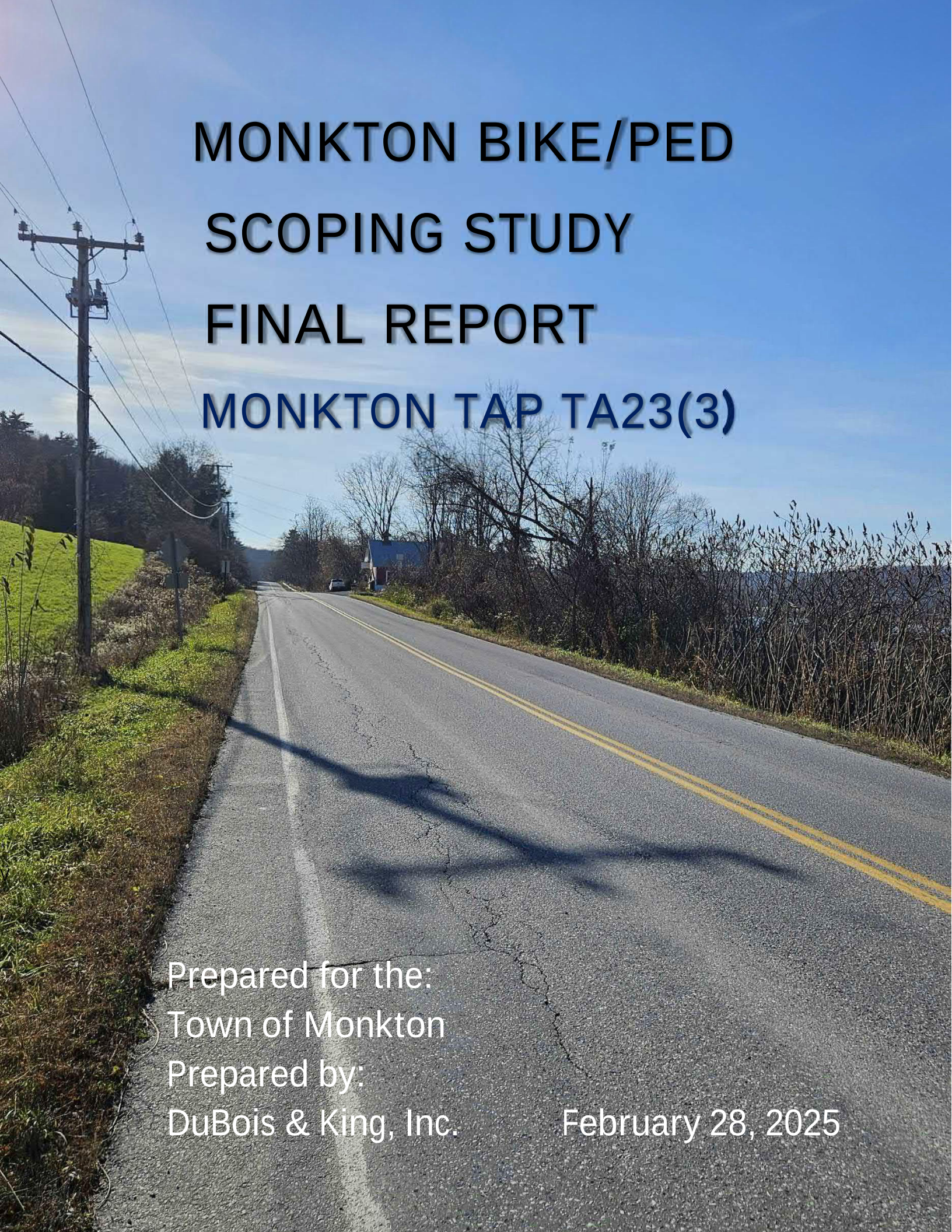

MONKTON BIKE/PED SCOPING STUDY FINAL REPORT

MONKTON TAP TA23(3)

Prepared for the:
Town of Monkton
Prepared by:
DuBois & King, Inc.

February 28, 2025

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1 INTRODUCTION

1.1 PROJECT BACKGROUND AND LOCATION

There are several references within the Monkton Town Plan 2020-2028 (Town Plan) related to supporting pedestrian and bicycle infrastructure. One of the guiding principles noted in the Town Plan is to "ensure a safe, well-maintained transportation network that considers the need of a diversity of users, including pedestrians and cyclists". The Town of Monkton also recently received a Village Center Designation status, further emphasizing the desire for a village character in this area. As a result of emphasis by the Town for bike/ped infrastructure planning, the Town applied for and was awarded a VTrans Transportation Alternatives Program (TAP) Grant for this Study to develop and evaluate potential bike/ped alternatives for the approximately 3.5-mile loop around Cedar Lake (also known as Monkton Pond). The study area includes the roads highlighted in red on Figure 1, Study Area Map, including segments of Monkton Road, Pond Road, Rotax Road, Davis Road, and Monkton Ridge Road. Walkability and cycling opportunities will be a benefit for those within the designated Village; a portion of the study area is within the Village Center designation and its 0.25-mile buffer. Numerous destinations within the area that would benefit from improved walkability include the Town Hall, Town Clerk's office, Monkton Ridge Cemetery, and Methodist Church along Monkton Ridge; the Monkton Central School and Park and Ride along Monkton Road; and the Borough Cemetery, Morse Park, dog park, and pond access area along Pond Road.

The parcel located in the southwest section of the study area on the "inside" (or lake-side) of the study area roads, bounded by Pond Road to the west and Monkton Road to the south, is known as the Morse Lot. There is an existing trail network within this parcel, as well as Morse Park, which contains a dog park as well as recreational fields that are used by the general public as well as school-aged children and their families. Alternatives within this parcel were not part of the original Scope of Work for this project. However, through input received at public meetings there appears to be an interest in bike/ped infrastructure in this area to connect the Elementary School to Morse Park. This parcel is owned by the Town, however is also listed as a Conservation Easement on the State's Open Geodata Portal GIS database. It is also maintained by the Town of Monkton's Recreation Committee.


MONKTON BIKE/PED SCOPING STUDY
STUDY AREA
FIGURE 1:
STUDY AREA MAP
ROTAX RD
Orchard
POND RD
MONKTON RIDGE RD
Town Hall
Monkton Ridge Cemetery
Town Clerk's Office
Cedar Lake (or Monkton Pond)
Pond access
MONKTON RD
Morse Lot
Morse Park
Monkton Central School
Park and Ride
Monkton Boro Cemetary
Study Area
0
1,000
Feet
VCGI

2 EXISTING CONDITIONS

2.1 LAND USE

Per Zoning data on the Town's website[1], the lake-side of the Cedar Lake loop roads are within the Monkton Pond Overlay District. A portion of the study area is also within the Floodplain Overlay District 1. As noted in Map 17 of the Town Plan, the project area is also within the Village Residential Planning Region of the Town. The Town Plan indicates Future Use and Purpose of this region includes creating transportation networks which includes sidewalks, pedestrian and cycling paths, retrofitting of roads to include traffic calming techniques, striped shoulders and slower traffic speeds appropriate for denser residential and civic activity. The Future Use and Purpose section of the Town Plan also suggests attracting a diversity of activities and creating a gradual increase in housing density and affordability – these uses would benefit from bike/ped infrastructure in this area.

Town Zoning within the study area is shown to the right and includes the following:

- RA1V (High Density Village District)
- RA2 (Medium Density Rural Agriculture)
- RAS (Low Density Rural Agriculture District)
- WLD (Conservation District – Prohibited)

Map Source: Town of Monkton Interactive Digital Parcel and Zoning Map

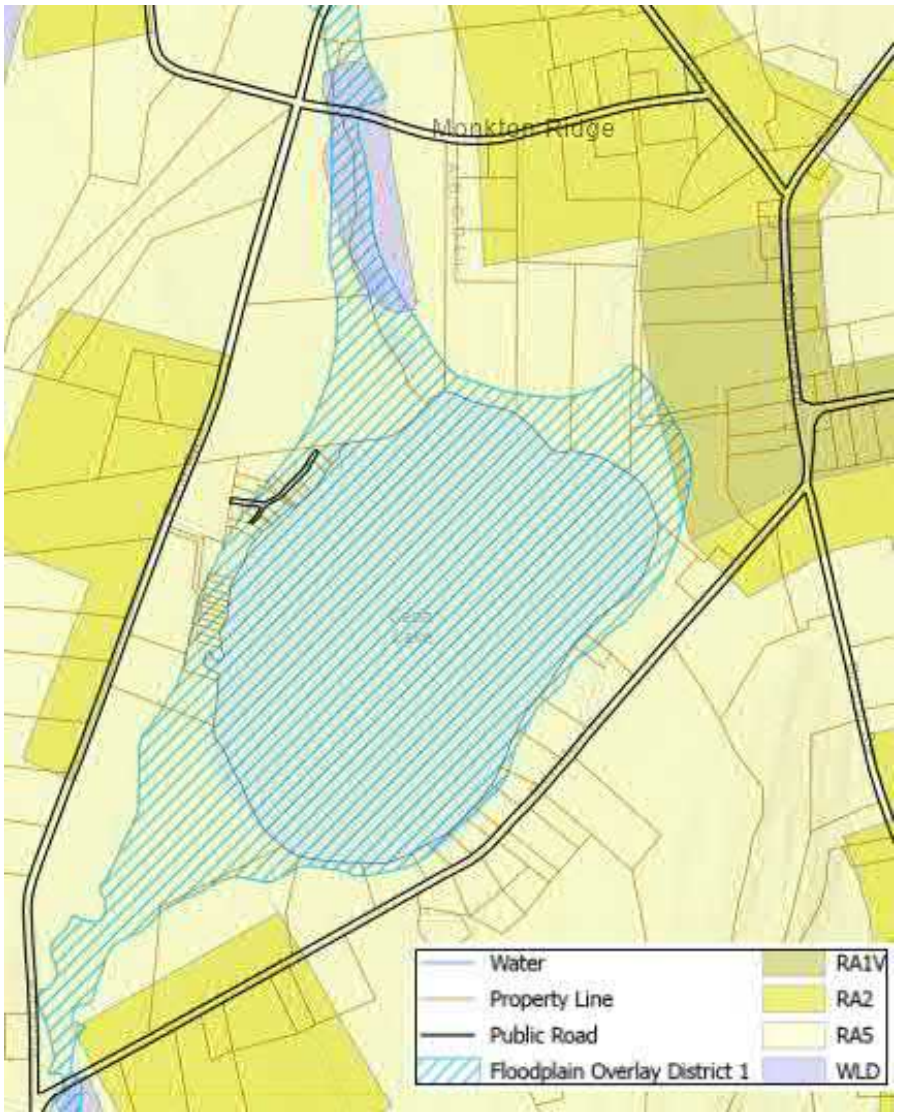


Figure 2: Zoning Map

[1] Interactive Digital Parcel and Zoning Map, http://monktonvt.com/town-info/parcel-maps-2/ [queried 9/14/2024]

2.2 RIGHT OF WAY

No right of way (ROW) research was conducted as part of this project. However, per the Vermont Agency of Natural Resources (VT ANR) Atlas and VT Open Geodata Portal it appears that all roads within the project area have a 3-rod wide (49.5') ROW. There is no known digital ROW data available from the Town.

2.3 ENVIRONMENTAL AND CULTURAL RESOURCES

2.3.1 ENVIRONMENTAL RESOURCES

The VT ANR Atlas database was utilized to conduct a desktop review of natural resources, including but not limited to wetlands; surface waters; floodplains; river corridors; rare, threatened, and endangered (RTE) species; uncommon species; invasive plants; and hazardous waste sites. Other mapping sources including the United States Fish & Wildlife Service (USFWS), National Wetlands Inventory (NWI) mapper, Google Earth, and United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) Web Soil Survey. Maps depicting soils, RTE species, habitat, wetlands and waterways were created using data from the VT ANR Atlas. Following the desktop review, a field investigation was performed by D&K to confirm mapped resources and the presence of unmapped resources. Natural resources and unique features, such as large healthy trees and stone walls, within the study area were also located during the field review. The following is a summary of this review. Additional information is provided in Appendix A1, Natural Resources Investigation Memorandum.

- Wetlands & Waterways. There are mapped class II wetlands within the study area, as shown on VT ANR Atlas and USFWS NWI mapping and verified in the field. Figure 4: VT ANR Atlas Map shows mapping of known wetlands and waterways,. Work in waters of the United States, would potentially require a United States Army Corps of Engineers General Permit. Work with any Vermont Class II wetland or its associated 50-foot buffer would potentially require a VT Wetlands Permit. Work within a state jurisdictional watercourse would potentially require a VT Stream Alteration Permit.

- Rare, Threatened, Endangered (RTE) Species. According to the VT ANR Atlas, eight known elements of concern were identified within the study area (either very rare, rare, uncommon, and/or endangered). These include the straight-leaf pondweed, Jefferson salamander, field thistle, broad-winged skipper, Northern long-eared bat, Indiana bat (summer range), yellow bumble bee, and nuttall waterweed. None of these were observed during the course of the field investigation. A formal rare species inventory was not undertaken during the field investigation, which took place at the end of the growing season. Several butternut trees were found, and were healthy and potentially free from walnut canker disease. This was the only uncommon species located within the project area that was not identified by the VT ANR Atlas. The Information for Planning and Consultation (IPaC) tool also indicated the potential presence of the bald eagle. In addition, there are several migratory birds listed on the IPaC resource list, two of which are state-listed as threatened, the Eastern meadowlark and the Eastern whip-poor-will. Neither of these bird species were identified during the field investigation, however, a formal survey was not conducted. According to the IPaC, there are no areas of critical habitat for threatened and endangered species within the study area.

- Non-Native Invasive Species. Several non-native invasive species were observed scattered around the study area, including Common reed (Phragmites australis), purple loosestrife (Lythrum salicaria), and reed canary grass (Phalaris arundinacea), all of which have a strong presence in the

study area. Japanese knotweed (Fallopia japonica), Asian bush honeysuckle (Lonicera spp.), and common buckthorn (Rhamnus cathartica) are also present in the study area to a lesser degree.

- Bat Roost Tree Habitat. The field investigation for this project included review of the study area for potential bat roosting trees. Many individual trees as well as forest stands were found to have the necessary habitat features for roosting. Potential roosting individual and groups of trees are shown in the Natural Resources Investigation Memorandum in the Appendices. The majority of the roads in the study area run along fields and hedgerows on the lake side and forest to the exterior. Tree species found to contain suitable bat roost habitat included black locust (Robinia pseudoacacia), silver maple (Acer saccharinum), northern white- cedar (Thuja occidentalis), willows (Salix sp.), eastern white pine (Pinus strobus), American elm (Ulmus americana), basswood (Tilia Americana), birch (Betula sp.) and butternut.

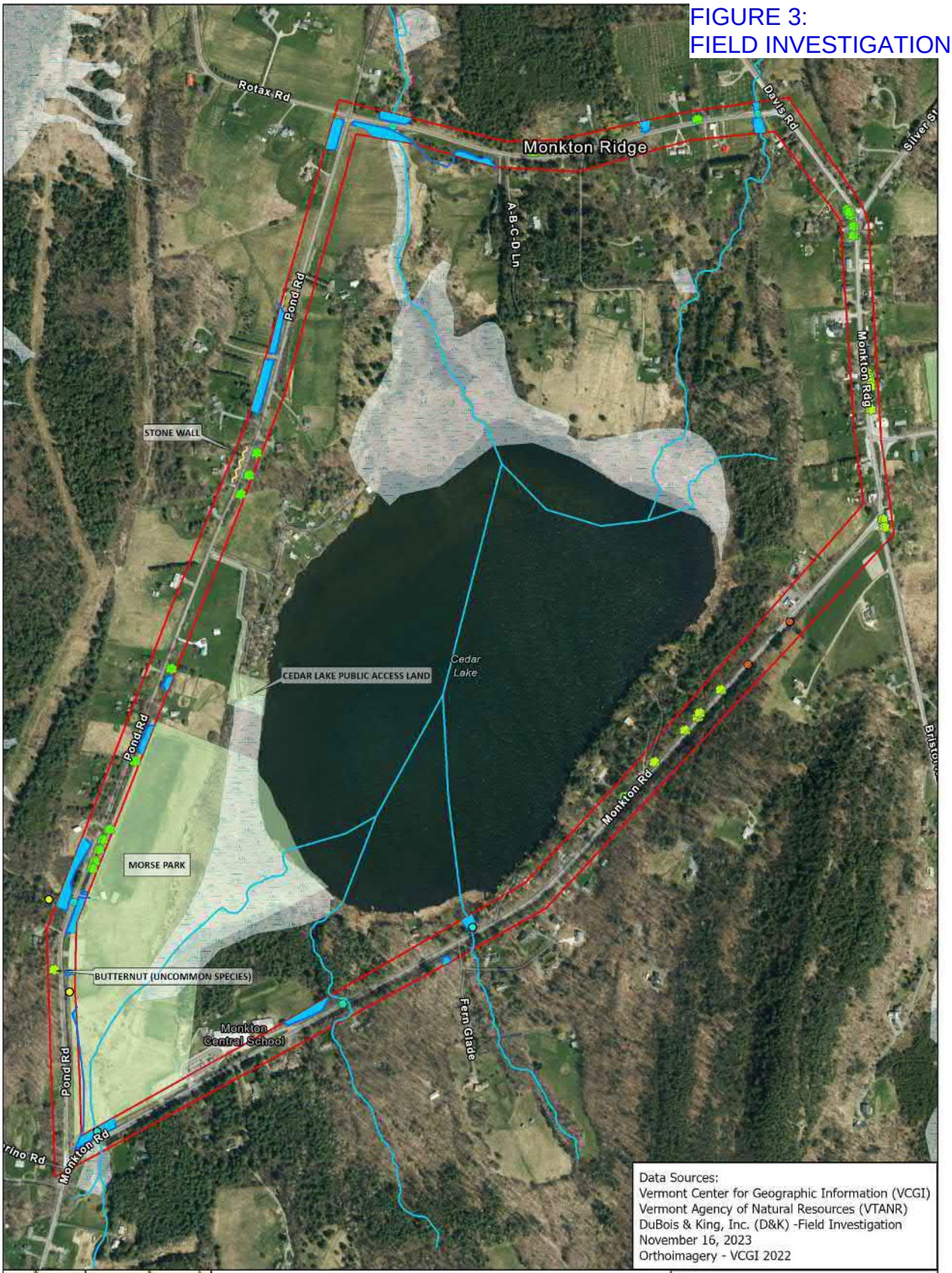
- Floodplains. The VT ANR Atlas does not include digital data for floodplains within the study area. Based on a review of FEMA mapping, 100-year floodplains (zone A) are located within the study area, where the floodplain crosses both Monkton Road and Rotax Road. FEMA mapping is included in Appendix A2, FEMA Flood Insurance Rate Map.

- Hazardous Sites. According to the VT ANR Atlas, hazardous sites are located in or within the vicinity of the project area on Monkton Road and Monkton Ridge. These include the following:

    1. Monkton Central School – Contamination was discovered during the removal of a heating oil underground storage tank (UST) in 1998. There were no significant impacts to groundwater and the state has determined there is no unacceptable risk to human health or the environment due to any residual contamination remaining at the site from the former heating oil UST.
    2. 893 Monkton Road – An approximate 20-gallon kerosene spill from an above ground storage tank occurred in 2015. Site Management Activity has been completed and the spill has been closed.
    3. Monkton General Store - Soil contamination was discovered during removal of USTs in 1997. Annual monitoring has been performed to determine the extent of groundwater contamination. The state has determined it is a low priority site with contamination to soils or groundwater, but no effect on sensitive receptors, such as drinking water wells.
    4. 31 Monkton Ridge – Groundwater contamination associated with a former gasoline filling station. In 2019, the state determined that the site satisfied the requirements of Subchapter 10 §35-1001 of the Investigation and Remediation of Contaminated Properties Rule and the state is not requesting any additional work in response to the gasoline UST release(s).

    A building and shed associated with the Monkton Ridge Orchard, located on Rotax Road, could potentially store hazardous materials for orchard operations. The interior was not accessed and no hazardous materials were observed. In addition, the Wooden Hammer, located at 140 Monkton Road, has the potential to store hazardous materials for typical business operations, however, none were observed. Other potential sites or hazardous materials were not visually observed during the field investigation.

FIGURE 3:
FIELD INVESTIGATION MAP



VERMONT

Natural Resources Atlas

Vermont Agency of Natural Resources

vermont.gov

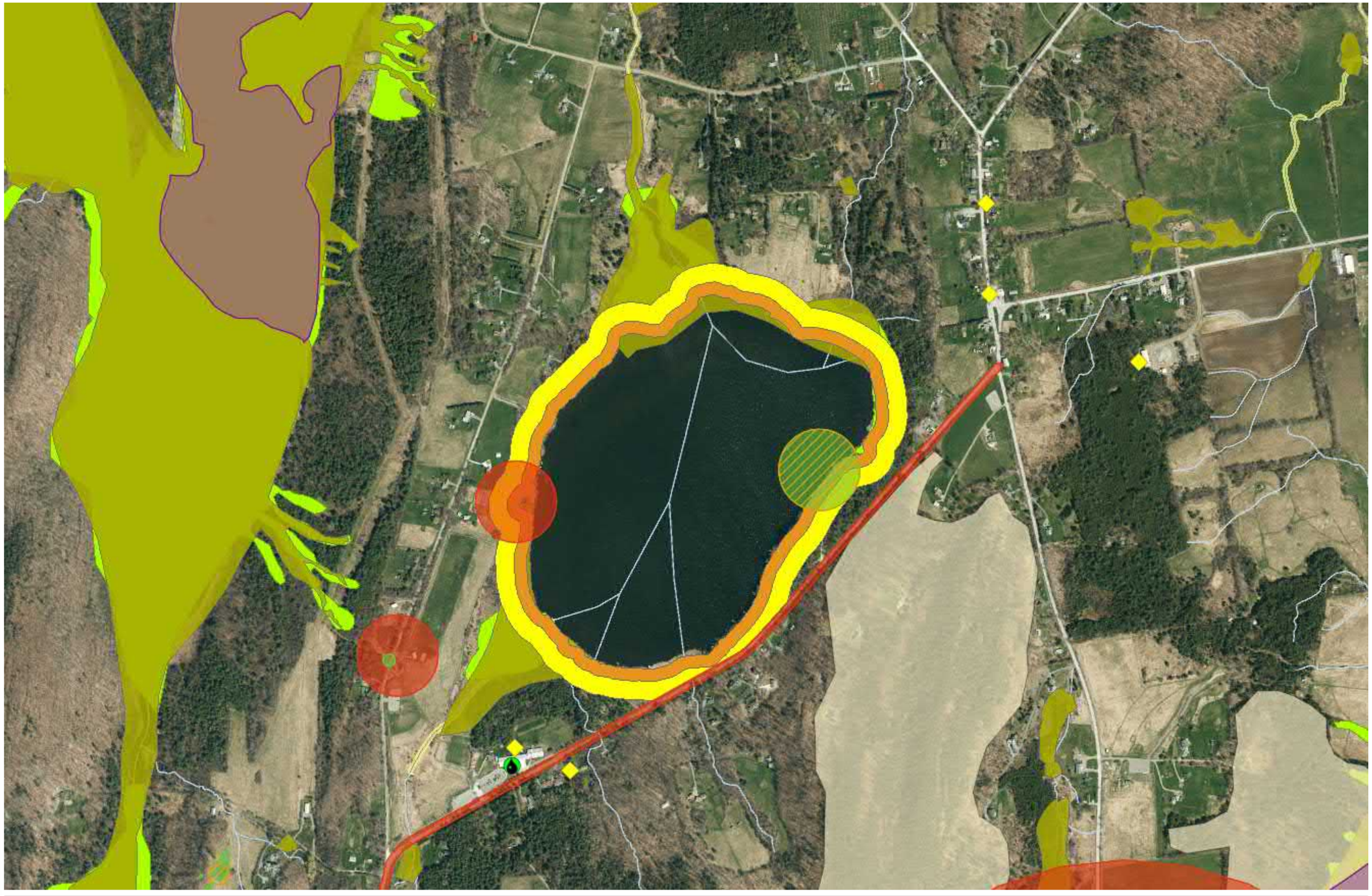
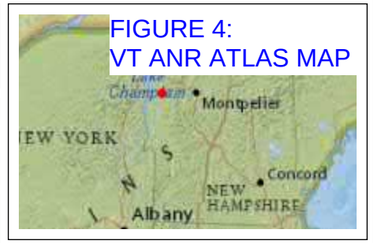


FIGURE 4:
VT ANR ATLAS MAP



LEGEND

- Uncommon Species and other features
  - Plant
  - Animal
  - Natural Community
- Rare Threatened and Endangered Spe
  - RTE Animal
  - RTE Plant
- Significant Natural Communities
- Invasive Plant Atlas
  - Acer platanoides
  - Berberis thunbergii
  - Euonymus alatus
- Deer Wintering Areas
- Class A(1) Ecological Waters
- Class A(2) Public Water Supplies
- Mixed Classifications for Uses
- Shoreland Protection Act
  - Lakeside
  - Upland
- Wetland - VSWI
  - Class 1 Wetland
  - Class 2 Wetland
  - Wetland Buffer
- Wetlands Advisory Layer
- River Corridors (Aug 27, 2019)
  - .5 - 2 sqmi.
  - .25-.5 sqmi.
- Hazardous Site
- PFAS Results (Drinking Water)
  - DETECTION
  - NON DETECT
- Stream
  - Stream
  - Intermittent Stream

1: 10,000

1in = 833 ft.
1cm = 100 meters

508.0 0 254.00 508.0 Meters

WGS_1984_Web_Mercator_Auxiliary_Sphere

NOTES

Map created using ANR's Natural Resources Atlas

2.3.2 CULTURAL RESOURCES

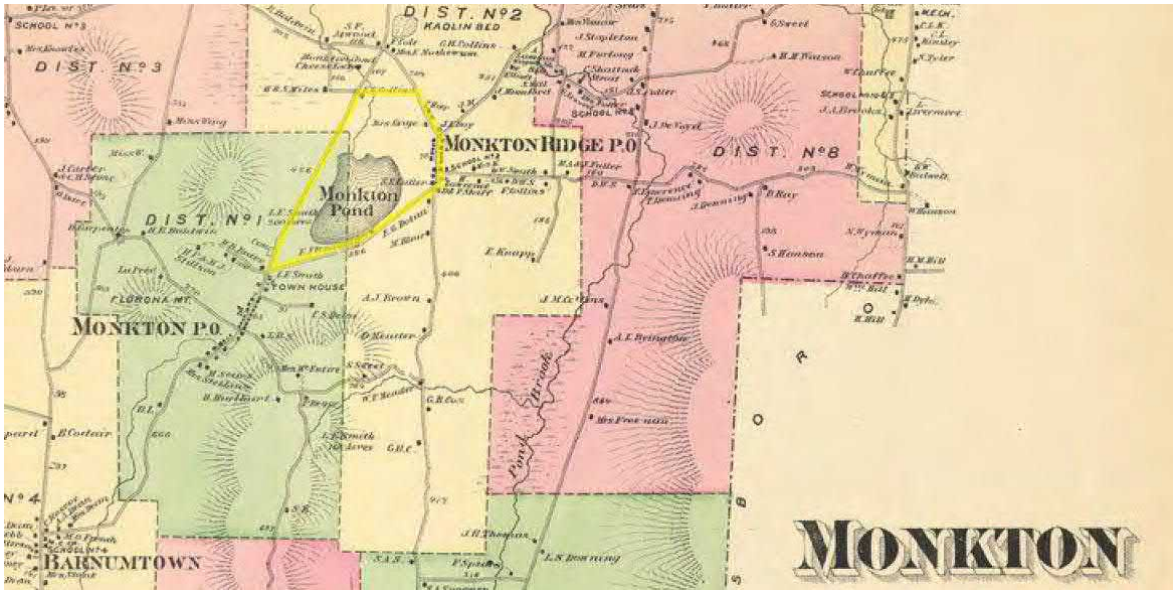
2.3.2.1 Archeological Resource Assessment (ARA)

An ARA for this project was conducted by D&K for this project which complies with Section 106 of the National Historic Preservation Act of 1966 and is included in Appendix B1. Through this research there were four sites identified that are within or adjacent to the project area. Using the Vermont Division for Historic Preservation (VDHP) Predictive Model, the project area scored 80, which is a score indicating the area is “Archaeologically Sensitive”. It is likely there are archaeological sites in the area based on the environment and existence of quartzite for quarrying and quartzite workshop sites. Based on input from VTrans, any areas beyond toes of roadway slope, drainage ditches, etc. are likely undisturbed and considered sensitive and would require further review. It is recommended that potential construction, where possible, follow closely to roads and existing hiking trails to stay within already-disturbed footprints.

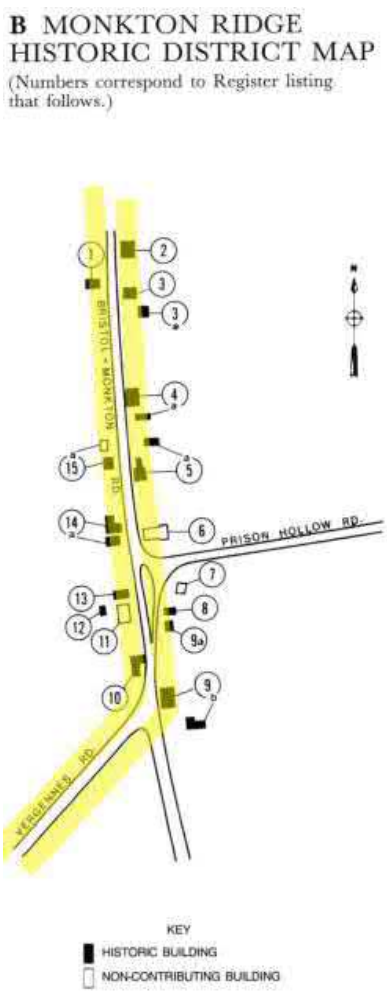
As suggested in the ARA for this study, the two closest identified archaeological sites are on the outer loop of Monkton Road and Pond Road (southeast of Monkton Road and on the west side of Pond Road). Therefore, from an archaeological review, it is recommended to focus on the inner-loop of a potential bike/ped infrastructure on these two roads.

The Historic District has modern infrastructure along the road. It is likely any sites within the project area would have been found during the installation of fencing, utilities, driveways, and parking lots. It is recommended to follow closely to the road and disturbed areas to maintain the integrity of the Historic District. Any significant deviation from the project area may require a Phase 1B, due to the area being "Archaeologically Sensitive," and the existence of known archaeological sites in the region.

Map of Monkton with hamlets delineated in 1871. Project area is highlighted in yellow



2.3.2.2 Historic Resources Inventory (HRI) Report



An HRI Report was developed in the fall of 2023 by Polly Seddon Allen, Senior Architectural Historian, as part of this project (and included as Appendix B2) to document historic period built environment properties, including previously identified Historic Properties under Section 106 of the NHPA and Historic Sites under Criterion 8 of Vermont Act 250 that are located within or adjacent to the Project Area. As detailed in the HRI, only one NRHP-listed property was documented, the Monkton Town Hall at 280 Monkton Ridge. Additionally, the HRI identifies a Vermont State Register-listed Historic District in the Project Area: the Monkton Ridge Historic District, with 10 Contributing Resources identified in the Project Area: 339 Monkton Ridge, 320 Monkton Ridge, 280 Monkton Ridge (Monkton Town Hall), the Monkton Ridge Cemetery, 216 Monkton Ridge, 176 Monkton Ridge, 175 Monkton Ridge, 145 Monkton Ridge, 78 Monkton Ridge, and 77 Monkton Ridge. In addition to the previously identified Historic Properties detailed above, the HRI documents 36 historic period (greater than 50 years of age) built environment properties that are located on parcels that are potentially encroached by the APE and have not previously been subject to formal NRHP or Vermont State Register evaluation.

The findings of this report are intended to support design development for the Project by identifying historic period properties that may be affected by Project activities. Based upon the inventory, this analysis finds that the area extending along Monkton Ridge through the Vermont State Register-listed Monkton Ridge Historic District and passing the NRHP-listed Monkton Town Hall is the most sensitive area in relation to historic period built environment resources, both because of the significance of the resources and the spatially tight-knit village form of the parcels flanking the ROW, with little area between the path of travel and adjacent parcels. Despite this sensitivity, however, an appropriate bike-pedestrian amenity could serve as an important streetscape enhancement in this area, by reinforcing village characteristics and slowing vehicular travel to reflect the historic village surrounds.

The remainder of the Project Area presents fewer resource issues related to historic built environment resources, with no additional NRHP or Vermont State Register-listed resources in or adjacent to the APE and only select resources that appear to possess potential significance under the criteria of the NRHP in the Project Area. Additionally, the remainder of the Project is characterized by larger lot sizes flanking the ROW, allowing for greater separation between any bike-pedestrian amenity and adjacent built environment resources and a lesser potential for any Project-related impacts.

Cedar Lake (Monkton Pond) with Monkton Ridge in foreground, 1938 (UVM Landscape Change Program)

2.3.3 OTHER LAND USES

The VT ANR Atlas was reviewed to determine whether there are any lands categorized as protected lands, conserved lands, Green Mountain National Forest, or other managed lands within the study area. The Morse Lot and Monkton Pond Access parcels are both identified as conserved lands and the Morse Lot is also shown as a protected land, where the Morse Lot is owned by the Town of Monkton and Pond Access by the VT Department of Fish and Wildlife. As listed on the Atlas, the Morse Lot has a conservation easement.

A review of Vermont Land and Water Conservation Fund (LWCF) projects 1965-2024 lists a grant approved in 2005 for Morse Park Playing Fields. The LWCF listing includes two additional grant project in the Town of Monkton, one of which is named "Monkton" (year 1973) and the other which is named "Monkton Recreation Dev." (year 1974).

Based on information this project has received to date in development of this project, it appears that a multi-use path within the Morse Lot would be consistent with the intent of the lands contained within the Morse Lot. However, due to the nature of this lot being considered a "conserved land", if the alternative within the Morse Lot is pursued there should be a legal review of the documents associated with this Lot and further discussions with the Recreation Committee to confirm the feasibility of such an alternative. Appendix C includes documentation related to the Morse Lot, including the Morse Park Management Plan and easement documentation related to conservation restrictions on this Lot.

2.4 EXISTING CONDITIONS REVIEW

The following is a summary of existing conditions within the study area. This includes a summary of existing roadway geometries, characteristics, and the environmental and cultural resource reviews discussed above.

Monkton Road

- Paved road with one lane in each direction with a speed limit of 35 mph.
- Roadway is approximately 24' wide, field measurements suggest 10.5' lanes and 1.5' shoulders on both sides.
- Outside of the road ROW within the Morse Lot there is a trail beginning at the park and ride and extending westerly towards Pond Road, where it then continues northerly parallel to Pond Road.
- Per VTrans, the 2024 annual average daily traffic (AADT) of Monkton Road is estimated to be approximately 2,350 vehicles The latest available seasonal adjustment factor from the VTrans Red Book[2] suggests an adjustment factor of 0.915 to translate a short term count on a given Tuesday in June (the day of the ACRPC count that is closest to the ACRPC calculated average daily traffic) to an AADT. Therefore, the estimated AADT based on ACRPC data would suggest a 2024 AADT of approximately 2,490 vehicles per day along Monkton Road. Because this adjustment factor is based on a 2022 seasonal adjustment factor (latest available in the VTrans Red Book), it is recommended that the VTrans AADT of 2,350 would be the more accurate of the two estimates. The ACRPC speed study along Monkton Road between Pond Road and Silver Street is included as Appendix D.
- Over a significant portion of the project area the topography adjacent to the road slopes uphill on the south side of the road and slopes down, towards Cedar Lake (also known as Monkton Pond), on the north side of the road.
- At the Public Information Meeting there was a resident that expressed concern regarding existing stormwater runoff and erosion on the south side of Monkton Road.

Summary of Archaeological Resource Assessment review:

- The ARA for this project identified a site on the south side of road that is estimated to be within approximately 20' of the roadway.
- Based on input from VTrans, any areas beyond toes of roadway slope, drainage ditches, etc. are likely undisturbed and considered sensitive and would require further review.

[2] Continuous Traffic Counter Report (The Redbook) Based on 2022 Traffic Data. Vermont Agency of Transportation, Highway Division, Traffic Data and Analysis. June 2023

Summary of Historical Resources Inventory Review:

- There is a portion of the eastern section of Monkton Road within the study area that is within the Monkton Ridge Historic District.

Summary of environmental resources review:

- There are multiple streams along Monkton Road. Most appear to be ephemeral streams influenced by stormwater runoff from the hillside. Water flows from these channels and discharge to the roadside ditch and eventually in a northerly direction toward Cedar Lake. The ephemeral streams were not found to be associated with wetlands.
- There is a potential Class II wetland on the north side of Monkton Road, east of Monkton Central School. The wetland appears to continue south towards the perennial stream and Cedar Lake.
- The field investigation confirmed the location of an approximate 1 acre mapped Vermont Class II wetland located southeast of the intersection of Monkton Road and Pond Road. The wetland is associated with a perennial stream that flows in a northerly direction into Cedar Lake. The wetland appears to be part of a larger wetland complex associated with the mapped Class II wetland located on the south side of Cedar Lake. Wetland characteristics were observed between the two mapped wetlands.
- The VT ANR Atlas suggests presence of a rare species, the Jefferson salamander, along the length of Monkton Road within the project area. The nuttall waterweed (uncommon species) and straight-leaf pondweed (rare and uncommon species) also shows up in this database north of Monkton Road (appears to not be located directly adjacent to the roadway).
- There were no invasive plant species observed within the study area along this road.
- Based on field investigations, there are trees along this roadway segment that have the potential for bat roosting.
- There is a 100-year floodplain along the western section of Monkton Road associated with the western most stream crossing along this road.
- There are two hazardous site locations documented on the VT ANR Atlas along Monkton Road. These include the Monkton Central School and 893 Monkton Road. A Site Management Activity Completed (SMAC) letter has been completed for both of these locations.

Pond Road

- Gravel road with one lane in each direction with a speed limit of 35mph.
- Approximately 20' wide (varies since there is sometimes not a clearly defined edge of roadway vs. outside of existing travelway).
- Outside of the road ROW within the Morse Lot there is a trail beginning north of Monkton Road and continuing north parallel to and on the east side of Pond Road to the northern end of the Morse Lot.
- The 2023 AADT was estimated to be approximately 200 vehicles per day.

Summary of Archaeological Resource Assessment review:

- The ARA for this project identified a site on the west side of road that is estimated to be within approximately 20' of the roadway.
- Based on input from VTrans, any areas beyond toes of roadway slope, drainage ditches, etc. are likely undisturbed and considered sensitive and would require further review.

Summary of Historical Resources Inventory (HRI) Review:

- There were no historic sites identified in the HRI review along this road.

Summary of environmental resources review:

- An agricultural wetland ditch extends from the western side of Pond Road just south of Rotax Road to a perennial stream running north-south to Cedar Lake from the vicinity of Monkton Ridge.
- A wetland is located on the east side of Pond Road and south of the Morse Park parking area which appears to be part of the larger wetland complex associated with the mapped Class II wetland located on the south side of Cedar Lake.
- There are a few small, potentially isolated Class III, emergent wetlands to the south of the Morse Park parking lot.
- A large linear emergent wetland is located on the west side of Pond Road, approximately 0.4 miles from the intersection of Pond Rd and Rotax Rd. Based on a desktop review, the wetland potentially extends in a northwesterly direction ultimately connecting to a large Class II wetland.
- The VT ANR Atlas suggests presence of two rare species (field thistle and the yellow bumble bee) within the project area along Pond Road, in addition to the very rare and endangered species of the northern long-eared bat. In addition, this source suggests there is presence of the rare and uncommon species of the broad-winged skipper in vicinity of the project area, but not directly adjacent to Pond Road. The VT ANR Atlas also shows the Indiana bat to be observed within the Town of Monkton.
- There was one invasive plant species observed within the study area along this road.
- Based on field investigations, there are trees along this roadway segment that have the potential for bat roosting.

Rotax Road

- Gravel road with one lane in each direction with a speed limit of 35 mph.
- Approximately 20'-23' wide (varies since there is sometimes not a clearly defined edge of roadway vs. outside of existing travelway).
- Stone lined swales along portions of the roadway.

Summary of Archaeological Resource Assessment review:

- There were no archaeological sites identified in close proximity to the project area in the ARA for this project.
- Based on input from VTrans, any areas beyond toes of roadway slope, drainage ditches, etc. are likely undisturbed and considered sensitive and would require further review.

Summary of Historical Resources Inventory (HRI) Review:

- There were no historic sites identified in the HRI review along this road.

Summary of Environmental Resources review:

- A field investigation confirmed the location of an approximately 32 acre mapped Vermont Class II Wetland that wraps around the northern border of Cedar Lake. This region overlaps with the project area of Rotax Road. The wetlands are hydrologically connected to a perennial stream that flows in a northerly direction from Cedar Lake under Rotax Road and ultimately to Lewis Creek.
- A separate mapped stream is located approximately 100 feet west of the intersection of Rotax Road and Davis Road. The perennial stream collects water from the hillside to the northeast and directs it in a southerly direction into Cedar Lake. A small emergent/scrub-shrub wetland abuts the stream on the north side of Rotax Road. In addition, what appears to be an isolated wet meadow is located approximately 800 feet west of the intersection of Davis Road and Rotax Road.
- The VT ANR Atlas also shows the Indiana bat to be observed within the Town of Monkton.
- There were no invasive plant species observed within the study area along this road.
- There is a 100-year floodplain along the western section of Rotax Road associated with a stream crossing along this road.
- Based on field investigations, there are trees along this roadway segment that have the potential for bat roosting.

Davis Road / Monkton Ridge

- Paved roads with one lane in each direction.
- Davis Road has a speed limit of 35 mph; and Monkton Ridge has a speed limit of 30 mph.
- Roads are approximately 22' wide.
- The 2016 AADT on Monkton Ridge Road just north of the Monkton Road intersection was estimated to be approximately 2,500 vehicles per day. Based on the VTrans Continuous Traffic Counter Report Based on 2021 Traffic Data (2021 Red Book), the estimated growth factor for rural roadways from 2016 to 2021 is approximately 0.958. Using the VTrans 2023 Red Book it is estimated that the growth factor of rural roads between 2021 and 2023 is approximately 0.977. Therefore, the estimated growth factor for

projecting 2016 AADTs of rural roads is estimated to be 0.94. For purposes of this study, it is assumed that the 2016 AADT along Monkton Ridge Road has not significantly changed between 2016 and 2024.

Summary of Archaeological Resource Assessment review:

- There were no archaeological sites identified in close proximity to the project area in the ARA for this project.
- Based on mapping in the ARA, it is not anticipated that alternatives will be located in archaeologically sensitive areas.

Summary of Historical Resources Inventory Review:

- There is one National Register of Historic Places (NRHP) listed property in the project area, which is the Monkton Town Hall at 280 Monkton Ridge. In addition, there is a Vermont State Register-listed Historic District within the project area along Monkton Ridge, which includes 10 contributing resources and 36 historic period built environment properties.

Summary of environmental resources review:

- There are no known wetlands along Davis Road or Monkton Ridge Road.
- The VT ANR Atlas also shows the Indiana bat to be observed within the Town of Monkton.
- There were no invasive plant species observed within the study area along this road.
- Based on field investigations, there are trees along these roadway segments that have the potential for bat roosting.
- There are two hazardous site locations documented on the VT ANR Atlas along Monkton Ridge Road. These include the Monkton General Store and 31 Monkton Ridge Road. For the Monkton General Store location, the state has determined it is a low priority site with contamination to soils or groundwater, but no effect on sensitive receptors, such as drinking water wells. For the 31 Monkton Ridge location, the state determined that the site satisfied the requirements of Subchapter 10 §35-1001 of the Investigation and Remediation of Contaminated Properties Rule and the state is not requesting any additional work in response to the gasoline UST release(s).

Morse Lot

- Per the VT ANR Atlas, this parcel (the Morse Lot) is considered a “conserved land” area, per the Vermont Protected Lands Database. Based on information received from the Town regarding this lot, this lot is under the authority of the Recreation Committee with the assistance of the Town. Field maintenance and the facilities maintenance is the responsibility of the Monkton Recreation Committee. Per the Grant of Development Rights and Conservation Restrictions dated 1996, the “secondary purposes are to provide opportunities for educational activities, and permit the construction and maintenance of public trails and

structures incident to appropriate public recreational use".

