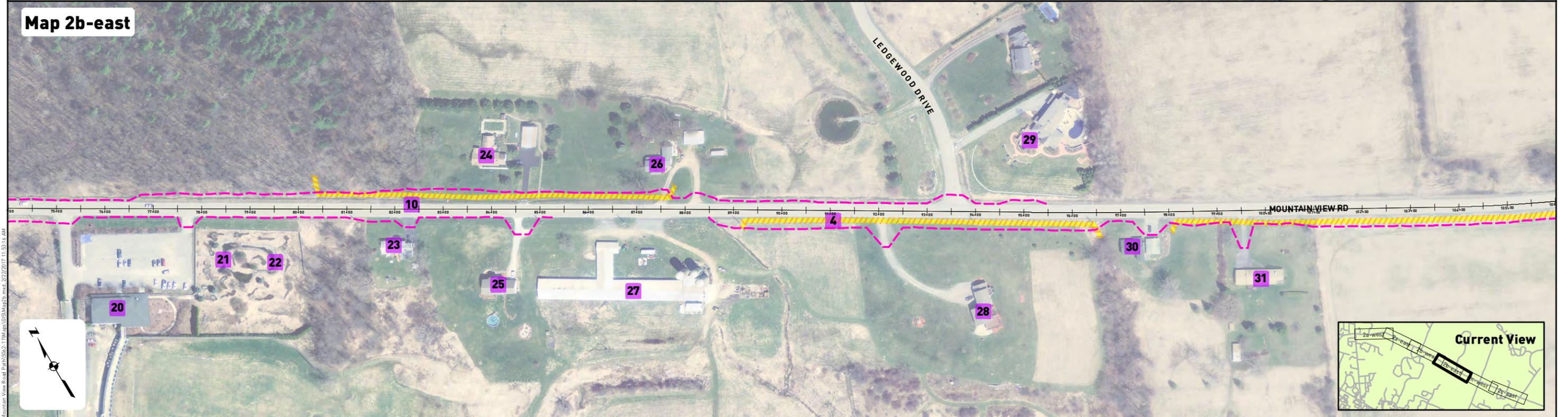
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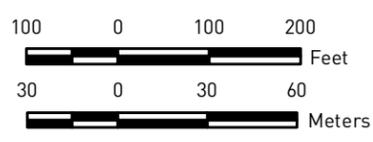
- Legend**
- Structure Numbers
 - Archeological Sensitivity Areas
 - PhotoAngles
 - Area of Potential Effects (APE)

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Map 2a



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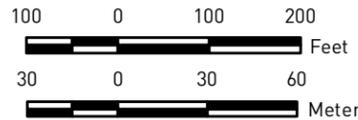
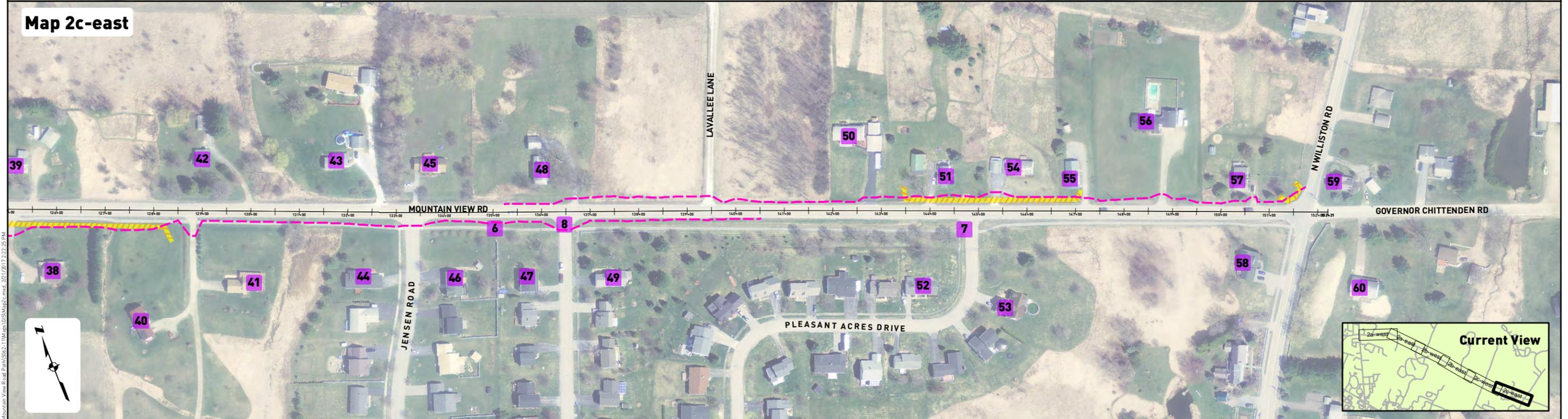
- Legend**
- Structure Numbers
 - Area of Potential Effects (APE)
 - Archeological Sensitivity Areas
 - PhotoAngles

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Map 2b

Map 2c-west



Map 2c-east



- Legend**
- Structure Numbers
 - Area of Potential Effects (APE)
 - Photo Angles
 - Archeological Sensitivity Areas

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Project Map
 (Hartgen 2017; Stantec 2017; VCGI 2013)

Map 2c

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3.1 Present Land Use and Current Conditions

The existing conditions along the project alignment consist of a combination of suburban lawn, undeveloped margins of fields and a few wooded areas (Photos 1 to 6). There are roadside ditches and road embankments along much of the APE. A sidewalk constructed c. 2010 is present along the south side of the road extending from Old Stage Road east to North Williston Road. Underground utilities along the alignment consist of water and gas lines from Essex Road to Redmond Road with a gas line on the north side of the APE extending a short distance past Redmond Road.



Photo 1. Western end of the project APE at Station 10+30 from entrance to Trinity Baptist Church (Str. 5). Note drainage ditch and road embankment. View to the west.



Photo 2. Project APE at Station 25+60 and Structure 12. Note drainage ditch and road embankment. View to the west/northwest.



Photo 3. Project APE at Station 34+80 from Katie Lane. Note drainage ditch and road embankment. View to the southeast.



Photo 4. Project alignment at Station 89+75 at Structure 27, west of Ledgewood Drive. Note road embankment. View to the northwest.



Photo 5. Project APE at Station 114+80 from Old Stage Road. Note open fields on either side and road embankment and drainage ditch. View to the northwest.

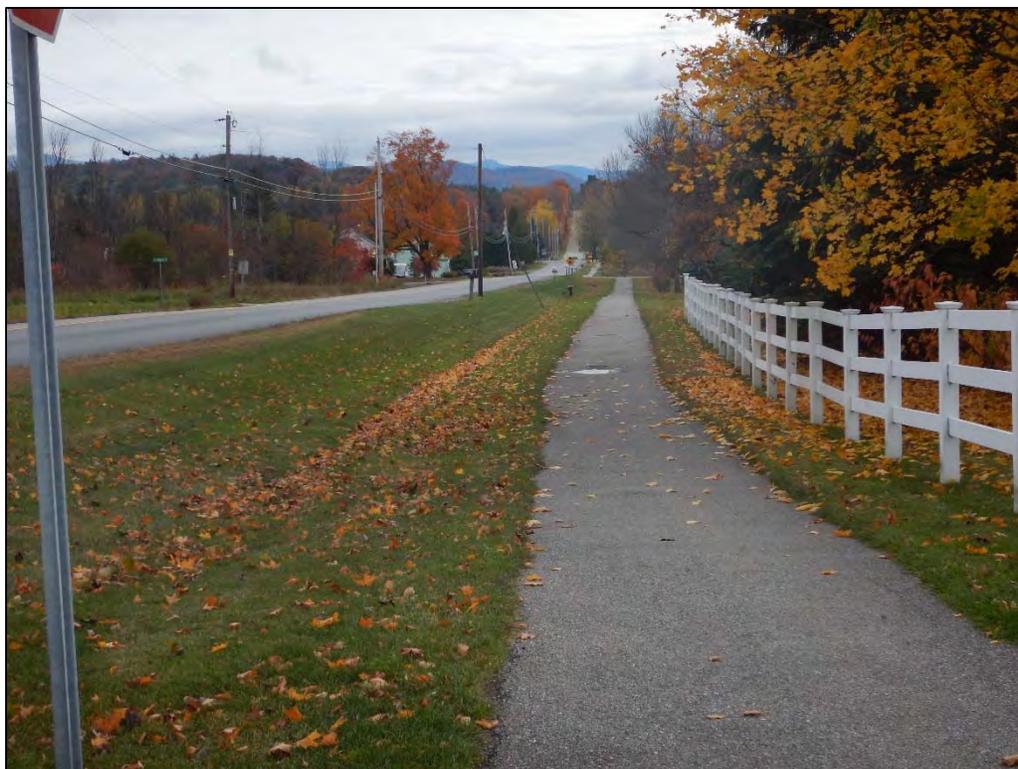


Photo 6. Project alignment at Station 135+20. Note road embankment, drainage ditch and existing sidewalk. View to the southeast.

3.2 Soils

Soil surveys provide a general characterization of the types and depths of soils that are found in an area. This information is an important factor in determining the appropriate methodology if and when a field study is recommended. The soil type also informs the degree of artifact visibility and likely recovery rates. For example, artifacts are more visible and more easily recovered in sand than in stiff glacial clay, which will not pass through a screen easily.

The project alignment forms an arch with the east and west ends at lower elevations than the east central section. The high point is located between Ledgewood Road and Old Stage Road at approximately 566 feet (173 m) while the west end is at 390 feet (119 m) and the east end is at about 502 feet (153 m). The soils of the high point are primarily Peru fine sandy loam and Cabot silty loam that developed on lodgment till. To the east and west the soils are dominated by Belgrade and Eldridge sandy loam, Munson and Raynham silty loam and Duane and Deerfield gravelly sand, soils that developed in glaciolacustrine and glaciomarine deposits. A few less prominent soils present to the east and the west derive from glacial outwash (USDA 2017). None of these soils are likely to have deeply stratified archeological deposits.

Table 1. Soils in Project Area

Symbol	Name	Textures	Slope	Drainage	Landform
AdA	Adams/Windsor	Loamy sand	0-5%	Somewhat excessively drained	Glaciolacustrine deposits
AdB	Adams/Windsor	Loamy sand	5-12%	Somewhat excessively drained	Glaciolacustrine deposits
AdD	Adams/Windsor	Loamy sand	12-30%	Somewhat excessively drained	Glaciolacustrine deposits
Au	Au Gres	Fine sandy loam	0-6%	Somewhat poorly drained	Fluvial and lacustrine deposits

Symbol	Name	Textures	Slope	Drainage	Landform
BiB	Belgrade/Eldridge	Sandy loam	3-8%	Moderately well drained	Glacial lake plain
BiC	Belgrade/Eldridge	Sandy loam	8-15%	Moderately well drained	Glacial lake plain
CbA	Cabot	Silty loam	0-3%	Poorly drained	Lodgment till
CaA/CaC	Cabot	Silty loam	3-15%	Poorly drained	Lodgment till
DdA	Duane/Deerfield	Gravelly sand	0-5%	Moderately well drained	Outwash terraces
EwA	Enosburg/Whately	Fine sandy loam over silty clay loam	0-3%	Very poorly drained	Outwash over lake deposits
MyB	Munson/Raynham	Silt loam	2-6%	Somewhat poorly drained	Lacustrine and marine deposits
MyC	Munson/Raynham	Silt loam	6-12%	Somewhat poorly drained	Lacustrine and marine deposits
PeA	Peru	Fine sandy loam	0-5%	Moderately well drained	Loamy lodgment till
PeB	Peru	Fine sandy loam	5-12%	Moderately well drained	Loamy lodgment till
PeC	Peru	Fine sandy loam	12-20%	Moderately well drained	Loamy lodgment till
ScA	Scantic	Silty loam	0-2%	Poorly drained	Glaciolacustrine deposits
Sd	Scarboro	Mucky fine sandy loam	0-3%	Very poorly drained	Outwash plain
StB	Stetson	Gravelly fine sandy loam	5-12%	Well drained	Outwash plain

3.3 Bedrock Geology

The Project Area crosses five bedrock formations. From west to east they include the Clarendon Springs formation, the Skeels Corners slate, the Dunham dolostone, the Cheshire quartzite and the Fairfield Pond formation (Ratliffe 2011). The Clarendon Springs and Cheshire formations in particular are well known to have been important sources of chert and quartzite respectively, used in making stone tools. The other three formations are not known to have been specifically exploited for tools, but may have yielded useful materials on an expedient basis.