- Per input from the Monkton Recreation Committee, the Vermont Housing and Conservation Board (VHCB) holds a conservation easement on the property. While this project would appear to meet the purposes of the easement, the Recreation Committee recommends conferring with VHCB prior to moving forward if an alternative through the Morse Lot is a recommended alternative that the Town would like to move forward.
- The VT ANR Atlas database includes the existing trails network within the Morse Lot (shown as the dashed lines in the graphic to the right).
- As noted earlier, Morse Lot was not included in the study area as a potential location for project alternative(s). Per input from the Town and public meeting attendees, it became evident that there is potential interest in a connection to the fields along Pond Road to the Elementary School. A D&K engineer reviewed the Lot as part of the overall site visit review as it relates to the potential of inclusion of an alternative within this parcel.

Potential Archaeological and Historic Resources:

- As noted above, this area was added to the study area during the development of this study after public meeting attendees expressed interest in bike/ped infrastructure in this area. However, the level of effort to provide ARA and/or HRI reviews exceeded the available budget that would be needed for these tasks. Therefore, these reviews are not part of this Study. However, input from a member of the Monkton Recreation Committee suggests that there is a pre-contact Native American archaeological site at some location within the Morse Lot. Therefore, it is assumed that additional archaeological investigations would be needed for an alternative within the Morse Lot.

Summary of environmental resources review:

- As noted earlier, D&K did not conduct a detailed environmental resources review of this lot as this lot was added to the project following completion of these reviews. However, a review of the VT ANR Atlas database was reviewed, and the following are findings from this review.
- There are mapped Class II wetlands within this parcel, as well as adjacent parcels to the east and north, in vicinity of Cedar Lake.
- There is a small stream which flows in a roughly northeasterly direction towards Cedar Lake
- The VT ANR Atlas suggests presence of two rare species (field thistle and the yellow bumble bee) along Pond Road and within the Morse Lot.
- The VT ANR Atlas also shows the Indiana bat to be observed within the Town of Monkton.

- There is a 100-year floodplain along the western section of Monkton Road associated with the western most stream crossing along this road.

2.5 PUBLIC TRANSIT

There is no public transit available for Monkton residents, with the exception of dial-a-ride services for Addison County Transit Resources (ACTR). One of the recommended actions related to transportation in the Monkton 2020-2028 Town Plan is to continue to work with Addison County Transit Resources (ACTR) to discuss a future bus stop in Monkton. The Town Plan notes that according to ACTR, Monkton has over 200 residents who have mobility disabilities, relying on others to transport them to amenities and services.

In 2016, a Transportation Survey was conducted by the Town to collect input on residents' transportation practices, needs, and opinions. There were 72 surveys collected as part of this effort. The following are a few of the takeaways from this survey:

- Over 50% of the respondents noted that they would be encouraged to take transit if there was a park and ride where the bus stopped (note: this survey was conducted prior to the construction of the park and ride that is located adjacent to the School),
- Approximately 25% responded that "nothing would encourage them to take transit".
- When asked what the Town should do to consider creating alternatives to driving alone, 40% suggested a Town park and ride with bus route and/or carpooling options connecting Monkton with Burlington.
- Another priority listed was improved information regarding carpooling and transit.

3 PURPOSE AND NEED STATEMENT

Purpose

The purpose of this project is to identify and develop a preferred alternative for bicycle/pedestrian infrastructure improvements that addresses safety concerns related to pedestrians and bicyclists on the approximate 3.5-mile loop around Cedar Lake consisting of Monkton Road, Pond Road, Rotax Road, Davis Road, and Monkton Ridge Road. In addition, the study should include a recommendation for prioritizing the developed preferred alternative(s) based on roadway segments. The study is consistent with the 2020 Monkton Town Plan, which includes reference to providing a safe, accessible multi-modal transportation network that meets the needs of all stakeholders and reduces the reliance on personal vehicles; as well as improving walking and cycling infrastructure throughout town, especially connections between Monkton Boro and Monkton Ridge. Due to existing topography and constraints, the goal of this project is to develop bike/ped alternatives that are adjacent to or nearly adjacent to the roads identified as the project area.

Need

The need to improve the safety of pedestrian and bicyclist circulation on roads around Cedar Loop is evident by the existing use of these roads by pedestrians to reach local destinations and the lack of bicycle or pedestrian infrastructure on these roads. There are numerous destinations along the project area that would benefit from bike/ped infrastructure, including but not limited to the Monkton Central School, park and ride, Monkton Community Dog Park, Morse Park Recreation area, Monkton Boro and Monkton Ridge cemeteries, VT Fish and Game fishing access, Monkton Ridge Orchard, Town Hall, and more.

4 PROJECT COORDINATION

The overall project team consists of the Town of Monkton as the project "owner", VTrans as the funding source, and DuBois & King, Inc. (D&K) for planning and engineering services. The following summarizes the meetings that were part of the process for this project. Input received throughout these meetings was an integral part of local the project from beginning to end. Appendix E, Meeting Notes and Key Correspondence, includes materials pertaining to project meetings.

4.1 Project Kick-Off Meeting

A meeting to kick-start the project was held on October 26, 2023 which discussed project goals, project area limits, sidewalk vs. multi-use path facilities, and project schedule. It was clarified at this meeting that this project would be looking at potential options for bike/ped infrastructure that were along or adjacent to existing roadways. The Morse Lot was briefly discussed, and it was noted that this area was not included as part of the scope of work for this study. However, the Morse Lot was later incorporated into the project area due to general public interest in providing a potential pedestrian connection between the school and fields on the north side of Morse Lot.

4.2 Local Concerns Meeting

A meeting was held on March 14, 2024 to present an overview of the project, the scoping study process, present existing conditions information, discuss potential safety concerns walking along the project area, discuss next steps, and to provide an opportunity to gather input on the project.

Input was collected regarding side of road preference, facility type preference, and thoughts on priority for improvements along these roads. For all project area roads there was general interest in future bike/ped infrastructure along the lake-side of the roads. For Monkton Road there was mixed input regarding a preferred side of the road for potential future bike/ped infrastructure. During this meeting there was also a mention of the potential for a "boardwalk" type of pedestrian infrastructure along the stretch of Monkton Road where there are slope constraints on both sides of the road.

There were 5 local input sheets filled out from this meeting. Of these, the overall highest priority road was generally listed to be Monkton Road, followed by Monkton Ridge, Pond Road, and then lastly Rotax Road and Davis Road were tied in their priority scoring of these 5 local input sheets.

Another topic of discussion at this meeting was the potential for crosswalks within the project area if an alternative needed to switch from one side of the road to the other. There were concerns with safety relating to any potential crossing that would be needed on Monkton Road.

There are existing trails within the Morse Lot (home to Morse Park). Residents expressed interest in seeing a potential alternative through Morse Lot, which would also serve as a cut-through path to connect the school and the recreation field in the Morse Lot. Following this meeting and through discussions with the Town, the Morse Lot was added into the project area for review of potential alternative(s) within the Morse Lot.

4.3 Alternatives Presentation Meeting

Following development and evaluation of alternatives, a public meeting was held on August 27, 2024 to introduce the project, discuss the project process, discuss the development and evaluation of alternatives, and solicit input regarding the project in general, as well as the alternatives developed. General input received at this meeting includes the following:

- The various alternatives were described and discussed, including information regarding potential environmental and cultural impacts, opinions of probable construction costs, and other factors. There was not significant input on which alternatives were preferred for moving forward. It was decided that the Town would post a link to the presentation on the Town's website, along with a short survey where residents can provide input following the meeting.
- It was noted that the historic and archaeological reviews conducted as part of this project did not include the Morse Lot. This area was incorporated into the project after these reviews were completed, and to remain within the original project budget these reviews were not conducted for the Morse Lot. If the Morse Lot alternative is pursued into the design phase, further environmental and cultural reviews of this area would likely be needed (depending on the funding source for the project).
- The area of Morse Park was discussed. It was noted that there is currently a gate along the proposed route through Morse Park as it approaches Pond Road. It was also noted that there are archaeological considerations that may impact Morse Park. A member of the Recreation Committee was present at the meeting and suggested that there have been prior pre-contact Indigenous findings within the Morse Park property. A member of the Recreation Committee also commented that the Committee has acquired ARPA funds for improvements to the existing paths in Morse Park.
- For the alternative with new bike lanes on Rotax Road, it was clarified that this would include the need to pave the existing road to accommodate bike lanes.
- Mike Winslow, ACRPC, noted that the RPC recently collected speed data along Monkton Road as it relates to the Town's interest in traffic calming.
- There was overall consensus for the need for this project.

4.4 Public Informational Meeting

A public informational meeting was held on February 11, 2025 to present the Draft Report to the public. This included a summary of the project process, presentation of alternatives, and request for input on alternatives as well as preferred alternatives they feel the Town should move forward with. Information that was included in this meeting that was not included in the Alternatives Presentation Meeting included a summary of the community survey responses and a draft list of preferred alternatives and suggested priority phasing of alternatives. Public input, comments, and questions discussed during this meeting included the following:

- Discussion related to project alternatives were mostly related to Monkton Road. One resident noted that she has concerns related to erosion along this road as it is today and the concern that adding infrastructure to Monkton Road could have the potential for continued erosion without fixing the existing erosion issue. She mentioned that water runs down Monkton Road and then into her and other properties on the south side of the road.
- The schedule of the project was discussed, including the timing of the survey. There was discussion regarding the potential for extending the survey, pending a discussion with VTrans regarding the timeline for the completion of the project. It was noted that the survey has been open since fall 2024.

4. PROJECT COORDINATION

Following the Public Informational Meeting a number of comments and questions were received regarding this project. These are summarized below:

- There was a question regarding whether there are plans to pave Rotax Road. There are no plans for paving this road. If bike lanes along Rotax Road is something the Town would like to pursue, paving Rotax Road between Pond Road and Davis Road would be needed in order to provide delineation for bike lanes. This question was asked by a resident that is not in support of paving the road.
- It was asked whether the "No Build" can be applied to some or all sections. It was clarified that although the "No Build" does not address the needs of the project, that the "No Build" can be selected by the Town for one, some, or all of the road segments depending on how the Town would like to move forward. Factors for selecting a "No Build" can vary and may include a lack of interest by the Town, high project costs, "pros" not outweighing the "cons", etc.
- A resident commented that Pond Road is already well traveled by pedestrians and bicycles. This individual commented that better maintenance of the road, which suffers from potholes and washboards for much of the year, would make the roads more acceptable for cars, bikes, and walkers.
- Comment regarding the costs for maintaining various alternatives. Resident noted that they do not want to see the Town build something that becomes costly to maintain and with the potential of tax implications for upkeep as well. This individual noted that building a separate path beside the road would require maintaining both the road and the path.
- There was a question regarding wildlife crossings in the area and how these would be accommodated for. There are various measures that can be used to accommodate these crossings. If alternatives are chosen which will need wildlife crossings, this level of detail will be considered during the design phase to best accommodate the specific location.
- There was a question regarding what an "aggregate" path would entail. It was described that this would be similar to a gravel material and that it would be ADA compliant. It was noted that there are other non-natural types of path surfaces, but if one of these types would like to be utilized that the town should do a cost comparison, as well as determine what maintenance would be needed.
- There was a question about what would be in the 5' buffers for alternatives with buffers. This will vary – in some locations this could be a grass strip, in other locations may be a swale, or rock-lined swale. For alternatives with swales that are advanced into design and construction, existing topography along alternatives and existing drainage patterns will be reviewed during the design phase to provide more detailed recommendations for what the buffers will look like.
- The question was asked how widening the road for bike lanes on Monkton Ridge / Davis Road would impact homes on this road. The width needed to accommodate bike lanes would be within the existing right-of-way of roads. If there are features close to the road (fences, walls, signs, mailboxes, etc.), the impacts to these would be looked at in further detail during the design phase if bike lanes along Monkton Ridge / Davis Road are pursued by the Town.
- There were questions regarding Morse Lot and what area does Morse Lot encompass. It was noted that a Study Area Map will be included in the Final Report, of which the parcel boundary of the lot will be shown.

5 PROJECT ALTERNATIVES

Project alternatives were developed based on findings during the existing conditions review, input from the Town and at public meetings, locations of pedestrian destinations along the project area, and overall ability to meet the goals of the project (as identified in the Purpose and Need Statement). The following is a summary of project alternatives developed for this project. Potential alternative impacts suggested below are approximate and will be defined in more detail during the design engineering phase. Project alternatives are broken out by roadway for purposes of evaluations and estimation of project costs, as well as potential future project phasing. Project alternative sketches are shown at the end of this section. Where there are utility pole conflicts, it is assumed that the utility company would be responsible for needed utility pole relocations (both the physical relocation and the cost of such).

There are no project alternatives that would alter the existing path on Morse Lot property that starts at the school, extends westerly parallel to and on the north side of Monkton Road, and then continues northerly parallel to and on the east side of Pond Road, ending at the Dog Park in the Morse Lot.

5.1 Monkton Road Alternatives

5.1.1 Alternative 0: No Build

This option includes no new pedestrian infrastructure improvements along the project area. This alternative does not require any costs for construction or future maintenance. However, this alternative does not meet the goal of this project – which is to improve safety for bike/peds within the project area.

5.1.2 Alternative 1: Four-Foot Bike Lanes on Both Sides of the Road

All study area alternatives which include bike lanes entails new 4' bike lane on the outside of both travel lanes (essentially replacing the shoulder with a bike lane). New "bicycle" pavement markings would be included showing bike symbols and "bike lane" signage along the route would be added.

Example of rural roadway with bike lane.

This alternative includes widening the currently paved road in order to accommodate a minimum of 4' wide bike lanes on both sides of the road for the length of Monkton Road within the study area, a length of approximately 1.2 miles. It is assumed that lane widths will remain as they are currently, and the road will be widened by approximately 2.5' on each side to accommodate the bike lanes. For the purposes of developing the opinion of probable construction cost (OPCC) for this alternative, it is assumed for constructability that a minimum of a 5' wide section would be paved. This alternative will improve safety for bicyclists and provide a wider pavement width outside of travel lane for bikes/peds.

Assumed typical section for this alternative (looking westerly):

4' bike lane – 10.5' travel lane* – 10.5' travel lane* – 4' bike lane

* Match existing travel lane widths (existing widths may vary along the length of the roadway).

5.1.3 Alternative 2: Five-Foot Sidewalk on North Side of Road

Alternative 2 includes a new 5' wide sidewalk on the north side of the existing roadway. The new sidewalk would begin at the intersection with Monkton Ridge Road and continue westerly approximately 1.1-miles to the Park and Ride, ending on the western side of the Park and Ride. Due to steep slopes adjacent to the road over a significant portion of this road, it is proposed that a portion of this alternative be a 5'-sidewalk that is elevated on piers (see Figure 6 for photos of an example sidewalk elevated on piers). For sections of the sidewalk that are not elevated on piers it is assumed that those sections would be concrete. In vicinity of the School parking lot and perhaps also the park and ride it is assumed that there will need to be a retaining wall constructed over at least a portion of this area in order to accommodate the new sidewalk.

There is no alternative proposed for the south side of Monkton Road due to existing conditions containing steep slopes uphill away from the road, as well as a lack of pedestrian destinations on this side of the road. In addition, there was concern expressed at public meetings regarding the potential of a crosswalk across Monkton Road. Due to a combination of these factors, there are no alternatives being considered for the south side of Monkton Road. There was no topographic survey performed for this project. However, if a new sidewalk were proposed on the south side of Monkton Road, it is our assumption based on site visit reviews that retaining walls would be needed over several sections in order to accommodate a new sidewalk on this side of the road. Because the topography on the south side of the road drains towards the road, it is our assumption that there would also need to be significant drainage improvements here in order to provide adequate drainage for the areas on the south side of the road. Due to these factors, it was assumed that an alternative on the south side of the road would not be practical.

Assumed typical sections for this alternative (looking westerly):
Eeastern end:
1.5' shoulder* – 10.5' travel lane* – 10.5' travel lane* – 1.5' shoulder* – 5' curbed sidewalk
Middle section:
1.5' shoulder* – 10.5' travel lane* – 10.5' travel lane* – 1.5' shoulder* – buffer** – 5' sidewalk***
At western end:
1.5' shoulder* – 10.5' travel lane* – 10.5' travel lane* – 1.5' shoulder* – 5' curbed sidewalk ****

* Match existing travel lane and shoulder widths (existing widths may vary along the length of the roadway).
** Narrow buffer on north side of road between road and sidewalk, the width of which is to be determined during the design phase.
*** A large portion of this sidewalk to be elevated on piers due to adjacent steep slopes, tying into existing driveways as needed.
**** A retaining wall in vicinity of the alternative in front of the School is assumed to be needed.

5.2 Pond Road Alternatives

5.2.1 Alternative 0: No Build

This option includes no new bike/ped infrastructure improvements along the project area. This alternative does not require any costs for construction or future maintenance. However, this alternative does not meet the goal of this project – which is to improve safety for bikes/peds within the project area.

5.2.2 Alternative 1: 5' Aggregate Sidewalk on East Side of Road with Grass Strip

Alternative 1 includes a 5' aggregate sidewalk on the east side of Pond Road, separated from the road by a 5' grass strip / swale. This option begins at the northern end of the Morse Lot and continues northerly to the intersection with Rotax Road. Where needed to provide adequate drainage, it is assumed that there will be a new swale within the buffer along a portion of the project area. At the southern end of this alternative it is proposed that this sidewalk will connect to the existing trail network within Morse Lot. There is a fence and stone wall in vicinity of the proposed improvements. If this alternative moves forward into the design phase, a topographic survey would be required to assess the need for and feasibility of relocating these features. However, it is assumed that the alignment for this alternative will aim to minimize impacts to these features.

Assumed typical section for this alternative (looking north):

18' gravel roadway* – 5' buffer** – 5' aggregate sidewalk

* Maintain existing roadway width (existing widths may vary along the length of the roadway).

** Further detail during design (some combination of a grass strip, swale, and/or rock-lined swale).

5.2.3 Alternative 2: 10' Multi Use Path Separated from Road by Green Strip

This option is similar to Alternative 1, however it includes a wider 10' aggregate multi-use path instead of a 5' wide sidewalk, with the goal of accommodating a mix of bicyclists and pedestrians. The begin and end location for this alternative will be the same as Alternative 1. Similar to Alternative 1, if this alternative is selected to move into the design phase, details regarding the proposed alignment as it relates to residential features such as fence(s) and stone wall(s) will be reviewed in more detail. It is the intention to avoid potential impacts to these features wherever feasible. In addition, design may suggest certain sections as narrower than 10', if needed to minimize adjacent constraints.

Note: this alternative was originally proposed as an 8' multi-use path, however to be consistent with recommended guidance for the width of multi-use paths, this updated report proposes a 10' wide path for all multi-use path alternatives.

Assumed typical section for this alternative (looking north):

18' gravel roadway * – 5' buffer** – 10' aggregate multi use path

* Maintain existing roadway width (existing widths may vary along the length of the roadway).

** Further detail during design (some combination of a grass strip, swale, and/or rock-lined swale).

5.3 Rotax Road

5.3.1 Alternative 0: No Build

This option includes no new bike/ped infrastructure improvements along the project area. This alternative does not require any costs for construction or future maintenance. However, this alternative does not meet the goal of this project – which is to improve safety for bikes/peds within the project area.

5.3.2 Alternative 1: 5' Aggregate Sidewalk on South Side of Road Separated with Green Strip

This alternative includes a 5' aggregate sidewalk separated from the road by a 5' grass strip / swale along Rotax Road between Pond Road and Davis Road, a length of approximately one-half mile. Where the existing road is wider than 22', the intent is to narrow the road on the southern side to 22' in order to reduce impacts. On the eastern end of Rotax Road the sidewalk should be located adjacent to the road in vicinity of the building at the orchard due to existing constraints in this area. There are areas with existing swales, including stone lined swales, which may need to be modified to accommodate the sidewalk. Where needed to provide adequate drainage, it is assumed that there will be a new swale within the buffer along a portion of the project area.

Assumed typical section for this alternative (looking east):

22' gravel roadway* – 5' buffer** – 5' aggregate sidewalk

* Maintain existing roadway width (existing widths may vary along the length of the roadway). If existing sections are less than 22' wide then maintain existing roadway width.

** Further detail during design (some combination of a grass strip, swale, and/or rock-lined swale).

5.3.3 Alternative 2: Four-Foot Bike Lanes on Both Sides of the Road (Includes Road Paving)

The second alternative for Rotax Road includes providing bike lanes. In order to provide bike lanes, this road will need to be paved as part of this alternative. There is no available traffic data along this road segment to use as guidance for providing recommended lane widths. However, the annual average daily traffic (AADT) for Pond Road in 2023 was estimated to be 194 vehicles per day, and the AADT in 2023 for Baldwin Road just east of Pond Road was estimated to be 358 vehicles per day. Therefore, it is assumed for the purposes of this study that the AADT of Rotax Road is less than 500 vehicles per day. The recommended travel lane widths per the Vermont State Design Standards[3] for local roads with an AADT of between 100 and 1,500 vehicles per day (for roads of all design speeds) is 9' lanes.

The existing gravel road width varies, typically between 20' and 23', where the "edge of road" is not clearly defined in some areas. This alternative includes keeping the north edge of the existing road as it currently

[3] Vermont State Design Standards. October 22, 1997. https://vtrans.vermont.gov/docs

is and providing a typical section which includes 4' bike lanes on both sides of 9' travel lanes, for a total paved width of 26'. The typical width of a bike lane is 5'. A width of 4' for the proposed bike lanes for this road segment is intended to minimize impacts. The 4' bike lane width was also selected due to the rural nature of the project area. However, if this alternative is selected to be brought into the design phase, the potential impacts of 4' versus 5' bike lanes should be reviewed.

Assumed typical section for this alternative (looking east):

4' bike lane – 9' travel lane* – 9' travel lane* – 4' bike lane

* Rotax Road is to be paved with this option.

5.4 Monkton Ridge/ Davis Road Alternatives

5.4.1 Alternative 0: No Build

This option includes no new bike/ped infrastructure improvements along the project area. This alternative does not require any costs for construction or future maintenance. However, this alternative does not meet the goal of this project – which is to improve safety for bikes/peds within the project area.

5.4.2 Alternative 1: 5' Curbed Concrete Sidewalk on West Side of Road

This alternative includes a new 5' curbed concrete sidewalk adjacent to the road along both Monkton Ridge Road and Davis Road within the study area, for a length of one-half mile. Where there are parking areas adjacent to the road at the southern end of Monkton Ridge, there is the opportunity to create delineation of a sidewalk to keep bikes and pedestrians separated from both the travelways and parking areas. In addition, due to nearby constraints there may be the need to reduce the sidewalk to 4' side for short section(s) to minimize impacts. For any sections of proposed 4' wide sidewalks where the length is longer than 200', then a 5'x5' passing space should be provided.

Assumed typical section for this alternative (looking south):

11' travel lane* – 11' travel lane* – 5' curbed concrete sidewalk

* Maintain existing travel lane widths (existing widths may vary along the length of the roadway).

5.4.3 Alternative 2: Four-Foot Bike Lanes on Both Sides of the Road

Alternative 2 for Monkton Ridge / Davis Road includes widening of the existing road to incorporate 4' bike lanes along the length of these roads within the study area. For the purposes of developing the opinion of probable construction cost (OPCC) for this alternative, it is assumed for constructability that a minimum of a 5' wide section would be paved (thereby repaving a portion that currently has pavement in order to accommodate construction equipment).

Assumed typical section for this alternative (looking south):

4' bike lane – 11' travel lane* – 11' travel lane* – 4' bike lane

* Maintain existing travel lane widths (existing widths may vary along the length of the roadway).

5.5 Morse Lot Alternatives

5.5.1 Alternative 0: No Build

This option includes no new bike/ped infrastructure improvements along the project area. This alternative does not require any costs for construction or future maintenance. However, this alternative does not meet the goal of this project – which is to improve safety for bikes/peds within the project area.

5.5.2 Alternative 1: 10' Aggregate Multi-Use Path

The option that was developed for potential bike/ped infrastructure through the Morse Lot utilizes the existing trail system through this Lot. This alternative includes an 10' aggregate multi-use path beginning at the northeast corner of the existing park and ride, extending northerly to where there is an existing path "intersection", continue northerly towards the Morse Park where it meets an existing trail on the west side of the Lot. From this point, it is proposed to have a short section of multi-use path to the existing parking lot at the dog park, in addition to continuing the multi-use path along the existing trail, parallel to Pond Road, and ending at the northern point of the existing trail, and connect to Pond Road. If an alternative along Pond Road is pursued, this would tie into both of the Pond Road alternatives at this point. The existing mowed width of the paths within Morse Lot varies along the proposed alternative alignment between approximately 8' and 12'. During the design phase, results of further archaeological reviews should be reviewed to potentially refine the proposed width of the aggregate path in order to minimize potential of archaeological impacts. This alternative includes the need for the replacement of an existing pedestrian bridge (currently 5.5' x 14').

The photo to the right shows one of several wildlife crossings along the existing Morse Lot trails. If this alternative is selected to move forward into design and construction, during the design phase these should be taken into consideration to ensure that adequate wildlife crossings are maintained.

Note: this alternative was originally proposed as an 8' multi-use path, however to be consistent with recommended guidance for the width of multi-use paths, this updated report proposes a 10' wide path for this alternative.

Assumed typical section for this alternative (looking south):

10' aggregate multi-use path with vegetation cleared as needed on both sides.

FIGURE 5

MONKTON ROAD ALTERNATIVE 1
4' BIKE LANE ON BOTH SIDES OF ROAD
(WESTERN SECTION)

MONKTON ROAD ALTERNATIVE 1
(EASTERN SECTION)

150' 0 150' 300'
SCALE IN FEET

NOT FOR CONSTRUCTION ALTERNATIVE LAYOUT SHEETS

REVISIONS

NUMBER	DATE	REVISION DESCRIPTION	BY

CLIENT NAME
TOWN OF MONKTON

PROJECT NAME
MONKTON SCOPING STUDY

SHEET TITLE
MONKTON ROAD

D&K PROJECT #	PROJ. ENG.
229165	JDA
DRAWN BY	CHECKED BY
LDO	JDA

DATE
6/28/24

SHEET NUMBER

SHEET: of

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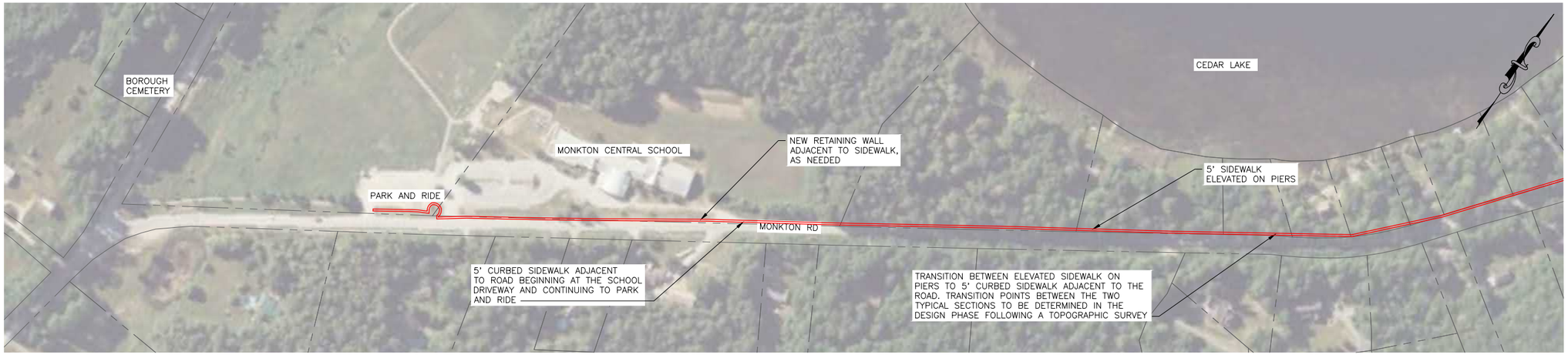
FIGURE 6

MONKTON ROAD ALTERNATIVE 2
5' CONCRETE SIDEWALK
(INCLUDES PORTION OF SIDEWALK THAT IS ELEVATED ON PIERS AND A RETAINING WALL IN THE VICINITY OF THE SCHOOL)
(WESTERN SECTION)



MONKTON ROAD ALTERNATIVE 2
(EASTERN SECTION)

150' 0 150' 300'
SCALE IN FEET

DuBois & King inc.
www.dubois-king.com

NOT FOR CONSTRUCTION ALTERNATIVE LAYOUT SHEETS

REVISIONS

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TOWN OF MONKTON

PROJECT NAME
MONKTON SCOPING STUDY

SHEET TITLE
MONKTON ROAD

D&K PROJECT #	PROJ. ENG.
229165	JDA
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LDO	JDA

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6/28/24

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FIGURE 7

POND ROAD ALTERNATIVE 1
5' AGGREGATE SIDEWALK SEPARATED BY 5' BUFFER
(NORTHERN SECTION)

POND ROAD ALTERNATIVE 1
(SOUTHERN SECTION)

150' 0 150' 300'
SCALE IN FEET

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NOT FOR CONSTRUCTION ALTERNATIVE LAYOUT SHEETS

REVISIONS

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CLIENT NAME
TOWN OF MONKTON

PROJECT NAME
MONKTON SCOPING STUDY

SHEET TITLE
POND ROAD

D&K PROJECT #	PROJ. ENG.
229165	JDA
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DATE
6/28/24

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FIGURE 8

POND ROAD ALTERNATIVE 2
10' AGGREGATE MULTI–USE PATH SEPARATED BY 5' BUFFER
(NORTHERN SECTION)

POND ROAD ALTERNATIVE 2
(SOUTHERN SECTION)

150' 0 150' 300'
SCALE IN FEET

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NOT FOR CONSTRUCTION ALTERNATIVE LAYOUT SHEETS

REVISIONS

NUMBER	DATE	REVISION DESCRIPTION	BY

CLIENT NAME
TOWN OF MONKTON

PROJECT NAME
MONKTON SCOPING STUDY

SHEET TITLE
POND ROAD

D&K PROJECT #	PROJ. ENG.
229165	JDA
DRAWN BY	CHECKED BY
LDO	JDA

DATE
6/28/24

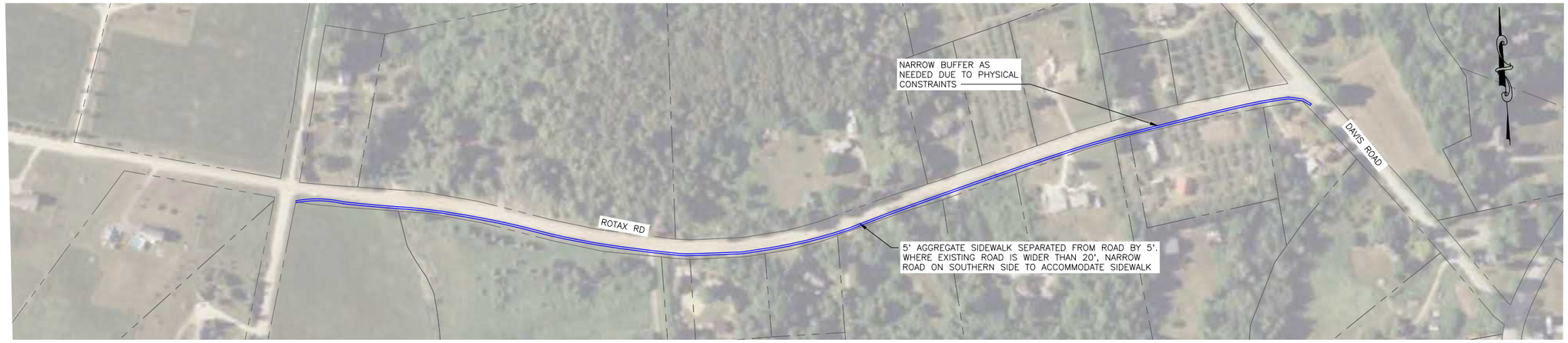
SHEET NUMBER

SHEET: of

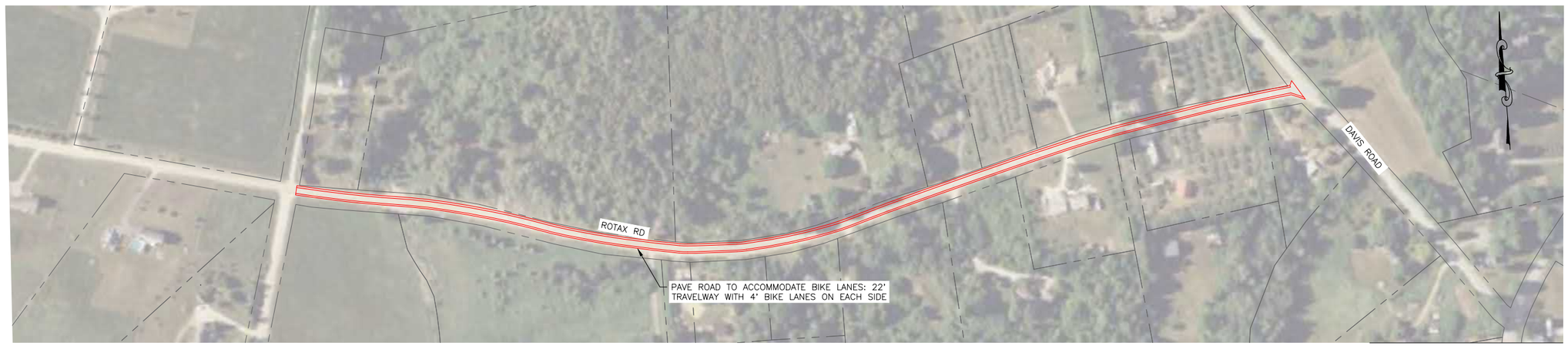
I:\21\229165 Monkton Scoping Study\Drawings\Civil\MONKTON SCOPING ALTERNATIVES.dwg 2/27/2025 10:32 AM

FIGURE 9

ROTAX ROAD ALTERNATIVE 1
5' AGGREGATE SIDEWALK SEPARATED FROM ROAD BY 5' BUFFER, NARROW ROAD TO 20' WHERE APPLICABLE



ROTAX ROAD ALTERNATIVE 2
PAVE ROAD AND PROVIDE 4' BIKE LANES ON BOTH SIDES OF ROAD



150' 0 150' 300'
SCALE IN FEET

NOT FOR CONSTRUCTION ALTERNATIVE LAYOUT SHEETS

REVISIONS

NUMBER	DATE	REVISION DESCRIPTION	BY

CLIENT NAME
TOWN OF MONKTON

PROJECT NAME
MONKTON SCOPING STUDY

SHEET TITLE
ROTAX ROAD

D&K PROJECT #	PROJ. ENG.
229165	JDA
DRAWN BY	CHECKED BY
LDO	JDA

DATE
6/28/24

SHEET NUMBER

SHEET: of

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FIGURE 10

MONKTON RIDGE/ DAVIS ROAD ALTERNATIVE 1
5' CURBED CONCRETE SIDEWALK ADJACENT TO ROAD

MONKTON RIDGE/ DAVIS ROAD ALTERNATIVE 2
4' BIKE LANES ON BOTH SIDES OF ROAD

150' 0 150' 300'
SCALE IN FEET

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REVISIONS

NUMBER	DATE	REVISION DESCRIPTION	BY

CLIENT NAME
TOWN OF MONKTON

PROJECT NAME
MONKTON SCOPING STUDY

SHEET TITLE
MONKTON RIDGE/ BALDWIN ROAD

D&K PROJECT #	PROJ. ENG.
229165	JDA
DRAWN BY	CHECKED BY
LDO	JDA

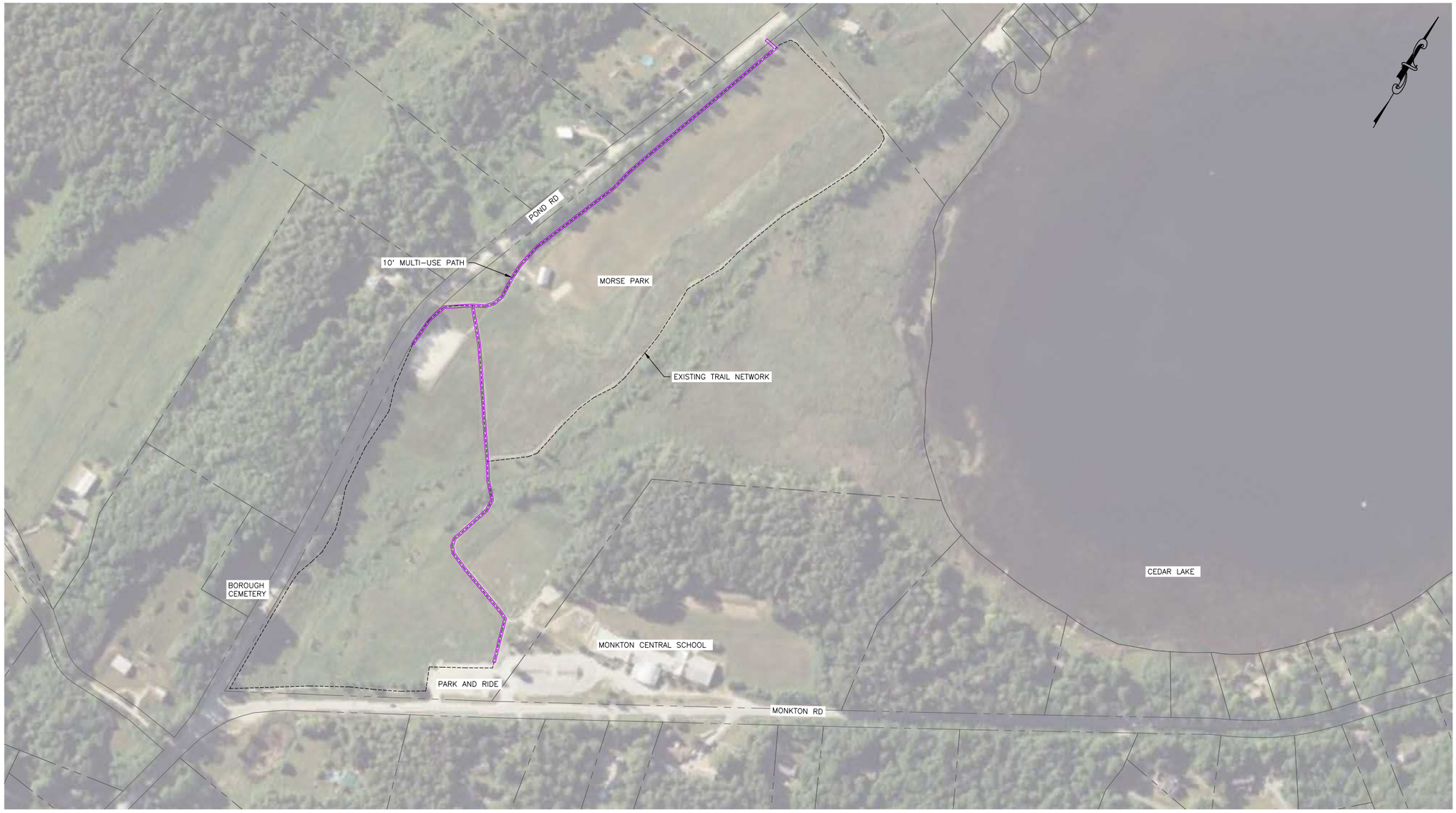
DATE
6/28/24

SHEET NUMBER

SHEET: of

FIGURE 11

MORSE LOT ALTERNATIVE 1
10' AGGREGATE MULTI–USE PATH



150' 0 150' 300'
SCALE IN FEET

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NOT FOR CONSTRUCTION ALTERNATIVE LAYOUT SHEETS

REVISIONS

NUMBER	DATE	REVISION DESCRIPTION	BY

CLIENT NAME
TOWN OF MONKTON

PROJECT NAME
MONKTON SCOPING STUDY

SHEET TITLE
MONKTON ROAD

D&K PROJECT #	PROJ. ENG.
229165	JDA
DRAWN BY	CHECKED BY
LDO	JDA

DATE
6/28/24

SHEET NUMBER

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5.6 ESTIMATED CONCEPTUAL-LEVEL PROJECT COSTS FOR ALTERNATIVES

Opinions of probable construction cost (OPCC) were developed for each alternative utilizing a combination of costs per linear foot plus project area specific costs that are assumed to be beyond "standard sidewalk/path" costs. The OPCCs were developed using average base sidewalk construction cost values from the VTrans Report on Shared-Use Path and Sidewalk Costs, January 2020 and projected to 2026 using ENR Index Value projections. Project specific costs that are assumed to be above typical sidewalk construction costs were then incorporated to these estimates. These include additional costs related to areas with significant anticipated earthwork on Monkton Road, the elevated sidewalk on piers and assumed need for a retaining wall for one of the Monkton Road alternatives, a new pedestrian bridge for the Morse Lot alternative, assumed need for drainage improvements, etc.

In addition to OPCCs, total project costs were also estimated, including design engineering, construction engineering, and administration costs. Guidance from the VTrans Report on Shared-Use Path and Sidewalk Costs document was used to estimate these costs. The following is a summary of estimated total project costs for each alternative. Any potential right-of-way costs associated with obtaining easements for construction are not included in these project cost estimates. Also shown below is the estimated OPCC cost per linear foot of proposed alternative. Additional detail of OPCCs and Anticipated Project Costs is included in Appendix F.

Table 1: Anticipated Total Project Costs (Conceptual-Level) per Alternative

Alternative		Total Estimated Project Costs (Excluding ROW)	Opinion of Probable Construction Cost per Foot
Monkton Road			
Alt. 0	No Build	$0	$0
Alt. 1	4' Bike Lanes on Both Sides of Road	$1.6 M	$182
Alt. 2	5' Sidewalk on North Side of Road	$8.8 M	$1,124
Pond Road			
Alt. 0	No Build	$0	$0
Alt. 1	5' Aggregate Sidewalk with Green Strip / Swale on East Side of Road	$1.5 M	$278
Alt. 2	10' Aggregate Multi-Use Path with Green Strip / Swale on East Side of Road	$2.2 M	$399
Rotax Road			
Alt. 0	No Build	$0	$0
Alt. 1	5' Aggregate Sidewalk with Green Strip / Swale on South Side of Road	$1.1 M	$269
Alt. 2	4' Bike Lanes on Both Sides of Road	$1.3 M	$319
Monkton Ridge / Davis Road			
Alt. 0	No Build	$0	$0
Alt. 1	5' Curbed Concrete Sidewalk on West Side of Road	$1.2 M	$349
Alt. 2	4' Bike Lanes on Both Sides of Road	$650 K	$179
Morse Lot			
Alt. 0	No Build	$0	$0
Alt. 1	10' Aggregate Multi-Use Path Through Lot	$1.4 M	$401

5.7 EVALUATION MATRIX

Following development of alternatives, alternatives were evaluated considering a number of criteria. The results of this evaluation are shown on the following page. This includes categories of meeting the purpose and need for the project, project costs, local context, environmental / cultural resources, and permitting.

Table 2 - Evaluation Matrix

		Monkton Road			Pond Road			Rotax Road			Monkton Ridge / Davis Road			Morse Lot	
		Alt. 0 No Build	Alt. 1 4' Bike Lanes on Both Sides of Road	Alt. 2 5' Sidewalk on North Side of Road	Alt. 0 No Build	Alt. 1 5' Aggregate Sidewalk with Green Strip / Swale on East Side of Road	Alt. 2 10' Aggregate Multi-Use Path with Green Strip / Swale on East Side of Road	Alt. 0 No Build	Alt. 1 5' Aggregate Sidewalk with Green Strip / Swale on South Side of Road	Alt. 2 4' Bike Lanes on Both Sides of Road	Alt. 0 No Build	Alt. 1 5' Curbed Concrete Sidewalk on West Side of Road	Alt. 2 4' Bike Lanes on Both Sides of Road	Alt. 0 No Build	Alt. 1 10' Aggregate Multi-Use Path Through Lot
Meeds Purpose and Need Statement		no	partial	yes	no	yes	yes	no	yes	partial	no	yes	partial	No Build	yes
Project Costs	Opinion of Probable Construction Cost (OPCC)	-	$1.2 M	$6.5 M	-	$1.1 M	$1.6 M	-	$800 K	$925 K	-	$900 K	$460 K	-	$1.1 M
	Total Project Costs (Including Engineering, Admin, and Construction Eng., Excluding	-	$1.6 M	$8.8 M	-	$1.5 M	$2.2 M	-	$1.1 M	$1.3 M	-	$1.2 M	$650 K	-	$1.4 M
	Cost per Linear Foot (OPCC Only)	-	$182	$1,124	-	$278	$399	-	$269	$319	-	$349	$179	-	$401
Local Context	Local Context / Input (from Community Survey (70 responses)	23% support	56% support	39% support	41% support	51% support	21% support	39% support	47% suppoort	24% support	27% support	51% support	41% support	33% support	49% support
	ROW impacts	-	unlikely	temporary easements	-	temporary easements	temporary easements	-	temporary easements	unlikely	-	unlikely	unlikely	-	yes (located within Conserved Land)
	Utilities	-	potential utility pole relocation	utility pole relocations needed	-	utility pole relocations likely	utility pole relocations likely	-	utility pole relocations likely	unlikely	-	utility pole relocations likely	potential utility pole relocation	-	-
Environmental / Cultural Resources	Floodplains	-	yes	yes	-	east of Pond Rd south of proposed alternative	east of Pond Rd south of proposed alternative	-	yes	yes	-	-	-	-	yes
	Streams / Fish & wildlife	-	2 mapped stream crossings	2 mapped stream crossings	-	-	-	-	2 mapped stream crossings	2 mapped stream crossings	-	-	-	-	- 1 mapped stream crossing - new pedestrian bridge needed
	Wetlands	-	yes	yes	-	yes	yes	-	yes	yes	-	-	-	-	potential
	R/T/E Species; Wildlife; Conservation Areas	-	Jefferson salamander (length of road)	Jefferson salamander (length of road)	-	yes (field thistle, yellow bumble bee, nearby broad-winged skipper, NLEB)		-	yes (northern long-eared bat)	yes (northern long-eared bat)	-	-	-	-	yes (field thistle, yellow bumble bee)
	Archaeological / Historic	-	Arch. site on opposite side of road	- Arch. site on opposite side of road - Potentially undisturbed / archaeologically sensitive areas	-	- Arch. site on opposite side of road - Potentially undisturbed / archaeologically sensitive areas	- Arch. site on opposite side of road - Potentially undisturbed / archaeologically sensitive areas	-	- Potentially undisturbed / archaeologically sensitive areas	-	-	- Area within historic district. nearby historic property (Town Hall)	- Area within historic district. nearby historic property (Town Hall)	-	- Morse Lot not reviewed for arch./hist. Arch. Site within Morse Lot per Rec Committee - Assumed to have arch. sensitive areas within this area
	Public Lands (Section 4f) and LWCF (Section 6(f))	-	-	-	-	unlikely	unlikely	-	-	-	-	unlikely	unlikely	-	yes
	Hazardous waste sites	-	2 nearby (no impact due to project)	1 nearby (no impact due to project)	-	-	-	-	-	-	-	-	2 nearby (no impact due to project)	-	1 nearby (no impact due to project)
Permitting	NEPA	-	yes	yes	-	yes	yes	-	yes	yes	-	yes	yes	-	yes
	Wetland Permitting	-	yes	yes	-	yes	yes	-	yes	yes	-	-	-	-	potential
	Stream Alteration Permit	-	-	unlikely	-	-	-		-	-	-	-	-	-	unlikely
	Operational Stormwater Discharge Permit	-	yes	yes	-	unlikely	yes		unlikely	unlikely	-	unlikely	yes	-	unlikely
	Construction Stormwater Permit	-	yes	yes	-	yes	yes		yes	unlikely	-	unlikely	unlikely	-	unlikely
	Shoreline Protection Permit	-	unlikely, but construction limits to be determined in design to confirm the potential need	yes	-	-	-	-	-	-	-	-	-	-	-
	Section 1111 Permit	-	-	-	-	-	-	-	-	-	-	-	-	-	-

5. PROJECT ALTERNATIVES

The following are some key takeaways of the information provided in the Evaluation Matrix. For the improvement(s) that are advanced into design and construction, all permitting requirement needs will be evaluated during the design phase for these future project(s). This includes those listed in the evaluation matrix as well as any other local permits (Municipal Roads General Permit, etc.). In addition, further archaeological and/or historic reviews will be needed for alternatives that are expected to extend beyond toes of roadway slope, drainage ditches, etc (as discussed above).

Monkton Road

- Construction and project costs for Alternative 2, the 5' sidewalk option, are significantly more expensive than Alternative 1, bike lanes (total project costs of $1.6M and $8.8M for Alternative 1 and 2, respectively).
- Right-of-way and utility pole relocations are more likely with Alternative 2.
- If either alternative advances, design should take into consideration the location of floodplains, streams, wetlands, and rare/threatened/endangered species/wildlife (in particular, the Jefferson salamander).
- If Alternative 2 is selected to advance to design, it should be noted that a shoreline protection permit is anticipated. If Alternative 1 is selected to advance to design, construction limits should be reviewed early in design to determine whether a shoreline protection permit is needed.

Pond Road

- Right-of-way easements and utility pole relocations are expected for both alternatives, to a higher degree with Alternative 2 where the footprint extends further from the road than Alternative 1.
- If either alternative advances, design should take into consideration the location of wetlands and rare/threatened/endangered species/wildlife (in particular, field thistle, yellow bumble bee, nearby broad-winged skipper, NLEB).

Rotax Road

- Bike lane alternatives are typically less costly than sidewalk or multi-use path alternatives. However, because Rotax Road is proposed to be paved in order to provide bike lanes for Alternative 2, the bike lanes alternative for this road is more costly per linear foot than other roads where bike lanes are included as alternatives.
- Temporary easements and utility pole relocations are likely for Alternative 2.
- If either alternative advances, design should take into consideration the location of floodplains, streams, wetlands, and rare/threatened/endangered species/wildlife (in particular, the northern long-eared bat).

Monkton Ridge / Davis Road

- Utility pole relocations are more likely for Alternative 1.
- There are no known mapped floodplains, streams, wetlands, rare/threatened/endangered species/wildlife of concern along the proposed alternatives in this area.

Morse Lot

- This lot is considered a "conserved land". Further review of the Morse Lot Management Plan, legal review of the easements within this Lot, and coordination with the Monkton Recreation Committee will be needed to confirm the viability of Alternative 1. A cursory, non-legal, review suggests that a path within this lot is consistent with the intended "conservation" uses that were established for the Morse Lot.
- If this alternative advances, design should take into consideration the location of floodplains, streams, wetlands, rare/threatened/endangered species/wildlife (in particular field thistle and yellow bumble bee).
- Further archaeological and historical resource reviews will be needed if this alternative is advanced to design.

6 COMMUNITY SURVEY

Following the Alternatives Presentation Meeting an online survey was prepared to gather public input regarding general support of the various alternatives, alternative preferences along each road, and input regarding what they feel should be the priority of such improvements. As part of this community outreach, 70 surveys were completed online. The following is a summary of the results, with additional detail provided in Appendix G:

MONKTON ROAD ALTERNATIVES	Support This Alternative	Preferred Alternative
Alt. 0 - No Build	23%	23%
Alt. 1 (4' Bike Lanes)	56%	39%
Alt. 2 (5' sidewalk on north side of road)	39%	36%
3% were unsure or preferred not to answer		97%

POND ROAD ALTERNATIVES	Support This Alternative	Preferred Alternative*
Alt. 0 - No Build	41%	41%
Alt. 1 - 5' Aggregate Sidewalk w/ buffer, east side of road	51%	36%
Alt. 2 - Multi-Use Path w/ buffer, east side of road	21%	16%
7% were unsure or preferred not to answer		93%

ROTAX ROAD ALTERNATIVES	Support This Alternative	Preferred Alternative*
Alt. 0 - No Build	39%	46%
Alt. 1 - 5' Aggregate Sidewalk w/ buffer, south side of road	47%	31%
Alt. 2 - 4' Bike Lanes (includes paving road)	24%	17%
6% were unsure or preferred not to answer		94%

MONKTON RIDGE / DAVIS ROAD ALTERNATIVES	Support This Alternative	Preferred Alternative*
Alt. 0 - No Build	27%	26%
Alt. 1 - 5' Curbed Sidewalk, west side of road	51%	40%
Alt. 2 - 4' Bike Lanes	41%	31%
3% were unsure or preferred not to answer		97%

MORSE LOT ALTERNATIVES	Support This Alternative	Preferred Alternative*
Alt. 0 - No Build	33%	33%
Alt. 1 - Multi Use Path	49%	46%
21% were unsure or preferred not to answer		79%

Road Segment	Average Ranking by Responses	Overall Priority Ranking
Monkton Rd	1.7	1
Monkton Ridge / Davis Rd	2.4	2
Pond Rd	3.2	3
Rotax Rd	3.6	4
Morse Lot	4.1	5

For purposes of developing preferred alternatives, the following are additional summaries of survey results:

- Road segments where the No Build was the least supported alternative included Monkton Road, Monkton Ridge / Davis Road, and Morse Lot. For these roads, between 23% and 33% supported the No Build option.
- For Pond Road and Rotax Road, the No Build alternative was the 2nd most supported option. For both of these roads, the alternative with the most support was the 5' aggregate sidewalk with buffer). However, when asked to select a preferred alternative for improvements along these roads, more responses selected the No Build alternative than other alternatives (39% selected No Build as preferred for Rotax Road and 41% selected No Build as preferred for Pond Road).
- For all road segments except for Monkton Ridge / Davis Road, the alternative with the highest number of preferred alternative selections was also the lesser expensive option (excluding No Build). For the Monkton Ridge / Davis Road.

7 PROJECT SUMMARY

The goal of this project is to develop and evaluate alternatives for the Town's consideration for potential bike/ped infrastructure options in improving the safety for pedestrians and bicyclists along the roads that make a loop around Cedar Lake (Monkton Pond). There are a number of destinations along the project area that would benefit from new bike/ped infrastructure. If improvements were made on all of these roads around the Lake, it would result in a 3.5-mile walkable loop. The following summarizes some of the factors taken into consideration for development of preferred alternatives, followed by a summary of the alternatives that have been developed as the preferred alternatives for this Study.

7.1 PREFERRED ALTERNATIVES

Taking factors into consideration throughout this Report, the following alternatives are selected as the Preferred Alternative for each road segment within the study area:

- Monkton Road – Alternative 1, 4' bike lanes on both sides of road
- Pond Road – Alternative 0, No Build, OR Alternative 1, 5' aggregate sidewalk with buffer on east side of the road
- Rotax Road – Alternative 0, No Build, OR Alternative 1, 5' aggregate sidewalk with buffer on south side of the road
- Monkton Ridge / Davis Road – Alternative 1, 5' curbed sidewalk
- Morse Lot – Alternative 1, 10' aggregate multi-use path

7.2 PROJECT IMPLEMENTATION PHASING

The alternatives were reviewed to develop a proposed implementation phasing plan for the Town. It is assumed that if the Town would like to complete improvements for all roadways around Cedar Lake, it would not be feasible to proceed with all these improvements at once due to costs and other considerations. The following is the recommended project implementation phasing for the preferred alternatives identified above.

- Priority 1: Monkton Ridge / Davis Road - Alternative 1, 5' curbed sidewalk
- Priority 2: Monkton Road – Alternative 1, 4' bike lanes on both sides of road*
- Priority 3: Morse Lot – Alternative 1, 10' aggregate multi-use path
- Priority 4: Pond Road, pending Town interest - Alternative 1, 5' aggregate sidewalk with buffer
- Priority 5: Rotax Road, pending Town interest - Alternative 1, 5' aggregate sidewalk with buffer

The phasing plan shown below varies from the rankings of the community survey for various reasons, including the following:

- * A concern was raised at one of the public meetings regarding concerns regarding existing stormwater runoff and erosion concerns along Monkton Road. It is recommended that the Town take this comment into consideration prior to moving forward with any implementation of bike/ped improvements along Monkton Road. If there are is existing or recurring erosion issues along this road, this condition is recommended to be mitigated prior to adding additional pavement to the road for bike lanes.
- While Pond Road and Rotax Road priority ranking in the survey was calculated to be ranked at #3 and #4, respectively, community responses also suggested that the preferred alternative for these roadways as the No Build alternative, therefore these roads are listed as being lower priority than Morse Lot, where Alternative 1 was ranked above the No Build option.
- Due to fewer environmental constraints along Monkton Ridge / Davis Road, increased density of potential destinations along Monkton Ridge / Davis as compared to Monkton Road, and the potential erosion concern along Monkton Road that may need to be reviewed by the Town prior to incorporating additional pavement width to accommodate bikes/peds, the Monkton Ridge / Davis Road ranking is shown as #1, above the top ranked Monkton Road from the community survey.

7.3 ADDITIONAL CONSIDERATIONS

As shown above, the Monkton Road is listed as priority #2 on the overall list of preferred bike/ped alternatives. Depending on the timing of the next repaving of Monkton Road, it is recommended that the Town consider coordinating the timing of repaving Monkton Road to be combined with the implementation of new bike lanes along Monkton Road. By repaving the road and adding the bike lanes, there would be some efficiencies from a construction cost perspective (saving on such items as mobilization and demobilization, traffic control, and other such pay items that would be overlapping between a repaving and bike lanes project). In addition, although the proposed bike lanes are shown as 4' wide, the cost for new bike lanes assumes a minimum 5' "swath" of new pavement for constructability purposes. Therefore, repaving of the road and adding new bike lanes would, in general, be a more cost-effective approach than having two separate projects for bike lanes and repaving the road.

If the Town intends to pursue improvements along all of the roadways within the study area and proceeds with design and construction of improvements along all of these roadways, there is the potential that the full set of improvements would not be constructed for several (possibly many, depending on funding and other factors) years. Prior to full implementation of all the preferred alternatives infrastructure, some lower-cost options for increasing awareness of pedestrians and bicyclists, and safety for these users, along the study in the interim, could include the following:

- Widening roadway shoulders during any upcoming paving projects.
- New Bike/Pedestrian signage.
- Sharrow markings (shared lanes for vehicles and bicyclists) on paved roadways.
- More frequent maintenance of gravel roadways to improve the surface course for walkers and bicyclists.

- Where bike lanes are proposed, the Town could consider implementation of 1 bike lane along a given roadway, if there are concerns regarding cost or overall project impacts with incorporating bike lanes on both sides of the road. It would be recommended that if 1 bike lane were implemented, that they would generally be on the lake-side of the roads, where there are generally more bike/ped destinations along the study area.

It is the understanding of the Town that maintenance of any proposed alternatives that are constructed for bike/ped improvements would be the responsibility of the Town. Discussion should be considered by Town personnel to determine a clear understanding of whether sidewalks and/or multi-use paths would be maintained during winter months. If the alternative within Morse Lot is pursued, it is recommended that future maintenance be discussed with the Monkton Recreation Committee prior to the design phase to confirm expectations for future maintenance.

7.4 POTENTIAL FUNDING SOURCES

Potential funding sources for the Town to pursue bringing a selected alternative into the design phase could include the following:

- VTrans Transportation Alternatives Program (TAP)
  Website: https://vtrans.vermont.gov/highway/local-projects/transport-alt
  Contact: Scott Robertson (scott.robertson@vermont.gov)
  Typically, applications for these grants are due in late fall each year, with project awards in the following spring.

- VTrans Bicycle and Pedestrian Program
  Website: https://vtrans.vermont.gov/highway/local-projects/bike-ped
  Contact: Peter Pochop (peter.pochop@vermont.gov)
  Typically, applications for these grants are due around June each year. At the time of this report, the next round of grant applications has not yet been posted to the website above.

- Vermont Safe Routes to School (SRTS)
  Local Motion Vermont Safe Routes to School: https://www.localmotion.org/srts_resource
  State of Vermont Safe Routes to School website: https://saferoutes.vermont.gov/

APPENDIX

A – ENVIRONMENTAL RESOURCE REVIEWS

MEMORANDUM

To:	Jenny Austin, Project File
Date:	January 30, 2024
From:	Jonathan Richardson/Aimee Rutledge, PWS, CPESC, CPSWQ
Subject:	Monkton Bike/Pedestrian Scoping Study Natural Resources Investigation
Project No.:	229165

This memorandum summarizes the desktop review and field investigation for the above reference project in Monkton, Vermont. The project involves the development of alternatives for new bicycle and pedestrian facilities along the roads of Monkton Road, Monkton Ridge, Silver Street, Rotax Road, and Pond Road surrounding Cedar Lake in Monkton, Vermont. The project study area (PSA) included the aforementioned roads and an approximate 50-buffer from the edge of pavement on both sides of the roads, as shown on the attached Project Study Area Map.

Desktop Review

The Vermont Agency of Natural Resources (VTANR) Atlas database was utilized to conduct a desktop review of natural resources, including wetlands, surface waters, floodplains, river corridors, rare, threatened, and endangered (RTE) species, uncommon species, invasive plants, hazardous waste sites, and other natural resources available in the database. Other mapping sources including the United State Fish & Wildlife Service (USFWS) National Wetlands Inventory (NWI) mapper, Google Earth, and United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) Web Soil Survey were reviewed for natural resources. Maps depicting soils, RTE species, habitat, wetlands and waterways were created using data from the VTANR Atlas (see attached).

Field Investigation

Following the desktop review, a field investigation was performed to confirm mapped resources and the presence of unmapped resources. The field investigation of the PSA was conducted on November 16, 2023 by Jonathan Richardson and Aimee Rutledge of Dubois & King, Inc. (D&K).

Natural resources and unique features, such as large healthy trees and stone walls, within the PSA were located with a handheld GPS unit with submeter accuracy and are shown on the attached Field Investigation Map.

Wetlands & Waterways

A desktop review of the PSA for the presence of wetlands, hydric soils, and other features typically associated with wetland areas was conducted. State and federally mapped wetlands are located within and adjacent to the PSA according to the VTANR Atlas Vermont Significant Wetland Inventory and USFWS NWI mapping. In addition, hydric soils, which are typically indicative of wetland areas, were mapped within and adjacent to the PSA. State and federally mapped wetlands and hydric soils are illustrated on the attached VTANR Atlas and NWI maps.

Discussion of the wetland and waterway findings are broken out into their adjacency to the roads within the PSA.

Rotax Road

The field investigation confirmed the location of an approximate 32 acre mapped Vermont Class II wetland that wraps around the northern border of Cedar Lake. Based on the field review, the mapped wetland extends to the north, east, and west near Rotax Road as shown on the attached Field Investigation Map. The wetlands consist of a mixture of vegetation covertypes including, emergent, scrub-shrub, and forested. The wetlands are hydrologically connected to a perennial stream that flows in a northerly direction from Cedar Lake under Rotax Road and ultimately to Lewis Creek. In addition, an agricultural wetland ditch extends from the western side of Pond Road to the perennial stream.

A separate mapped stream is located approximately 100 feet west of the intersection of Rotax Road and Davis Road. The perennial stream collects water from the hillside to the northeast and directs it in a southerly direction into Cedar Lake. A small emergenct/scrub-shrub wetland abuts the stream on the north side of Rotax Road as shown on the attached Field Investigation Map.

What appears to be an isolated wet meadow is located approximately 800 feet west of the intersection of Davis Rd and Rotax Rd.

Davis Road

The field investigation confirmed there are no wetlands or streams located between the intersection of Rotax Road and Davis Road south to the three-way intersection of Davis Road, Silver Street, and Monkton Ridge.

Monkton Ridge

The field investigation confirmed there are no wetlands or streams located between the three-way intersection of Davis Road, Silver Street, and Monkton Ridge and the intersection of Monkton Ridge and Monkton Road.

Monkton Road

There are multiple streams along Monkton Road between Monkton Central School and the intersection of Monkton Road and Bristol Road. Most were ephemeral streams influenced by stormwater runoff from the hillside. Water flows from these channels and discharge to the roadside ditch and eventually in a northerly direction toward Cedar Lake. The ephemeral streams were not found to be associated with wetlands.

Three perennial stream crossings are located on the eastern portion of Monkton Road.

There is a potential Class II wetland on the north side of Monkton Road, east of Monkton Central School. The wetland appears to continue south towards the perennial stream and Cedar Lake.

The field investigation confirmed the location of an approximate 1 acre mapped Vermont Class II wetland located southeast of the intersection of Monkton Road and Pond Road. The wetland is associated with a perennial stream that flows in a northerly direction into Cedar Lake. The wetland appears to be part of a larger wetland complex associated with the mapped Class II wetland located on the south side of Cedar Lake. Wetland characteristics were observed between the two mapped wetlands with the inferred boundary shown on the Field Investigation Map.

Pond Road

As mentioned above, a wetland located on the east side of Pond Road and south of the Morse Park parking area appears to be part of the larger wetland complex associated with the mapped Class II wetland located on the south side of Cedar Lake.

There are a few small, potentially isolated Class III, emergent wetlands to the south of the Morse Park parking lot.

Multiple wetland areas, which are likely part of a larger wetland complex are located in the area surrounding Morse Park, including the west side of Pond Road. The wetlands consist of a mixture of vegetation covertypes including, emergent, scrub-shrub, and forested. The wetlands appear to be hydrologically connected to the wetlands immediately surrounding Cedar Lake. A culvert under Pond Road, north of the Morse Park parking area, directs surface water flows in a westerly direction to a large wetland complex located west of Pond Road.

A large linear emergent wetland is located on the west side of Pond Road, approximately 0.4 miles from the intersection of Pond Rd and Rotax Rd. Based on a desktop review, the wetland potentially extends in a northwesterly direction ultimately connecting to a large Class II wetland.

The field investigation confirmed there are no streams located between the intersection of Pond Road and Rotax Road and Pond Road and Monkton Road.

Work in waters of the United States, including most wetlands and streams, would potentially require a United States Army Corps of Engineers General Permit. Work in any Vermont Class II wetland or its associated 50-foot buffer would potentially require a VT Wetlands Permit. Work within a state jurisdictional watercourse would potentially require a VT Stream Alteration permit.

Rare, Threatened and Endangered Species and Exemplary Natural Communities

According to the VTANR Atlas, eight known elements of concern (rare, threatened, endangered, or uncommon species, and significant natural communities) are located in the in or within the vicinity of the PSA. However, none were observed during the course of the field investigation. A formal rare species inventory was not undertaken during the field investigation, which took place at the end of the growing season. Several butternut (Juglans cinerea) trees were found, and were healthy and potentially free from walnut canker disease. This was the only uncommon species (S3?) located within the PSA that was not identified by the VTANR Atlas mapper. A formal RTE survey of butternut was not completed.

Table 1. VTANR Atlas Results

Common Name	Scientific Name	State Listing
Straight-leaf pondweed	Potamogeton strictifolius	S2S3
Jefferson salamander	Ambystoma jeffersonianum	S2
Field thistle	Circium discolor	S2
Broad-winged skipper	Poanes viator	S2S3
Northern long-eared bat	Myotis septentrionalis	S1/E
Indiana Bat (summer range)	Myotis sodalis	E
Yellow bumble bee	Bombus fervidus	S2
Nuttall waterweed	Elodea nuttallii	S3
Butternut	Juglans cinerea	S3

Rankings: S1-Very Rare, S2-Rare, S3-Uncommon, E-Endangered

The following are results from the USFWS Information for Planning and Consultation (IPaC). Additional information is in included in the attached IPaC Resource List.

Table 2. USFWS IPaC Results

Common Name	Scientific Name	Federal Listing
Indiana Bat	Myotis sodalis	Endangered
Northern long-eared bat	Myotis septentrionalis	Endangered
Monarch Butterfly	Danaus plexippus	Candidate

The IPaC also indicated the potential presence of the bald eagle (Haliaeetus leucocephalus). The bald eagle is protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act, however, it is not a Bird of Conservation Concern (BCC) in the PSA.

In addition, there are several migratory birds listed on the IPaC resource list, two of which are state-listed as threatened, the Eastern meadowlark (Sturnella magna) and the Eastern whip-poor-will (Antrostomus vociferous). Neither of these bird species were identified during the field investigation, however, a formal survey was not conducted.

According to the USFWS IPaC, there are no areas of critical habitat for threatened and endangered species within the PSA.

Impacts to state and/or federally protection animal and plant species may require a Takings Permit.

Non-native Invasive Species

Several non-native invasive species were observed scattered around the PSA (see attached Field Investigation Map). Common reed (Phragmites australis), purple loosestrife (Lythrum salicaria), and reed canary grass (Phalaris arundinacea) have a strong presence in the PSA. Japanese knotweed (Fallopia japonica), Asian bush honeysuckle (Lonicera spp.), and common buckthorn (Rhamnus cathartica) are also present in the PSA to a lesser degree.

Bat Roost Tree Habitat

The field investigation included review of the PSA for potential bat roosting trees. Many individual trees as well as forest stands were found to have the necessary habitat features for roosting. Potential roosting individual and groups of trees are shown on the attached Field Investigation Map. The majority of the roads in the PSA run along fields and hedgerows on the lake side and forest to the exterior. Tree species found to contain suitable bat roost habitat included black locust (Robinia pseudoacacia), silver maple (Acer saccharinum), northern white-cedar (Thuja occidentalis), willows (Salix sp.), eastern white pine (Pinus strobus), American elm (Ulmus americana), basswood (Tilia Americana), birch (Betula sp.) and butternut.

Field verification was based on guidance provided in the USFWS Range-Wide Indiana Bat & Northern Long-Eared Bat Survey Guidelines (2023), which indicate that suitable summer habitat for NLEB consists of:

- Forests and woodlots containing potential roosts (i.e., live trees and/or snags ≥3 inches diameter at breast height (dbh) that have exfoliating bark, cracks, crevices, and/or cavities),

- Non-forested habitats adjacent to suitable forests, such as emergent wetlands and adjacent edges of agricultural fields, old fields and pastures,
- Linear features such as road and/or stream corridors, fencerows, riparian forests, and other wooded corridors with open tree canopies or canopy height of more than 33 feet, and
- Individual trees exhibiting characteristics of suitable roost trees.

Hazardous Sites

According to the VTANR Atlas, hazardous sites are located in or within the vicinity of the PSA on Monkton Road and Monkton Ridge (see attached map). Further details regarding the desktop review of the sites indicated on the VTANR Atlas are as follows:

1. Monkton Central School – Contamination was discovered during the removal of a heating oil underground storage tank (UST) in 1998. There were no significant impacts to groundwater and the state has determined there is no unacceptable risk to human health or the environment due to any residual contamination remaining at the site from the former heating oil UST.
2. 893 Monkton Road – An approximate 20 gallon kerosene spill from an above ground storage tank occurred in 2015. Site Management Activity has been completed and the spill has been closed.
3. Monkton General Store - Soil contamination was discovered during removal of USTs in 1997. Annual monitoring has been performed to determine the extent of groundwater contamination. The state has determined it is a low priority site with contamination to soils or groundwater, but no effect on sensitive receptors, such as drinking water wells.
4. 31 Monkton Ridge – Groundwater contamination associated with a former gasoline filling station. In 2019, the state determined that the site satisfied the requirements of Subchapter 10 §35-1001 of the Investigation and Remediation of Contaminated Properties Rule and the state is not requesting any additional work in response to the gasoline UST release(s).

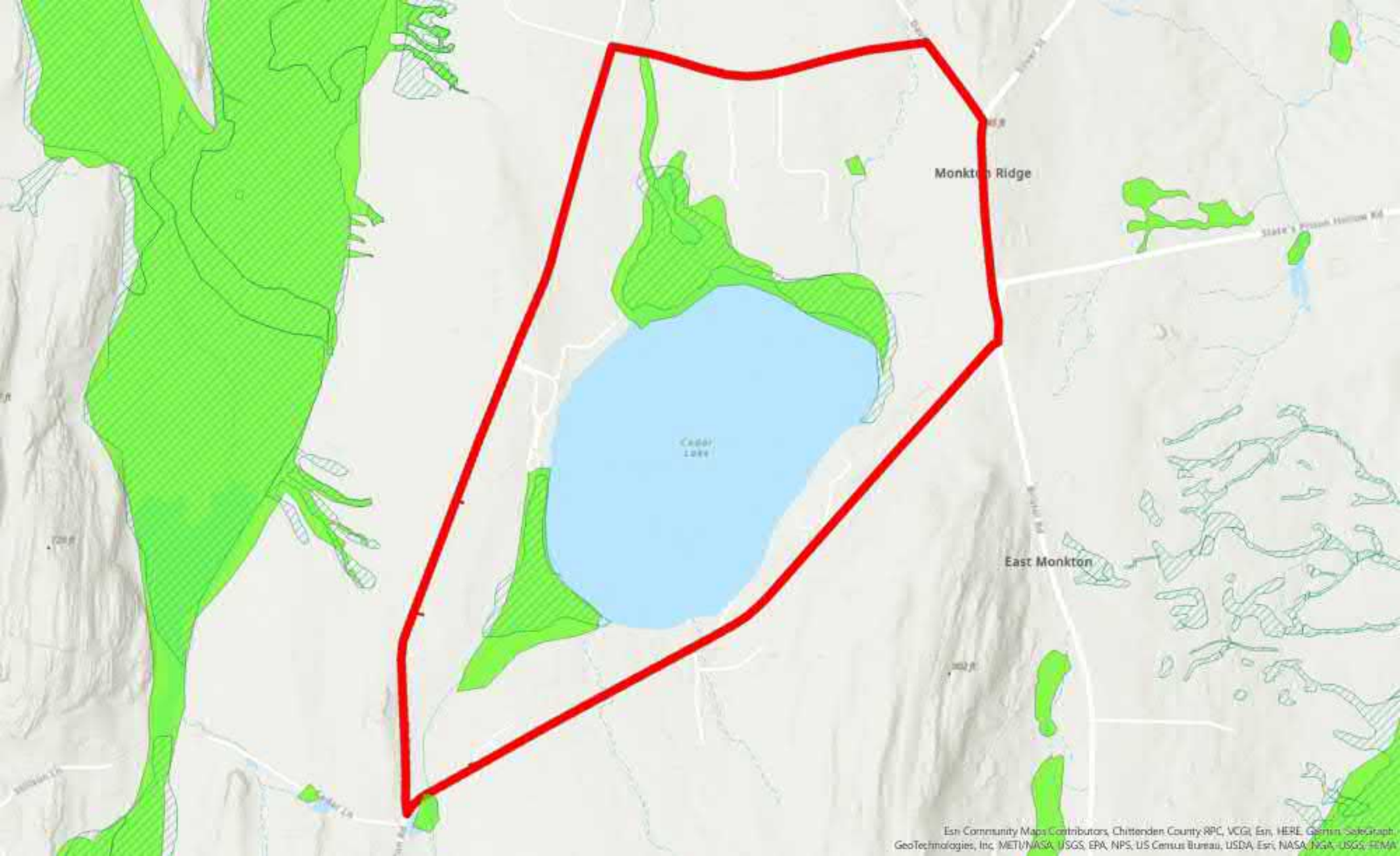
A building and shed associated with the Monkton Ridge Orchard, located on Rotax Road, could potentially store hazardous materials for orchard operations, however, the interior was not accessed and no hazardous materials were observed. In addition, the Wooden Hammer, located at 140 Monkton Road, has the potential to store hazardous materials for typical business operations, however, none were observed. Other potential sites or hazardous materials were not visually observed during the field investigation.

Other Notable Features

A stone wall, located on residential property on the west side of Pond Road, is approximately 450 feet from the intersection of Pond Road and S Camp Road. The stone wall extends for approximately 200 feet.

Vermont Department of Fish & Wildlife Public access to Cedar Lake is located off S Camp Road. Signage is located at the corner of Pond Road and S Camp Road.

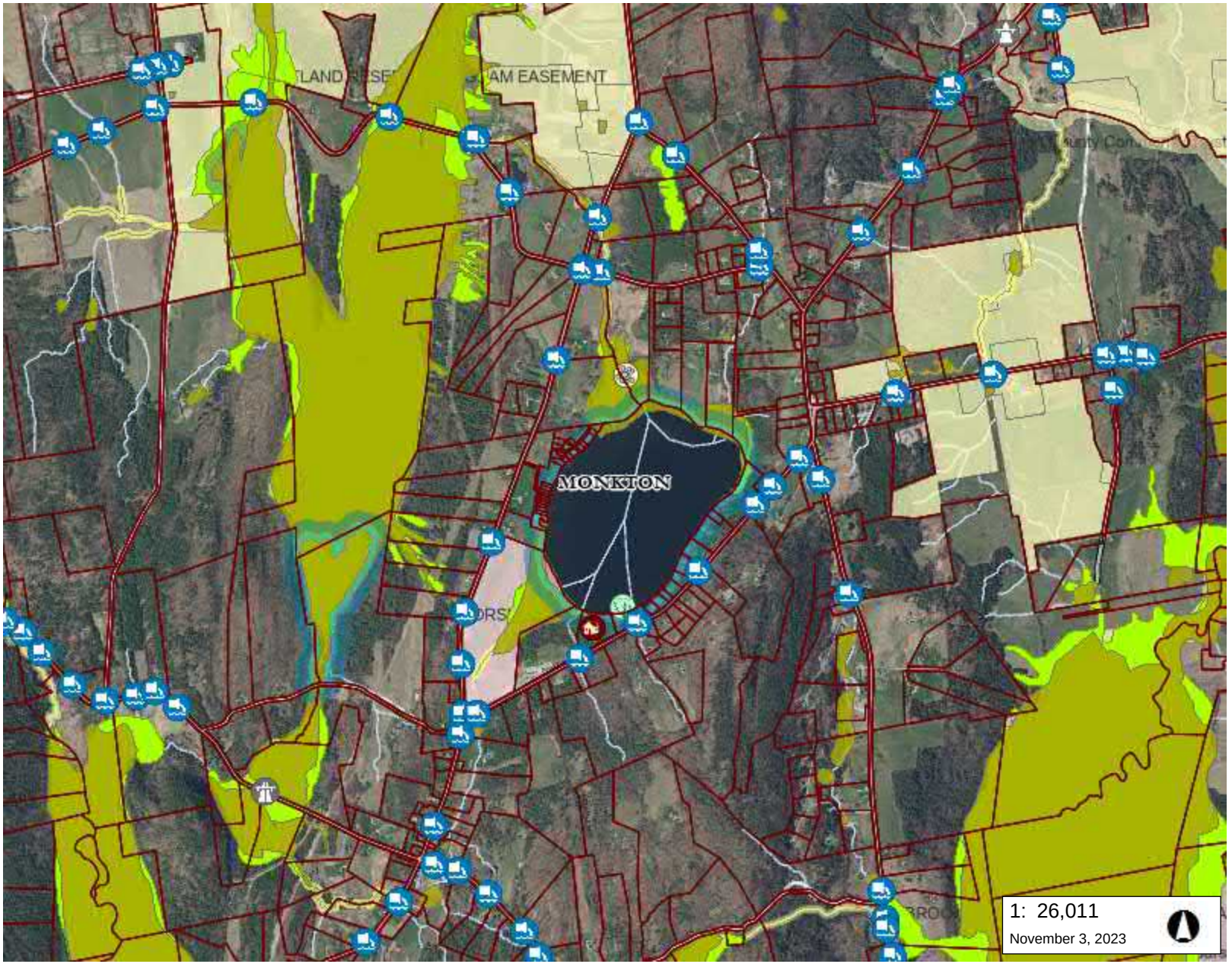
Large stands of mature black locusts can be found in various locations along Monkton Ridge.


Monkton Ridge
East Monkton
Esri Community Maps Contributors, Chittenden County RPC, VCGI, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, Esri, NASA, NGA, USGS, FEMA

Monkton Bike/Ped - Wetlands/Waterways

Vermont Agency of Natural Resources

vermont.gov



LEGEND

- Bridges
- Culvert
- Wetland Projects
- Lakes and Ponds Permits
  - Aquatic Nuisance
  - Encroachment
  - Shoreland
- 100' Setback
- 250' Setback
- Wetland - VSWI
  - Class 1 Wetland
  - Class 2 Wetland
  - Wetland Buffer
- Wetlands Advisory Layer
- Wetland VRAM - 2021
  - <= 0
  - 1 - 60
  - 61 - 75
  - 76 - 100
- River Corridors (Aug 27, 2019)
  - .5 - 2 sqmi.
  - .25-.5 sqmi.
- Protected Lands
  - Private Organizations
  - Vermont Municipalities
  - State
  - Federal

NOTES

Map created using ANR's Natural Resources Atlas

1,321.0 0 660.00 1,321.0 Meters

WGS_1984_Web_Mercator_Auxiliary_Sphere 1" = 2168 Ft. 1cm = 260 Meters

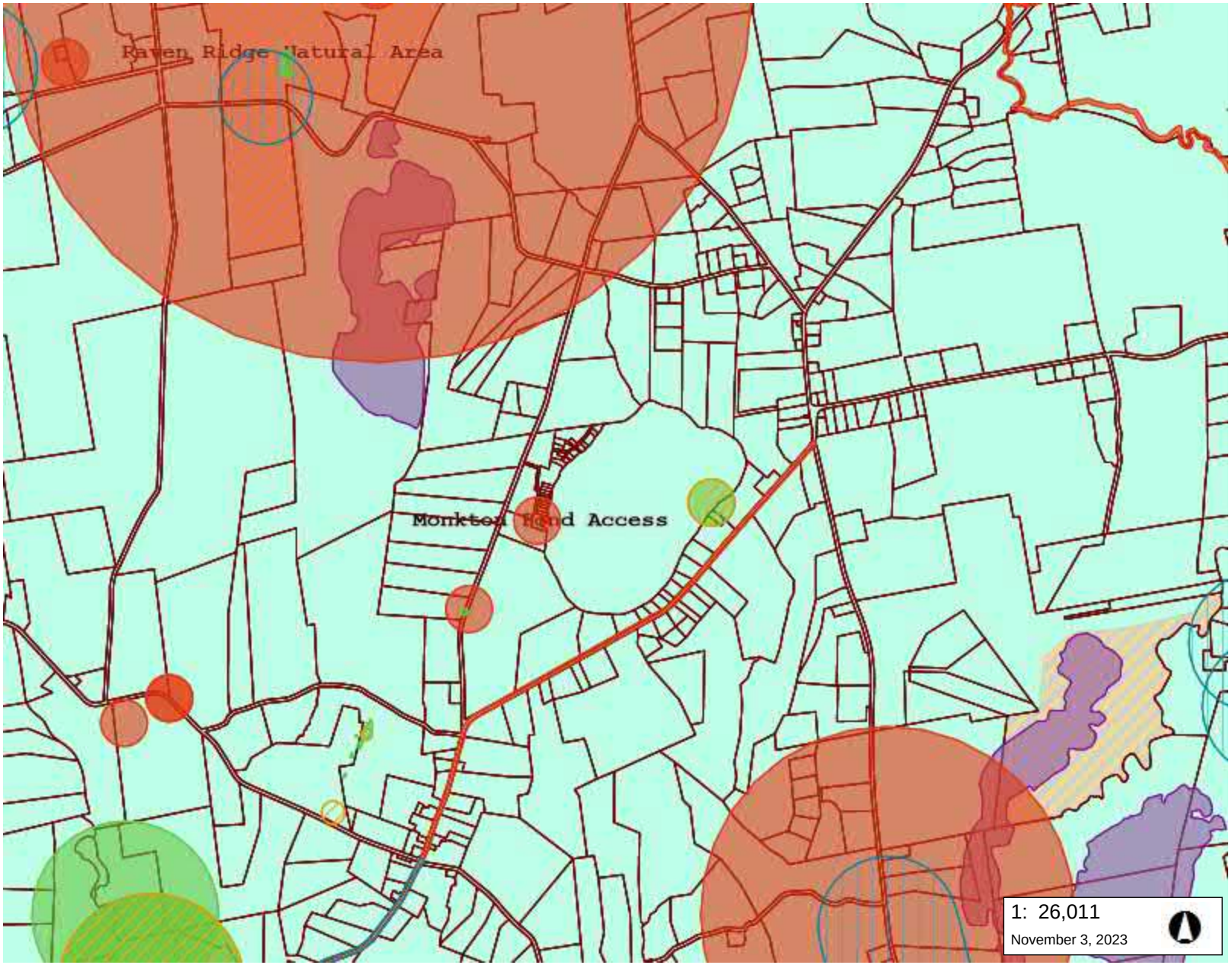
THIS MAP IS NOT TO BE USED FOR NAVIGATION

VERMONT

Monkton Bike/Ped - RTE

Vermont Agency of Natural Resources

vermont.gov



LEGEND

- Uncommon Species and other
  - Plant
  - Animal
  - Natural Community
- Rare Threatened and Endange
  - RTE Animal
  - RTE Plant
- Significant Natural Communitie
- Wildlife Management Areas
  - Fee ownership
  - Non-fee interest
- Riparian Lands
  - Fee ownership
  - Non-fee interest
- Other FW Lands
  - Fee ownership
  - Non-fee interest
- Indiana Bat Hibernacula
- Indiana Bat Summer Range
  - Observed
  - Potential
- Parcels (standardized)
- Roads
  - Interstate
  - US Highway; 1
  - State Highway
  - Town Highway (Class 1)

1: 26,011

November 3, 2023

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WGS_1984_Web_Mercator_Auxiliary_Sphere 1" = 2168 Ft. 1cm = 260 Meters

THIS MAP IS NOT TO BE USED FOR NAVIGATION

NOTES

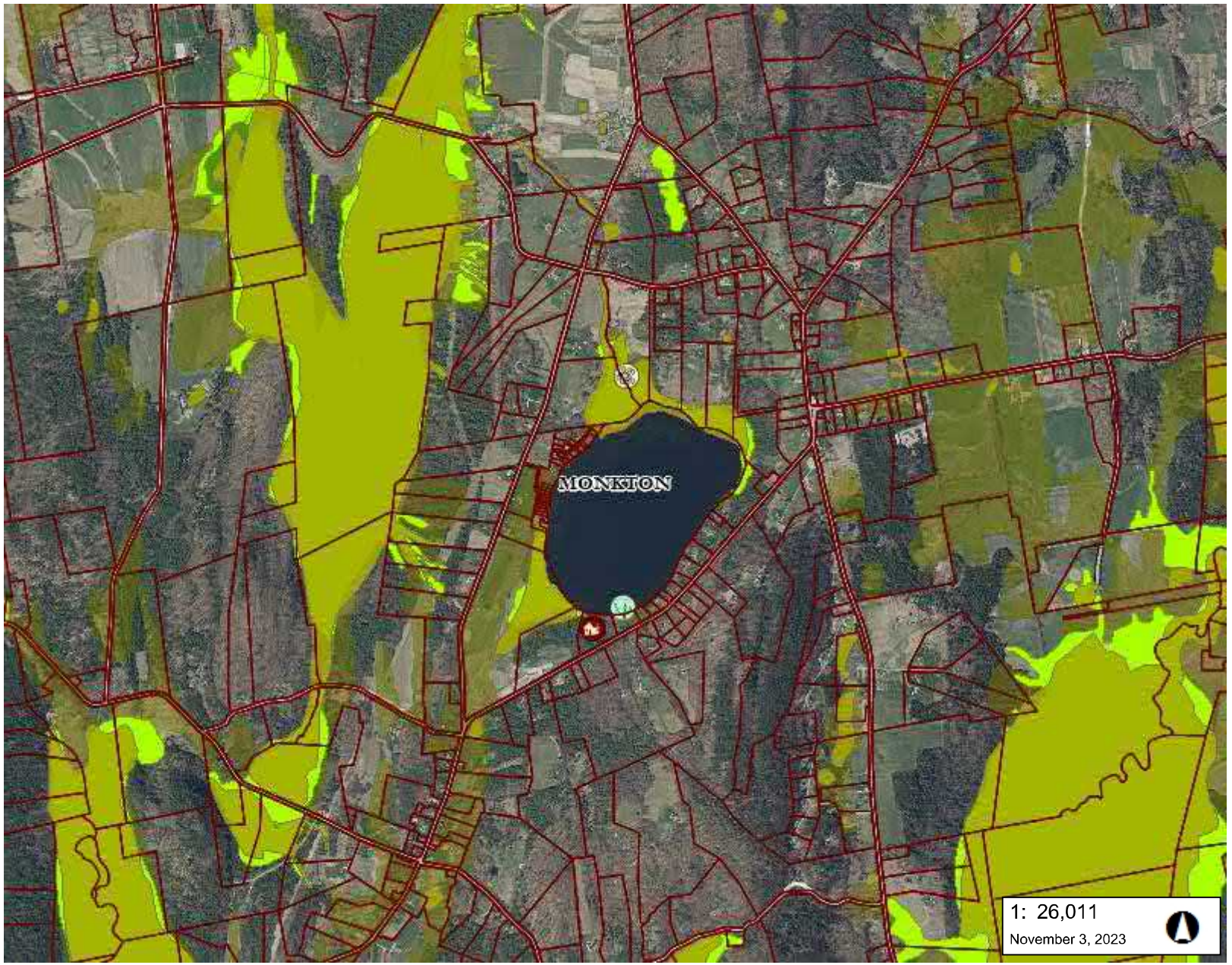
Map created using ANR's Natural Resources Atlas