3.4 Physiography and Hydrology

As mentioned above in the discussion of the soils, the project alignment crosses a high point just west of Old Stage Road with the east and west ends of the alignment being at lower elevations. However, overall, the project area crosses a gently rolling landscape of glaciolacustrine deposits and landforms that have been modified and bisected by numerous small drainages. Two small drainages cross the APE, one at the west end at Station 20+25 between Structures 7 and 12 and one at the east end at Station 130+00 between Structures 42 and 43. The western drainage flows to the north directly into the Winooski River, about 1 mile (1.6 km) to the north. The eastern drainage flows south into Allen Brook that flows to the west and north, eventually emptying into the Winooski further to the west.

4 Documentary Research

Hartgen conducted research at the Vermont Division for Historic Preservation (VDHP) to identify previously reported archeological sites, State and National Register (NR) properties, properties determined eligible for the NR (NRE), and previous cultural resource surveys.

4.1 Archeological Sites

The archeological site files at VDHP contained 28 sites within one mile (1.6 km) of the Project Area (Table 2). Previously reported archeological sites provide an overview of both the types of sites that may be present in the APE and the relationship of sites throughout the surrounding region. The presence of few reported sites, however, may result from a lack of previous systematic survey and does not necessarily indicate a decreased archeological sensitivity within the APE.

The sites in the vicinity of Mountain View Road include many precontact sites of unknown date. However, dated sites range from two Paleo-Indian sites through the Archaic and Woodland eras, showing the extensive use of the area. In addition, there are several historic sites dating to the 19th century.

Table 2. Vermont Archeological Inventory (VAI) sites within one mile (1.6 km) of the Project Area

VAI No.	Site Identifier	Description	Proximity to Project Area
VT-CH-0209	PA	Unknown precontact, quartzite flakes, fire cracked rock	0.26 km/0.16 mi to N
VT-CH-0211	PB	Unknown precontact, large chert flake	0.11 km/0.07 mi to N
VT-CH-0212	PD	Unknown precontact, 2 quartzite flakes	0.06 km/0.04 mi to S
VT-CH-0213	AA	Unknown precontact, quartzite and chert flakes, chert projectile point tip, fire cracked rock	0.82 km/0.51 mi to S
VT-CH-0214	AB	Unknown precontact, quartzite flake, fire cracked rock	0.92 km/0.57 mi to S
VT-CH-0215	AC	Unknown precontact, quartz and quartzite flakes	1.1 km/0.69 mi to S
VT-CH-0216	AD	Unknown precontact, quartzite cores and flakes	0.93 km/0.58 mi to S
VT-CH-0217	AE	Unknown precontact, quartz flake, fire cracked rock	0.98 km/0.61 mi to S
VT-CH-0218	LA	Unknown precontact, quartz and quartzite flakes, fire cracked rock	0.85 km/0.53 mi to S
VT-CH-0403	M-42-25	Unknown precontact, chert flakes	0.06 km/0.04 mi to N
VT-CH-0459	Redmond Farm	19 th -century farmstead	1.0 km/0.62 mi to N
VT-CH-0818		Paleo-Indian point found by collector	1.4 km/0.84 mi to N
VT-CH-0882		Unknown precontact, quartz core, chert flake	1.08 km/0.67 mi to N
VT-CH-0884	Blair Park	Unknown precontact, tool, flakes, bone	1.5 km/0.93 mi to S
VT-CH-0908	Brandywine	Middle Archaic	0.8 km/0.5 mi to S
VT-CH-0909	Brandywine	Late Archaic	0.68 km/0.42 mi to S
VT-CH-0910	Brandywine	Unknown precontact	0.77 km/0.48 mi to S
VT-CH-0970	Bittersweet	Unknown precontact, quartz biface and scraper, flakes	1.05 km/0.65 mi to N
VT-CH-0971	Bittersweet Residential Development	Unknown precontact, quartzite flakes, biface, utilized flake, quartz crystal	0.97 km/0.6 mi to N
VT-CH-0998	Fly Over	Unknown precontact, quartzite debitage	1.08 km/0.67 mi to N
VT-CH-1020		Unknown precontact, quartz flakes, biface/core fragment	0.56 km/0.35 mi to S
VT-CH-1088	Osbourne	Unknown historic site	1.3 km/0.78 mi to N
VT-CH-1155		19 th -century saw mill site	0.61 km/0.38 mi to W
VT-CH-1175	Williston Hills	Late Archaic campsite	0.9 km/0.56 mi to NW
VT-CH-1182	Williston IBM	Early Archaic, Middle and Late Woodland, quartzite tools	0.32 km/0.2 mi to N
VT-CH-1183	Williston IBM Solar	Late Archaic, lithics	0.15 km/0.1 mi to N
VT-CH-9210	Reynolds	Paleoindian, base of fluted projectile point, worked quartz fragment	0.16 km/0.1 mi to S
VT-CH-9232	Mehan 3	Late Archaic, Brewerton-like chert projectile point, chert flake, quartzite core	0.92 km/0.57 mi to S

4.2 Historic Properties

An examination of the files at VDHP identified no National Register listed properties, one National Register eligible (NRE) property (Structure 32), three surveyed properties that have not been evaluated and no properties

previously determined to be ineligible within the APE (Table 3). The four NRE properties are listed on the state register, considered NRE by VDHP (Boone 2009).

Table 3. Inventoried properties within or adjacent to the APE

Structure	Photo	VHSSS No.	Property Name/Address	Description of Building
1		4710-99	Starr Apartments/223 Essex Road	c. 1910 vernacular four square house
14		0417-100	Paya House/559 Mountain View Road	1841 vernacular plank house
18 and 19		0417-101	Brennan Farmstead/947 Mountain View Road	c. 1810/1829 vernacular house
32		0417-9	Ezerman House/1093 Mountain View Road	c. 1835 Greek Revival brick house

4.3 Previous Surveys

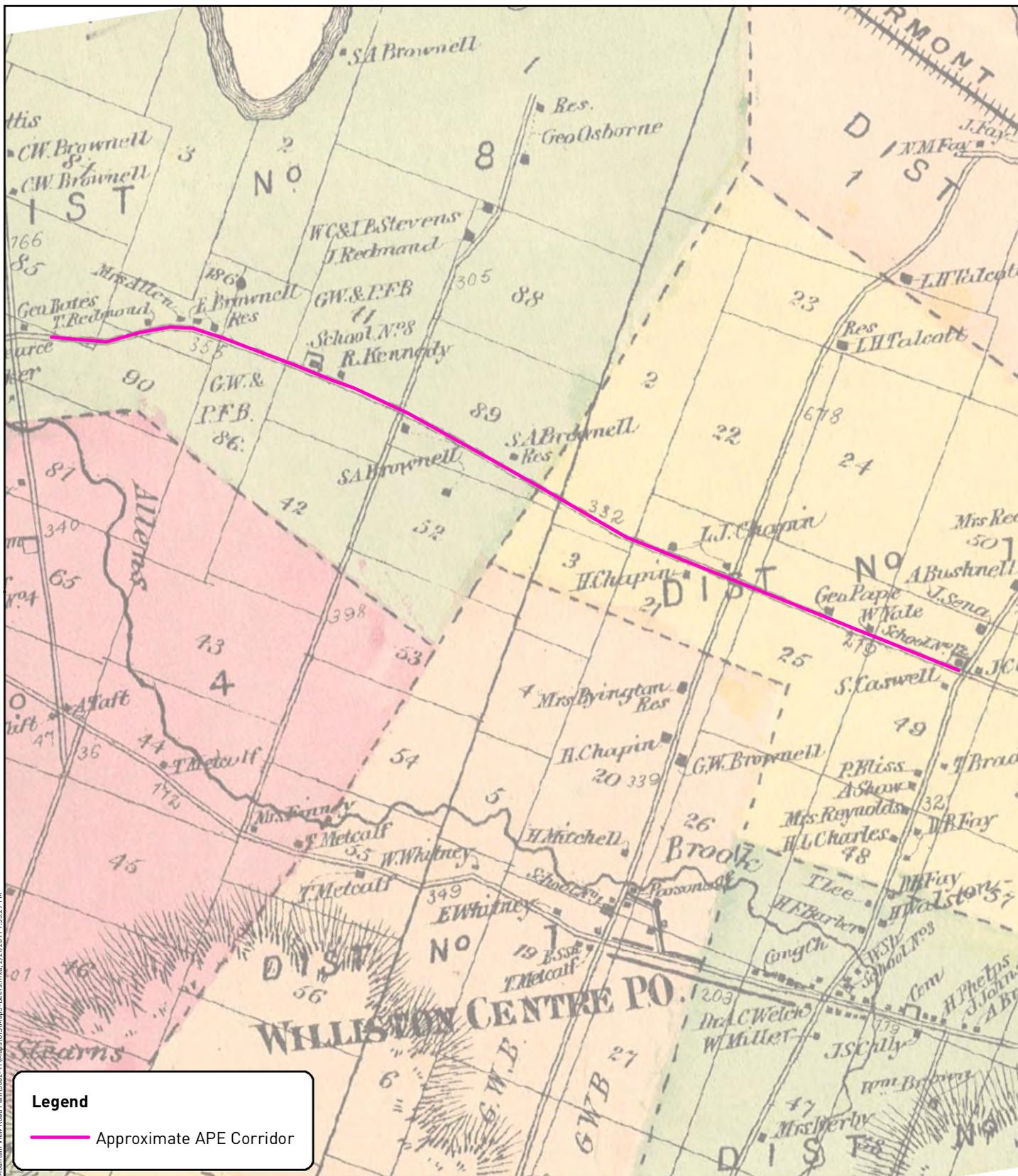
On file at VDHP are two previous surveys within the immediate vicinity of the Project (Table 4). These two surveys were conducted for two residential developments on the south side of Mountain View Road, near the western end of the project alignment. Phase IB testing and Phase II site evaluation for the Snyder/Brennan development encountered quartzite debitage associated with site VT-CH-0216. The site area was conserved with a buffer and no further work was conducted (Werner 1998a, 1999). The Wood Lily survey was located on a property where a Paleo-Indian point had been previously collected (VT-CH-9210). Survey encountered one fragment of a Late Woodland point on the surface, but testing did not find any evidence of deposits associated with the Paleo-Indian point (Werner 1998b).

Table 4. Relevant previous surveys within or adjacent to the Project

Year	Project	Investigator	Methodology	Results
1998b	Wood Lily Planned Residential Development	Werner Archaeological Consulting	Surface Survey, Shovel Testing	No significant deposits
1998a/1999	Snyder/Brennan Planned Residential Development	Werner Archaeological Consulting	Surface Survey, Shovel Testing	No significant deposits