VERMONT

Monkton Bike/Ped - Soils/Wetlands

Vermont Agency of Natural Resources

vermont.gov



LEGEND

- Wetland Projects
- Lakes and Ponds Permits
  - Aquatic Nuisance
  - Encroachment
  - Shoreland
- Wetland - VSWI
  - Class 1 Wetland
  - Class 2 Wetland
  - Wetland Buffer
- Wetlands Advisory Layer
- Wetland VRAM - 2021
  - <= 0
  - 1 - 60
  - 61 - 75
  - 76 - 100
- DFIRM Floodways
- Flood Hazard Areas (Only FEM
  - AE (1-percent annual chance floodp
  - A (1-percent annual chance floodpl
  - AO (1-percent annual chance zone feet)
  - 0.2-percent annual chance flood ha
- Soils - Hydric
- Parcels (standardized)
- Roads
  - Interstate
  - US Highway; 1
  - State Highway

NOTES

Map created using ANR's Natural Resources Atlas

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WGS_1984_Web_Mercator_Auxiliary_Sphere 1" = 2168 Ft. 1cm = 260 Meters

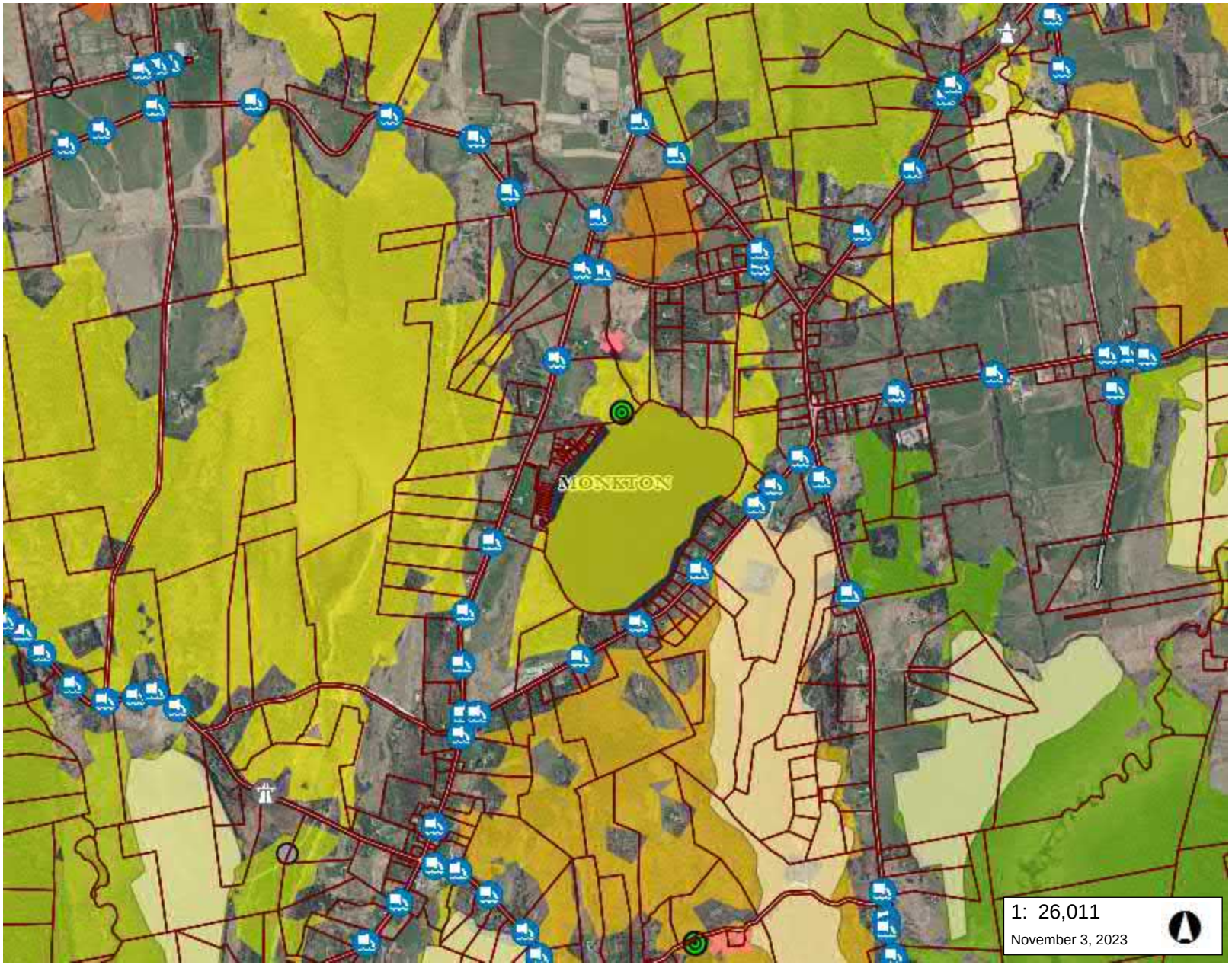
THIS MAP IS NOT TO BE USED FOR NAVIGATION

VERMONT

Monkton Bike/Ped - Habitat

Vermont Agency of Natural Resources

vermont.gov



LEGEND

- Bridges
- Culvert
- Amphibian and Reptile Crossir
  - Confirmed
  - Potential
- Beaver Device Installation
  - Existing
  - Removed
- Beaver Site Evaluation
- Stream Crossings
  - Fully Passable
  - Reduced Passage
  - Impassable except for Adult Trout
  - Impassable
  - Bridge/Arch (Fully Passable)
- Invasive Plant Atlas
  - Acer platanoides
  - Berberis thunbergii
  - Euonymus alatus
- Designated Public Sites
- Trail Corridor
- Deer Wintering Areas
- Habitat Blocks
  - 10 - Higher Priority
  - 9
  - 8
  - 7

NOTES

Map created using ANR's Natural Resources Atlas

1,321.0 0 660.00 1,321.0 Meters

WGS_1984_Web_Mercator_Auxiliary_Sphere 1" = 2168 Ft. 1cm = 260 Meters

THIS MAP IS NOT TO BE USED FOR NAVIGATION

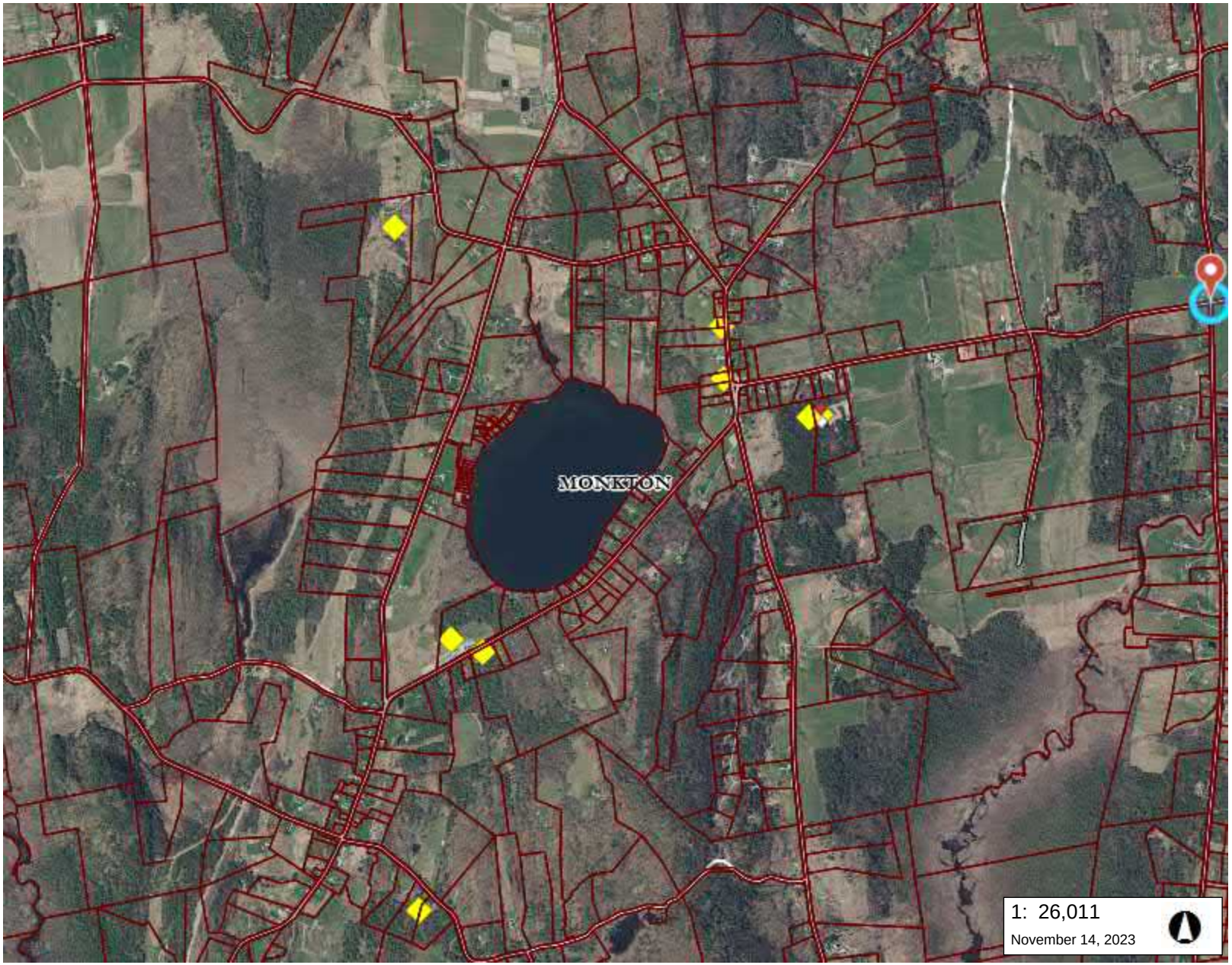
DISCLAIMER: This map is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. ANR and the State of Vermont make no representations of any kind, including but not limited to, the warranties of merchantability, or fitness for a particular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

VERMONT

Monkton Bike/Ped - Hazardous

Vermont Agency of Natural Resources

vermont.gov



LEGEND

- Designated ORW (Streams an
- Prospective ORW (Streams an
- Prospective ORW (Lakes and
- Hazardous Site
- Hazardous Waste Generators
- Parcels (standardized)
- Roads
  - Interstate
  - US Highway; 1
  - State Highway
  - Town Highway (Class 1)
  - Town Highway (Class 2,3)
  - Town Highway (Class 4)
  - State Forest Trail
  - National Forest Trail
  - Legal Trail
  - Private Road/Driveway
  - Proposed Roads
- Town Boundary

NOTES

Map created using ANR's Natural Resources Atlas

1,321.0 0 660.00 1,321.0 Meters

WGS_1984_Web_Mercator_Auxiliary_Sphere 1" = 2168 Ft. 1cm = 260 Meters

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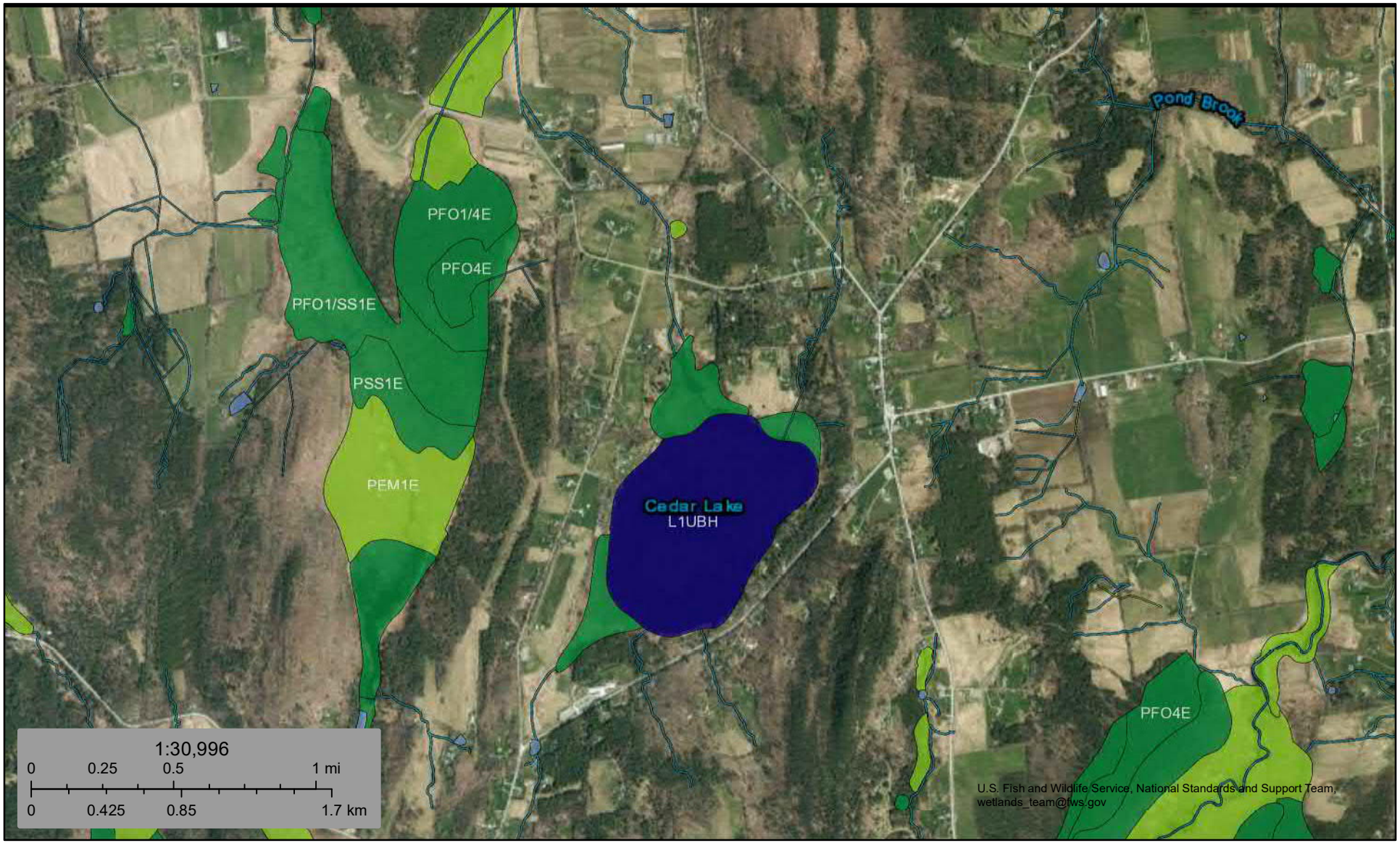
U.S. Fish and Wildlife Service
National Wetlands Inventory

Monkton Bike/Ped Scoping Project



January 17, 2024

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Addison County, Vermont

Local office

New England Ecological Services Field Office

(603) 223-2541
(603) 223-0104

70 Commercial Street, Suite 300
Concord, NH 03301-5094

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

---

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).

2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Indiana Bat Myotis sodalis Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat Myotis septentrionalis Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9045	Endangered

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

Bald & Golden Eagles

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act[1] and the Migratory Bird Treaty Act[2].

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats[3], should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

There are bald and/or golden eagles in your project area.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Dec 1 to Aug 31
Golden Eagle *Aquila chrysaetos* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

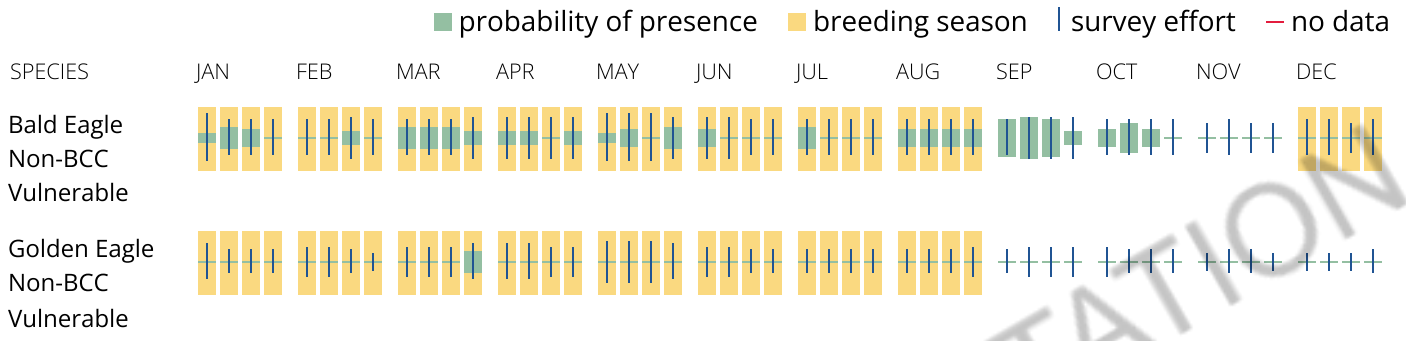
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply). To see a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs of bald and golden eagles in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur. Please contact your local Fish and Wildlife Service Field Office if you have questions.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats[3] should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Dec 1 to Aug 31
Belted Kingfisher *Megaceryle alcyon* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Mar 15 to Jul 25
Black-billed Cuckoo *Coccyzus erythropthalmus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9399	Breeds May 15 to Oct 10
Blue-winged Warbler *Vermivora pinus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds May 1 to Jun 30
Bobolink *Dolichonyx oryzivorus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Jul 31
Canada Warbler *Cardellina canadensis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Aug 10
Chimney Swift *Chaetura pelagica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 25
Eastern Meadowlark *Sturnella magna* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Apr 25 to Aug 31

Eastern Whip-poor-will Antrostomus vociferus — Breeds May 1 to Aug 20
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Evening Grosbeak Coccothraustes vespertinus — Breeds May 15 to Aug 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Golden Eagle Aquila chrysaetos — Breeds Jan 1 to Aug 31
This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1680

Golden-winged Warbler Vermivora chrysoptera — Breeds May 1 to Jul 20
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/8745

Lesser Yellowlegs Tringa flavipes — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9679

Long-eared Owl asio otus — Breeds Mar 1 to Jul 15
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3631

Pectoral Sandpiper Calidris melanotos — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Prairie Warbler Dendroica discolor — Breeds May 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Wood Thrush Hylocichla mustelina — Breeds May 10 to Aug 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

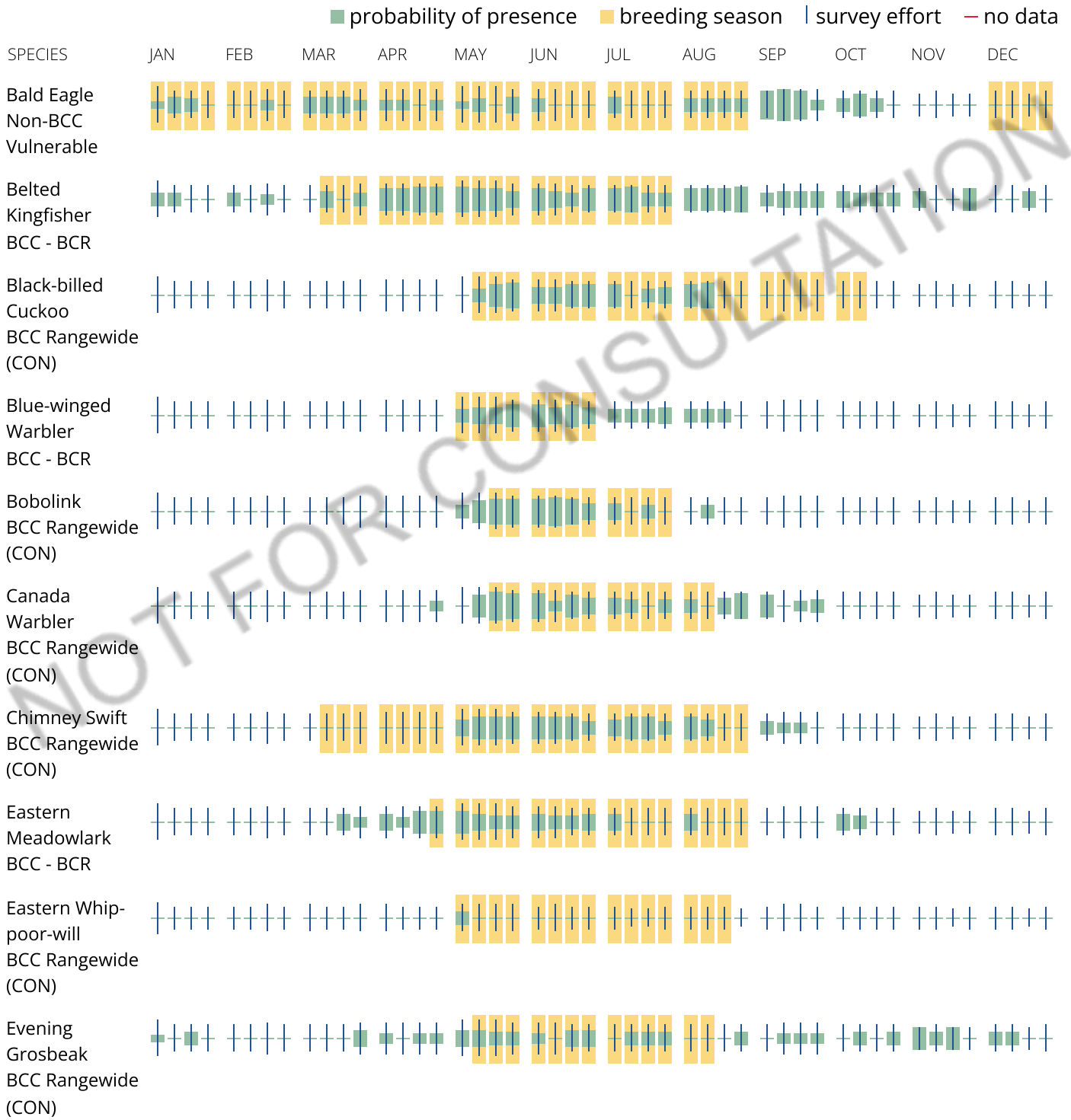
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

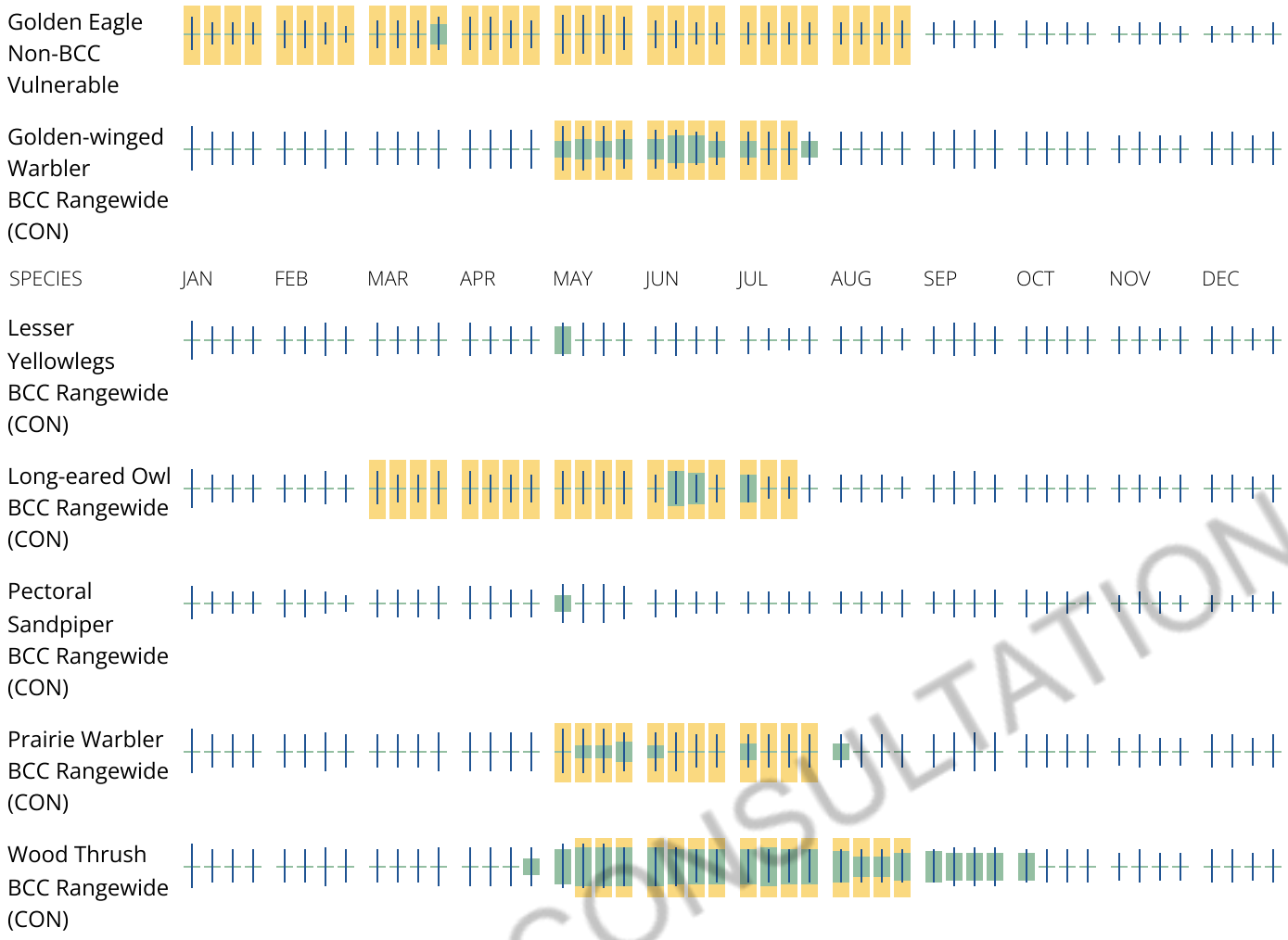
No Data (–)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.





Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER EMERGENT WETLAND

- PEM1C

FRESHWATER FORESTED/SHRUB WETLAND

- PSS1/EM1E

FRESHWATER POND

- PUBHh
- PUBHx

LAKE

- L1UBH

RIVERINE

- R5UBH
- R3UBH
- R4SBA

A full description for each wetland code can be found at the National Wetlands Inventory website

NOTE: This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Rotax Rd
Monkton Ridge
Davis Rd
Silver St
A-B-C-D Ln
Pond Rd
Monkton Rdg
STONE WALL
CEDAR LAKE PUBLIC ACCESS LAND
Cedar Lake
Pond Rd
MORSE PARK
BUTTERNUT (UNCOMMON SPECIES)
Monkton Rd
Monkton Central School
Fern Glade
Pond Rd
Monkton Rd
rino Rd

Data Sources:
Vermont Center for Geographic Information (VCGI)
Vermont Agency of Natural Resources (VTANR)
DuBois & King, Inc. (D&K) -Field Investigation
November 16, 2023
Orthoimagery - VCGI 2022

CHARLOTTE
HINESBURG
MONKTON

Legend

Culvert/Stream
- Ephemeral
- Perennial

Inferred Wetland
Inferred Wetland Boundary
VSWI Mapped Wetland
Stream
Invasive Plant
Potential Bat Roost Tree
Protected Lands
Project Study Area

N

0 250 500 1,000 1,500 US Feet

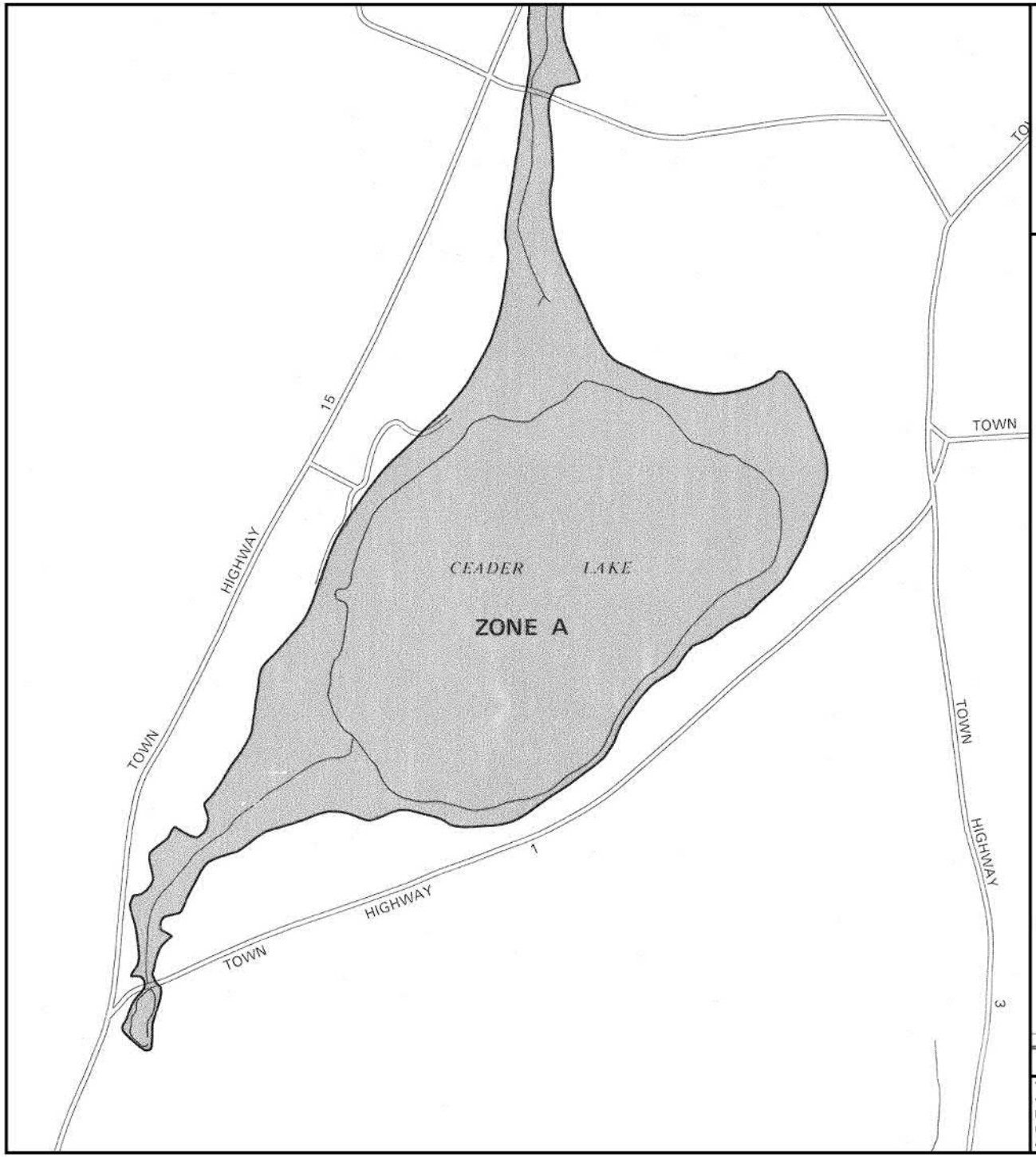
MAP TITLE
Field Investigation Map

PROJECT
Monkton Bike/Pedestrian
Scoping Study
Addison County
Monkton, Vermont

CLIENT
Town of Monkton

DATE
January 2024

DuBois & King inc.



APPROXIMATE SCA

1000 0

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

TOWN OF
MONKTON, VERMONT
ADDISON COUNTY

PANEL 5 OF 10
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
500167 0005 A

EFFECTIVE DATE:
NOVEMBER 1, 1985

Federal Emergency Management Agency

APPENDIX

B – CULTURAL RESOURCE REVIEWS

December 22, 2023
rev. February 12, 2025

DuBois & King inc.

REDACTED COPY

TOWN OF MONKTON BIKE-PED SCOPING STUDY TAP TA23(3)
ARCHAEOLOGICAL RESOURCE ASSESSMENT

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ARCHAEOLOGICAL RESOURCE ASSESSMENT

1. INTRODUCTION

DuBois & King, Inc., (D&K) conducted an Archaeological Resource Assessment (ARA) for the Bike-Ped Scoping Study TAP TA23(3) in the Town of Monkton, Vermont. This investigation was conducted to comply with Section 106 of the National Historic Preservation Act of 1966 under the guidelines of the Vermont State Historic Preservation Office's Guidelines for Conducting Archaeology in Vermont (2017) to be reviewed by the Vermont Division for Historic Preservation (VDHP).

Lindsay Chozinska, RPA

Lindsay Chozinska, RPA, conducted a site visit on November 15, 2023, to observe and photograph the conditions within the project area. This information is included in the appropriate sections of the ARA.

2. PROJECT INFORMATION

D&K is conducting a scoping study to explore potential alternatives for new bicycle and pedestrian facilities within the project location.

2.1. Project Location

The project area (*Image 2.1.*) is located in the town of Monkton, in north Addison County, Vermont. The project area includes the roadways that make a loop around Cedar Lake: Rotax Road (2,700ft), Monkton Ridge (1,900ft), Monkton Road (1.2mi), Pond Road (1.3mi), and Davis Road (780ft), an area totaling approximately 3.5mi., including a 20-ft buffer from the road on either side. Improvements for bicyclists and pedestrians along this loop will complete the loop to Silver Street and serve many landmarks in Monkton, including:

- The Friends Methodist Church
- The Monkton Town Office
- The Russell Memorial Library
- Alderman's Candy
- The Monkton Museum
- The Historic Old Town Office in the Monkton Ridge Designated Village Center
- An elementary school and park–and–

Image 2.1.1. The project area with the area of potential effect in red.

ride lot on Monkton Road
- The Monkton Community Dog Park
- The Morse Park Recreation Area
- The Boro Cemetery and the VT Fish and Game Fishing Access Area on Pond Road
- The Monkton Ridge Orchard on Rotax Road

The Town of Monkton has recently received a Village Center Designation, and a portion of the project area is within this village and its 0.25-mile buffer. Walkability and cycling opportunities will be a benefit for those within the designated Village.

2.2. Description of the Area of Potential Effects

The Area of Potential Effects (APE) is approximately 3.5mi in length and extends up to **20 feet from the edge of the pavement on either side of the road**.

3. ENVIRONMENTAL CONTEXT

3.1. Site Visit (November 15, 2023)

The project area is characterized by significant disturbance from culverts, drainage ditches, guardrails, driveways, lawns, parking lots, fences, and residences. There are no curbs or other means to delineate the road edges, and there is gravel, asphalt fragments, and other debris from the road along the entire project area. At the time of the site visit, many segments were covered by woody brush, fallen leaves, litter, and grasses. A recent rainfall resulted in standing water in some marshy areas, culverts, and drainage ditches.

The ground along the project area, in general, was significantly disturbed and no new archaeological sites were discovered, to be discussed further in Section 4.2.

Images 3.1-3. Monkton Road, northwest side, facing southwest.

3.1.1. Monkton Road

The northeast side of Monkton Road is sandwiched between the road and Cedar Lake (also known as Monkton Pond). There are several driveways, culverts, utility poles, and guardrails along the route and a slope that descends towards the Lake.

The southeast side of Monkton Road has a drainage ditch with stones and an ascending slope. There is one identified site along side part of the road, further discussed in Section 4.2. The north end of the road on the southeast side is relatively flat.

There are no bicycle or pedestrian facilities along Monkton road except for a walking trail that begins at the south end of the road and towards Pond Road. The trail begins at the school park-and-ride lot.

Images 3.1.4-6. Monkton Road, southeast side, facing northeast.

Image 3.1.7. North end of Monkton Road, taken from northwest side, facing northeast.

Image 3.1.8. South end of Monkton Road, showing the gravel walking trail, northwest side, facing southwest.

3.1.2. Pond Road

The south section of Pond Road has been developed on the east side with a walking trail, athletic fields, and a dog park. The gravel walking path begins from the park-and-ride lot on Monkton Road and follows parallel to Monkton Road south and turns to follow parallel to Pond Road north. The trail distance from the road varies from approximately 20 ft to 100 ft. The walking trail is on the east side of Pond Road and circumnavigates the athletic fields and returns south towards the school playground and the park-and-ride. There is a cemetery on the west side. The dog park and athletic fields share a gravel parking lot The north section is significantly disturbed with residences, lawns, and stone and wood fencing.

There are two archaeological sites within or adjacent to the project area along Pond Road, further discussed in Section 4.2.

Image 3.1.9. Pond Road, east side, facing north.

Image 3.1.11. Pond Road, Dog Park, facing east from road.

Image 3.1.10. Pond Road, Boro Cemetery, facing west from east side.

Image 3.1.12. Pond Road, Dog Park parking lot and gravel walking trail.

Image 3.1.13. Pond Road, facing walking trail (east) from Dog Park parking lot.

Image 3.1.14. Pond Road, facing north from road near athletic fields.

Image 3.1.15. Pond Road, walking trail and athletic fields.

Image 3.1.16. Pond Road, facing north.

Image from Google Maps showing the extent of the trail network at the south end of Pond Road and Monkton Road.

Image 3.1.17. Pond Road, facing south, near Access Road.

Image 3.1.18. Pond Road, facing south, near Rotax Road.

3.1.3. Rotax Road

The project area around Rotax Road is significantly disturbed by drainage ditches on the north and south sides of the road, residential lawns, driveways, and culverts. There is an orchard on the east end of the road on both the north and south sides.

Image 3.1.19. Facing Rotax Road from east side of Pond Road.

Image 3.1.20. Rotax Road, north side, facing east.

Image 3.1.21. Rotax Road, south side, facing west.

Image 3.1.22. Facing east towards Davis Road from north side of Rotax Road.

Image 3.1.23. View of Monkton Ridge Orchard.

Image 3.1.24. Davis Road, northwest side, facing east towards Monkton Ridge.

Image 3.1.25. Davis Road, northwest side, facing west towards Rotax Road.

Image 3.1.26. Intersection of Davis Road and Monkton Ridge.

Image 3.1.27. Monkton Ridge, east side, facing south.

Image 3.1.28. Monkton Ridge, east side, facing south.

Image 3.1.29. Monkton Ridge, facing south, library on right.

Image 3.1.30. Monkton Ridge, east side, facing south.

Image 3.1.31. Monkton Ridge, facing south, library on right.

Image 3.1.32. View of Monkton Ridge and Monkton Road intersection, facing south.

3.1.4. Davis Road to Monkton Ridge

Davis Road connects Rotax Road, Monkton Ridge, Baldwin Road, and Silver Street. Davis Road is mostly populated by residences, including driveways, residential fencing on a portion the southwest side, cleared land, utility poles, and a drainage ditch on the northeast side.

Monkton Ridge is populated by residences, residential fencing, commercial spaces, a church, a library, the town hall, a cemetery, driveways, parking lots, and cleared lots.

3.2. Soils/Geology

Monkton's general geophysical provinces (Champlain Lowlands and Vermont Valley) are located on the continental shelf, characterized by beach sandstone and shallow marine limestone formed 560-455 million years BP (Doolan, 1996; Haviland & Power, 1994, p. 9).

The project area consists of three different types of bedrock from the Cambrian period, as shown on Image 3.2.1.:

- **Monkton Quartzite** (Cm)—Middle Cambrian; reddish-brown, pebbly, thin- to thick-bedded sandstone, orangey-gray- and buff-weathering well-bedded dolostone, and reddish-brown-weathering dolomitic quartzite. *Project site locations: Monkton Road, Pond Road, north Rotax Road.*
- **Dunham Dolostone** (Cdu)—Lower Cambrian; buff- and pink-mottled and massive, or light-gray, pinkish-gray-weathering, and massive to poorly bedded dolostone. Contains distinctive small pebbles and grains of well-rounded quartz. *Project site locations: Rotax Road.*
- **Cheshire Quartzite** (Cc)—Lower Cambrian; light-gray- to tannish-gray-weathering, massive to poorly bedded vitreous quartzite. *Project site locations: east Rotax Road, Davis Road, Monkton Ridge, north Monkton Road.*

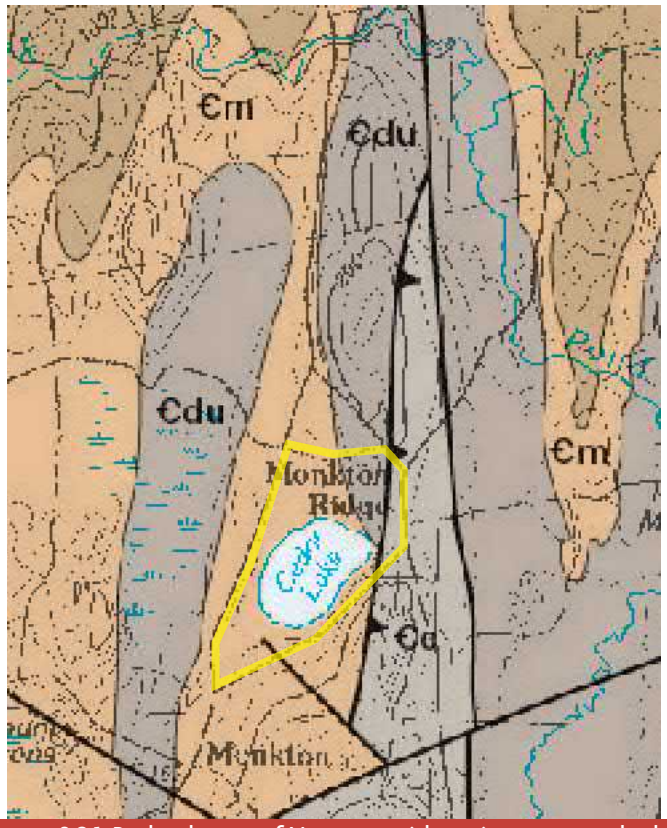

Image 3.2.1. Bedrock map of Vermont with project area marked as a yellow line (Ratcliffe et al., 2011).

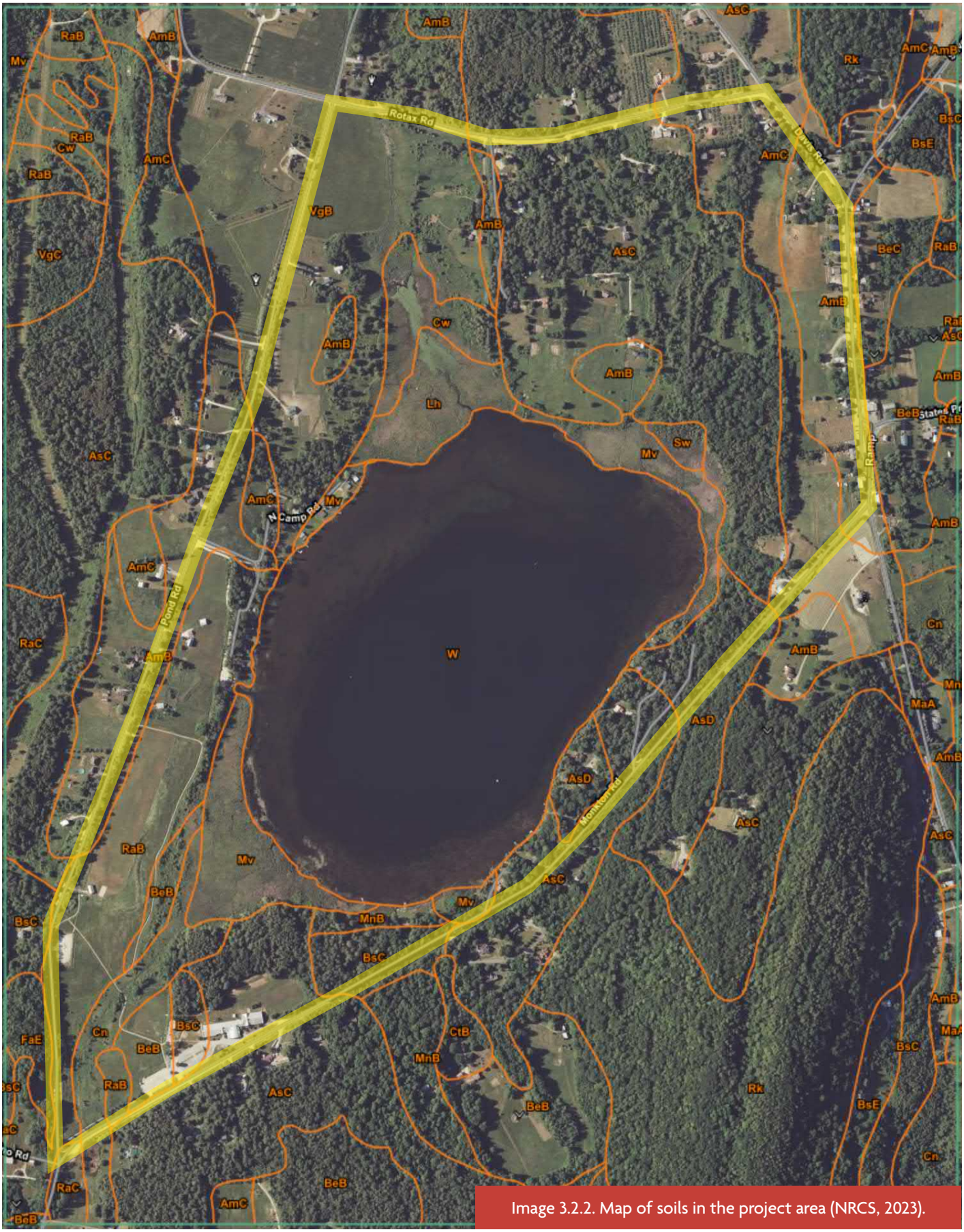

Image 3.2.2. Map of soils in the project area (NRCS, 2023).

Table 3.2.1. Monkton Soils (NRCS, 2023)

Symbol	Name	Landforms	Slope	Drainage	Depth (in)		Texture
AmB	Amenia stony loam	Depressions	0-8%	Moderately well-drained	0–8		H1—loam
					8–28		H2—loam
					28–60		H3—fine sandy loam
AmC	Amenia stony loam	Knolls, hills	8-15%	Moderately well-drained	0–8		H1—loam
					8–28		H2—loam
					28–60		H3—fine sandy loam
AsC	Amenia extremely stony loam	Knolls, hills	0-15%	Moderately well-drained	0–8		H1—loam
					8–28		H2—loam
					28–60		H3—fine sandy loam
AsD	Amenia extremely stony loam	Knolls, hills	15-25%	Moderately well-drained	0–8		H1—loam
					8–28		H2—loam
					28–60		H3—loam
BeB	Berkshire and Marlow soils	Mountains, hills	3-12%	Well-drained	Berkshire	0–7	Ap—fine sandy loam
						7–13	Bs1—fine sandy loam
						13–21	Bs2—fine sandy loam
						21–28	BC1—fine sandy loam
						28–33	BC2—fine sandy loam
						33–65	C—fine sandy loam
					Marlow	0–4	Ap—fine sandy loam
						4–6	E—fine sandy loam
						6–10	Bs1—fine sandy loam
						10–15	Bs2—fine sandy loam
						15–20	Bs3—fine sandy loam
						20–24	BC—fine sandy loam
						24–65	Cd—fine sandy loam
BeC	Berkshire and Marlow soils	Mountains, hills	12-25%	Well-drained	Berkshire	0–7	Ap—fine sandy loam
						7–13	Bs1—fine sandy loam
						13–21	Bs2—fine sandy loam
						21–28	BC1—fine sandy loam
						28–33	BC2—fine sandy loam
						33–65	C—fine sandy loam
					Marlow	0–4	Ap—fine sandy loam
						4–6	E—fine sandy loam
						6–10	Bs1—fine sandy loam
						10–15	Bs2—fine sandy loam
						15–20	Bs3—fine sandy loam
						20–24	BC—fine sandy loam
						24–65	Cd—fine sandy loam

Symbol	Name	Landforms	Slope	Drainage	Depth (in)		Texture
BsC	Berkshire and Marlow soils, very stony	Mountains, hills	3-20%	Well-drained	Berkshire	0–7	Ap—fine sandy loam
						7–13	Bs1—fine sandy loam
						13–21	Bs2—fine sandy loam
						21–28	BC1—fine sandy loam
						28–33	BC2—fine sandy loam
						33–65	C—fine sandy loam
					Marlow	0–2	Oi—slightly decomposed plant material
						2–5	A—fine sandy loam
						5–8	E—fine sandy loam
						8–15	Bs1—fine sandy loam
						15–19	Bs2—fine sandy loam
						19–33	BC—gravelly fine sandy loam
						19–33	Cd—fine sandy loam
Cn	Canandaigua silt loam	Depressions on lake terraces	0-3%	Poorly drained	0–8		H1—silt loam
					8–30		H2—silt loam
					30–72		H3—silt loam
FaE	Farmington extremely rocky silt loam	Ridges, hills	20-50%	Somewhat excessively drained	0–8		H1—silt loam
					8–18		H2—silt loam
					18–28		R—unweathered bedrock
MnB	Massena extremely stony silt loam	Drainageways, depressions	0-8%	Somewhat poorly drained	0–7		H1—silt loam
					7–23		H2—loam
					23–80		H3—fine sandy loam
Mv	Muck and Peat	Bogs, swamps	0-2%	Very poorly drained	0–66		O1—muck
RaB	Raynham silt loam	Depressions on terraces	0-6%	Poorly drained	0–6		H1—silt loam
					6–22		H2—silt loam
					22–72		H3—silt loam
RaC	Raynham silt loam	Terraces	6-12%	Poorly drained	0–6		H1—silt loam
					6–22		H2—silt loam
					22–72		H3—silt loam
VgB	Vergennes clay	Terraces	2-6%	Moderately well-drained	0–6		H1—clay
					6–16		H2—clay
					16–29		H3—clay
					29–65		H4—clay

The project area's soils are extensively disturbed by the installation of guard rails, road construction, plowing, residential uses, driveways, pedestrians, and parking lots. The soils in the area are churned with gravel, asphalt pebbles, and other road debris.

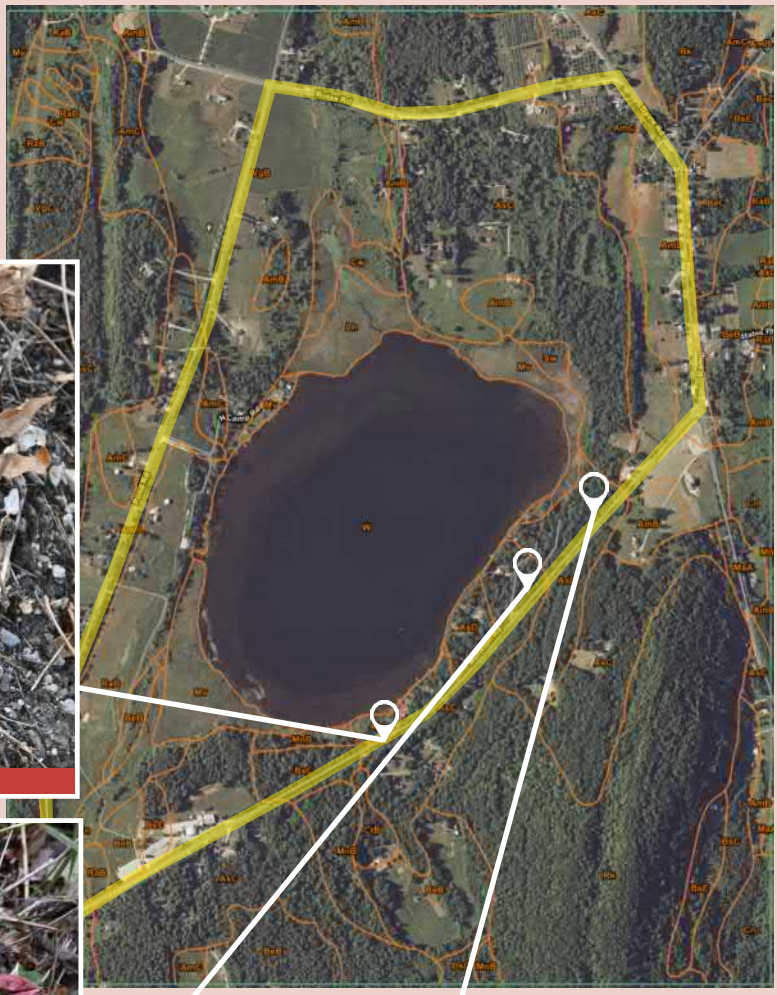

Image 3.2.3. Topsoil from area labeled Mv

Image 3.2.4. Topsoil from area labeled AsC

Image 3.2.5. Topsoil from area labeled AsD

Image 3.2.6. Topsoil from area labeled AsC

Image 3.2.7. Topsoil from area labeled VgB

Image 3.2.8. Topsoil from area labeled BsC

4. CULTURAL CONTEXT

4.1. Research Design

This research was undertaken as part of a contract for a scoping study for bike/ped facilities in the project area. The goal of this ARA is to determine the archaeological sensitivity of the site area. To gather this data, procedures included:

- A site visit with a full walk along the project area and extensive photography of the current conditions;
- Review of the Vermont Division of Historic Preservation's Online Resource Center;
- Review of the Vermont Archaeology Inventory Map Tool;
- Completion of the VDHP Predictive Model;
- Review of historic maps;
- Review of Google Earth satellite imagery; and
- Review of secondary sources.

4.2. Precontact Context

Our most current understanding of Paleo-Indian occupation and dating of archaeological sites suggests humans first arrived in the region of Monkton approximately 12,000 BP, according to Vermont State Archaeologist Jess Robinson (Polzella, Parren, & Walcott, 2022), expanding upon previous historical records, suggesting the date was 11,000 BP (Calloway, 1996, p. 6; Haviland & Power, 1994, p. 14). The region has been continually inhabited since this time.

The rough timeline is as follows (Burlington Geographic):

10,000–7,000 BCE Paleo-Indian Period
7,000–1,000 BCE Archaic Period
1,000 BCE–1600 CE Woodland Period
1600 CE–Present Abenaki Period

Monkton is located on the eastern edge of the Champlain Valley and in the foothills of the Green Mountains. Monkton Ridge has been used as a quartzite quarry (Haviland & Power, 1994, p. 9) and clusters of of sites exist in the project area near Cedar Lake (Monkton Pond) (Polzella, Parren, & Walcott, 2022). Sites in the project area are highlighted in the following section, 4.2.1. *Sites and Surveys*. Sites within the project area appear to date from the Woodland period.

Image 4.2.1. Location of archaeological sites.

4.2.1. Sites and Surveys

There are four sites within or adjacent to the project area.

Table 4.2.1. Archaeological sites in and adjacent to the project area (VDHP)

Site	Proximity to Project Area	Type	Time Period	Description
VT-AD-0317	6m from project area	Pre-contact, open air	Middle or Late Woodland	Projectile points (30+ found in test pit); indicated as a high development area, possibly totally destroyed, with summer homes developed over it.
VT-AD-1378	50m from project area	Pre-contact, open air	Woodland period or earlier	Located during a study for a new septic system that was not built; later surveyed for the installation of the playing fields; looted during three surface excavations in 2005-2006.
VT-AD-0181	Within in the project area	Pre-contact, open air	Unidentified prehistoric	Scatter in field, workshop for quartzite; indicated as "under cultivation."
VT-AD-0031	150m from project area	Pre-contact, open air	Late Archaic (notated with "?")	Partially disturbed, secondary flakes (without cortex) quartzite, groundstone red slate, drill, projectile points, fire pit, polished red slate; indicated as likely "mostly gone."

Image 4.2.2. View of VT AD-0317 from opposite site of the road. This site is within 6m of the project area.

Image 4.2.3. View of VT AD-0181 from opposite site of the road. This site is within the project area.

4.3. Historic Context

According to Polzella, Parren, and Walcott (2022):

> "The town of Monkton was chartered by New Hampshire in 1762. The earliest settlers of European descent arrived in Monkton around 1774. The settlement was short-lived, as several settlers were captured by British soldiers and their Native American allies and taken as prisoners to Canada during the American Revolution. After the end of the war, some families returned to their farms, and others joined them. By 1786, the town was sufficiently populated to warrant formal organization of a town government."

The hamlet of Monkton Ridge (located in part of the project area) was settled as a Quaker community in the late 18th century. The Friend's Society was organized by Joseph Hoag in 1798 and the first meeting house was built in 1800. Most buildings in Monkton Ridge date to the late 1800s (Johnson, 1980). In 1882, there was a store, schoolhouse, and fifteen dwellings (Polzella, Parren, & Walcott, 2022).

4.3.1. Sites and Surveys

The project site is partially within the Monkton Ridge Historic District, which has a number of sites on the Vermont Register of Historic Sites and one on the National Register of Historic Sites. There are two structures on the state registry outside of this district, as noted in Table 4.3.1.

Table 4.3.1. State Historic Sites in the Project Area (Johnson, Gilbertson, & Hollister 1992, p. 178)

Site	Location	Information	Date	Notes
House	Monkton Ridge Road	Vernacular-Queen Anne style, gable roof, 1½ stories, Queen Anne porch, related carriage barn, shed	c. 1885	
Creamery	Monkton Road	Gable roof, 1½ stories, ventilators, rafter tails	c.1910	
Monkton Ridge Historic District				
Meeting House	Monkton Ridge Historic District	Quaker Church; gable roof, 1½ stories, triangular gable fan, porte cochere	c. 1879	
House	Monkton Ridge Historic District	Gable roof, 1½ stories	c. 1840	
House	Monkton Ridge Historic District	Gable roof, 1½ stories, sidelights, porch	c. 1830	
Carriage Barn	Monkton Ridge Historic District	Ventilator, weather vane	c. 1880	
House	Monkton Ridge Historic District	Gable roof, 1½ stories	c. 1860	
Carriage Barn	Monkton Ridge Historic District		c. 1890	

Site	Location	Information	Date	Notes
House	Monkton Ridge Historic District	Georgian plan, milled wood, owned by Jathlell Peck, Revolutionary War soldier	c. 1810	
Carriage Barn	Monkton Ridge Historic District		c. 1890	
Garage	Monkton Ridge Historic District		c. 1920	
Inn	Monkton Ridge Historic District	Gable roof, 2½ stories, Greek Revival porch. Served as a stagecoach stop, inn, tavern, and later a hotel.	c. 1830	
Carriage Barn	Monkton Ridge Historic District		c. 1885	
Shed	Monkton Ridge Historic District		c. 1890	
House	Monkton Ridge Historic District	Gable roof, 2½ stories, label lintels	c. 1860	
Shed	Monkton Ridge Historic District		c. 1935	
Town Hall	Monkton Ridge Historic District	Greek Revival style, gable roof, 1½ stories, full entablature, corner pilasters, triangular gable fan, peaked lintelboards, entry entablature, entry pilasters	c. 1859	National Register of Historic Places
House	Monkton Ridge Historic District	Vernacular-Greek Revival style, gable roof, 2 stories, entry entablature, entry pilasters	c. 1855	
Carriage Barn	Monkton Ridge Historic District		c. 1890	
House	Monkton Ridge Historic District	Georgian plan, five-by-two bay structure	c. 1810	

4.4. Historic Maps

Two late 19th century maps of the town of Monkton provide a view of the APE. The roads encircling Monkton Pond/Cedar Lake have been consistent since then, with the key exception of the addition of Rotax Road to connect Pond Road and Davis Road/Monkton Ridge Road.

Beers' 1871 map shows more detail of the hamlets and the Monkton Ridge historic district.

Satellite images are available from Google Earth since 1985.[1]

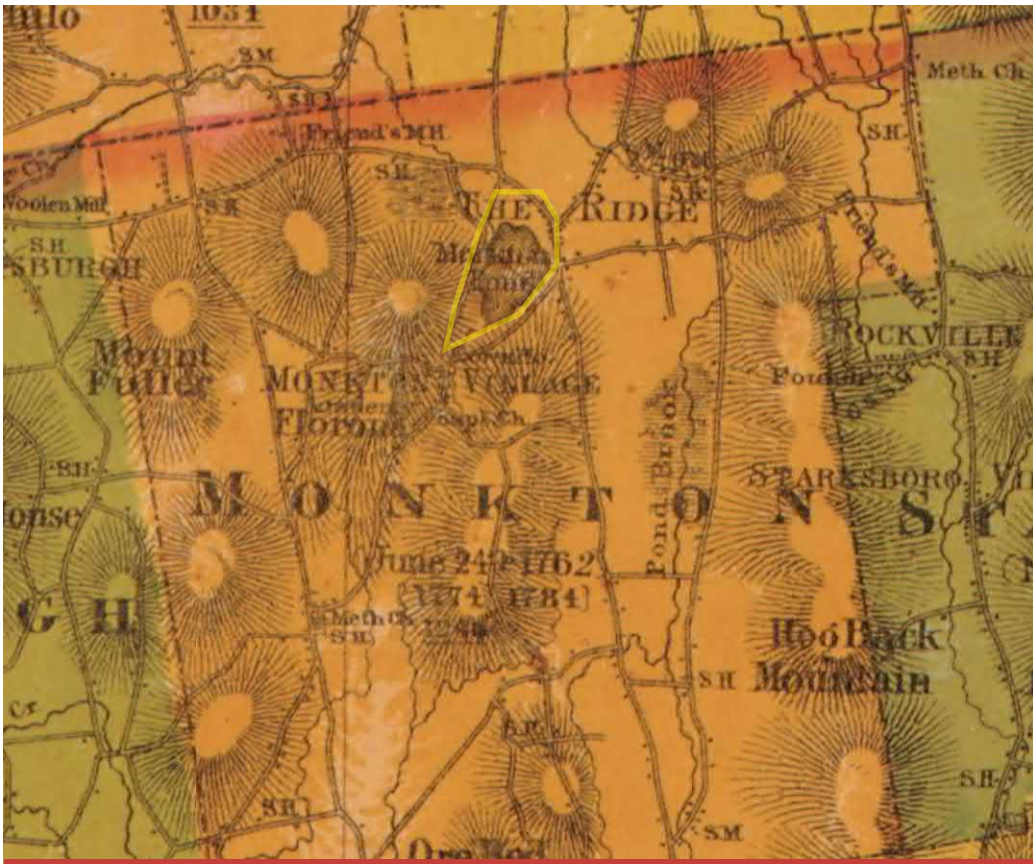

Image 4.4.1. The town of Monkton in 1860. The project area is in yellow at the center top around Cedar Lake (Monkton Pond) (Walling).

1 The satellite image from 1985 is not included in this report as the quality is too low to be informative. The satellite imagery presented begins in 1995.

Image 4.4.2. Map of Monkton with hamlets delineated in 1871. Project area is highlighted in yellow (Beers).

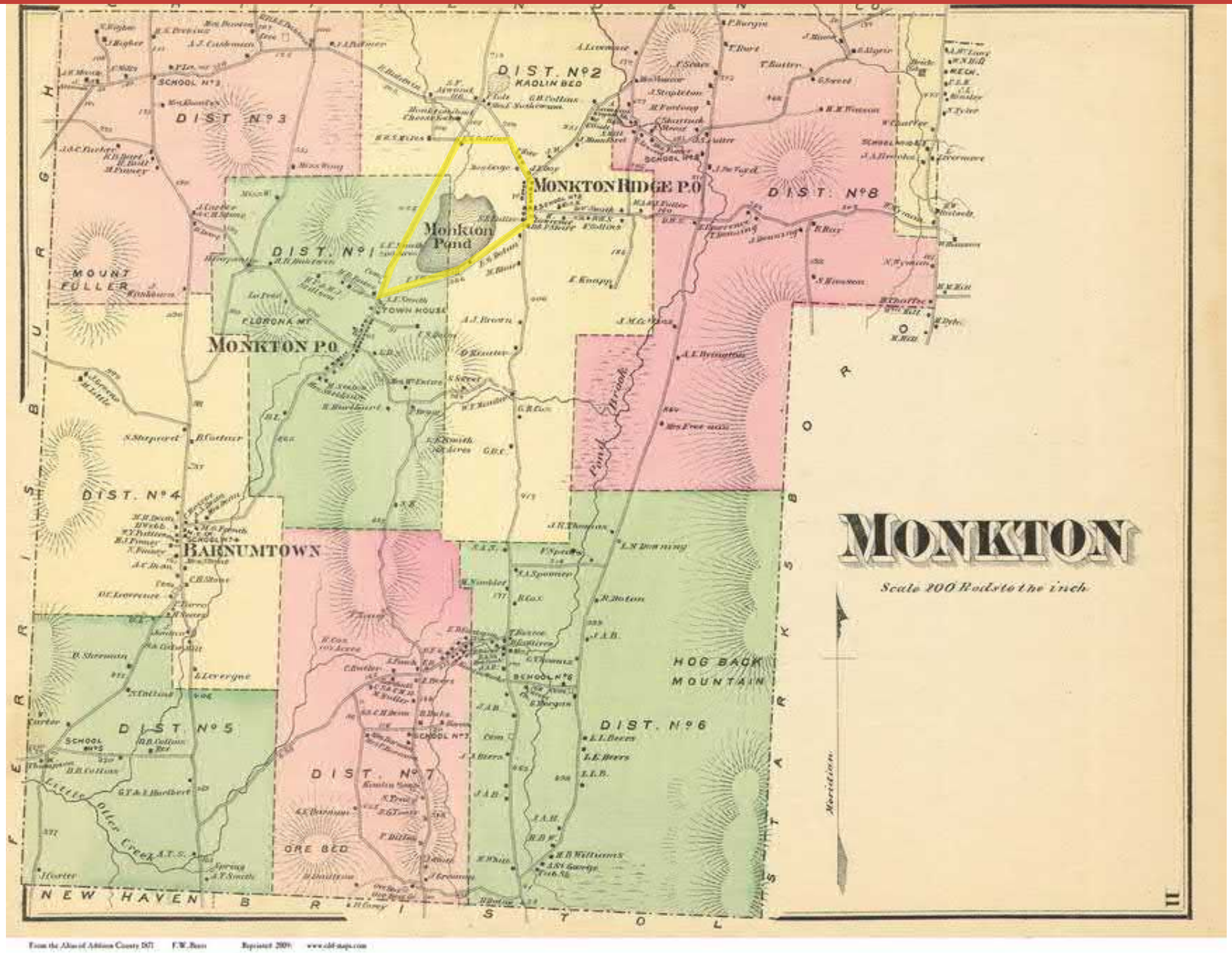

Image 4.4.3. Project area in April 1995 (Google Earth).

Image 4.4.5. Project area in October 2006 (Google Earth).

Image 4.4.4. Project area in September 2003 (Google Earth).

Image 4.4.6. Project area in September 2009 (Google Earth).

Image 4.4.7. Project area in May 2012 (Google Earth).

Image 4.4.9. Project area in June 2018 (Google Earth).

Image 4.4.8. Project area in May 2015 (Google Earth).

Image 4.4.10. Project area in September 2021 (Google Earth).

5. STATEMENT OF SENSITIVITY

5.1. VDHP Predictive Model

The VDHP Predictive Model form is available as an appendix in this document.

The project area surrounds Cedar Lake (Monkton Pond) and is in an area that is rich in Monkton quartzite. The site cuts through streams and wetlands and sits close (closest 60m) to Cedar Lake. However, the project area, which is on either side of the roads surrounding the pond, is highly disturbed by residential development, streets, guardrails, driveways, parking lots, and man-made drainage ditches.

Using the VDHP Predictive Model, the project area scored 48, which is a score indicating the area is "Archaeologically Sensitive." It is likely there are archaeological sites in the area based on the environment and the existence of quartzite for quarrying and quartzite workshop sites; however, 32 points were taken for the area being disturbed and developed.

5.2. Determination of Archaeological Sensitivity

Historic archaeological sites are possible within the Monkton Ridge Historic District, which has a number of historic buildings and dates back to 1798. There are two historic sites in the project area outside of the designated Historic District. The Town Hall is on the National Register of Historic Places. The project area cuts directly through this district.

Pre-contact archaeological sites are possible along Monkton Road, Pond Road, and Rotax Road. Monkton Ridge Road and the Monkton Ridge Historic District have been developed and in consistent use since the early 1800s and is unlikely to contain pre-contact archaeological sites. Pre-contact archaeological sites have been found along Monkton Road and Pond Road.

It is possible new pre-contact sites could be found in previously undisturbed areas along these roads, as the VDHP Predictive Model indicates the area to be "Archaeologically Sensitive," and there are known sites in the vicinity (one within the project area and three in notable proximity). However, due to high disturbance along the roads in the archaeological sensitive areas (according the VDHP Predictive Model), it is unlikely, unless leaving the 20-ft buffer around the roads, that new, intact, archaeological sites will be found.

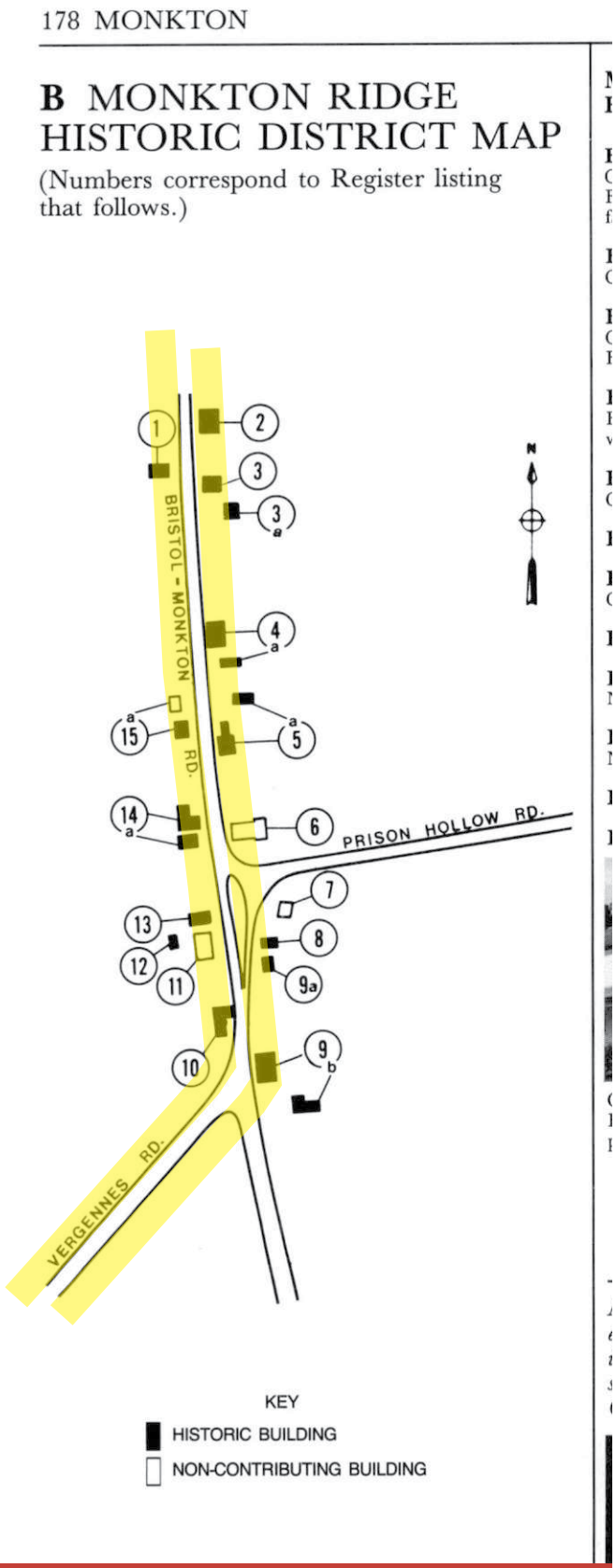

Image 5.2.1. Monkton Ridge Historic District (not to scale) with project area roughly delineated (Johnson, C. B., Gilbertson, E., & Hollister, S. E., 1992). Note: Bristol-Monkton Road is now Monkton Ridge Road, and Vergennes Road is now Monkton Road.

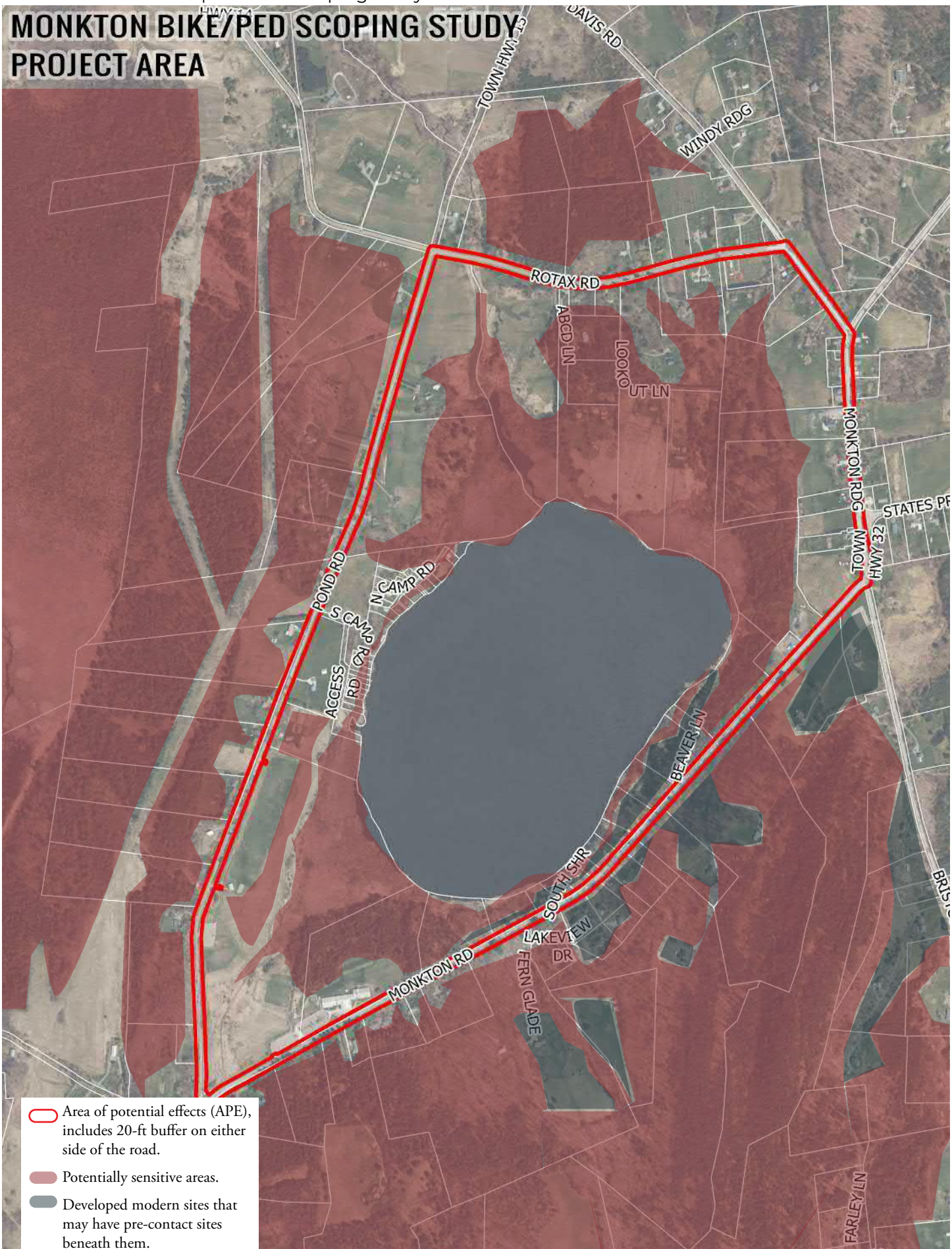

Image 5.2.2. Map of potentially sensitive areas with identified sites redacted.

Much of the area is sensitive, particularly:

- The shoreline of Monkton Pond, where sites have been identified both along the northwest tributary leading into the pond (VT-AD-0010—flakes, scrapers, debitage, and white pottery) and on the east side of the pond (VT-AD-0031—secondary flakes, groundstone, drills) (VAI ORC);
- Monkton Ridge, which was used as a prehistoric quarry and which has two sites in proximity to the project area, which includes flake scatter at one (VT-AD-0230) and numerous projectile points at another (VT-AD-0317), with more sites posited to be present, but likely covered by vacation homes (VAI ORC); and
- Undeveloped parts on either side of Pond Road, where sites were found on both the east (VT-AD-1378—site looted, recovered 144 artificats, mostly quartzite flakes) and west (VT-AD-0181—quartzite scatter) sides by ground disturbance. Further disturbance is likely to reveal more sites.

It can be generally stated that the overall area is very sensitive and likely to contain more sites, particularly on undisturbed land, this includes Monkton Ridge, the region east of Pond Road, and the land between the project area and Monkton Pond. Various areas around Monkton Pond have been disturbed due to construction, plowing, tilling, and other modern human activity. However, there is potential that sites could exist even beneath disturbed areas, as mentioned in the VAI ORC report on VT-AD-0317.

5.3. Recommendations

It is possible development of previously undisturbed land could result in the discovery of further sites in the area. However, the project area itself has been extensively disturbed by the construction of roadways, residential and commercial developments, and drainage infrastructure. It is recommended that potential construction, where possible, follow closely to roads and existing hiking trails to stay within already-disturbed footprints.

The two closest identified sites are on the outer loop of the road (southeast of Monkton Road and on the west of Pond Road). Therefore, it is recommended to focus on the inner-loop of a potential bike-ped structure on these two roads. It is also recommended to follow the in-place walking loop along south Monkton Road and south Pond Road to avoid new construction in a potentially sensitive area.

The Historic District has modern infrastructure along the road. It is likely any sites within the project area would have been found during the installation of fencing, utilities, driveways, and parking lots. It is recommended to follow closely to the road and disturbed areas to maintain the integrity of the Historic District.

Any significant deviation from the project area may require a Phase 1B, due to the area being "Archaeologically Sensitive," and the existence of known archaeological sites in the region. **The project sits on the relict shore of Lake Vermont and consists of well-developed soils. There are numerous previously recorded sites within and directly adjacent to the project and several more in the general area. Any areas beyond toes of roadway slope, drainage ditches, etc. are likely undisturbed and considered sensitive and would require further review.**

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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 Bike-Ped Scoping Study TAP **County** Addison **Town** Monkton
DHP No. **Map No.** **Staff Init.** **Date** 12.21.2023

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 90- 180 m	12 6	12
2) Distance to Intermittent Stream	0- 90 m 90-180 m	8 4	
3) Confluence of River/River or River/Stream	0-90 m 90 –180 m	12 6	
4) Confluence of Intermittent Streams	0 – 90 m 90 – 180 m	8 4	
5) Falls or Rapids	0 – 90 m 90 – 180 m	8 4	
6) Head of Draw	0 – 90 m 90 – 180 m	8 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 90 -180 m	12 6	12
11) Confluence of River or Stream	0-90 m 90 –180 m	12 6	12
12) Lake Cove/Peninsula/Head of Bay		12	
C. WETLANDS:			
13) Distance to Wetland (wetland > one acre in size)	0- 90 m 90 -180 m	12 6	12
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) ☐ Natural Travel Corridor ☐ Sole or important access to another drainage ☐ 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	32
23)) Special Environmental or Natural Area, such as Milton acquifer, 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: 80

Other Comments :

Per VTrans: The project sits on the relict shore of Lake Vermont and consists of very well-developed soils. There are numerous previously recorded sites within and directly adjacent to the project and several more in the general area. Any areas beyond toes of roadway slope, drainage ditches, etc. are likely undisturbed and considered sensitive and would require further review.

0- 31 = Archeologically Non- Sensitive
32+ = Archeologically Sensitive

TOWN OF MONKTON BIKE-PEDESTRIAN PATH

SCOPING STUDY

Addison County, Vermont

Historic Resources Inventory Report

December 2023

PREPARED FOR:

DuBois & King, Inc.
28 North Main Street
Randolph, VT 05060

AUTHOR:

Polly Seddon Allen, Senior Architectural Historian
P.O. Box 215
Craftsbury Common, VT 05827

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Cedar Lake (Monkton Pond) with Monkton Ridge in foreground, 1938
(UVM Landscape Change Program)

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Contents

Figures

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Attachments

Attachment A: Town of Monkton Bike-Pedestrian Path Project Area Mapping

Cover Photograph: *Overview of Project Area Streetscape, facing south on Monkton Ridge. Photograph taken by author on November 8, 2023.*

List of Acronyms and Abbreviations

APE	Area of Potential Effect
CFR	Code of Federal Regulations
FHWA	Federal Highway Administration
HRI	Historic Resources Inventory Report
MAS	Municipal Assistance Section
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
ORC	Online Resource Center
PQS	Professional Qualification Standards
ROW	Right of Way
SHPO	State Historic Preservation Officer
SOI	Secretary of the Interior
Project	Town of Monkton Bike-Pedestrian Path Project
VCGI	Vermont Center for Geographic Information
VDHP	Vermont Division for Historic Preservation
VTrans	Vermont Agency of Transportation

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1. PROJECT SUMMARY

The Town of Monkton is proposing the Town of Monkton Bike-Pedestrian Path Project (Project), which includes construction of a bike and pedestrian facility extending around Cedar Lake (Monkton Pond) following Monkton Road, Monkton Ridge, Davis Road, Rotax Road, and Pond Road (see **Figures 1** and **2**). The proposed Project is funded in part by the Federal Highway Administration (FHWA) and the Town of Monkton, through the Vermont Agency of Transportation (VTrans) Municipal Assistance Section (MAS). In support of the proposed Project, the Town of Monkton has commissioned a scoping study to identify alternatives, issues, and costs of the Project and to provide recommendations related to the construction. The scoping study and its associated technical support studies are intended to support compliance with all potential permitting requirements for the Project, including those related to historic properties under Section 106 of the National Historic Preservation Act (NHPA) (as codified in 36 CFR Part 800) and under Vermont Act 250 Criterion 8.

This Historic Resources Inventory Report (HRI) has been developed as a component of the Scoping Study for the Project to support determination of potential direct and indirect effects to architectural / built environment historic resources. The HRI has been developed in conformance with VTRANS MAS documentation requirements and the requirements of Section 106 as well as the *Programmatic Agreement Among the Federal Highway Administration, The Vermont State Historic Preservation Officer, the Advisory Council on Historic Preservation, and the Vermont Agency of Transportation Regarding the Federal Highway Aid Program in Vermont* (Programmatic Agreement).[1] The HRI addresses historic period built environment resources only, with archaeological resources addressed in additional documentation developed as part of the scoping study.

The Area of Potential Effects (APE) for the Project includes the entirety of the Project Area that may be utilized as part of the Project, specifically a 36 foot (ft) Project Area from roadway centerline following the extent of the proposed Project corridor along both sides of the road through the entirety of the Project (**Figure 2**). This APE includes all those areas that may be subject to bike and pedestrian connectivity improvements as part of the proposed Project. It is important to note that the APE includes a broad area of assessment on either side of the roadway to support the issues and alternatives analysis of the Scoping Study, with the Scoping Study serving to support future refinement of Project plans that will define a narrower Project footprint. Additionally, because the APE defined by the Scoping Study includes potential encroachment from the public right of way (ROW) to adjacent private parcel lands, this HRI

[1] VTRANS Cultural Resources Guidance: Information Required for Cultural Resource Identification Activities for Section 106, Section 4(f), and 22 VSA 14 Review Requests, accessed online October 16, 2023 at Microsoft Word - Cultural Resources Guidance (vermont.gov); *Programmatic Agreement Among the Federal Highway Administration, The Vermont State Historic Preservation Officer, the Advisory Council on Historic Preservation, and the Vermont Agency of Transportation Regarding the Federal Highway Aid Program in Vermont,* accessed online October 16, 2023 at statewide_pa_fed_highway_vermont.2021.pdf.

includes inventory of all built environment resources on parcels with APE/ROW frontage that may be subject to encroachment in order to fully analyze potential issues related to historic period built environment resources in the Project Area.

This HRI documents all historic period built environment properties (properties over 50 years of age[2]) including previously identified Historic Properties under Section 106 of the NHPA and Historic Sites under Criterion 8 of Vermont Act 250 that are located within the APE or on parcels that are directly adjacent to the APE and may be subject to encroachment. All inventoried properties are depicted in Project Area Mapping in **Attachment A** and documented in this report.

As detailed in the report, this HRI identifies a single NRHP-listed property in the Project Area: The Monkton Town Hall at 280 Monkton Ridge. Additionally, the HRI identifies a Vermont State Register-listed Historic District in the Project Area: the Monkton Ridge Historic District, with 10 Contributing Resources identified in the Project Area: 339 Monkton Ridge, 320 Monkton Ridge, 280 Monkton Ridge (Monkton Town Hall), the Monkton Ridge Cemetery, 216 Monkton Ridge, 176 Monkton Ridge, 175 Monkton Ridge, 145 Monkton Ridge, 78 Monkton Ridge, and 77 Monkton Ridge. Summary data regarding these properties is included in this report and the properties are detailed in mapping included in **Attachment A (Sheets 5-7)**.

In addition to the previously identified Historic Properties detailed above, this HRI documents 36 historic period (greater than 50 years of age) built environment properties that are located on parcels that are potentially encroached by the APE and have not previously been subject to formal NRHP or Vermont State Register evaluation. All these previously undocumented properties are summarized herein and were subject to preliminary background research and field review as part of this inventory. Where properties were not visible from the public ROW, Monkton Town Records and Property Card information were incorporated into the documentation to establish property characteristics and age. All these historic period properties are depicted in the mapping in **Attachment A**.

The remainder of the inventoried built environment properties are not historic period in age (over 50 years of age) and as such were not assessed as part of the documentation. The mapping in **Attachment A** includes locational data and construction dates for the modern properties in the Project Area that were not formally documented.

The findings of this report are intended to support design development for the Project by identifying historic period properties that may be affected by Project activities. Based upon the inventory, this analysis finds that the area extending along Monkton Ridge through the Vermont State Register-listed Monkton Ridge Historic District and passing the NRHP-listed Monkton Town Hall is the most sensitive area in relation to historic period built environment resources, both because of the significance of the resources and the spatially tight-knit village

[2] The 50-year cutoff employed in this documentation was 1974.

form of the parcels flanking the ROW, with little area between the path of travel and adjacent parcels (see **Attachment A, Sheets 5-7**). Despite this sensitivity, however, an appropriate bike-pedestrian amenity could serve as an important streetscape enhancement in this area, by reinforcing village characteristics and slowing vehicular travel to reflect the historic village surrounds.

The remainder of the Project Area presents fewer potential resource issues related to historic built environment resources, with no additional NRHP or Vermont State Register-listed resources in or adjacent to the APE and only select resources that appear to have the potential to possess significance under the criteria of the NRHP in the Project Area, as detailed in the inventory section of this analysis. Additionally, the remainder of the Project apart from the areas along Monkton Ridge is largely characterized by larger lot sizes flanking the ROW, allowing for greater separation and screening between any bike-pedestrian amenity and adjacent built environment resources, and as such a lesser potential for any Project-related impacts.

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2. PROJECT DESCRIPTION

2.1 Overview of the Town of Monkton Bike-Pedestrian Path Project Scoping Study

The following overview description of the Project is adapted from information provided by the Town of Monkton and consulting engineer Dubois & King. The description will be updated and refined should additional information be developed to support the Scoping Study.

The Town of Monkton seeks to identify alternatives, issues, and costs related to the construction of a bike and pedestrian facility (path) extending around Cedar Lake (Monkton Pond) following Monkton Road, Monkton Ridge, Davis Road, Rotax Road, and Pond Road (see **Figures 1** and **2**). The proposed Project would be funded in part by the FHWA and the Town of Monkton, through the VTRANS MAS. The purpose of the Project is to improve pedestrian walkability and bicycle safety in the community corridor extending around Monkton Pond.

2.2 Regulatory Context

Under Section 106 of the NHPA, all Federal undertakings require an assessment of potential effects to historic properties in a Project's APE. This HRI has been developed in compliance with Section 106, and with the historic resource review requirements stipulated by the VTRANS MAS Program. The documentation also conforms with the *Programmatic Agreement Among the Federal Highway Administration, The Vermont State Historic Preservation Officer, the Advisory Council on Historic Preservation, and the Vermont Agency of Transportation Regarding the Federal Highway Aid Program in Vermont* (Programmatic Agreement).[3] Additionally, the identification efforts are intended to support any potential permitting nexus related to Criterion 8 of Vermont Act 250. The HRI addresses built environment resources only, with archaeological resources addressed in additional documentation developed as part of the scoping study.

2.3 Project Area of Potential Effects

Under 36 CFR Part 800, an undertaking may have an adverse effect on historic properties when it directly or indirectly alters any of the characteristics of a historic property that qualify the property for inclusion in the NRHP in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. To determine the potential for direct or indirect effects associated with the Project, qualified personnel under the Secretary of the Interior's Professional Qualification Standards (SOI PQS) established an APE for the Project, in compliance with § 800.16(d) of 36 CFR Part 800. The APE

[3] VTRANS Cultural Resources Guidance: Information Required for Cultural Resource Identification Activities for Section 106, Section 4(f), and 22 VSA 14 Review Requests, accessed online October 16, 2023 at Microsoft Word - Cultural Resources Guidance (vermont.gov); *Programmatic Agreement Among the Federal Highway Administration, The Vermont State Historic Preservation Officer, the Advisory Council on Historic Preservation, and the Vermont Agency of Transportation Regarding the Federal Highway Aid Program in Vermont,* accessed online October 16, 2023 at statewide_pa_fed_highway_vermont.2021.pdf.

includes the geographic areas within which the Project may directly or indirectly cause alterations in the character or use of historic properties. The APE includes all those areas where Project activities may occur, inclusive of construction, staging, and Project access. It is important to note that the APE includes a broad area of assessment on either side of the roadway to support the issues and alternatives analysis of the Scoping Study, with the Scoping Study serving to support future refinement of Project plans that will define a narrower Project footprint. Additionally, because the APE defined by the Scoping Study includes potential encroachment from the public ROW to adjacent private parcel lands, this HRI includes inventory of all built environment resources on parcels with APE/ROW frontage that may be subject to encroachment in order to fully analyze potential issues related to historic period built environment resources in the Project Area.