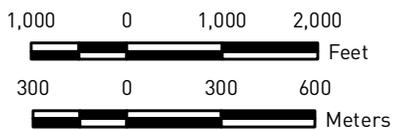
5 Historical Map Review

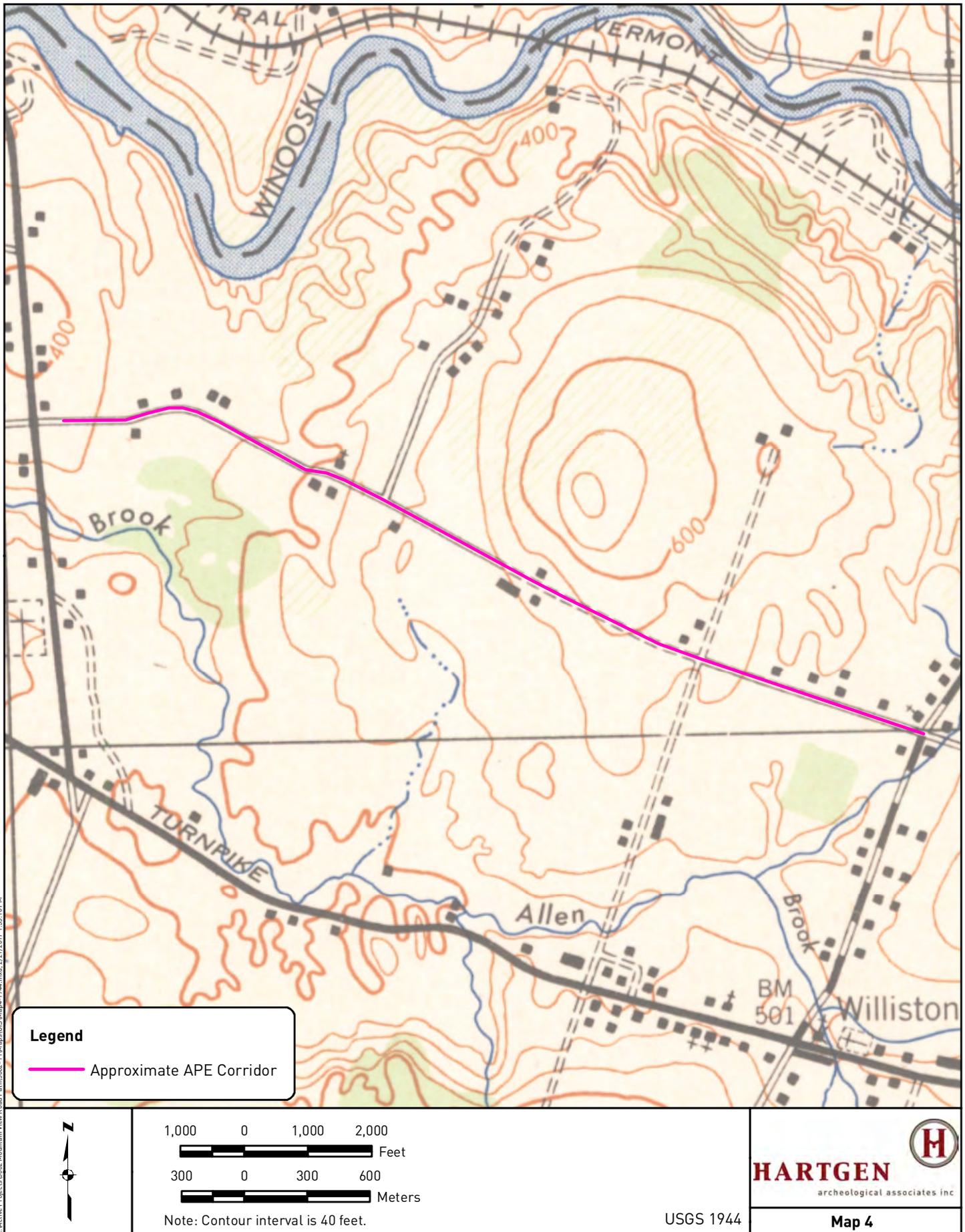
In 1857, there were 10 residences and one school depicted along Mountain View Road (Walling 1857). By 1869 (Map 3), that number had increased to 15 residences and two schools (Beers 1869). In 1906, there were 14 residences and two schools depicted (USGS 1906). These residences represent farms lined along Mountain View Road. Not until 1944 (Map 4) does the historic mapping show an increase in development, with 20 residences and two schools represented (USGS 1944). However, the settlement remained in small clusters around the original 19th-century residences, even as late as 1972 (USGS 1972).



Legend

 Approximate APE Corridor





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6 Architectural Discussion

6.1 Historic Context

The structures within the project APE represent development of this part of Williston from a series of small farmsteads during the second quarter of the 19th century to present-day suburbanization. Structures built between ca. 1835 and the end of the 19th century were typically small farmsteads consisting of a wood-frame one-and-one-half or two story house, sometimes accompanied by a barn or other outbuilding (Photos 7 and 8). The sole exception is the Ezerman house, which is larger in size and built more substantially, of brick (Photo 9).

The majority of dwellings within or adjacent to the project APE were constructed during the post-World War II period of suburbanization. While several examples of the ranch-style houses popular in the 1950s and 1960s are within the study area (Photo 10), the majority of these dwellings were constructed at a later date, and embody numerous house types, including multifamily and condominium-style dwellings. Several commercial and institutional structures have been constructed within the project APE during this last period (ca. 1970-present), bringing amenities to this once-rural neighborhood.

6.2 Survey

There are 60 individual and associated structures within or adjacent to the APE (Table 5) (Map 2a to Map 2c). Five of these structures have previously been surveyed (Table 3). Eighteen of the 60 structures are in excess of 50 years in age. Captioned photographs of representative structures are included in this report (Photos 7 through 9).

Table 5. Standing structures within or adjacent to the APE

Structure	Photo	Property Name or Address	Description	50 years or more in age
1		1169 Essex Road, Starr Apartments	A two-story wood frame vernacular foursquare house with pyramidal roof, having a one-story rear wing with hipped roof, both on a poured concrete foundation. Covered porches, the shallow hipped roofs of which are supported on turned bracketed columns, are prominent features of the two street elevations; hipped dormers light the attic from three sides of the roof. Built ca. 1910.	x
2		55 Mountain View Road	A one-story wood-frame ranch house with gable roof, attached garage converted to a living space, built ca. 1970.	
3		46 Mountain View Road	A one-story wood-frame ranch house of L-shaped plan, with shallow gable roof, built ca. 1980.	
4		88 Mountain View Road	A one-story wood-frame ranch style home with shallow crossgable roof, built ca. 1965.	x
5		300 Mountain View Road, Trinity Baptist Church	A two-story wood-frame colonial revival structure with hipped roof, central cupola and flanking dependencies, built in 1987.	
6		230 Mountain View Road	A one-story wood-frame ranch style home, built ca. 1980.	
7		361 Mountain View Road	A one-story wood-frame ranch style home, built ca. 1980.	
8		Mountain View Road	A two-story wood-frame dwelling of T-shaped plan, built 2014.	
9		374 Mountain View Road	A two-story wood-frame vernacular house, built ca. 1990.	
10		376 Mountain View Road	A two story wood-frame contemporary house, built ca. 1990.	