As depicted in **Figure 2** and in detailed Project Area Mapping included in **Attachment A**, the APE includes the full extent of the potential multi-use path options along the roadway, with the Project Area limits offset from the roadway centerlines to 36 ft., inclusive of an 11 ft. travel lane, 5 ft. buffer/green strip, maximum path width of 10 ft., and additional 10 ft. extra for potential construction area to tie back into existing conditions. As previously noted, these dimensions anticipate potential parcel encroachment outside of the existing ROW.

This HRI documents all historic period built environment resources in the Project APE (over 50 years of age), inclusive of all previously identified historic properties under Section 106 of the NHPA and historic sites under Criterion 8 of Vermont Act 250 in the APE. As previously detailed, the inventory includes documentation of built environment resources that are outside of the APE, but on parcels that may be encroached by the Project APE. The Project APE is depicted in **Figure 2** and in **Attachment A**.

2.4 Research and Field Methods

After developing the Project APE, the author conducted background research and property investigation to account for all built environment buildings, structures, and objects located in and directly adjacent to the APE. Background research included review of the Town of Monkton parcel and building records and the Town of Monkton Interactive Digital Parcel and Zoning Map; records of the Monkton Historical Society; holdings of the Monkton Russell Memorial Library; records of the Vermont Division for Historic Preservation (VDHP) housed in the Online Resource Center (ORC); United States Geological Survey (USGS) topographic maps; historic aerial imagery and historic mapping; and spatial and parcel data from the Vermont Center for Geographic Information (VCGI).[4]

In addition to review of pertinent records and research repositories, the author contacted interested and knowledgeable individuals regarding resources in the Project APE including email and telephone calls to the Monkton Museum and Historical Society, no response has

[4] Town of Monkton Interactive Digital Parcel and Zoning Map, accessed at AxisGIS - MonktonVT, November 15, 2023.

been received to date although the digital collections of the historical society have been reviewed and incorporated into this work, most notably the Monkton Historical Society's "Monkton Ridge History Tour." In addition, the author coordinated with Russell Memorial Library Librarian Debbie Chamberlin regarding properties in the Project Area.[5]

The records review was accompanied by general contextual research to situate resources in and adjacent to the APE within a framing historic context. Research included review of periodicals, historical manuscripts and studies, and historic mapping. The contextual research supported development of the historical overview presented in **Section 3** of this document and supported the baseline determinations of potential NRHP eligibility discussed in **Section 4**.

Field survey was conducted within the APE on November 8, 2023. The inventory consisted of intensive written and photographic documentation of all historic period built environment properties in the APE as well as documentation of historic period built environment properties located outside of the APE on parcels that were intersected by potential Project activities. For those properties that were obscured from the ROW, the documentation relied on publicly available records, most notably Town of Monkton Property Cards and accompanying publicly accessible photographic documentation. The findings of this field documentation are detailed in this report.

[5] Monkton Historical Society and Museum, "Monkton Ridge History Tour," accessed online on November 15, 2023 at Monkton Ridge – Monkton Museum and Historical Society (monktonhistory.org).

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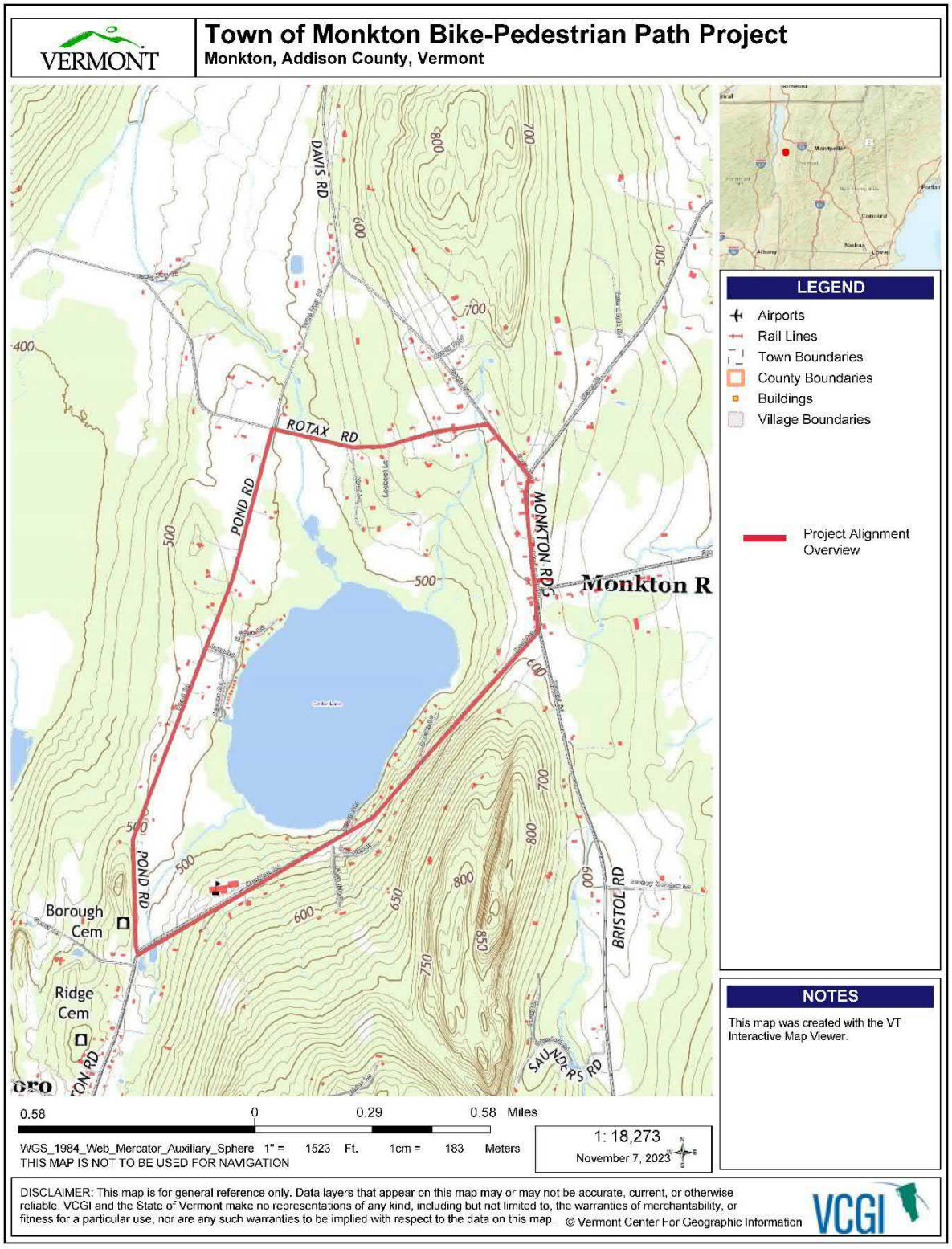

Figure 2-1: Town of Monkton Bike-Pedestrian Path Project Location Map

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Figure 2-2: Town of Monkton Bike-Pedestrian Path Project Area of Potential Effects

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3. HISTORICAL OVERVIEW

> *Monkton, situated in the northern part of Addison county, is bounded to the north by Hinesburg in Chittenden County; east by Starksboro; south by Bristol and New Haven, and west by Ferrisburgh. The surface is very mountainous, the principal elevation being Hogback Mountain, which extends across nearly the whole eastern portion of the town from north to south…The scenery of the town is varied and picturesque, while the hills and mountains are filled with innumerable natural curiosities…According to tradition John Bishop was the first settler in town. His farm was on the Ridge, upon which he undoubtedly located with the idea, so prevalent in those days, that the heights were better than the valleys for the habitations of men…The streams in Monkton affording few good advantages, the early, as well as the present, inhabitants devoted their time chiefly to agricultural pursuits.*
>
> H.P. Smith, *History of Addison County, Vermont*, 1886[6]

The community origins of the Project Area stem from multiple periods of Monkton's historical development, spanning the town's late eighteenth century Euro-American settlement to its late twentieth century suburban expansion as a regionally-situated bedroom community. Anchored around Cedar Lake (alternately known as Monkton Pond), the Project alignment traverses multiple periods of built environment development. Along Monkton Ridge, the alignment passes through the historical core of Monkton's late eighteenth and early nineteenth century development. Extending around Cedar Lake, the alignment passes through less developed lands, expressive of Monkton's agricultural origins and early twentieth century lake-based recreational development, as well as increasingly predominant late twentieth century and early twenty-first century exurban settlement patterns. The following historic context traces these major themes of development, situating the built environment resources of the Project Area into a broad framing historic context.

Eighteenth and nineteenth century Euro-American development in the Town of Monkton centered around four hamlets: Barnumtown in the Southwest; Monkton Boro to the west; East Monkton in the southeast section of town; and Monkton Ridge on the high crest east of Monkton Pond. As chronicled in H.P.Smith's *History of Addison County*, Monkton Ridge was settled first, with settler John Bishop establishing a farm on the high lands of the Ridge. While settlement was stymied by the disruption of the Revolutionary War, by the early decades of the nineteenth century the four hamlets underwent a period of steady growth, with the population of Monkton rising from 449 in 1790 to over 1300 by 1840. By the mid-nineteenth century, Monkton's villages were characterized by compact residential settlement and key community services including mills, a tannery, schools, and religious institutions. In the Project Area,

[6] H.P. Smith, *History of Addison County* (Syracuse, NY: D. Mason and Company Publishers, 1886), 513-522.

Monkton Ridge held a compact array of settlement, with a dense cluster of residences, a school, shop, and saddlery (see **Figures 3-1** and **3-2**). Surrounding this compact settlement, the lands of Monkton were dominated by agricultural holdings, with Addison County a leading Vermont producer of wool, orchard products, livestock, and dairy products through the nineteenth century.[7]

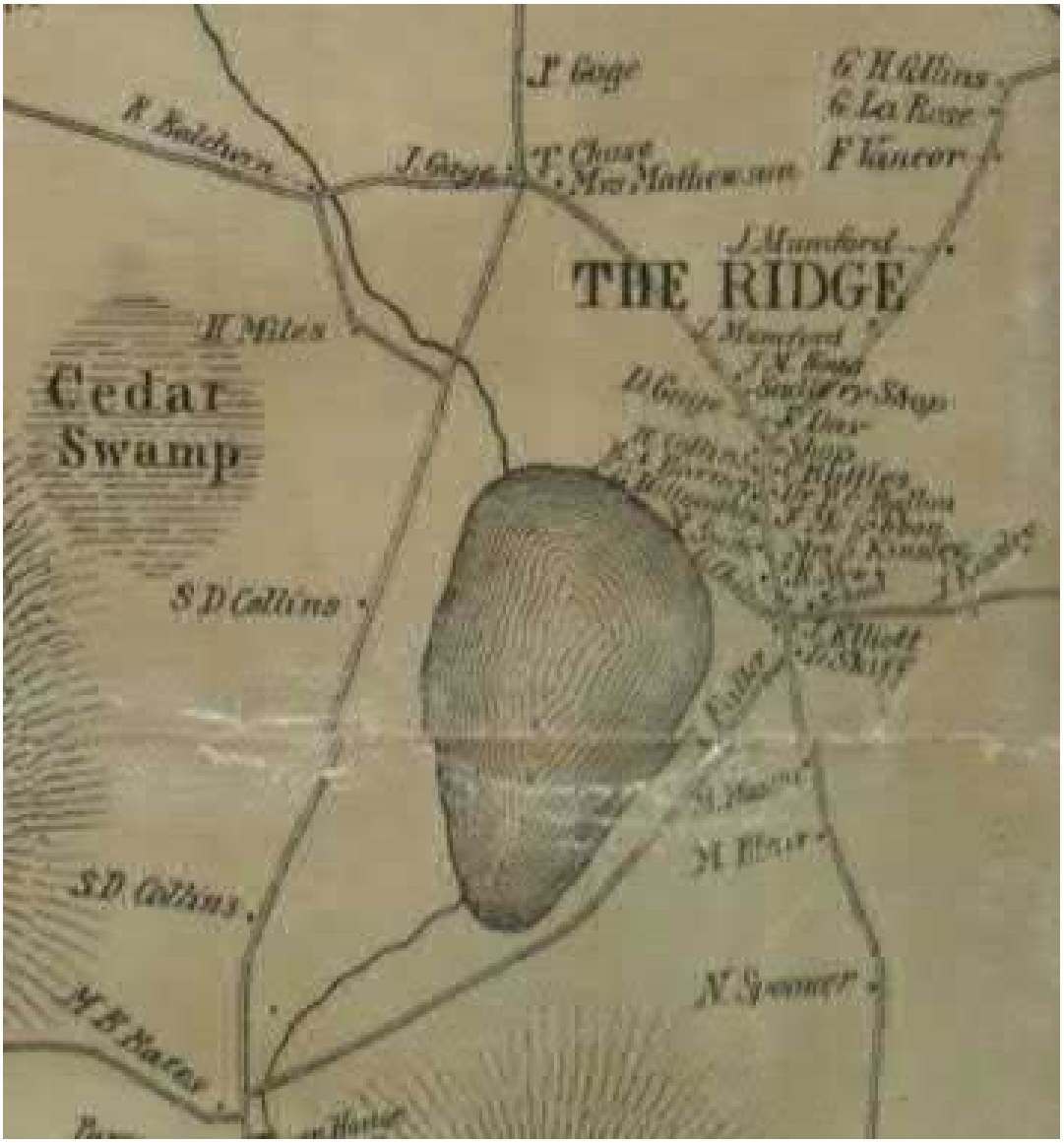


Figure 3-1: Excerpt Depicting Project Area from H.F. Walling *Map of Addison County*, 1857
(Henry Francis Walling: Baker and Tilden Publishers)

[7] Monkton Historical Society and Museum, "Monkton Ridge History Tour," accessed online on November 15, 2023 at Monkton Ridge – Monkton Museum and Historical Society (monktonhistory.org); Vermont History Explorer, Addison County Town Census Records, Monkton, accessed online on November 17, 2023 at addisoncountycensus.pdf (vermonthistoryexplorer.org); United States Historical Agricultural Census of 1870, accessed at 1870 – AgCensus (cornell.edu).

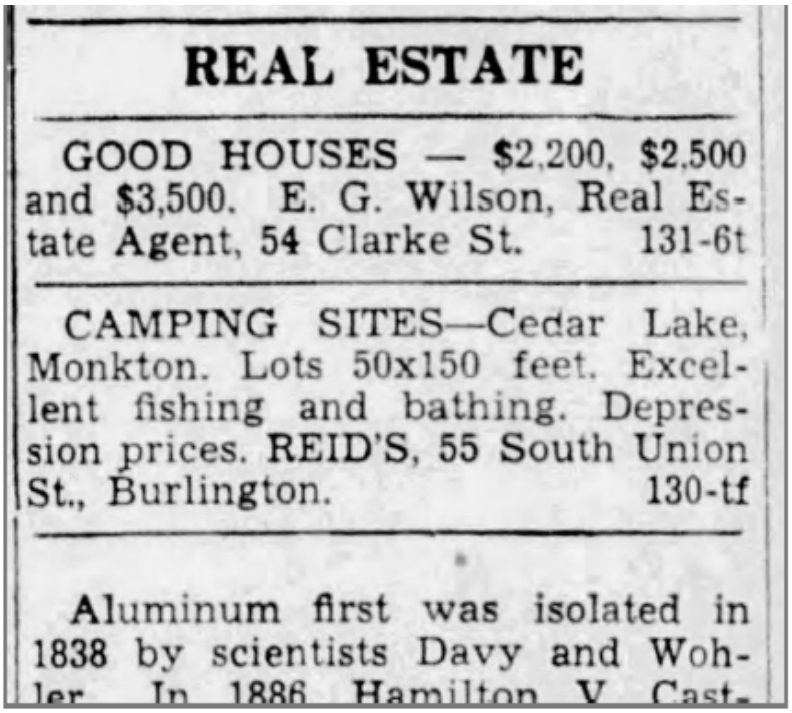
Figure 3-2: Compact Nineteenth Century Settlement on Monkton Ridge, 1938
(UVM Landscape Change)

Altough Monkton's population had expanded through the earliest decades of the nineteenth century, the steady attrition of Western expansion undercut much of this growth in the post-1850 period, with 1830's high of 1,306 residents ebbing to a population of only 796 by 1910. Around this time, the community's promoters turned to a new breed of development potential: tourism and recreation, rebranding Monkton Pond to the loftier "Cedar Lake." In 1912, a Bill was introduced in the Vermont House to change the name Monkton Pond to Cedar Lake, passing into law as H-181. By the mid-1910s, Cedar Lake was being promoted as a healthful natural amenity, as opined by *The Burlington Free Press* in 1917:

> *Yes, we have some things to attract up here at the foothills of the Green Mountains. One of them is a gem of a lake, containing about 300 acres of sky blue water and nine-pound pickerel. As yet, but one summer cottage stands upon its banks. There is room for a dozen more cottages on the north side of Cedar Lake, and good scenery is to be had before breakfast if one cares to climb the Peak with an altitude of 700 feet.*[8]

By the 1930s and extending through the 1950s, Cedar Lake was described as having a "lively beach," with camping sites at "Depression prices" as well as a Pavilion that hosted dances, picnics, and an array of community gatherings (see **Figures 3-3** and **3-4**). During this period, a number of small cottages were developed on the northeast shore of the lake. While development around the lake initially concentrated in the northern section, by the closing decades of the twentieth century this development had expanded, with a number of Cedar Lake fronting lots developed on the southern edge of the lake along Monkton Road (see **Figure 3-5**).[9]

[8] "Monkton's Attractions," *The Burlington Free Press*, May 12, 1917.
[9] "Dance," *The Burlington Free Press*, August 22, 1951; "Camping Sites: Cedar Lake," *Burlington Daily News*, June 4, 1936; "Monkton Boro," *Bristol Herald*, August 4, 1933.



REAL ESTATE

GOOD HOUSES — $2,200, $2,500 and $3,500. E. G. Wilson, Real Estate Agent, 54 Clarke St. 131-6t

CAMPING SITES—Cedar Lake, Monkton. Lots 50x150 feet. Excellent fishing and bathing. Depression prices. REID'S, 55 South Union St., Burlington. 130-tf

Aluminum first was isolated in 1838 by scientists Davy and Wohler. In 1886 Hamilton Y. Cast-

Figure 3-3: Cedar Lake Camping Sites, 1936
(*Burlington Daily News*)

Figure 3-4: Aerial view over Monkton Ridge toward Cedar Lake, 1938. Note compact development along Ridge with primarily agricultural land uses surrounding.
(UVM Landscape Change Program)

Figure 3-5: Cedar Lake Real Estate Advertisement, 1980.
(*Burlington Free Press*)

The late twentieth century residential development around Cedar Lake was reflective of substantial demographic change that shaped Monkton and surrounding Addison County during the period. The population of Monkton doubled between 1970 and 1990, continuing to steadily climb to the present to a current population of just over 2000. Much of this growth occurred outside of the traditional compact form of Monkton Ridge, the Boro, Barnumtown, and East Monkton, with former agricultural lands steadily developed with exurban single-family housing on parcels ranging from three to 20 acres. Much of this development has occurred within and around the Project Area, with Pond Road, Rotax Road, and Monkton Road largely characterized by late twentieth century development built upon subdivided former agricultural lands. In an important aspect, this steady population shift underlies the need for the current Project analyzed in this study, as the transportation and community needs of an increasingly dispersed residential population strain the area's existing pedestrian infrastructure.[10]

At present, the Project Area is reflective of these successive waves of development and community evolution, with the compact largely nineteenth century form of Monkton Ridge embedded within framing layers of agriculture and ongoing residential development spanning Cedar Lake. This built environment framework is further discussed in the following section detailing the streetscape characteristics and built environment properties of the Project Area.

[10] Monkton Historical Society and Museum, "Monkton Ridge History Tour;" Vermont History Explorer, Addison County Town Census Records, Monkton.

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4. DESCRIPTION OF PROJECT AREA

The APE for the Project extends approximately 3.4 miles around Cedar Lake in Monkton; following, from the south: Monkton Road, Monkton Ridge, Davis Road, Rotax Road, and Pond Road. The following section provides a visual analysis of the Project Area's contextual streetscape, followed by a detailed description of built environment resources found within the Project Area. Refer to **Figures 2-1**, **2-2** and **Attachment A** for a depiction of the Project APE. All photographs were taken by the author on November 8, 2023, unless noted.

4.2 Streetscape Overview

Monkton Road

The southern-most portion of the Project Area begins at the intersection of Pond Road and Monkton Road, following Monkton Road as it extends northeast toward Monkton Ridge. This section of roadway is characterized by a paved alignment flanked by a mixture of community functions and residential development. On the alignment's north side, the open fields of the modern-period Morse Park run toward the Monkton Central School Complex, constructed in 1960 and expanded in the late 1990s. In this section, an informal dirt trail currently connects Morse Park with the school facility along the north side of Monkton Road (see **Photographs 4-1** and **4-2**).

As Monkton Road curves around the southeast side of Cedar Lake, the streetscape is defined by a more forested surround, with vegetated sloping terrain tightly bounding the road's ROW and screening adjacent residential parcels on either side of the roadway. This section of the Project Area is characterized by mid-and-late twentieth century residential development, much of which is shielded from the right of way by vegetation and access drives, with lots ranging from approximately one acre to five acres flanking both sides of the roadway. Based upon review of Monkton Property Cards, this residential development dates from the 1960s-2000s, constructed during the period in which Monkton steadily grew as a bedroom community for the greater Addison and Chittenden County area (see Historic Context in **Section 3**) (see **Photographs 4-3** and **4-4**).

Photograph 4-1: Looking north across Monkton Road at south edge of Project Area toward Morse Park and Monkton Central School.

Photograph 4-2: Dirt trail running along Morse Park toward Monkton Central School.

Photograph 4-3: Monkton Road facing northeast, vegetation obscuring a patchwork of late twentieth century housing lots.

Photograph 4-4: Monkton Road looking toward Monkton Ridge and historic settlement core.

Monkton Ridge

As Monkton Road meets Monkton Ridge, the Project Area enters the Vermont State Register-listed Monkton Ridge Historic District (listed 9-10-1980). As described in the Nomination for the District:

> Picturesque in its setting, Monkton Ridge rests high above Monkton Pond, commanding spectacular views of both the Adirondacks and the Green Mountains. By the middle of the nineteenth century, the Ridge had become an important center of activity within the township, with a saddler's shop, a doctor, a town hall, a store, a post office, a school, a cemetery, a tavern, and a cluster of houses. Most of the houses on the Ridge date to the second half of the nineteenth century and are of a fine character for that period.[11]

The streetscape of this section of the Project is characterized by a predominantly historic village settlement pattern, with nineteenth century residential development coupled with a limited number of mid-twentieth and twenty-first century infill properties. Although the streetscape is characterized by a compact village form, the shoulders of the paved Monkton Ridge are not developed with sidewalks or pedestrian amenities, with pedestrian path of travel running along the undeveloped gravel and grass periphery of the road in close proximity to traffic and adjacent parcels. Ameliorating this challenging pedestrian context that places walkers and cyclists in close proximity to moving traffic would enhance the surrounding village context of Monkton Ridge.

Photograph 4-5: Facing north on Monkton Ridge, Vermont State Register-listed 320 Monkton Ridge, Contributor to the Monkton Ridge Historic District, at left.

[11] "Monkton Ridge Historic District," Vermont State Register, listed September 10, 1980.

Photograph 4-6: Facing south on Monkton Ridge Road, Vermont State Register-listed 176 Monkton Ridge, Contributor to the Monkton Ridge Historic District, at right.

Photograph 4-7: Facing south on Monkton Ridge, Vermont State Register-listed 78 Monkton Ridge (Friends Society Quaker Church), Contributor to the Monkton Ridge Historic District, at right.

Photograph 4-8: Facing north on Monkton Ridge, intersection with Davis Road at left.

Davis Road / Rotax Road

The Project alignment extends northwest off Monkton Ridge at the north end of the Ridge and extends along Davis Road for a short section before extending west along Rotax Road. The Davis Road section is paved, leading to the dirt alignment of Rotax Road. Neither Davis Road nor Rotax Road are developed with formal pedestrian amenities, with pedestrian travel limited to the gravel/grass shoulders of the roadways. As discussed in **Section 3**, historically this area of Monkton was generally agricultural in nature (see **Figure 3-1** and **3-4**). While elements of this identity remain, most notably an established circa 1900 apple orchard at the corner of Davis Road and Rotax Road, the section has been steadily subdivided in the late twentieth century (circa 1960s-2000s) to accommodate a patchwork of one to 15 acre residential lots (see **Photographs 4-8** through **4-11**).

Pond Road

Similar to Rotax Road, Pond Road holds agricultural origins that have ceded to late twentieth residential lot development. The dirt road alignment is characterized by largely open fields and mixed treelines and three to 15 acre residential lots. Several historical elements flank the Project alignment, including the Boro Cemetery (Monkton Boro Cemetery) as well as an isolated stretch of stone rubble wall running along the road side on a lot that has been developed with a late twentieth century residence. As Pond Road merges with Monkton Road at the southern terminus of the Project Area, the alignment runs along Morse Park, a community park developed with basic amenities including an open air picnic shelter, sports fields, and a parking area, with park infrastructure dating from the 1990s to the present (see **Photographs 4-12** through **4-16**).

Photograph 4-9: Looking north on Davis Road as the Project alignment leaves Monkton Ridge

Photograph 4-10: Intersection of Davis Road and Rotax Road, note mature apple orchard flanking the Project alignment.

Photograph 4-11: Typical section of Rotax Road with flanking late twentieth century residential parcels.

Photograph 4-12: Intersection of Rotax Road and Pond Road, Cedar Lake in background at right.

Photograph 4-13: Looking south on typical section of Pond Road, 1979 residential property at 1090 Pond Road at left.

Photograph 4-14: Looking north on Pond Road, note remnant section of stone wall at left at 825 Pond Road, developed with 1988 residential property.

Photograph 4-15: Boro Cemetery on west side of Pond Road north of intersection with Monkton Road.

Photograph 4-16: Looking north on Pond Road from Monkton Road at bottom of Project Area, Morse Park at right.

4.2 Historic Properties in the Project Area

The following section details all known historic properties under Section 106 of the NHPA and historic sites under Criterion 8 of Vermont Act 250 located in the Project Area. As depicted in the APE mapping in **Section 2** and **Attachment A**, the APE includes the full extent of the potential multi-use path options along the roadway, with the Project Area limits offset from the roadway centerlines to 36 ft., inclusive of an 11 ft. travel lane, 5 ft. buffer/green strip, maximum path width of 10 ft., and additional 10 ft. extra for potential construction area to tie back into existing conditions. The APE includes all those areas where Project activities may occur, inclusive of construction, staging, and Project access.

It is important to note that the APE includes a broad area of assessment on either side of the roadway to support the issues and alternatives analysis of the Scoping Study, with the Scoping Study serving to support future refinement of Project plans that will define a narrower Project footprint. Additionally, because the APE defined by the Scoping Study may include potential encroachment from the public ROW to adjacent private parcels, this HRI includes inventory of all parcels with APE/ROW frontage that may be subject to encroachment in order to fully analyze potential issues related to historic period built environment resources in the Project Area.

Monkton Town Hall National Register Property

The Monkton Town Hall at 280 Monkton Ridge (SPAN 399-124-11138) is a 1-story, wood-frame, Greek Revival-style Meeting House standing on a stone rubble foundation on the west side of Monkton Ridge, standing directly adjacent to the ROW. The building was constructed in 1859 as part of the nineteenth century community growth of Monkton Ridge and is located in the center of the Ridge overlooking Cedar Lake (Monton Pond) to the west. The nineteenth century Monkton Ridge Cemetery stands immediately to the north (see **Photographs 4-17** and **4-18** and **Attachment A, Sheet 5**. The property is individually listed in the NRHP (listed January 3, 1978) and is a contributor to the Vermont State Register Monkton Ridge Historic District (listed September 10, 1980). As such the property is a historic property under Section 106 of the NHPA and a historic site under Criterion 8 of Vermont Act 250.

Monkton Ridge Vermont State Register Historic District

The Project APE extends through the center of the Monkton Ridge Historic District, listed in the Vermont State Register at the state level of significance for its associations with Monkton's early settlement and its nineteenth century architectural form. The Boundary of the District generally comprises the central core of Monkton Ridge and includes ten contributing properties that are intersected by the APE, with all District Contributors standing directly adjacent to the ROW. District Contributors are summarized in this section, depicted in **Photographs 4-18** through **4-26**, listed in **Table 4-1**, and depicted in **Attachment A, Sheets 5-7**. All contributing elements appear to retain sufficient integrity to remain eligible for listing. As such, District

contributors appear to be historic properties under Section 106 of the NHPA and are historic sites under Criterion 8 of Vermont Act 250.

TABLE 4-1
Contributing Resources
Monkton Ridge Vermont State Register Historic District

Property Address	SPAN	Construction Date *
339 Monkton Ridge	399-124-10414	circa 1830
320 Monkton Ridge	399-124-10855	circa 1860
280 Monkton Ridge (Monkton Town Hall)	399-124-11138	1859
Monkton Ridge Cemetery	399-124-10823	circa 1804-onward
216 Monkton Ridge	399-124-10125	residence circa 1852, barn circa 1890
176 Monkton Ridge	399-124-10054	circa 1805
175 Monkton Ridge	399-124-10551	residence circa 1810, barn circa 1890
145 Monkton Ridge	399-124-10667	circa 1860
78 Monkton Ridge (Monkton Friends Methodist Church)	399-124-10930	1878
77 Monkton Ridge	399-124-10770	residence circa 1830, barn circa 1880

*Construction dates compiled from Town of Monkton Property Data Cards and Vermont State Register Nomination for the Monkton Ridge Historic District. Where differing, the Nomination form was used.

339 Monkton Ridge (SPAN 399-124-10414) (Map Sheet 5) is a circa 1830 former tavern, now residential duplex. The simple, side-gable, wood-frame building stands on a stone foundation and features wood clapboard siding, spare and orderly fenestration, and minimal ornamentation, with a metal roof, brick chimneys, simple cornerboards, and a long covered porch fronting the first level with square posts and a lattice skirt, replacement materials to the original porch. A mature hardwood tree stands in the front of the building along Monkton Ridge. See **Photograph 4-19**.

320 Monkton Ridge (SPAN 399-124-10414) **(Map Sheet Five)** is a circa 1860 residence with a steeply pitched complex gable roofline in a Victorian Gothic Cottage form. The wood-frame building stands on a stone foundation, is sided in wood clapboards, and features diamond pattern slate shingles on one roofline and replacement metal on the other. Small decorative elements include a sunburst pattern in the road-fronting eave. A mixture of windows are evident, with all of a historic period configuration. Two brick chimneys punctuate the roof. Low shrubs run along the Monkton Ridge side of the property. See **Photograph 4-20**.

280 Monton Ridge (Monkton Town Hall) (SPAN 399-12411138) (Map Sheet 5): See previous section on Monkton Town Hall National Register Property.

Monkton Ridge Cemetery (SPAN 399-124-10823) (Map Sheet 5) is a cemetery established circa 1804 located on a 1.6 acre parcel on Monkton Ridge, adjacent to the NRHP listed Monkton Town Hall (see above). The cemetery is characterized by an open grass expanse overlooking Cedar Lake. A modern chain-link fence and parking area front the cemetery on Monkton Ridge. See **Photograph 4-18**.

216 Monkton Ridge (399-124-10125) (Map Sheet 6) is a circa 1852 residence and circa 1890 barn. The wood-frame, clapboard clad residence features an original gable-roof two story mass with orderly fenestration, narrow eaves, and a spare Greek Revival form as well as a later cross gable addition and sun porch to the north end. A brick chimney punctuates the standing seam metal roofline. The adjacent two-story barn features two bays, a spare gable roof form, and a mixture of cladding including clapboard on the road frontage and shingle panels on the south side. Several mature maple trees line the property. See **Photograph 4-21**.

176 Monkton Ridge (SPAN 399-124-10054) (Map Sheet 6) is a circa 1805 wood-frame gable-roof Georgian-style residence with narrow eaves and molded cornice returns. The clapboard-clad building features a rhythmic and orderly five bay width and two bay depth, with chimneys on either end. An attached sunporch extends from the south at the first level, a later addition. A non-contributing 1970s garage stands directly north. Shrubs and young trees frame the building. See **Photograph 4-22**.

175 Monkton Ridge (SPAN 399-124-10551) (Map Sheet 6) is a circa 1810 Georgian-style residence with a rhythmic five bay frontage and two bay depth. The building features wood clapboards, a centered chimney, and narrow eaves. A single-story later addition runs to the north. A gable roof, vertical board sided contributing barn stands north of the residence. Mature hardwood trees stands in front of the residence running along Monkton Ridge. See **Photograph 4-23**.

145 Monkton Ridge (SPAN 399-124-10667) (Map Sheet 6) is a circa 1860 Saltbox-style residence. The wood-frame building is clad in clapboard and stands on a stone foundation. While minimal in ornamentation, a distinctive dentillated bargeboard runs along the roof line on the road frontage and gable ends. The building exhibits notable alterations including a front entry addition and dormer in the gable roofline. No notable vegetation frames the building along the street frontage. See **Photograph 4-24**.

78 Monkton Ridge (Monkton Friends Methodist Church) (SPAN 399-124-10930) (Map Sheet 7) is an 1878 Greek Revival church building with a steeply pitched gable roof, clapboard cladding, and rhythmic and orderly fenestration. The building stands on a stone foundation, features narrow eaves, and has minimal ornamentation. A triangular slatted vent is centered in the gable. A 1958 flat-roofed kitchen/Sunday School addition extends from the southwest of the building and a covered entry overhang extends out from the centered front entry. The

property is surrounded by lawn with no notable street-fronting vegetation. See **Photograph 4-25**.

77 Monkton Ridge (SPAN 399-124-10770) (Map Sheet 7) is a circa 1830 1 ½ -story, three-bay residence with a coved centered entry framed by pairs of orderly windows. The building stands on a stone and brick foundation, features a centered brick chimney, and a Salt Box addition extending to the rear of the building. A contributing wood-frame clapboard clad barn (circa 1880) with a centered bay stands to the south of the building. A number of mixed trees including Maple, Cedar, and Spruce frame the building, obscuring elements of the property from the ROW. See **Photograph 4-26**.

Photograph 4-17: Monkton Town Hall, listed in the NRHP and contributor to the Monkton Ridge Vermont State Register Historic District.

Photograph 4-18: Monkton Town Hall and Monkton Ridge Cemetery, looking south.

Photograph 4-19: 339 Monkton Ridge, contributor to the Monkton Ridge Vermont State Register Historic District.

Photograph 4-20: 320 Monkton Ridge, contributor to the Monkton Ridge Vermont State Register Historic District.

Photograph 4-21: 216 Monkton Ridge, barn and residence contributors to the Monkton Ridge Vermont State Register Historic District.

Photograph 4-22: 176 Monkton Ridge, residence contributor to the Monkton Ridge Vermont State Register Historic District, barn/garage non-contributing.

Photograph 4-23: 175 Monkton Ridge, contributor to the Monkton Ridge Vermont State Register Historic District.

Photograph 4-24: 145 Monkton Ridge, contributor to the Monkton Ridge Vermont State Register Historic District.

Photograph 4-25: 78 Monkton Ridge, Monkton Friends Church contributor to the Monkton Ridge Vermont State Register Historic District.

Photograph 4-26: 77 Monkton Ridge, contributor to the Monkton Ridge Vermont State Register Historic District.

4.3 Unevaluated Historic Period Properties in the Project Area

Field documentation and background research of properties in and adjacent to the APE identified 36 historic period built environment properties that have not been previously evaluated under the criteria of the NRHP and as such do not currently have formal standing in relation the NRHP or Vermont State Register. The following section summarizes each of the properties and provides a *preliminary* assessment of their potential for NRHP eligibility based upon the inventory-level analysis undertaken as part of this HRI. Please note, for properties that were obscured from the ROW, this analysis utilized publicly available records from the Town of Monkton, most notably Property Cards accessed from the Interactive Digital Parcel and Zoning Map. Each parcel is summarized below and depicted in detail in the Project Area Mapping in **Attachment A**. The appropriate Map Sheet in **Appendix A** is denoted in each summary for reference.

953 Monkton Road (SPAN 399-124-10590) (Map Sheet 1) is a 1971 two-part Ranch-style residence located on a 3.03 acre lot on Monkton Road. A utilitarian gable-roof garage stands adjacent. Landscaping consists of mature shrubs, mixed trees, and a grass lawn frontage on Monkton Road. The property is a common representative of the Ranch-style and does not appear to hold potential significance under the criteria of the NRHP based upon this preliminary analysis. See **Photograph 4-27**.

Photograph 4-27: 953 Monkton Road, constructed 1971 (Monkton Online Property Card).

893 Monkton Road (SPAN 399-124-10283) (Map Sheet 1) is a 1973 Ranch-style residence with attached garage located on a 1.03 acre lot on Monkton Road. Landscaping consists of mixed medium-scale forest surrounding a grass lawn, with trees shielding the frontage on Monkton Road. The property is a common and altered representative of the Ranch-style and does not appear to hold potential significance under the criteria of the NRHP based upon this preliminary analysis. See **Photograph 4-28**.

Photograph 4-28: 893 Monkton Road, constructed 1973 (Monkton Online Property Card).

853 Monkton Road (SPAN 399-124-10411) (Map Sheet 1) is a 1971 Ranch-style residence with attached garage located on a 4.1 acre lot on Monkton Road. Landscaping consists of mixed medium-scale forest surrounding a grass lawn, with trees shielding the frontage on Monkton Road. The property is a common representative of the Ranch-style and does not appear to hold potential significance under the criteria of the NRHP based upon this preliminary analysis. See **Photograph 4-29**.

Photograph 4-29: 853 Monkton Road, constructed 1971 (Monkton Online Property Card).

732 Monkton Road (SPAN 399-124-10899) (Map Sheet 2) is a 1970 Ranch-style seasonal camp on a 5 acre lot on Cedar Lake. Landscaping consists of mixed medium-scale forest and lake frontage, with trees shielding the frontage on Monkton Road. The property is a common lakeside-based camp representative of the period and does not appear to hold potential significance under the criteria of the NRHP based upon this preliminary analysis. See **Photograph 4-30**.

Photograph 4-30: 732 Monkton Road, constructed 1970 (Monkton Online Property Card).

7 South Shore Road (SPAN 399-124-10393) (Map Sheet 2) is a 1974 gable-roofed, board and batten-sided seasonal camp on a .8 acre lot on Cedar Lake. Landscaping consists of mixed medium-scale forest and lake frontage, with trees shielding the frontage on Monkton Road. The property is a common lakeside-based camp representative of the period and does not appear to hold potential significance under the criteria of the NRHP based upon this preliminary analysis. See **Photograph 4-31**.

Photograph 4-31: 7 South Shore Road, constructed 1974 (Monkton Online Property Card).

54 South Shore Road (SPAN 399-124-10854) (Map Sheet 2) is a 1967 wood-framed gable roof seasonal camp with prominent screened porch on a .68 acre lot on Cedar Lake. Landscaping consists of mixed medium-scale forest and lake frontage, with trees shielding the frontage on Monkton Road. The property is a common lakeside-based camp representative of the period and does not appear to hold potential significance under the criteria of the NRHP based upon this preliminary analysis. See **Photograph 4-32**.

Photograph 4-32: 54 South Shore Road, constructed 1967 (Monkton Online Property Card).

556 Monkton Road (SPAN 399-124-10417) (Map Sheet 2) is a 1964 Ranch-style residence on a 1.1 acre lot on Cedar Lake. The parcel includes a lot on the Cedar Lake side of Monkton Road as well as a lot on the other side of Monkton Road with a garage and small prefabricated structure. Landscaping consists of mixed medium-scale forest and lake frontage, with trees partially shielding the frontage on Monkton Road. The property is a common lakeside-based residential representative of the period and does not appear to hold potential significance under the criteria of the NRHP based upon this preliminary analysis. See **Photograph 4-33**.

Photograph 4-33: 556 Monkton Road, constructed 1964 (Monkton Online Property Card).

548 Monkton Road (SPAN 399-124-10614) (Map Sheet 2) is a 1966 T-plan Ranch-style residence on a .84 acre lot on Cedar Lake. The residence features vertical board siding and wide low-sloping eaves, with a deck extending over Cedar Lake. Landscaping consists of mixed medium-scale forest and lake frontage, with trees partially shielding the frontage on Monkton Road. The property is a common lakeside-based residential representative of the period and does not appear to hold potential significance under the criteria of the NRHP based upon this preliminary analysis. See **Figure 3-5** for historic period documentation pertaining to the property and see **Photograph 4-34**.

Photograph 4-34: 548 Monkton Road, constructed 1966 (Monkton Online Property Card).

470 Monkton Road (SPAN 399-124-10728) (Map Sheet 3) is a 1965 seasonal camp on a 1 acre lot on Cedar Lake. The wood-frame gable-roof building is clapboard-sided and features a dormer along the gable roofline. Landscaping consists of mixed medium-scale forest and lake frontage, with trees shielding the frontage on Monkton Road. The property is a common lakeside-based camp representative of the period and does not appear to hold potential significance under the criteria of the NRHP based upon this preliminary analysis. See **Photograph 4-35**.

Photograph 4-35: 470 Monkton Road, constructed 1965 (Monkton Online Property Card).

410 Monkton Road (SPAN 399-124-10427) (Map Sheet 3) is a 1968 Ranch-style residence on a 2 acre lot on Cedar Lake. The side gable building is clad in clapboard with a cross gable entry. Landscaping consists of mixed medium-scale forest and lake frontage, with trees shielding the frontage on Monkton Road. The property is a common lakeside-based residential representative of the period and does not appear to hold potential significance under the criteria of the NRHP based upon this preliminary analysis. See **Photograph 4-36**.

Photograph 4-36: 410 Monkton Road, constructed 1968 (Monkton Online Property Card).

65 Beaver Lane (SPAN 399-124-10801) (Map Sheet 3) is a 1960 cross gable Ranch-style residence on a 3.83 acre lot on Cedar Lake. The building is clad in vertical board siding and features a centered stone chimney with broad low-sloping eaves. Landscaping consists of mixed medium-scale forest and lake frontage, with trees shielding the frontage on Monkton Road. The property is a common lakeside-based residential representative of the period and does not appear to hold potential significance under the criteria of the NRHP based upon this preliminary analysis. See **Photograph 4-37**.

Photograph 4-37: 65 Beaver Lane, constructed 1960 (Monkton Online Property Card).

140 Monkton Road (SPAN 399-124-10175) (Map Sheet 4) is a circa 1900 former creamery building that has been adapted for use over time as a town garage and recycling center and at present a woodworking shop. Preliminary research indicates that the property was owned by a succession of local creameries through circa 1950, when it was absorbed by the Shelburne Co-op and used as a regional distribution creamery. By 1960, the creamery functions ceased and the building was adapted for use as the Monkton Town Garage. The building features a gable roof and clapboards and stands on a 1.48 acre lot that immediately abuts Monkton Road, with a walk-out utility floor as the grade of the road descends at the north. The building features a metal roof, exposed rafter tails, and a single gable vent. Multiple utility doors line the roadside elevation and a shed roof addition extends from the back of the property. While the property does not appear to have been formally evaluated for the National Register as part of any previous study, this preliminary analysis finds that more research and intensive documentation would be needed to determine the potential historic property status of the building, and as such the building should be considered a potential historic property. See **Photograph 4-38**.

Photograph 4-38: 140 Monkton Road, constructed circa 1900.

228 Monkton Ridge (SPAN 399-124-10274) (Map Sheet 5) is a 1957 Ranch-style residence on a .99 acre lot on Monkton Ridge. The building is clad in clapboard siding and features a complex broad gable roofline with multiple gable extensions from a side gable main body. An attached garage extends to the north. Landscaping is minimal, with a lawn and single birch tree fronting Monkton Ridge. The property was documented as a non-contributing intrusion as part of the Vermont State Register documentation of the Monkton Ridge Historic District and does not appear to hold potential significance under the criteria of the NRHP based upon this preliminary analysis. See **Photograph 4-39**.