Structure	Photo	Property Name or Address	Description	50 years or more in age
11		425 Mountain View Road	A one-story wood-frame manufactured home, built ca. 1985.	
12		449 Mountain View Road	A one-and-one-half story upright-and-wing wood-frame vernacular house with associated wood-frame barn, built ca. 1850.	x
13		474 Mountain View Road	A one-story wood-frame vernacular house, built 1977.	
14		559 Mountain View Road, Paya's Motors/Paya House	A one-and-one-half story wood-frame side-gable center-passage vernacular house, built ca. 1841.	x
15		22 Katie Lane	A two-story wood-frame vernacular house with attached garage, built ca. 2000.	
16		19 Katie Lane	A two-story wood-frame vernacular house with attached garage, built ca. 2000.	
17		Mountain View Road	A poured concrete structure associated with the public water system, built ca. 1990.	
18		947 Mountain View Road, Brennan Farmstead	Brennan farmstead. A two-story wood-frame gable entry vernacular dwelling with one-story gable-roofed entry supported on two turned columns, built ca. 1810 and 1829. Together with late 20 th century wood-frame garage.	x
19		947 Mountain View Road, Brennan Farmstead	A wood-frame dairy barn with attached milking parlor, ca. 1875.	x
20		1400 Mountain View Road, Catamount Country Club	A two-story wood-frame vernacular clubhouse, built ca. 2002.	
21		1454 Mountain View Road	A two-story wood-frame vernacular condominium, built ca. 2010.	
22		1456 Mountain View Road	A two-story wood-frame vernacular condominium, built ca. 2010.	
23	10	1538 Mountain View Road	A one-story wood-frame ranch style home, built ca. 1960.	x
24		1573 Mountain View Road	A one-story wood-frame ranch style home with attached garage, built ca. 1970.	
25		1586 Mountain View Road	A two-story wood-frame vernacular house with attached garage, built ca. 2000.	
26		1639 Mountain View Road	A two-story side-gable center passage vernacular dwelling, with two story wood-frame wing and detached three-bay garage. The house initially built ca. 1850 as a side passage dwelling.	x
27		Mountain View Road	Three mid-20 th century concrete silos, together with a late-20 th century wood-frame dairy barn sheathed with corrugated metal siding.	x
28		1730 Mountain View Road	A two-story wood-frame vernacular house with attached garage, built ca. 2000.	
29		18 Ledgewood Drive	A two-and-one-half story wood and masonry contemporary dwelling with hipped roof, built ca. 2000.	
30		1830 Mountain View Road	A one-story wood-frame ranch style dwelling built ca. 1960, with associated two-bay gable-entry wood-frame garage.	x
31		1976 Mountain View Road	A one-story wood-frame ranch style dwelling with attached garage and one-story wing of a later date, built ca. 1970.	

Structure	Photo	Property Name or Address	Description	50 years or more in age
32	9	1093 Mountain View Road	A two-story brick masonry center hall, side-gable vernacular dwelling with Greek Revival porches on both street fronts, built ca. 1835.	x
33		986 Old Stage Road	A one-story wood-frame vernacular farmstand structure, built ca. 1990.	
34		Mountain View Road	A one-and-one half story wood-frame dwelling with attached garage, built ca. 2010.	
35		2268 Mountain View Road	A one-and-a-half story wood-frame house with attached garage, built ca. 1990.	
36		2323 Mountain View Road	A two-story wood-frame raised ranch dwelling, built ca. 2000.	
37		2334 Mountain View Road	A one-story wood-frame ranch style dwelling, built ca. 1970.	
38		2368 Mountain View Road	A two-story wood-frame octagonal house, built ca. 1975.	
39		2355 Mountain View Road	A one-story wood-frame ranch style dwelling, built ca. 1970.	
40		32 Breezy Meadow	A one-and-one-half story wood-frame gambrel-roofed house with attached garage, built ca. 1990.	
41		27 Breezy Meadow	A one-and-one-half story wood frame dwelling with attached garage, built ca. 1990.	
42		2427 Mountain View Road	A two-story wood-frame side-gable vernacular house on a rusticated concrete block foundation, built ca. 1930 with later alterations.	x
43		2495 Mountain View Road	A one-story wood frame gable-entry house with later additions, built ca. 1960. Together with a two-bay gable entry wood-frame garage.	x
44		24 Jensen Road	A one-story ranch style dwelling with attached two-bay garage, built ca. 2000.	
45		2515 Mountain View Road	A one-story wood-frame ranch style dwelling with cross-gable roof, built ca. 1975.	
46		25 Jensen Road	A two-story wood-frame raised ranch dwelling, built ca. 1980.	
47		44 Pleasant Acres Drive	A two-story side-gable wood-frame vernacular house with attached garage, built ca. 2000.	
48	8	2557 Mountain View Road	A two-story wood-frame gable-entry vernacular house, built ca. 1880. Together with associated two-bay wood-frame gable-entry garage, built in the late-20 th century.	x
49		43 Pleasant Acres Drive	A one-and-one half story wood-frame vernacular cape, built ca. 1975.	
50		2683 Mountain View Road	A one-story wood-frame ranch style house with attached garage, built ca. 1980.	
51	7	2707 Mountain View Road	A one-and-one-half story wood-frame side-gable vernacular cottage with hipped roof entry porch supported on two posts, built ca. 1860, together with a carriage barn.	x
52		309 Pleasant Acres Drive	A one-and-one-half story wood-frame cape with attached garage, built ca. 1990.	
53		328 Pleasant Acres Drive	A one-and-one-half story wood-frame house of L-shaped plan with attached garages, built ca. 1995.	
54		2745 Mountain View Road	A one-story wood-frame manufactured house, built ca. 1990.	

Structure	Photo	Property Name or Address	Description	50 years or more in age
55		2767 Mountain View Road	A one-and-one-half story wood-frame vernacular side-gable house with enclosed gable-roofed front porch and one-story wood-frame wing attached to the rear elevation. House built ca. 1870.	x
56		2797 Mountain View Road	A one-story wood-frame ranch style house, with associated one-bay wood-frame garage, built ca. 1970.	
57		2835 Mountain View Road	A one-and-on-half story wood-frame vernacular side-gable house with shed-roofed porch extending across the street elevation and leanto extending across the rear elevation, built ca. 1870.	x
58		993 North Williston Road	A one-and-one-half story wood-frame cape, with attached two-car garage, built ca. 1990.	
59		North Williston Road	A two-story wood-frame side-gable vernacular house with two-story wood-frame rear wing, and one-story shed-roofed front porch, partially enclosed. Built ca. 1870.	x
60		22 Governor Chittenden Road	A two-story wood-frame vernacular side-gable house with attached garage, built ca. 1990.	

6.3 Associated Landscape Features

6.3.1 Hardscape features

There are no historic sidewalks, curbs, retaining walls, or other historic manmade landscape features located within the project APE.

6.3.2 Historic Plantings and Landscape Features

Several structures which are in excess of 50 years in age have mature plantings associated with them.

6.4 Architectural Recommendations

Impacts to historic plantings should be avoided. There are no other project-related concerns associated with this proposed undertaking.



Photo 7. 2707 Mountain View Road (Structure 51), looking north.



Photo 8. 2557 Mountain View Road (Structure 48), looking north.



Photo 9. 1093 Mountain View Road (Structure 32), looking northwest.



Photo 10. 1538 Mountain View Road (Structure 23), looking south.

7 Archeological Discussion

7.1 Precontact Archeological Sensitivity Assessment

Completion of the VDHP Environmental Predictive Model provides a measure of the precontact archeological sensitivity of the project area (Appendix 1). The Project Area is sensitive for proximity to two permanent streams, an intermittent stream, confluence of streams, heads of draw and wetlands. Points were also added for the Project Area being in areas of glacial outwash terraces, glacial lake shoreline, natural travel corridor and in the area of high recorded site density. The score was reduced due to disturbance along the APE from road and utility construction. The Project Area has a score of 112. A score of 32 and above is considered to indicate precontact sensitivity.

Based on recorded sites in the area, precontact sites in the project APE are likely to be small occupations representing hunting camps and seasonal use camps. Such sites may have been utilized by various groups over millennia, resulting in multi-component archeological deposits and features.

7.2 Historic Archeological Sensitivity Assessment

The historic sensitivity of an area is based primarily on proximity to previously documented historic archeological sites, map-documented structures, or other documented historical activities (e.g. battlefields).

Based on the historic maps, historic archeological sensitivity of the project APE is very limited. The low level of development until the late 20th century limits the locations where historic archeological deposits or features may be present. In addition, the APE is limited to the road right-of-way with a few exceptions extending outside of that limit. These locations are unlikely to have been the site of historic activities that would yield archeological deposits or features (Borstel 2005).

7.3 Archeological Potential

Archeological potential is the likelihood of locating intact archeological remains within an area. The consideration of archeological potential takes into account subsequent uses of an area and the impact those uses would likely have on archeological remains.

The proposed project consists of widening Mountain View Road in select locations between Essex Road and North Williston Road. As depicted on the project maps, these locations of proposed filling are generally restricted to within the road right-of-way. In many locations these areas have been previously disturbed by existing gas or water line installation, road embankments or drainage ditches. Examination during the site visit and of the plans has identified locations that retain archeological potential and are within the proposed filling areas. These locations are identified below.

7.4 Archeological Recommendations

As stated above, the project APE is generally restricted to previously disturbed areas. However, some locations are within or directly adjacent to areas of archeological potential. Sixteen areas in particular should be considered for avoidance in project design and are outlined in Table 6 and depicted on Maps 2a to 2c. Several of these areas are associated with the tributary of Allen Brook that crosses the west end of the APE. Others are located along upland areas adjacent to historic structures or in areas with overlooks to the south towards the Winooski River.

If the APE can be limited to areas of existing disturbance along the APE, no further archeological review is recommended. However, if project plans change to intersect areas outside of existing disturbance, further review may be warranted.

Table 6. Areas of archeological concern within or adjacent to the APE

Stations	Side of Road	Area description	Recommendations
5+50 to 12+50	South	Field outside of water and gas line disturbance	Stay within existing disturbance from water and gas lines
13+50 to 15+75	South	Field outside of gas line disturbance	Stay within existing disturbance from gas line
18+80 to 20+20	North	Lawn outside of water line and driveway disturbance	Stay within existing waterline and driveway disturbance
24+00 to 24+50	North	Lawn outside of driveway and water line disturbance	Stay within existing driveway and water line disturbance
25+00 to 25+50	North	Lawn outside of driveway and water line disturbance	Stay within existing driveway and water line disturbance
26+60 to 29+00	North	Field outside of ditch and water line disturbance	Stay within existing ditch and water line disturbance
32+60 to 44+00	North	Field outside of road embankment and water line disturbance	Stay within existing road embankment and water line disturbance
45+00 to 53+70	North	Woods, lawn and field outside of grading, road embankment and water line disturbance	Stay within existing grading, road embankment and water line disturbance
55+00 to 57+50	North	Field outside of road embankment, ditch and water line disturbance	Stay within existing road embankment, ditch and water line disturbance
60+00 to 68+40	South	Field and wooded area outside of ditch disturbance	Stay within existing ditch disturbance
80+00 to 87+60	North	Wooded and lawn areas outside of water line and ditch disturbance	Stay within existing water line and ditch disturbance
89+00 to 96+50	South	Field/lawn areas outside of road embankment	Stay within existing road embankment disturbance
98+00 to 114+50	South	Field area outside of road embankment	Stay within existing road embankment disturbance
119+50 to 128+00	South	Lawn areas outside of water line and sidewalk disturbance	Stay within existing water line and sidewalk disturbance
143+50 to 147+00	North	Lawn areas outside of ditch	Stay within existing ditch disturbance
151+00 to 151+60	North	Lawn area outside of guard rail	Stay within existing guard rail disturbance

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Appendix 1: VDHP Environmental Predictive Model

VERMONT DIVISION FOR HISTORIC PRESERVATION

Environmental Predictive Model for Locating Pre-contact Archaeological Sites

Project Name
DHP No.

County
Map No.

Staff Init.

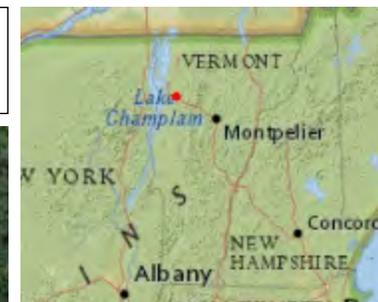
Town
Date

Additional Information

Environmental Variable	Proximity	Value	Assigned Score
A. RIVERS and STREAMS (EXISTING or RELICT):			
1) Distance to River or Permanent Stream (measured from top of bank)	0- 90 m	12	
	90- 180 m	6	
2) Distance to Intermittent Stream	0- 90 m	8	
	90-180 m	4	
3) Confluence of River/River or River/Stream	0-90 m	12	
	90 –180 m	6	
4) Confluence of Intermittent Streams	0 – 90 m	8	
	90 – 180 m	4	
5) Falls or Rapids	0 – 90 m	8	
	90 – 180 m	4	
6) Head of Draw	0 – 90 m	8	
	90 – 180 m	4	
7) Major Floodplain/Alluvial Terrace		32	
8) Knoll or swamp island		32	
9) Stable Riverine Island		32	
B. LAKES and PONDS (EXISTING or RELICT):			
10) Distance to Pond or Lake	0- 90 m	12	
	90 -180 m	6	
11) Confluence of River or Stream	0-90 m	12	
	90 –180 m	6	
12) Lake Cove/Peninsula/Head of Bay		12	
C. WETLANDS:			
13) Distance to Wetland (wetland > one acre in size)	0- 90 m	12	
	90 -180 m	6	
14) Knoll or swamp island		32	
D. VALLEY EDGE and GLACIAL LAND FORMS:			
15) High elevated landform such as Knoll Top/Ridge Crest/ Promontory		12	
16) Valley edge features such as Kame/Outwash Terrace**		12	