Photograph 4-39: 228 Monkton Ridge, constructed 1957.

4333 States Prison Hollow Road (SPAN 399-124-10824) (Map Sheet 5) is a 1971 former library building on a .16 acre parcel on Monkton Ridge. The clapboard-clad building features a single-story and simple hipped roof design, and was developed to house the library that was formerly in the Town Hall on Monkton Ridge. A centered entrance with gable roof overhang fronts the building, and simple fenestration patterns give a practical and understated public appearance. Landscaping is minimal, with a lawn fronting Silver Street and Monkton Ridge. The property was documented as a non-contributing intrusion as part of the Vermont State Register documentation of the Monkton Ridge Historic District and does not appear to hold potential significance under the criteria of the NRHP based upon this preliminary analysis. See **Photograph 4-40**.

Photograph 4-40: 4333 States Prison Hollow Road, constructed 1971 (Monkton Online Property Card).

231 Monkton Ridge (SPAN 399-124-10824) (Map Sheet 6) is a circa 1933 with 1952 addition single-story commercial building on a .43 acre parcel on Monkton Ridge. The aluminum-clapboard sided building features a modest false front facing Monkton Ridge and a broad low-pitch gable roof. As the grade descends from Monkton Ridge, a two-level shop residence and garage extends from the east of the building. The property is surrounded by a small area of asphalt parking. The property was documented as a non-contributing intrusion as part of the Vermont State Register documentation of the Monkton Ridge Historic District and does not appear to hold potential significance under the criteria of the NRHP based upon this preliminary analysis. See **Photograph 4-41**.

Photograph 4-41: 231 Monkton Ridge, constructed circa 1933 with 1952 addition.

31 Monkton Ridge (SPAN 399-124-10365) (Map Sheet 7) is a circa 1830 residence on a .82 acre parcel on Monkton Ridge. The original small side-gable property was extensively renovated and enlarged by the current owners from the 1980s to the present and at present reads as a Bungalow-style residence. The property is surrounded by grass and several medium-age trees. A twentieth century garage stands on the lot immediately south, featuring siding and roofing that have been replaced in the 2010s. The property is not within the Boundary of the Monkton Ridge Historic District and does not appear to hold potential significance under the criteria of the NRHP based upon this preliminary analysis, as it has been substantively altered and does not convey integrity to Monkton Ridge's historic period of development. See **Photograph 4-42**.

Photograph 4-42: 31 Monkton Ridge, constructed circa 1830 with extensive late twentieth century alterations.

52 Monkton Ridge (SPAN 399-124-10128) (Map Sheet 7) is a 1957 Ranch-style residence on a .63 acre lot on Monkton Ridge. The building is clad in aluminum clapboard siding and features a broad side gable roofline and evenly distributed paired windows with modern sashes. A centered recessed entry accesses the Monkton Ridge facing elevation. Landscaping is minimal, with a lawn and small shrubs fronting Monkton Ridge. The property is not within the Boundary of the Monkton Ridge Historic District and does not appear to hold potential significance under the criteria of the NRHP based upon this preliminary analysis, as it does not convey significance or integrity to Monkton Ridge's historic period of development. See **Photograph 4-43**.

Photograph 4-43: 52 Monkton Ridge, constructed 1957.

22 Monkton Ridge (SPAN 399-124-10437) (Map Sheet 7) is a 1967 Ranch-style residence on a .12 acre lot on Monkton Ridge. The building is clad in aluminum clapboard siding with some areas of original wide wood clapboard on the secondary sides and features a medium-pitch forward facing gable. A gable-roof, single bay garage stands immediately north, accessed through an enclosed breezeway. Landscaping is minimal, with a lawn and small shrubs fronting Monkton Ridge. The property is not within the Boundary of the Monkton Ridge Historic District and does not appear to hold potential significance under the criteria of the NRHP based upon this preliminary analysis, as it does not convey significance or integrity to Monkton Ridge's historic period of development. See **Photograph 4-44**.

Photograph 4-44: 22 Monkton Ridge, constructed 1967.

8 Monkton Ridge (SPAN 399-124-10860) (Map Sheet 7) is a circa 1860 residence on a .30 acre parcel on Monkton Ridge. The simple form of the original side gable building has been enlarged at an unknown date(s) with a cross gable rear addition with multiple shed roof extensions. Siding and the overall fenestration pattern appears altered based on this preliminary review. The property is surrounded by grass and several medium-age trees. The property is not within the Boundary of the Monkton Ridge Historic District and does not appear to hold potential significance under the criteria of the NRHP based upon this preliminary analysis, as it does not appear to convey sufficient physical integrity to Monkton Ridge's historic period of development. See **Photograph 4-45**.

Photograph 4-45: 8 Monkton Ridge, constructed circa 1860.

5 Monkton Ridge (SPAN 399-124-10241) (Map Sheet 7) is a circa 1830 residence on a 3.9 acre parcel on Monkton Ridge. The building features a complex roofline that has been enlarged at an unknown date(s) with a cross gable rear addition and hipped roof front addition altering the original simple gable form. A modern gable roof two bay garage stands on the lot, as well as a historic period barn located on the rear of the lot. The property is notable for its density of mature Elm Trees, which are an important landscape feature of Monkton Ridge. The property is not within the Boundary of the Monkton Ridge Historic District and does not appear to hold potential significance under the criteria of the NRHP based upon this preliminary analysis, as it does not appear to convey sufficient physical integrity to Monkton Ridge's historic period of development. The mature trees do appear to be an important landscape component of the Monkton Ridge streetscape. See **Photograph 4-46**.

Photograph 4-46: 5 Monkton Ridge, constructed circa 1830. Note mature trees.

1317 Davis Road (SPAN 399-124-10183) (Map Sheet 7) is a circa 1805 former residence now professional office building on a 1 acre parcel on Monkton Ridge. The building features a cross gable roofline that has been enlarged at unknown date(s) to augment the original gable form. A historic period gable roof, board-sided barn is also located on the lot. Several mature Maple trees stand on the lot, which also features a lawn surround. The property is not within the Boundary of the Monkton Ridge Historic District and does not appear to hold potential significance under the criteria of the NRHP based upon this preliminary analysis, as it does not appear to convey sufficient physical integrity to Monkton Ridge's historic period of development through multiple additions. The barn on the property does hold historic integrity as an outbuilding feature. See **Photograph 4-47**.

Photograph 4-47: 1317 Davis Road, constructed circa 1805.

1242 Davis Road (SPAN 399-124-10790) (Map Sheet 8) is a circa 1855 residence on a 1.5 acre parcel fronting Davis Road. The building features a forward facing gable roofline and subtle Italianate detailing including pedimented window lintels and a steeply pitched roofline. A small cross gable extension runs north, and a gable roof addition stands to the rear of the property. A shed-roof, board-sided garage stands to the rear of the lot. A variety of mature trees frame the property, with a lawn surround. The property is not within the Boundary of the Monkton Ridge Historic District. Based upon this preliminary analysis, the property does appear to hold sufficient integrity to its historic period of development, and would require additional analysis to determine any potential National Register significance. See **Photograph 4-48**.

Photograph 4-48: 1242 Davis Road, constructed circa 1855.

1187 Davis Road (SPAN 399-124-10687) (Map Sheet 8) is a 8.93 acre parcel fronting Davis Road. The parcel features a modern mobile home with a historic period agricultural outbuilding and mature Maple trees. The outbuilding is of a wood-frame, gable roof design with painted clapboard siding. A hedge row of mature maples frames the building. The property is not within the Boundary of the Monkton Ridge Historic District, and the modern mobile home is not historic period. The barn and mature trees are historic period in nature, and based on this preliminary analysis hold potential significance as agricultural landscape features and would require additional analysis to determine any potential National Register significance. See **Photograph 4-49**.

Photograph 4-49: 1187 Davis Road, modern mobile home with historic period barn building and mature trees.

Historic Period Apple Orchard on Rotax Road (SPAN 399-124-11036, 399-124-11100, 399-124-10487, 399-124-10868, 399-124-10096) (Map Sheet 8) is a historic period apple orchard that has been subdivided to multiple properties in the modern period. Based upon this preliminary review, period accounts document apple orchards in the vicinity of Cedar Lake / Monkton Pond from at least the early twentieth century, likely earlier. For much of the twentieth century the orchard was run as Boyer's orchard, with part of the property now owned partially as Yates Family Orchard (not in the Project Area) on Davis Road and Monkton Ridge Orchard located on Rotax Road (in the Project Area). The mature apple trees appear to be important historic period agricultural landscape features and would require additional analysis to determine any potential National Register significance. See **Photograph 4-50**.

Photograph 4-50: Historic period apple orchard flanking Rotax Road, looking toward Davis Road. Former Boyer's Orchard, now subdivided to multiple orchards.

79 Rotax Road (SPAN 399-124-11100) (Map Sheet 8) is a 1.86 acre parcel associated with the historic period apple orchard (see above). The property contains a historic period agricultural outbuilding / shed currently used as a farmstand for Monkton Ridge Orchard. The shed appears on historic aerial photographs and was likely associated with the earlier larger orchard on the site. The building directly abuts the dirt ROW of Rotax Road. The property also includes a modern residence, constructed circa 2022. The agricultural outbuilding is associated with the development of the framing orchard and would require additional analysis to determine any potential National Register significance. See **Photograph 4-51**.

Photograph 4-51: 79 Rotax Road, historic period shed associated with framing apple orchard.

84 Rotax Road (SPAN 399-124-10487) (Map Sheet 8) is a .7 acre parcel with a 1950 residence framed by historic period apple trees associated with the larger apple orchard developed on the site (see previous sections). The residence is spare in design, with a simple gable form, clapboard siding, and a concrete foundation with walk-out basement fronting Rotax Road. The residence does not appear to hold potential significance under the criteria of the NRHP based upon this preliminary analysis, as it is a common and altered representative of mid-century development. The apples trees on the property are historic period landscape features and would require additional analysis to determine any potential National Register significance. See **Photograph 4-52**.

Photograph 4-52: 84 Rotax Road, 1950 residence with framing apple orchard.

117 Rotax Road (SPAN 399-124-10032) (Map Sheet 8) is a 1.8 acre parcel with a 1974 Colonial Revival Raised Ranch-style residence. The gable roof residence features wide clapboard siding and a walk out basement level that is sided in vertical board. Shutters and a broken pediment entry add a Colonial Revival overtone. The property is framed with lawn and mature shrubs. The residence does not appear to hold potential significance under the criteria of the NRHP based upon this preliminary analysis, as it is a common representative of mid-century development. See **Photograph 4-53**.

Photograph 4-53: 117 Rotax Road, 1974 residence (Monkton Online Property Card).

118 Rotax Road (SPAN 399-124-10655) (Map Sheet 8) is a 1.6 acre parcel with a 1974 Bi-Level Ranch-style residence. The gable roof residence features clapboard siding and a walk out basement level featuring a single garage bay. The property is framed with lawn and mature shrubs and trees. The residence does not appear to hold potential significance under the criteria of the NRHP based upon this preliminary analysis, as it is a common representative of mid-century development. See **Photograph 4-54**.

Photograph 4-54: 118 Rotax Road, 1974 residence (Monkton Online Property Card).

212 Rotax Road (SPAN 399-124-10371) (Map Sheet 9) is a 10.39 acre parcel with a 1973 Raised Ranch-style residence. The gable roof residence features clapboard siding and a walk out basement level featuring a centered covered entry. The property is framed with lawn and mature shrubs. The residence does not appear to hold potential significance under the criteria of the NRHP based upon this preliminary analysis, as it is a common representative of mid-century development. See **Photograph 4-55**.

Photograph 4-55: 212 Rotax Road, 1973 residence (Monkton Online Property Card).

23 ABCD Lane (SPAN 399-124-10795) (Map Sheet 9) is a 1 acre parcel with a 1971 Log Cabin style residence. The side gable building features a gable roof and full length integrated porch. A vertical board outbuilding stands adjacent to the residence, and the property features mature maple trees framing. The residence does not appear to hold potential significance under the criteria of the NRHP based upon this preliminary analysis, as it is a common representative of mid-century development. See **Photograph 4-56**.

Photograph 4-56: 23 ABCD Lane, 1971 residence (Monkton Online Property Card).

1318 Pond Road (SPAN 399-124-10524) (Map Sheet 10) is a 1.37 acre parcel with a 1973 Bi-Level Ranch-style residence. The gable roof residence features vertical board siding and a centered entry with porch extension. The property is framed with lawn and small shrubs. The residence does not appear to hold potential significance under the criteria of the NRHP based upon this preliminary analysis, as it is a common representative of mid-century development. See **Photograph 4-57**.

Photograph 4-57: 1318 Pond Road, 1973 residence (Monkton Online Property Card).

903 Pond Road (SPAN 399-124-10188) (Map Sheet 11) is a 3.56 acre parcel with a 1972 Raised Ranch-style residence. The side gable residence features an integrated two car garage and a prominent stone chimney, with clapboard siding and shutters. A gable roof garage stands adjacent. The property is framed with lawn and small shrubs. The residence does not appear to hold potential significance under the criteria of the NRHP based upon this preliminary analysis, as it is a common representative of mid-century development. See **Photograph 4-58**.

Photograph 4-58: 903 Pond Road, 1971 residence (Monkton Online Property Card).

Remnant Stone Wall Section (SPAN 399-124-10541) (Map Sheet 12) is an isolated section of fieldstone located approximately 15 feet off of the west side of Pond Road. A row of mature trees run alongside the wall. The property is developed with a modern residence, constructed in 1988, but the land was historically agricultural in use. As an isolated remnant, the wall does not appear to hold potential significance under the criteria of the NRHP based upon this preliminary analysis; however, it is a landscape feature that is indicative of the area's historical agricultural associations. See **Photograph 4-59**.

Photograph 4-59: Remnant Section of Stone Wall lining Pond Road.

777 Pond Road (SPAN 399-124-10502) (Map Sheet 12) is a 15 acre parcel with a 1972 Contemporary residence. The building features a low pitch gable roof, clapboard siding, and a full length porch overhang. A gable roof two bay garage stands adjacent. The property is framed with lawn and small shrubs. The residence does not appear to hold potential significance under the criteria of the NRHP based upon this preliminary analysis, as it is a common representative of mid-century development. See **Photograph 4-60**.

Photograph 4-60: 777 Pond Road, 1972 residence (Monkton Online Property Card).

Monkton Boro Cemetery (SPAN 399-124-11057) (Map Sheet 16) is a cemetery established circa 1816 located on a 1.0 acre parcel north of the intersection of Monkton and Pond Road, on the west side of Pond Road. The cemetery is characterized by an open grass slope rising west from Rotax Road, with a modern chain-link fence fronting the road. The cemetery is framed by mature trees. The cemetery has not previously been documented as a historic property, but is a foundational historic community landscape and memorial element of Monkton Boro and greater Monkton. **See Photograph 4-61.**

Photograph 4-61: Monkton Boro Cemetery, established circa 1816.

20 Cedar Lane (SPAN 399-124-10148) (Map Sheet 16) is a 10.54 acre parcel with a circa 1870 residence. The modest gable roof building features a main body with attached shed and a steeply pitched roofline with narrow corner returns and drop lap siding. The property is framed with lawn and small shrubs. The property appears to retain sufficient integrity and is associated with the early development of Monkton Boro as an agriculturally-based residence and would require additional analysis to determine any potential National Register significance. See **Photograph 4-62**.

Photograph 4-62: 20 Cedar Lane, 1971 residence (Monkton Online Property Card).

6. FINDINGS AND CONCLUSIONS

The Town of Monkton is proposing the Town of Monkton Bike-Pedestrian Path Project, which includes construction of a bike and pedestrian facility extending around Cedar Lake (Monkton Pond) following Monkton Road, Monkton Ridge, Davis Road, Rotax Road, and Pond Road. The proposed Project is funded in part by the FHWA and the Town of Monkton, through the VTrans MAS. In support of the proposed Project, the Town of Monkton has commissioned a scoping study to identify alternatives, issues, and costs of the Project and to provide recommendations related to the construction. The scoping study and its associated technical support studies are intended to support compliance with all potential permitting requirements for the Project, including those related to historic properties under Section 106 of the NHPA (as codified in 36 CFR Part 800) and under Vermont Act 250 Criterion 8.

This HRI was developed as a component of the scoping study for the Project to support determination of potential direct and indirect effects to architectural / built environment resources. The HRI has been developed in conformance with VTRANS MAS documentation requirements and the requirements of Section 106 as well as the VTrans Programmatic Agreement. The HRI addressed built environment resources only, with archaeological resources addressed in additional documentation developed as part of the scoping study.

As detailed in the report, this HRI identifies a single NRHP-listed property in the Project Area: The Monkton Town Hall at 280 Monkton Ridge. Additionally, the HRI identifies a Vermont State Register-listed Historic District in the Project Area: the Monkton Ridge Historic District, with 10 Contributing Resources identified in the Project Area: 339 Monkton Ridge, 320 Monkton Ridge, 280 Monkton Ridge (Monkton Town Hall), the Monkton Ridge Cemetery, 216 Monkton Ridge, 176 Monkton Ridge, 175 Monkton Ridge, 145 Monkton Ridge, 78 Monkton Ridge, and 77 Monkton Ridge. Summary data regarding these properties was included in this report and the properties are detailed in mapping included in **Attachment A**.

In addition to the previously identified Historic Properties detailed above, this HRI documents 36 historic period (greater than 50 years of age) built environment properties that are located on parcels that extend into the APE and have not previously been subject to formal NRHP or Vermont State Register evaluation. All of these previously undocumented properties were summarized herein and were subject to background research and field review as part of this inventory in order to provide a preliminary assessment of National Register eligibility, included herein. All of these historic period properties are depicted in the mapping in **Attachment A**.

The remainder of the built environment properties documented in this report are not historic period in age (over 50 years of age) and as such were not formally assessed as part of the documentation. The mapping in **Attachment A** includes locational data and construction dates for the modern properties in the Project Area that were not formally documented.

The findings of this report are intended to support design development for the Project by identifying historic period properties that may be affected by Project activities. Based upon the inventory, this analysis finds that the area extending along Monkton Ridge through the Vermont State Register-listed Monkton Ridge Historic District and passing the NRHP-listed Monkton Town Hall is the most sensitive area in relation to historic period built environment resources, both because of the significance of the resources and the spatially tight-knit village form of the properties flanking the ROW, with little area between the path of travel and adjacent parcels (see **Attachment A, Sheets 5-7**). Despite this sensitivity, however, an appropriate bike-pedestrian amenity could serve as an important streetscape enhancement in this area, by reinforcing village characteristics and slowing vehicular travel to reflect the village surrounds.

The remainder of the Project Area presents fewer resource issues related to historic built environment resources, with no additional NRHP or Vermont State Register-listed resources in or adjacent to the APE and only select resources that appear to possess potential significance under the criteria of the NRHP in the Project Area, detailed herein in **Section 4**. Additionally, the remainder of the Project is characterized by larger lot sizes flanking the ROW, allowing for greater separation between any bike-pedestrian amenity and adjacent built environment resources and a lesser potential for any Project-related impacts. As Project plans are formalized using the data in this Scoping Study, this analysis should be employed to assess potential for resource sensitivity in relation to Project planning along the proposed corridor.

7. PREPARER'S QUALIFICATIONS

Senior Architectural Historian Polly Allen authored this report, conducting research, public outreach, and fieldwork in support of the project. Ms. Allen received a Master of Science degree in Historic Preservation from Columbia University and a Bachelor of Arts in American History from the University of Wisconsin-Madison. Ms. Allen has over 20 years of experience in cultural resource management and has served as Lead Architectural Historian on a wide range of inventory and evaluation projects across the United States, with many undertaken for the transportation sectors in both Vermont and across the United States. Based on her level of experience and education, Ms. Allen qualifies as an Architectural Historian and Historian under the Secretary of the Interior's Professional Qualification Standards (as defined in 36 CFR Part 61). Ms. Allen is also listed on the Qualified Consultants List for the VDHP.

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8. REFERENCES CITED

Books and Journals

Hemenway, Abby Maria. *The History of Addison County in the Vermont Historical Gazetteer*. Montpelier: Vermont Watchman and State Journal Press, 1882.

Smith, H.P. *History of Addison County.* Syracuse, NY: D. Mason and Company Publishers, 1886.

Periodicals

The Bristol Herald

The Burlington Daily News

The Burlington Free Press

Maps

Walling, Henry F. 1857. *Map of Addison County, Vermont.* Boston: Baker, Tilden and Company.

Archives and Data Repositories

Monkton Historical Society (Monkton Ridge Tour)

Monkton Town Office / Monkton Interactive Parcel Data Platform (online)

UVM Landscape Change Program

Vermont Division for Historic Preservation Online Resource Center (ORC) (online archive)

Vermont History Explorer

United States Agricultural Census (online)

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ATTACHMENT A:
PROJECT AREA MAP SET

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Town of Monkton Bike-Pedestrian Path Project Historic Resources Inventory

Monkton, Addison County, Vermont

LEGEND

- Parcel polygons
- Inactive parcels
- Airports
- Rail Lines
- Town Boundaries
- County Boundaries
- Buildings
- Village Boundaries

MAP KEY
Red Numbers Correspond to Project Area Mapping Page Numbers in Accompanying Plan Set

1: 15,563

November 25, 2023

0.76 0 0.38 0.76 Miles

WGS_1984_Web_Mercator_Auxiliary_Sphere

1" = 1297 Ft. 1cm = 156 Meters

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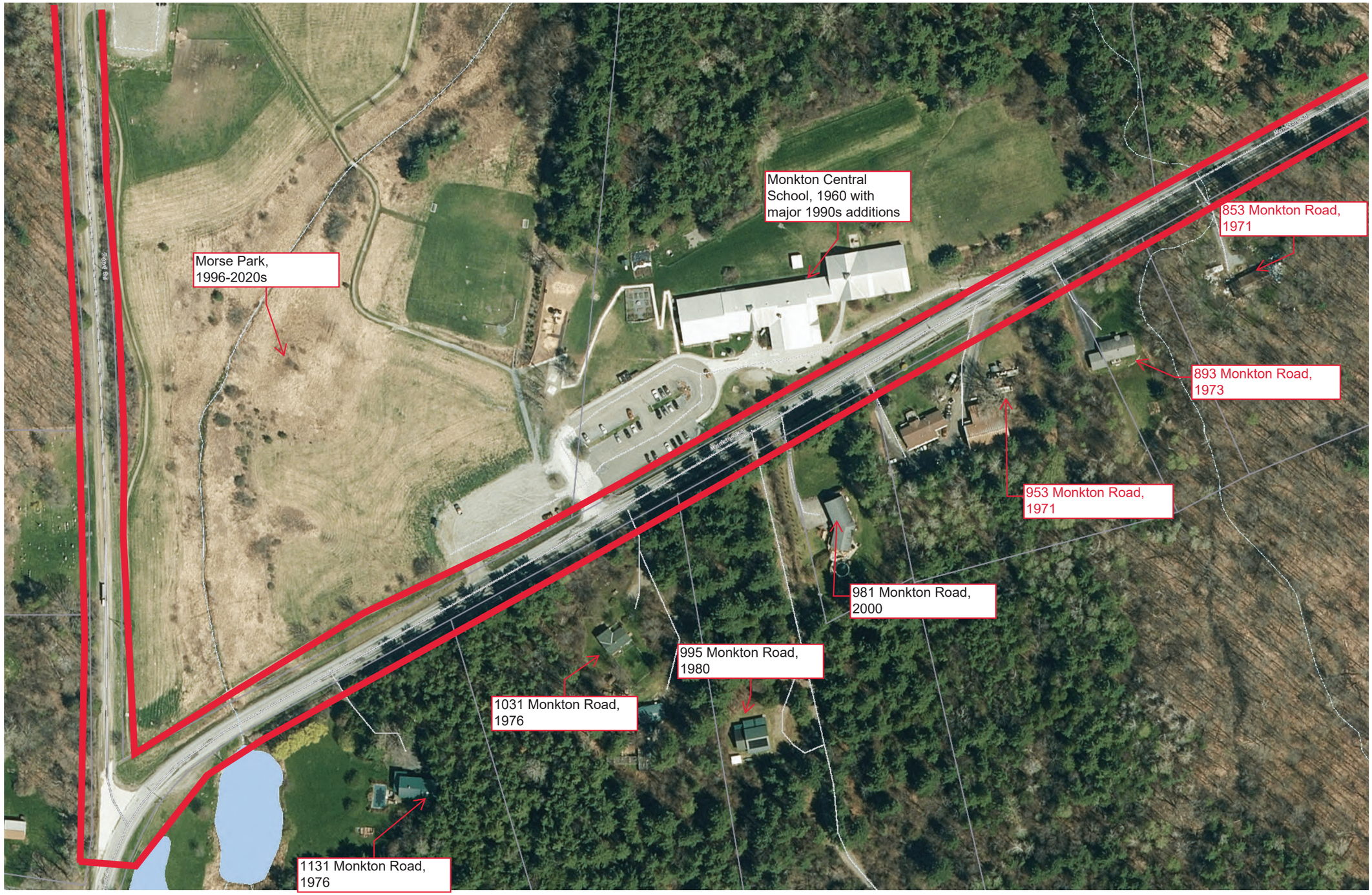
VERMONT

Town of Monkton Bike-Pedestrian Path Project Historic Resources Inventory

Monkton, Addison County, Vermont



LEGEND

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Project APE

Red Text: Historic Period Built Environment Property in the Project Area

Note: Built dates compiled from Town of Monkton Parcel Data and Property Card Information

1

1: 1,945

November 24, 2023

0.00 0 0.00 0.00 Miles

WGS_1984_Web_Mercator_Auxiliary_Sphere

1" = 162 Ft. 1cm = 19 Meters

VCGI

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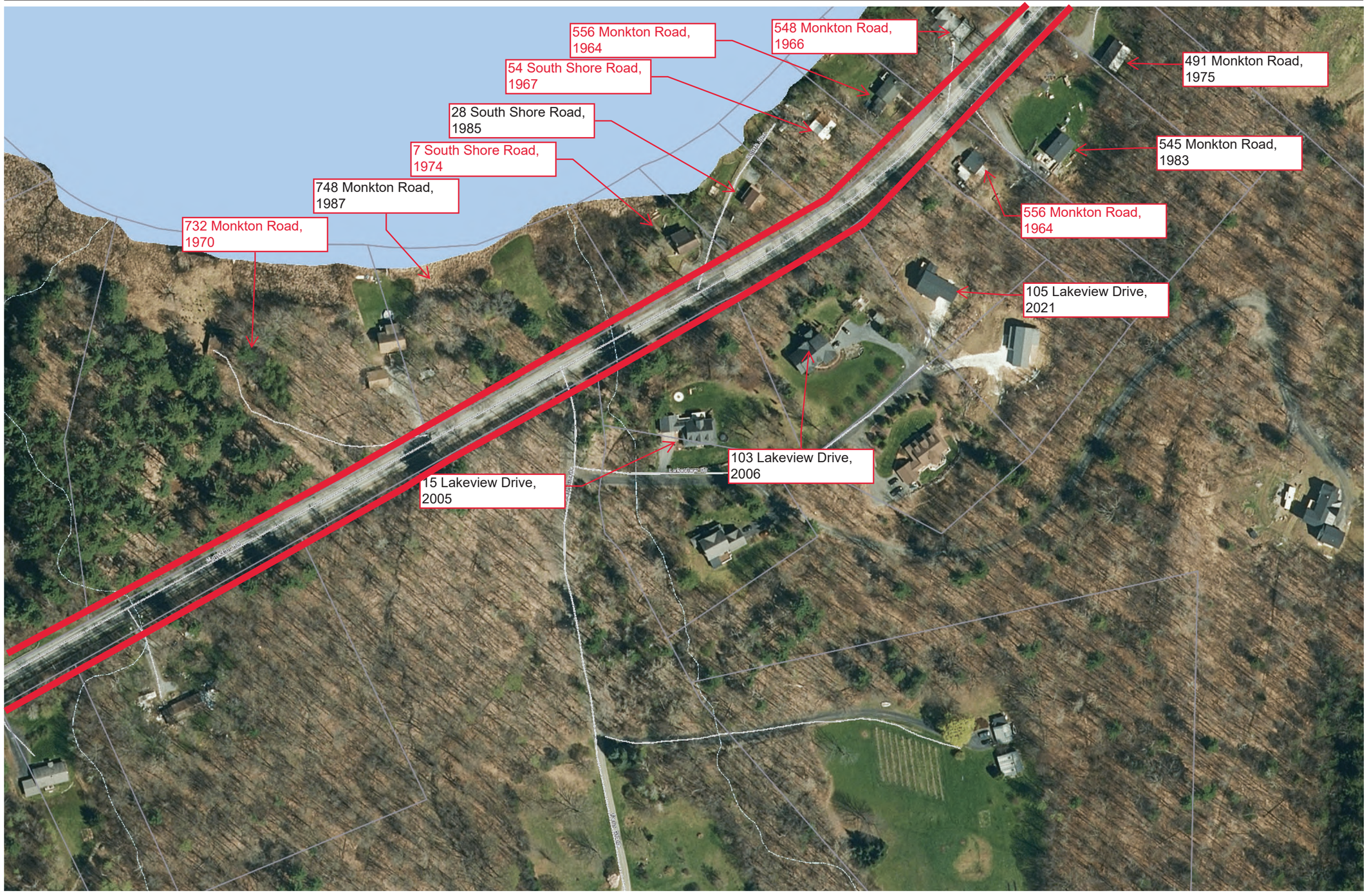
Town of Monkton Bike-Pedestrian Path Project Historic Resources Inventory

Monkton, Addison County, Vermont



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November 24, 2023

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Monkton, Addison County, Vermont

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1: 1,945

November 24, 2023

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Monkton, Addison County, Vermont

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Town of Monkton Bike-Pedestrian Path Project Historic Resources Inventory

Monkton, Addison County, Vermont

280 Monkton Ridge, Monkton Town Hall **Contributor Monkton Ridge Vermont State Register Historic District and Individually listed in the NRHP**

Monkton Ridge Cemetery, 1804 onward. **Contributor Monkton Ridge Vermont State Register Historic District**

228 Monkton Ridge, 1957

320 Monkton Ridge, circa 1860 **Contributor Monkton Ridge Vermont State Register Historic District**

4333 States Prison Hollow Road, 1971

339 Monkton Ridge, circa 1830 **Contributor Monkton Ridge Vermont State Register Historic District**

LEGEND

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5

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November 24, 2023

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1" = 162 Ft. 1cm = 19 Meters

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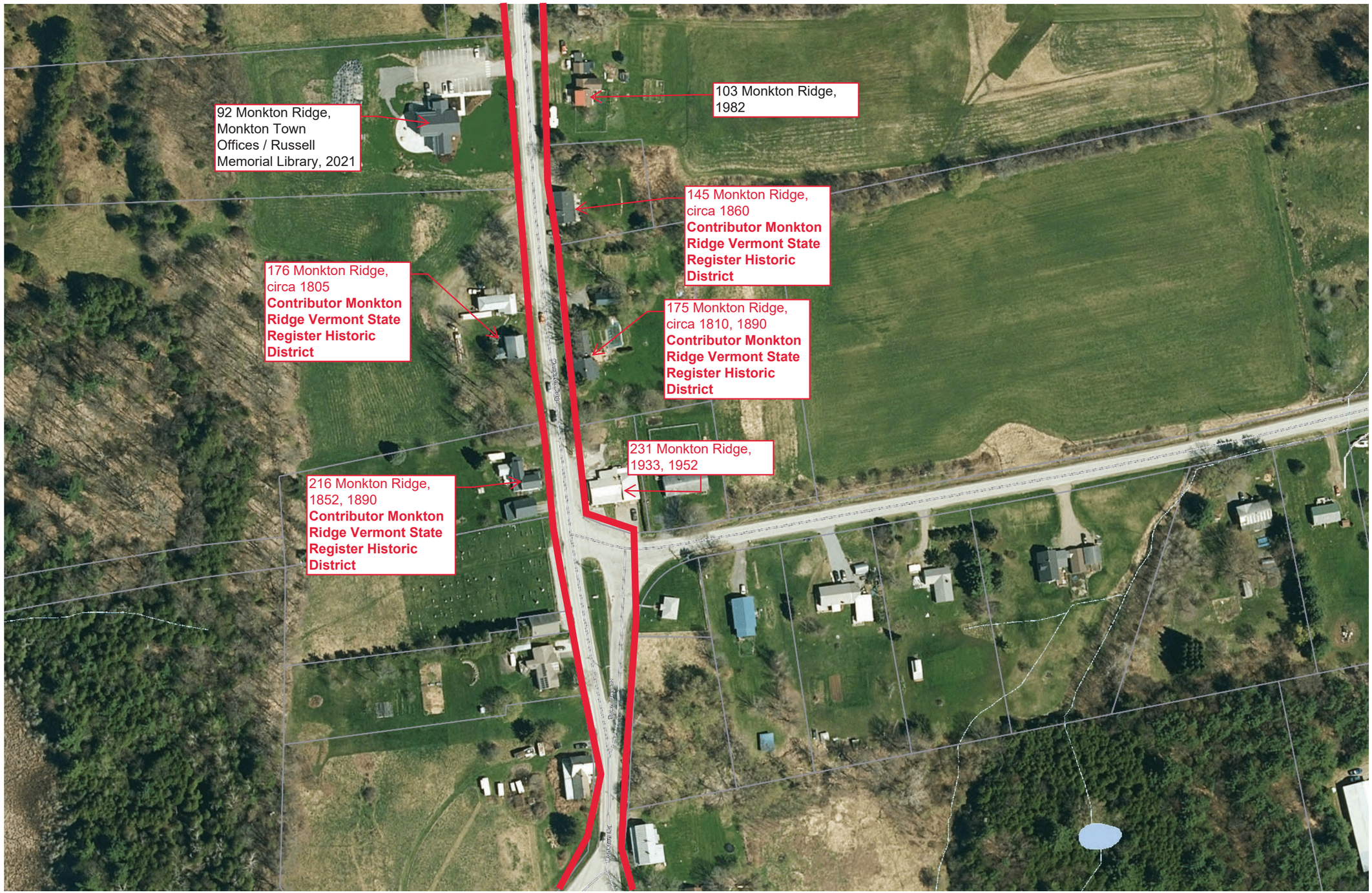
Monkton, Addison County, Vermont



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1: 1,945

November 24, 2023

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1: 1,945

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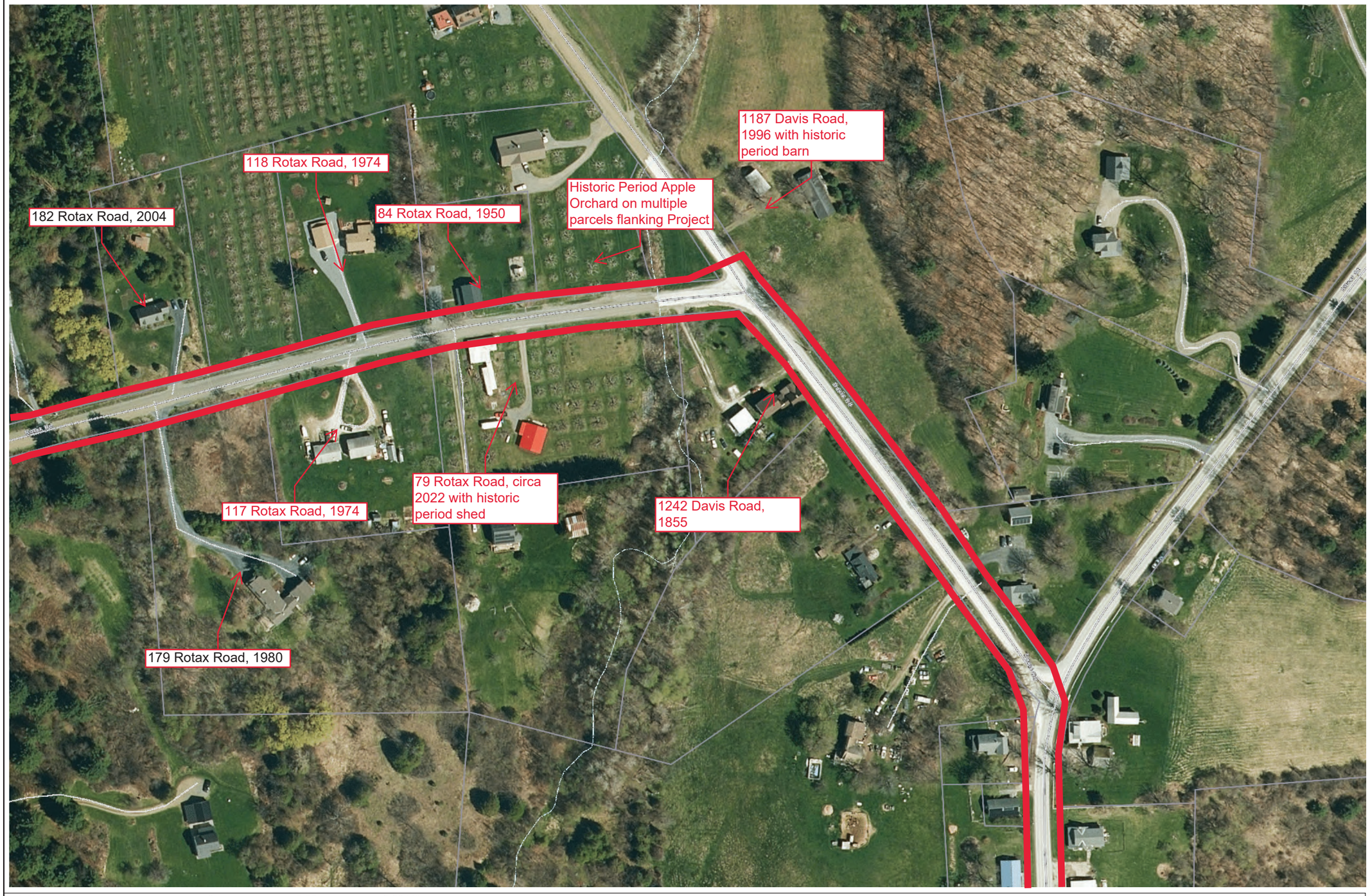

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8

1: 1,945

November 24, 2023

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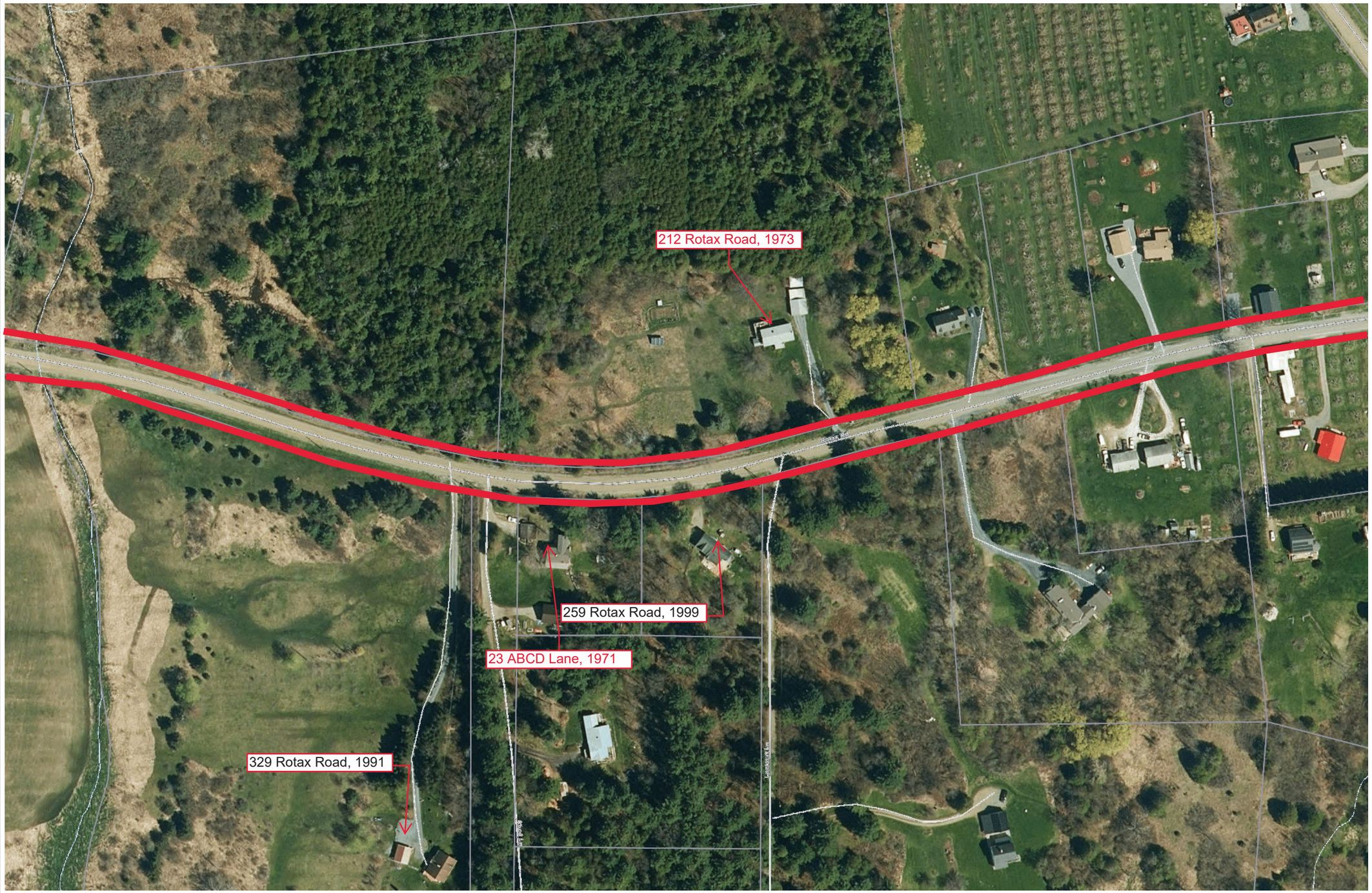

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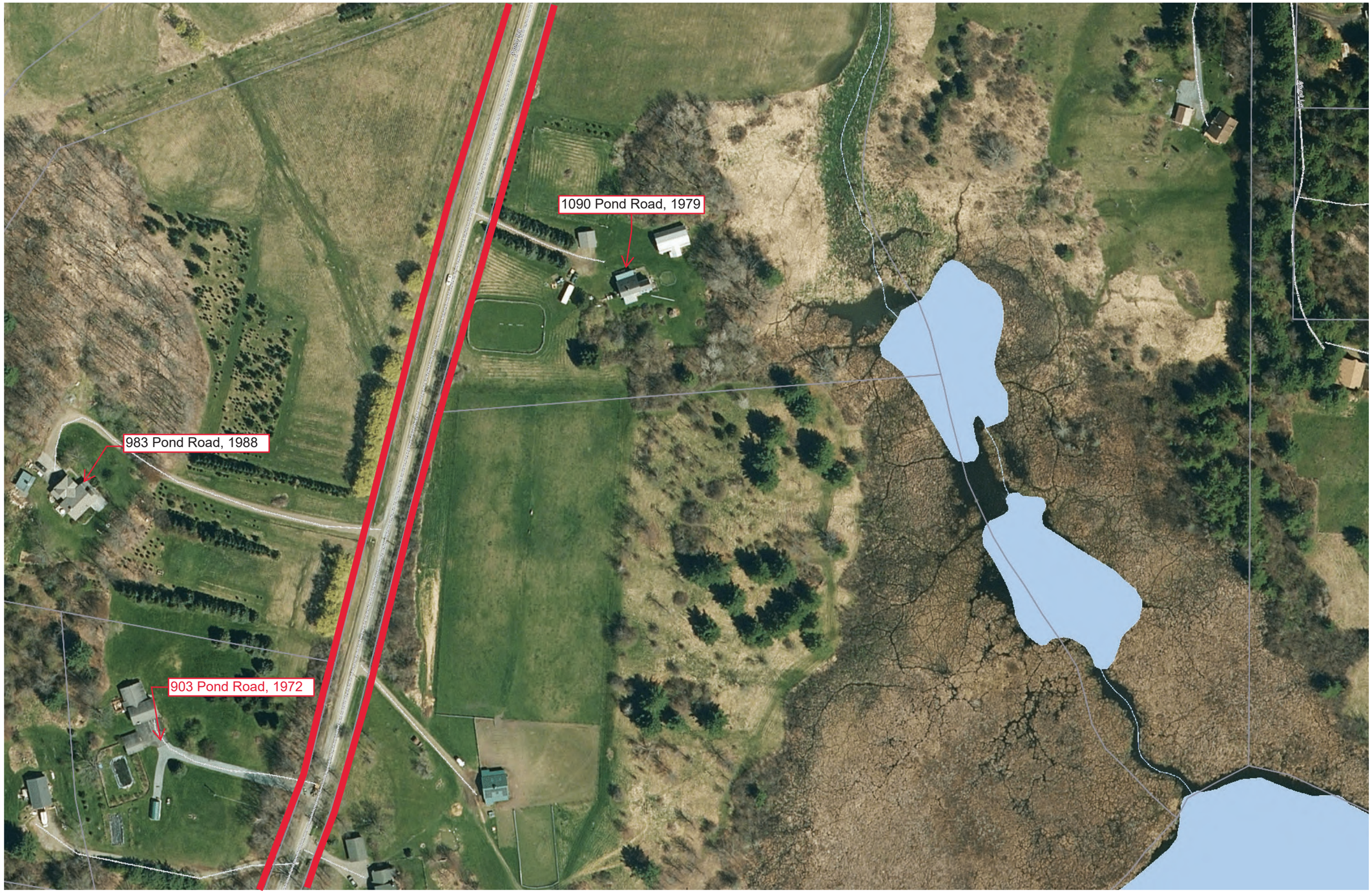

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Monkton, Addison County, Vermont

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12

1: 1,945

November 24, 2023

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13

1: 1,945

November 24, 2023

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Monkton, Addison County, Vermont

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14

1: 1,945

November 24, 2023

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Monkton, Addison County, Vermont

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15

1: 1,945

November 24, 2023

0.00 0 0.00 0.00 Miles

WGS_1984_Web_Mercator_Auxiliary_Sphere

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Monkton, Addison County, Vermont

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16

1: 1,945

November 24, 2023

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1" = 162 Ft. 1cm = 19 Meters

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APPENDIX

C – MORSE LOT: LAND USE DOCUMENTATION

MORSE PARK MANAGEMENT PLAN

Monkton, Vermont
Adopted: January 28, 2025

I. Introduction

Morse Park parcel number 13.215.018.000, and SPAN # 399-124-10825) is owned by the Town of Monkton (the Park). The Park borders Cedar Lake (aka Monkton Pond), Monkton Central School, Monkton Road, Pond Road, and an adjacent property to the north. The Park is approximately 47.1 acres in size. It is subject to a Grant of Development Rights and Conservation Restrictions between the Town of Monkton (Town or the Grantor) and the Vermont Housing and Conservation Board (VHCB or the Grantee) dated March 29, 1996 (the Grant).