17) Marine/Lake Delta Complex**		12	
18) Champlain Sea or Glacial Lake Shore Line**		32	
E. OTHER ENVIRONMENTAL FACTORS:			
19) Caves /Rockshelters		32	
20) <input type="checkbox"/> Natural Travel Corridor <input type="checkbox"/> Sole or important access to another drainage <input type="checkbox"/> Drainage divide		12	
21) Existing or Relict Spring	0 – 90 m 90 – 180 m	8 4	
22) Potential or Apparent Prehistoric Quarry for stone procurement	0 – 180 m	32	
23)) Special Environmental or Natural Area, such as Milton aquifer, mountain top, etc. (these may be historic or prehistoric sacred or traditional site locations and prehistoric site types as well)		32	
F. OTHER HIGH SENSITIVITY FACTORS:			
24) High Likelihood of Burials		32	
25) High Recorded Site Density		32	
26) High likelihood of containing significant site based on recorded or archival data or oral tradition		32	
G. NEGATIVE FACTORS:			
27) Excessive Slope (>15%) or Steep Erosional Slope (>20)		- 32	
28) Previously disturbed land 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)		- 32	
** refer to 1970 Surficial Geological Map of Vermont			
			Total Score:
Other Comments :			
0- 31 = Archeologically Non- Sensitive 32+ = Archeologically Sensitive			

APPENDIX H – RARE PLANT SPECIES



LEGEND

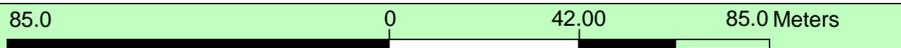
- Hazardous Site
- Rare
- Threatened or Endangered
- Town Boundary

1: 1,676
July 13, 2016



NOTES

Map created using ANR's Natural Resources Atlas

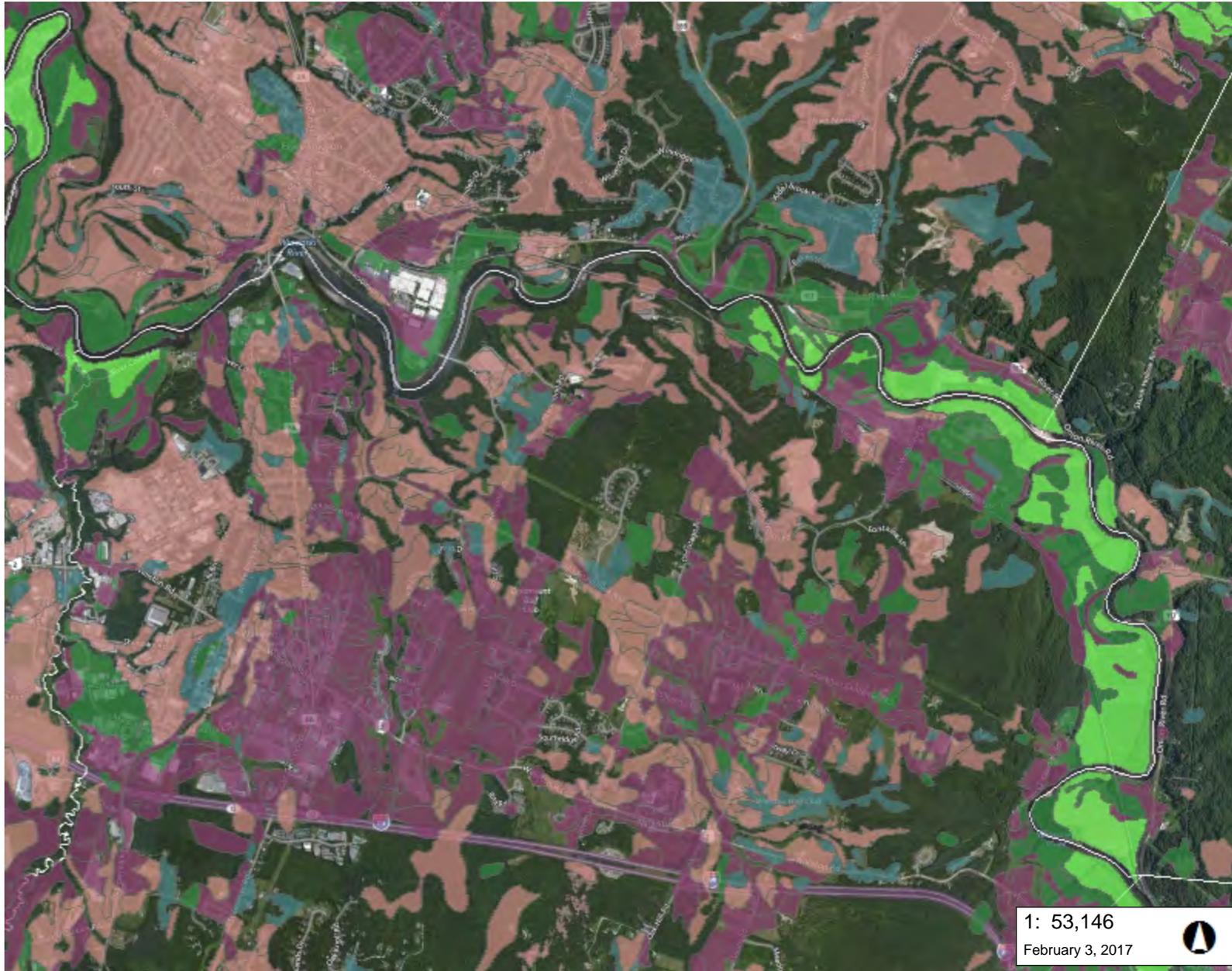


WGS_1984_Web_Mercator_Auxiliary_Sphere
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1" = 140 Ft. 1cm = 17 Meters
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APPENDIX I – SOIL INFORMATION



LEGEND

Soils - Prime Agricultural

- Local
- Local (b)
- Not rated
- Prime
- Prime (b)
- Prime (f)
- Statewide
- Statewide (a)
- Statewide (b)
- Statewide (c)

Town Boundary

1: 53,146

February 3, 2017



NOTES

Map created using ANR's Natural Resources Atlas

2,700.0 0 1,350.00 2,700.0 Meters

WGS_1984_Web_Mercator_Auxiliary_Sphere

1" = 4429 Ft. 1cm = 531 Meters

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