II. Purpose

The purpose and scope of this document is to set forth the Management Plan for Morse Park (the Plan), as required by Section I of the Grant, ensuring that uses and management of the Park are aligned with the goals and limits established by the Grant and agreed to by the Town and VHCB, including intended uses, natural resource management objectives, maintenance approaches/schedules, and compliance with applicable regulations. The Grant identifies several purposes:

a. The primary purpose of the easement is to conserve and protect public recreation, scenic, riparian, wildlife, and open space resources and to prevent the use or development for any purpose or in any manner that would adversely affect these resources.
b. Secondary purposes are educational activities and the construction and maintenance of trails and structures incident to appropriate public recreational use.

Prior Management Plans were dated March 6, 1996 and October 4, 2004. This document when approved supersedes and replaces all prior Management Plans for the Park. It is subject to approval by the Vermont Housing and Conservation Board. It is also subject to approval by the Town of Monkton Selectboard and any designees they may name, who may include the Monkton Recreation Committee (MRC) and the Monkton Conservation Commission (MCC).

III. Designation of Land Use Areas

For purposes of this Plan three zones (or primary land use areas) are designated within the Park:

a. Recreational Areas (~13.6 acres), which currently include a community pavilion, athletic fields, dog park, ball field, volleyball court, walking trails, and parking/commuter lots.
b. Open Field Areas (~10.8 acres)
c. Natural Areas (~22.7 acres), largely in the form of wetland and riparian areas.

See the Primary Land Uses Map in Appendix A.

IV. Governance

The MRC is responsible for the management of the entirety of Morse Park through a transparent and consistent process, and ultimately serves in this capacity at the pleasure of the Selectboard.

Management Decisions: the MRC is responsible for proactively collaborating with all parties who would reasonably have an interest in management decisions. Examples include, but are not limited to, MCC, the Dog Park Committee, and the Monkton community. The MRC retains final decision-making authority over all management decisions once collaboration with interested parties has occurred. Any objections or appeals of the MRC's decision may be brought to the Selectboard for its consideration and resolution prior to implementation of the decision. Such resolution may involve review by the Selectboard of proposals, collaborations, and related community engagement.

Land Use Changes: Land use areas may change over time or be repurposed from one use to another with appropriate consultation between the MRC and MCC and other affected committees and entities, such as the Dog Park Committee or Monkton Central School. Areas may shift over time due to changing recreational uses, management activities, natural resource boundary shifts, climate change, etc.

Decisions about land use changes must follow a process that includes VHCB's approval (that proposed changes are compatible with the Grant) and evidence of collaboration with appropriate town committees and entities. The MRC is responsible for collaborating with VHCB, MCC, the Dog Park Committee, the community at large, and other interested partners regarding proposed management and land use changes that would affect the Open Field Areas and Natural Areas. The MRC retains final decision-making authority over all land use changes once collaboration with appropriate town committees and entities has occurred. Any objections or appeals of the MRC's decision may be brought to the Selectboard for its consideration and resolution prior to implementation of the decision. Such resolution may involve review by the Selectboard of proposals, collaborations, and related community engagement.

Nothing in this Plan should be construed to limit changes in use, changes in management activities or schedules, or the addition of recreational facilities in the non-recreational areas. In the event any such changes or additional facilities are contemplated for any non-Recreational Areas the MRC will follow the land use change process outlined above.

Management activities are described in the Management Activities and Schedule in Appendix B.

V. Management of Invasive or Toxic Species

The Park's many areas of transitional edge habitat are susceptible to invasive plant species. The entire park and all three land use areas may be managed for invasive species to the extent feasible (subject to available volunteer effort hours, etc.). Management efforts may be organized by the MCC or other committees/groups/community members in consultation with the MRC. Management approaches will minimize impact to other species, such as ground-nesting birds, to the extent practicable.

Wild Parsnip: management efforts have been on-going since the summer of 2018 to remove Wild Parsnip from the Park. Substantial progress has been made, with an estimated 90% reduction in the northern half of the park as of summer 2023. See the Management Activities and Schedule in Appendix B for specifics on methods and timing.

Other invasive species may also be managed as resources permit. Current peer-reviewed scientific literature, technical guidance from Vermont's Agency of Natural Resources or Agency of Agriculture, Food, and Markets, or from other reputable sources may be consulted for this purpose. The impact of various insect or animal species may also be managed, if desired, e.g. Emerald Ash Borer, Hemlock Woolly Adelgid, etc.

Other species may not be invasive or non-native but are toxic or harmful to humans and could be incompatible with human uses of the park. These should be managed where there is a conflict with likely recreational use. These would include Water Hemlock, which was discovered in the Park in June of 2022 and has since been managed near walking paths, and Poison Ivy.

VI. Recreational Areas Management

The Recreational Areas of the Park currently contain:

- A multi-use recreational path 4-6 feet wide around the perimeter and interior of Morse-Park for non-motorized use. Horse riding is also prohibited on the path.
- Athletic fields
- A pavilion and picnic area
- Volleyball court
- Storage shed for maintenance and recreational sports equipment
- Ballfield adjacent to Monkton Central School
- One 50-car parking lot adjacent to the Monkton Central School parking lot
- One 50-car parking lot located on Pond Road
- A community dog park, operated by the Monkton Dog Park Committee

The MRC is responsible for the management and maintenance of the Recreational Areas, as well as the Park in its entirety, following the Governance processes. The MRC plans to continue to seek opportunities to further develop and evolve the use of Morse Park for the benefit of the Town. These may include, but are not limited to, additional athletic fields, exercise stations, additional recreational paths, disc golf, basketball courts, tennis courts, pickleball courts, bike pump track, and other amenities that will serve the needs and desires of the Town, where compatible with the purposes and protections of the Grant and following the Governance process.

VII. Open Field Areas Management

Approximately 10.8 acres of the Park are in the form of open fields. The MRC manages the mowing/haying of these areas in consultation with the MCC.

The Open Field Areas were historically cut about twice per year for hay and to keep the land open, according to a typical schedule for first and second cut haying. There was feedback from residents and the MCC that a focus on wildlife would be preferable on this use area within the Park.

The current community priority for these areas is to improve the usefulness of the Open Fields from a wildlife perspective, particularly for ground-nesting birds and for pollinators. These Open Field acres are alone too small to be considered suitable grassland bird habitat by state guideline, but together with the adjacent open Recreational and Natural Areas, appear to form an adequate open landscape/viewscape with the long sightlines preferred by ground-nesting birds for defense against predators. The Park has demonstrated the ability to host nesting grassland birds, including Bobolink. Bobolinks have expansive requirements for their nesting habitat, as compared to most grassland birds, which indicates perhaps that the Park can support a variety of grassland bird species. There is an opportunity to maintain the existing Open Field acres in the Park as such and improve the quality of the habitat, primarily through the timing of mowing.

The prime nesting season for grassland birds is from late May through approximately August 1st, during which a first cut of hay was usually taken in the past. Haying a field during this window of time would tend to result in nest failures and high mortality of fledglings. To provide some margin for seasonal variability, mowing/haying of the Open Field Areas will typically be restricted between May 15th and August 15th. Exceptions can be made for invasive species management or other necessities, following the Governance process for management decisions. This schedule should also be of benefit to some pollinators and the wild parsnip control efforts. These dates support the early/late mowing approach. Current peer-reviewed scientific literature or technical guidance from Vermont's Agency of Natural Resources or Agency of Agricultural, Food, and Markets, or from other reputable sources may be consulted to inform this approach in the future. The MRC may explore opportunities to work with the MCC and the mowing contractor on the timing and methods for mowing outside of this excluded window of time. This will usually be one mowing before or after the dates above, but could involve experiments, mowing in phases, removing or not removing cut hay, etc., to establish a best practice that works for the multiple uses in the Park.

A section of the Open Field Areas northeast of the Dog Park and south of the soccer fields may be used occasionally for large-event overflow parking, when other parking areas will clearly be insufficient. This section is only available for parking outside of the mowing restricted time frame of May 15th to August 15th. It is outlined on the Primary Land Uses Map (Appendix A) with a dark orange line and covers approximately 1.7 acres.

VIII. Natural Areas Management

Approximately 22.7 acres of Morse Park exist as Natural Areas, nearly all in the form of wetland, wetland buffers, and riparian areas along the one stream crossing the Park or adjacent to Cedar Lake.

Recreation has been limited in the Natural Areas to date and it seems unlikely that adequate forest will exist in coming decades to practice significant forestry. That leaves the primary uses/values on these acres as scenic, riparian, wildlife, native vegetation, and open space, as well as outdoor education. Management approaches that best address these as a group are preferable.

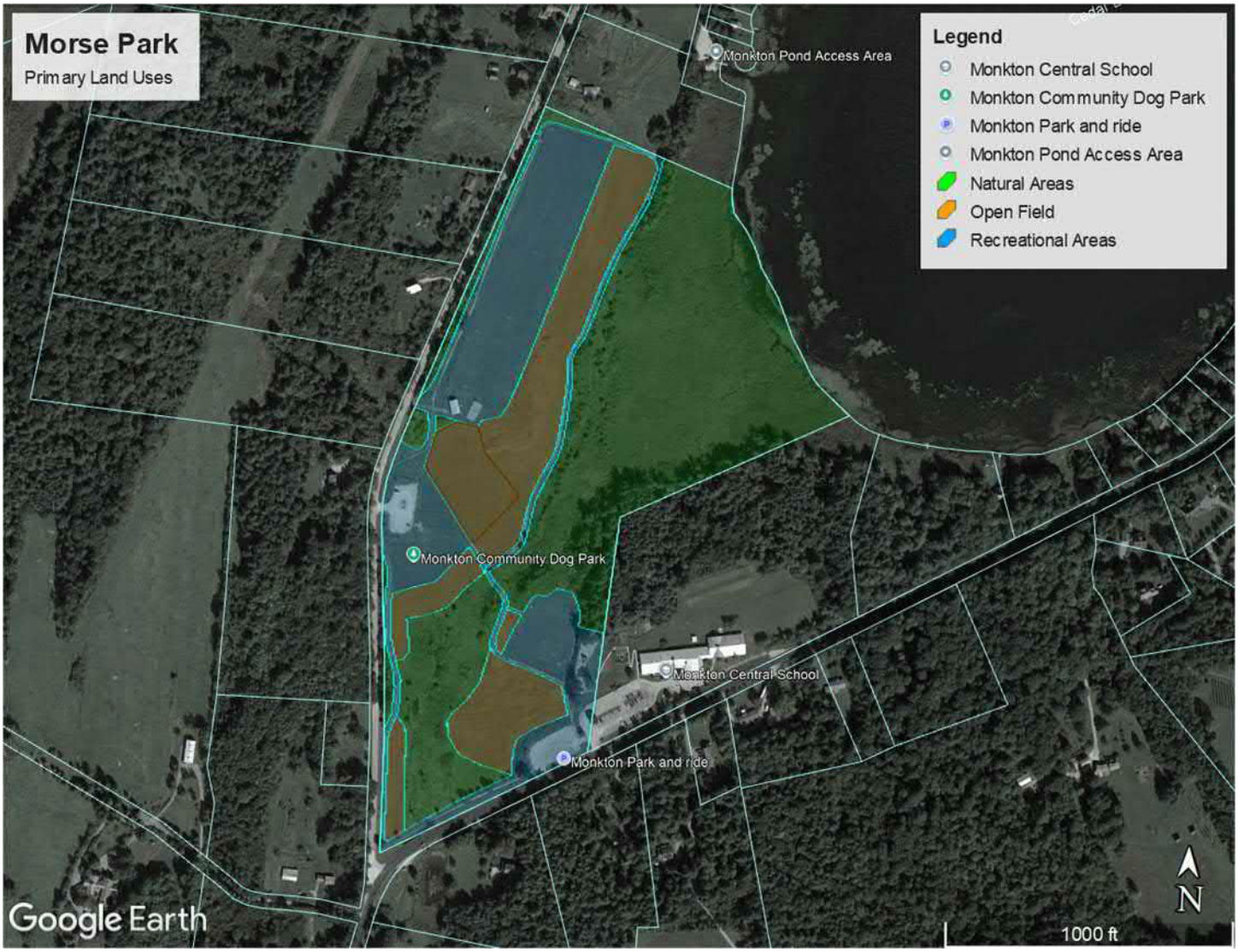
Management in wetland/riparian areas should be minimal and infrequent to allow natural ecological processes to be undisturbed, with exceptions:

i. Low-impact invasive species management and control of species toxic to humans and animals are allowed, preferably by hand and without using chemical methods.
ii. Maintenance of the existing recreational path or other intersecting access or educational/interpretive facilities.
iii. Other spot-management activities as needed, with appropriate consultation, such as a damaged/dead tree removal that poses a hazard.

There is an opportunity to maintain/improve habitat connectivity across Morse Park. Connectivity is found primarily on the south end of the Park in an east-west orientation between the woods behind Monkton Central School and the woods west of Pond Road. It also follows the riparian areas across Monkton Road by the stream. This connectivity could be improved, especially by maintaining more continuous cover (woody vegetation) at the east-west connection point by Pond Road south of the Dog Park.

Scenic/open space: in recent years the Pond was visible from many locations in the Park, but taller trees and vegetation in the Natural Areas, particularly along the stream and the floodplain between Cedar Lake and the Open Field and Recreational Areas in the northern half of the Park, have partially blocked visibility to the water. This growth has not yet blocked the view of distant hills and mountains, but may eventually do so. That trend is not incompatible with the easement, as it satisfies and may improve protection of riparian and wildlife resources and is a form of open space. It does come at the expense of scenic value, however. Allowing vegetation growth to continue is the default natural and unmanaged option. However, as these Natural Area acres become less “open” they will also tend to reduce the suitability of the adjacent open fields for nesting birds, who would perceive the open landscape of the Park as shrinking. The MRC, through the Governance process, may determine that felling of trees and some vegetation in the Natural Areas to preserve scenic and open characteristics is a preferred approach, to the extent permitted by applicable wetland and water protection rules, such as the Vermont Wetland Rules and Shoreland Protection Act. In addition, spot management in these areas and throughout the Park may also be needed to resolve a safety hazard (such as a dead/dying/leaning tree). Decisions about scenic views, unless they involve a safety hazard, will not be time-sensitive in nature, so should involve robust public input.

Appendix A - Morse Park Primary Land Uses Map



Areas in blue are in use as Recreational Areas (~13.6 acres of playing fields, trails, structures, parking lots, Dog Park, etc.). Areas in orange are Open Field Areas (~10.8 acres), inclusive of approximately 1.7 acres of large event overflow parking (darker orange line). Areas in green are Natural Areas (~22.7 acres). The delineation of each area on the map is not precise or binding and is intended as a visual reference to promote consistent management.

Appendix B - Management Activities and Schedule

Areas	Description	Frequency
Recreation, Grassland, Natural	Management of invasive and toxic species is permitted, but not required.	As needed
Recreation	Mowing may occur on any schedule	As needed
Recreation	Trail and infrastructure management and maintenance	As needed
Open Field	Mowing/haying only before May 15th or after August 15th.	TBD / Annual
Natural	Felling/removal of trees and vegetation is permitted, but not required, to maintain or improve scenic/open characteristics. Continuous cover should be maintained/encouraged throughout the Area for habitat connectivity.	As needed

Adopted

_____ _____

Stephen Pilcher, Chair, Town of Monkton Selectboard Date

GRANT OF DEVELOPMENT RIGHTS AND CONSERVATION RESTRICTIONS

THIS GRANT of Development Rights and Conservation Restrictions (the "Grant") is given on this 29th day of March, 1996, by the **TOWN OF MONKTON** and it successors or assigns (the "Grantor") to the **VERMONT HOUSING AND CONSERVATION BOARD** and it successors or assigns ("VHCB" or "Grantee").

WHEREAS, VHCB is a public instrumentality of the State of Vermont existing by virtue of the Vermont Housing and Conservation Trust Fund Act, 10 V.S.A. §311 (the "Act") which provides grants and loans to eligible entities for projects which fulfill the goals of creating affordable housing for Vermonters and/or conserving and protecting Vermont's agricultural land, historic properties, important natural areas and recreational lands;

WHEREAS, the Act provides that in the best interests of all of its citizens and in order to improve the quality of life for all Vermonters and to maintain for the benefit of future generations the essential characteristics of the Vermont countryside, Vermont should assist in creating affordable housing and in preserving the state's agricultural land, historic properties, important natural areas and recreational lands;

WHEREAS, eligible activities under the Act include, but are not limited to, the protection of agricultural land, important wildlife habitat and important natural areas, the preservation of historic properties or resources and the protection of areas suited for outdoor public recreational activity;

WHEREAS, Grantor wishes to acquire conservation land known as the **Morse Lot** and consisting of approximately 47.1 acres in the Town of Monkton, County of Addison and State of Vermont; and

WHEREAS, the parties hereto have entered into VHCB Grant Agreement **#95-063** which provides, in part, that: (i) VHCB will make a grant in the amount of $40,000 to Grantor for use by Grantor to acquire the Protected Property; and (ii) Grantor will hold the Protected Property for public outdoor recreation, open space, natural resource conservation and education purposes, subject to this Grant.

KNOW ALL PERSONS BY THESE PRESENTS that the TOWN OF MONKTON, on behalf of itself and its successors and assigns, pursuant to the authority granted in Title 10 V.S.A. Chapters 34 and 155 and in consideration of the payment of One Dollar and other valuable consideration paid to its full satisfaction, does freely give, grant, sell, convey and confirm unto the VERMONT HOUSING AND CONSERVATION BOARD, a public instrumentality of the State of Vermont with an address of 136 1/2 Main Street, Montpelier, Vt. 05602 and its successors and assigns, who are qualified holders as defined in 10 V.S.A.

§821, the development rights and a perpetual conservation easement and restrictions (all as more particularly set forth below) in a certain tract of land situated in the Town of Monkton, Addison County, State of Vermont, and being more particularly described in **Schedule A** (hereinafter "Protected Property").

The development rights hereby conveyed to Grantee shall include all development rights except those specifically reserved by Grantor herein and those reasonably required to carry out the permitted uses of the Protected Property as herein described. The conservation easement and restrictions hereby conveyed to Grantee consists of covenants on the part of Grantor to do or refrain from doing, severally and collectively, the various acts set forth below. It is hereby acknowledged that these covenants shall constitute a servitude upon the Protected Property and shall run with the land.

I. Purposes of the Grant; Management Plan.

1. Grantor and Grantee acknowledge that the purposes of this grant are as follows (the "Purposes of this Grant"):

(a) Consistent with the goals set forth in 10 V.S.A. §6301, the primary purpose of this Grant is to conserve and protect the public outdoor recreational, scenic, riparian, wildlife, forestry, and open space resources of the Protected Property and to prevent the use or development of the Protected Property for any purpose or in any manner that would adversely affect these resources.

(b) Secondary purposes are to provide opportunities for educational activities, and permit the construction and maintenance of public trails and structures incident to appropriate public recreational use.

Grantor and Grantee recognize these natural, scenic, and recreational values of the Protected Property, and share the common purpose of conserving these values by the conveyance of conservation restrictions and development rights, to prevent the use or development of the property for any purpose or in any manner which would conflict with the maintenance of these values. Grantee accepts such conservation restrictions and development rights in order to conserve these values for present and future generations.

2. These purposes will be advanced by conserving the Protected Property because the property has frontage on Cedar Lake and is located adjacent to the Town of Monkton School, making it suitable for recreational purposes. The Property is also an important natural and scenic area for the Town of Monkton.

3. Grantor shall develop a management plan for the Protected Property, as well as, for the property restricted by the Grant of Development of Rights and Conservation Restrictions from the Town of Monkton School District to Vermont Housing and Conservation Board, of even date herewith to be recorded in the Town of Monkton Land

Records, which plan shall be consistent with the Purposes of this Grant (the "Management Plan"). The Management Plan shall not allow uses of the Protected Property which are inconsistent with this Grant. The Management Plan shall be developed, and future amendments or updates to the Management Plan shall be made, with appropriate public input. Such input shall be consistent with applicable laws, regulations, policies and procedures governing ownership and management of the Protected Property. Copies of the proposed and final versions of the Management Plan, including any amendments or updates thereto, shall be provided to Grantee in a timely manner before implementation actions take place.

II. Restricted Uses of Protected Property.

1. The Protected Property shall be used for public outdoor recreation, open space and educational purposes in perpetuity. No residential, commercial, industrial or mining activities shall be permitted. No building or structures shall be constructed, created, erected or moved onto the Protected Property, except as permitted by the Management Plan or as specifically permitted in Section III of this Grant.

2. Except as permitted by Section III of this Grant, no rights-of-way, easements of ingress or egress, driveways, roads, or utility lines or easements shall be constructed, developed or maintained into, on, over, under, or across the Protected Property, without the prior written permission of Grantee. Grantee may grant such permission if it determines, in its sole discretion, that any such improvement would be consistent with the Purposes of this Grant, and not adversely affect the natural and recreational significance or the scenic beauty of the Protected Property.

3. There shall be no signs, billboards, or outdoor advertising of any kind erected or displayed; provided, however, that the Grantor may erect and maintain reasonable signs indicating the name of the Protected Property, organizations providing funding or sponsorship, boundary markers, directional signs, memorial plaques, historical markers and signs informing the public about reasonable use or use restrictions.

4. The Protected Property shall be open to the public to use for all types of recreational and educational purposes (e.g. walking, snowshoeing, cross-country skiing, nature study, fishing) not inconsistent with this Grant, provided that the Grantor may adopt reasonable rules and regulations which limit access or use by the public.

5. The placement, collection or storage of trash, human waste, or any other unsightly or offensive material on the Protected Property shall not be permitted except at such locations, if any, and in such a manner as shall be approved in advance in writing by Grantee. The temporary storage of trash in receptacles for periodic off-site disposal, shall be permitted without such prior written approval.

6. Except as permitted by this Grant or as may be reasonably necessary to carry out the uses permitted by this Grant, there shall be no disturbance of the surface of the Protected Property including but not limited to filling, excavation, removal of topsoil, sand, gravel, rocks or minerals, or change of the topography of the land in any manner. In no case shall surface mining of subsurface oil, gas or other minerals be permitted.

7. Grantor shall not give, grant, sell, convey, transfer, mortgage, pledge or otherwise encumber the Protected Property without the prior written approval of Grantee, which approval shall not be unreasonably withheld.

8. No use shall be made of the Protected Property, and no activity thereon shall be permitted which, in the reasonable opinion of Grantee, is or is likely to become inconsistent with the Purposes of this Grant.

III. Permitted Uses of the Protected Property.

Notwithstanding the foregoing, Grantor shall have the right to make the following uses of the Protected Property:

1. The right to conduct all activities allowed by the Management Plan, provided that such activities are reasonably necessary to carry out the Purposes of this Grant and are not inconsistent with this Grant.

2. The right to clear, construct, repair, maintain and replace roads, structures or facilities, together with necessary access drives and utilities, on the Protected Property, provided that such roads, structures or facilities are used for purposes allowed by the Management Plan.

3. The right to utilize, maintain, establish, construct, and improve water sources, courses, and bodies within the Protected Property for uses otherwise permitted hereunder, provided that Grantor does not unnecessarily disturb the natural course of the surface water drainage and runoff flowing over the Protected Property, except where such disturbance is made in order to improve drainage, reduce soil erosion or improve the Protected Property.

4. The right to construct, maintain, repair and use two (2) parking lots on the Protected Property, including associated drives and utilities, together with the right to construct improvements normally associated with a parking lot, in a designated Parking Lot Area. Each Parking Lot Area shall be identified on a map as part of the Management Plan and shall be designed so as to minimize the impact on the recreational, natural and scenic attributes of the Protected Property.

5. The right to construct and maintain structures and facilities and related

improvements for school or Town public outdoor recreational activities and purposes, such as, but not limited to, baseball fields and back-stops, outdoor sports bleachers and benches, tennis courts and fencing, track facilities, and docks and lake access, and buildings for recreational use (eg. changing facilities, indoor recreation, and community meetings).

6. The right to establish, reestablish, maintain, and use cultivated fields, orchards, and pastures in accordance with sound agricultural practices and sound husbandry principles, together with the right to construct, maintain and repair access roads for these purposes.

7. The right to clear, construct, and maintain trails for walking, horseback riding, skiing, and other non-motorized recreational activities within and across the Protected Property. Snowmobiling may be permitted at the discretion of the Grantor.

IV. Enforcement of the Restrictions.

1. Grantee shall make reasonable efforts from time to time to assure compliance by Grantor with all of the covenants and restrictions herein. In connection with such efforts, Grantee may make periodic inspection of all or any portion of the Protected Property and for such inspection and enforcement purposes, the Grantees shall have the right of reasonable access to the Protected Property. In the event that Grantee becomes aware of an event or circumstance of non-compliance with the terms and conditions herein set forth, Grantee shall give notice to Grantor of such event or circumstance of non-compliance via certified mail, return receipt requested, and demand corrective action by the Grantor sufficient to abate such event or circumstance of non-compliance and restore the Protected Property to its previous condition. In the event there has been an event or circumstance of non-compliance which is corrected through negotiation and voluntary compliance, Grantor shall reimburse Grantee all reasonable costs incurred in investigating the non-compliance and in securing its correction.

2. Failure by the Grantor to cause discontinuance, abatement or such other corrective action as may be demanded by the Grantee within a reasonable time after receipt of notice and reasonable opportunity to take corrective action shall entitle the Grantee to bring an action in a court of competent jurisdiction to enforce the terms of this Grant and to recover any damages by way of corrective action arising from such non-compliance. Such damages, when recovered, may be applied by the Grantee to corrective action on the Protected Property, if necessary. If the court determines that the Grantor has failed to comply with this Agreement, Grantor shall reimburse the Grantee for any reasonable costs of enforcement, including court costs and reasonable attorneys' fees, in addition to any other payments ordered by such court. In the event that Grantee initiates litigation and the court determines that the Grantor has not failed to comply with this Grant and that the Grantee have initiated litigation without reasonable cause or in bad faith, then the Grantee shall reimburse Grantor for any reasonable costs of defending such action, including court costs and reasonable attorneys' fees. The parties to this Grant specifically acknowledge that events

and circumstances of non-compliance constitute immediate and irreparable injury, loss and damage to the Protected Property and accordingly entitle Grantee to such equitable relief, including but not limited to injunctive relief, as the Court deems just.

3. The remedies described herein are in addition to, and not in limitation of, any other remedies available to the Grantee at law, in equity, or through administrative proceedings. No delay or omission by the Grantee in the exercise of any right or remedy upon any breach of Grantor shall impair the Grantee's rights or remedies or be construed as a waiver.

V. Miscellaneous Provisions.

1. The construction of any buildings, structures or improvements, or any use of the land otherwise permitted under this Grant, shall be in accordance with all applicable ordinances, statutes and regulations. It is also hereby agreed that Grantor shall consult with the Vermont Division for Historic Preservation (or any successor historic preservation expert identified by the Division) concerning the protection of historic properties or resources and underwater historic properties, as defined in 22 V.S.A. §701, on or near the Protected Property.

2. Where Grantor is required, as a result of this Grant, to obtain the prior written approval of Grantee before commencing an activity or act, and where Grantee has designated in writing another organization or entity which shall have the authority to grant such approval, the approval of said designee shall be deemed to be the approval of Grantee. Grantor shall reimburse Grantee or Grantee's designee for all extraordinary costs, including staff time, incurred in reviewing the proposed action requiring Grantee's approval; but not to include those costs which are expected and routine in scope.

3. Grantee may transfer the development rights and conservation restrictions conveyed by Grantor herein, but only to a qualified holder as defined in 10 V.S.A. §821, in accordance with the laws of the State of Vermont and the regulations established by the Internal Revenue Service governing such transfers.

4. In any deed conveying an interest in all or part of the Protected Property, Grantor shall make reference to the grant of development rights and conservation easement, restrictions and obligations described herein and shall indicate that said easement and restrictions are binding upon all successors in interest in the Protected Property in perpetuity. Grantor shall also notify Grantee of the name(s) and address(es) of Grantor's successor(s) in interest.

5. Grantee shall be entitled to rerecord this Grant or to record a notice making reference to the existence of this Grant, in the Land Records of the Town of Monkton, as

may be necessary to satisfy the requirements of the Marketable Record Title Act, 27 V.S.A., Chapter 5, Subchapter 7, including 27 V.S.A. §§603 and 605.

6. In the event the development rights or conservation restrictions conveyed to the Grantee herein are extinguished by eminent domain or other legal proceedings, Grantees shall be entitled to any proceeds which pertain to the extinguishment of Grantee's rights and interests. Any proceeds from such extinguishment shall be allocated between Grantor and Grantee in accordance with the value of their respective interests as determined by a qualified appraisal commissioned by Grantee at the time of extinguishment.

7. The term "Grantor" shall include the successors and assigns of the original Grantor, Town of Monkton. The term "Grantee" shall include the respective successors and assigns of the original Grantee, Vermont Housing and Conservation Board.

8. Any signs erected on the Protected Property which mention funding sources shall include the Vermont Housing and Conservation Board.

9. This Grant shall be governed by and construed in accordance with the laws of the State of Vermont. In the event that any provision or clause in this Grant conflicts with applicable law, such conflict shall not affect other provisions hereof which can be given effect without the conflicting provision. To this end the provisions of this Grant are declared to be severable. Invalidation of any provision hereof shall not affect any other provision of this Grant.

TO HAVE AND TO HOLD said granted development rights and conservation easement and restrictions, with all the privileges and appurtenances thereof, to the said Grantee, VERMONT HOUSING AND CONSERVATION BOARD, its respective successors and assigns, to their own use and behoof forever, and the said Grantor, TOWN OF MONKTON, for itself and its successors and assigns, does covenant with the said Grantee, its successors and assigns, that until the ensealing of these presents, it is the sole owner of the premises and has good right and title to convey the same in the manner aforesaid, that the premises are free from every encumbrance, except easements and use restrictions of record as set forth in **Schedule B** attached hereto and incorporated herein, and it hereby engages to warrant and defend the same against all lawful claims whatever.

IN WITNESS WHEREOF, Grantor has caused this Grant to be executed by its duly authorized agent on this 29th day of March, 1996.

IN THE PRESENCE OF

Witness

Witness

Town of Monkton:

By: Charles R. Huizenga Jr.
Its Duly Authorized Agent
Town Agent for Conveyance of Real Estate

By: Conrad J. Aubé
Its Duly Authorized Agent
Town Agent for Conveyance of Real Estate

STATE OF VERMONT
COUNTY OF Addison, SS.

At Monkton, Vermont, on this 29th day of March, 1996, personally appeared Charles Huizenga & Conrad J. Aubé, duly authorized agents of the **Town of Monkton**, and ~~he/she~~/they acknowledged this instrument, by ~~him/her~~/them sealed and subscribed, to be ~~his/her~~/their free act and deed and the free act and deed of the Town of Monkton.

Before me,
Notary Public

My Commission Expires: 2/10/99

Approved by the **Vermont Housing and Conservation Board:**

3/28/96
Date

By:
Its Duly Authorized Agent

SCHEDULE A

Protected Property

All and the same lands and premises conveyed to James W. Morse and Margaret A. Morse by Cedar Lake Associates, Inc. by Warranty Deed dated July 9, 1976 and of record in Volume 31, Page 328 of the Monkton Land Records, except for those lands and premises conveyed to the Town of Monkton School District by Warranty Deed dated August 30, 1979, and of record in Volume 34, Page 268 of the Monkton Land Records. The lands and premises conveyed to Morse by Cedar Lake Associates is shown on a survey entitled "Portion of Property of Cedar Lake Associates, Inc.," Addison County, Monkton, Vermont drawn by Ronald L. LaRose, dated July 1974 and August 1975 and of record in Map Volume 1, Page 80 of the Monkton Land Records. The portion of the Morse property conveyed to the Town of Monkton School District is shown on a survey entitled "Portion of Property of James and Margaret Morse," Addison County, Monkton, Vermont drawn by Ronald L. LaRose dated July, 1974, August, 1975, and July, 1979, and recorded in Map Volume _____, Page _____ of the Monkton Land Records. The property described contains 47.1 acres, more or less.

The within-described property is subject to an easement for the placement of components of a sewage disposal system, all as more particularly described in an Easement Deed on or about even date, to be recorded in the Monkton Land Records from the Town of Monkton to the Town of Monkton School District, and as more particularly shown on a survey entitled "Sewer Easement Plat, Monkton Central School", dated March 27, 1996, by the Pinkham Engineering Associates, Inc., and to be recorded in the Monkton Land Records. The exact location of Easement Area No. 1 and Easement Area No. 2 as identified in the aforesaid Easement Deed and on the aforesaid Plan may be changed pursuant to the terms and conditions set forth in those instruments, but will not exceed in total area 2.9 acres.

The within described property also may be subject to the following utility easements:

1. Green Mountain Power Corporation easement dated September 19, 1994 and of record in Volume 59, Page 270 of the Monkton Land Records;

2. Vermont Power Company, Inc. easement dated October 26, 1970 and of record in Volume 28, Page 412 of the Monkton Land Records;

3. Green Mountain Power Corporation easement dated July 24, 1947 and of record in Volume 25, Page 112 of the Monkton Land Records; and

4. Any other utility easements or utility rights of way of record, or clearly apparent by observation.

The within described premises are subject to certain restrictive covenants more fully set forth in a warranty deed from Ghislaine Evers to Cedar Lake Associates dated July 9, 1973 and of record in Volume 30, Page 95 of the Monkton Land Records.

Reference is hereby made to the instrument aforementioned, and the records thereof, and the instruments therein referred to, and the records thereof, in further aid of this description.

SCHEDULE B

Easements and Use Restrictions

1. Easement for Septic System Lot granted by the Town of Monkton to the Town of Monkton School District, of even or approximate date herewith and to be recorded in the Town of Monkton Land Records.

2. Utility easement granted by James W. and Margaret A. Morse to the Green Mountain Power Corporation, dated September 19, 1994 and recorded in Book 59 at Page 270 of the Town of Monkton Land Records.

3. Utility easement granted by Ghislaine Evers to the Vermont Power Company, Inc., dated October 26, 1970 and recorded in Book 28 at Page 412 of the Town of Monkton Land Records.

4. Utility easement granted by Guy J. Baldwin to the Green Mountain Power Corporation, dated July 24, 1947 and recorded in Book 25 at Page 112 of the Town of Monkton Land Records.

5. Restrictive Covenants set forth in warranty deed from Ghislaine Evers to Cedar Lake Associates, Inc., dated July 9, 1973 and recorded in Book 30 at Page 95 of the Town of Monkton Land Records.

6. Rights and easements conveyed to the Green Mountain Power Corporation by instrument dated August 19, 1993 and recorded in Book 57 at Page 129 of the Town of Monkton Land Records.

Vermont Property Transfer Tax
32 V.S.A. Chap. 231
--ACKNOWLEDGMENT--
Return Rec'd--Tax Paid--Board of Health Cert. Rec'd.--
Vt. Land Use & Development Plans Act Cert. Rec'd.
Return No. 96-#23
Signed Carmelita C Bussett, Clerk
Date 3/29/96

MONKTON TOWN CLERKS OFFICE: Received and recorded on March 29, 1996 at 11:59 a.m.

ATTEST: Carmelita C Bussett TOWN CLERK

ebeth\cons\monkton.eas

Monkton Recreation Committee
Management Plan:
October 4, 2004

MORSE PARK

Recreation Committee members: Charlie Huizenga = Co- Chair
Pete Aube = Co- Chair
Ralph Fitz-Gerald
Paul Low
Stephanie Murray

The Monkton Recreation Committee plans to develop Morse Park in a manner that will satisfy the recreational needs and desires of the Town and its residents.

To this date, October 4, 2005 one 50 car parking lot has been established adjacent to the Monkton Central School's lot.

The first objective of the Recreation Committee is to construct a multi-use recreational path 4-6 feet wide around the perimeter (1.3 miles) of Morse Park for non-motorized use. Horse riding will also be prohibited due to potholes that are formed by the horse's hooves. This path will be available for use year round. A maintenance program will be established knowing that resurfacing will need to be done every 2 to 3 years. This recreational path is currently under construct and plans are to a have a completed path by snowfall of this year (2004). Funding is being provided by grants from the VT. Community Foundation and Merchant's Bank.

The remainder of the recreational improvements to Morse Park will be phased in over time as money becomes available through further grants and local fundraising. Initial plans are to construct:

* 3 large playing fields (each 350' by 200')
* An additional parking lot (50 car lot)
* A pavilion area (30' by 48')
* Double tennis courts

The Committee will explore the possibility of moving the old Monkton Boro School (owned by the Town of Monkton and currently used by the Recreation Committee) to Morse Park. Moving the School building will allow the Town of Monkton to preserve a historically significant building. It will also allow the Recreation Committee to expand its programs to include arts and crafts, to make space available for boy scouts, girl scouts and similar organizations and to provide a meeting place for the Monkton Recreation Committee and other civic groups. Renovation of the Monkton Boro School building would include modern amenities.

Management of Morse Park will be under the auspices of the Recreation Committee with the assistance of the Town of Monkton. Access to the park will be provided to all. Field maintenance and facilities maintenance will be the responsibility of the Monkton Recreation Committee.

_____ _____ _____ _____
(signature and title) (date) (signature and title) (date)

GRANT OF DEVELOPMENT RIGHTS AND CONSERVATION RESTRICTIONS

THIS GRANT of Development Rights and Conservation Restrictions (the "Grant") is given on this 29 day of MARCH, 1996, by the **TOWN OF MONKTON SCHOOL DISTRICT** and it successors or assigns (the "Grantor") to the **VERMONT HOUSING AND CONSERVATION BOARD** and it successors or assigns ("VHCB" or "Grantee").

WHEREAS, VHCB is a public instrumentality of the State of Vermont existing by virtue of the Vermont Housing and Conservation Trust Fund Act, 10 V.S.A. §311 (the "Act") which provides grants and loans to eligible entities for projects which fulfill the goals of creating affordable housing for Vermonters and/or conserving and protecting Vermont's agricultural land, historic properties, important natural areas and recreational lands;

WHEREAS, the Act provides that in the best interests of all of its citizens and in order to improve the quality of life for all Vermonters and to maintain for the benefit of future generations the essential characteristics of the Vermont countryside, Vermont should assist in creating affordable housing and in preserving the state's agricultural land, historic properties, important natural areas and recreational lands;

WHEREAS, eligible activities under the Act include, but are not limited to, the protection of agricultural land, important wildlife habitat and important natural areas, the preservation of historic properties or resources and the protection of areas suited for outdoor public recreational activity;

WHEREAS, Grantee wishes to acquire the development rights and place conservation restrictions on the land known as the Protected Property and consisting of approximately 2.9 acres in the Town of Monkton, County of Addison and State of Vermont; and

WHEREAS, the Town of Monkton and the Town of Monkton School District have entered into an agreement which provides, in part, that: (i) the Town of Monkton will grant the Town of Monkton School District a septic system easement on the Morse Lot; and (ii) the Town of Monkton School District/Grantor will grant an easement on the Protected Property to VHCB/Grantee, as well as, hold the Protected Property for public outdoor recreation, open space, natural resource conservation and education purposes, subject to this Grant.

KNOW ALL PERSONS BY THESE PRESENTS that the TOWN OF MONKTON SCHOOL DISTRICT, on behalf of itself and its successors and assigns, pursuant to the authority granted in Title 10 V.S.A. Chapters 34 and 155 and in consideration of the payment of One Dollar and other valuable consideration paid to its full satisfaction, does freely give,

grant, sell, convey and confirm unto the VERMONT HOUSING AND CONSERVATION BOARD, a public instrumentality of the State of Vermont with an address of 136 1/2 Main Street, Montpelier, Vt. 05602 and its successors and assigns, who are qualified holders as defined in 10 V.S.A. §821, the development rights and a perpetual conservation easement and restrictions (all as more particularly set forth below) in a certain tract of land situated in the Town of Monkton, Addison County, State of Vermont, and being more particularly described in **Schedule A** (hereinafter "Protected Property").

The development rights hereby conveyed to Grantee shall include all development rights except those specifically reserved by Grantor herein and those reasonably required to carry out the permitted uses of the Protected Property as herein described. The conservation easement and restrictions hereby conveyed to Grantee consists of covenants on the part of Grantor to do or refrain from doing, severally and collectively, the various acts set forth below. It is hereby acknowledged that these covenants shall constitute a servitude upon the Protected Property and shall run with the land.

I. Purposes of the Grant.

1. Grantor and Grantee acknowledge that the purposes of this grant are as follows (the "Purposes of this Grant"):

(a) Consistent with the goals set forth in 10 V.S.A. §6301, the primary purpose of this Grant is to conserve and protect the public outdoor recreational, scenic, riparian, wildlife, forestry, and open space resources of the Protected Property and to prevent the use or development of the Protected Property for any purpose or in any manner that would adversely affect these resources.

(b) Secondary purposes are to provide opportunities for educational activities, and permit the construction and maintenance of public trails and structures incident to appropriate public recreational use.

Grantor and Grantee recognize these natural, scenic, and recreational values of the Protected Property, and share the common purpose of conserving these values by the conveyance of conservation restrictions and development rights, to prevent the use or development of the property for any purpose or in any manner which would conflict with the maintenance of these values. Grantee accepts such conservation restrictions and development rights in order to conserve these values for present and future generations.

2. These purposes will be advanced by conserving the Protected Property because the property has frontage on Cedar Lake and is located adjacent to the Town of Monkton School, making it suitable for recreational purposes. The Property is also an important natural and scenic area for the Town of Monkton.

II. Restricted Uses of Protected Property.

1. The Protected Property shall be used for public outdoor recreation, open space and educational purposes in perpetuity. No residential, commercial, industrial or mining activities shall be permitted. No building or structures shall be constructed, created, erected or moved onto the Protected Property, except as permitted by the Town Management Plan developed by the Town of Monkton pursuant to the provisions of the Grant of Development Rights and Conservation Restrictions from the Town of Monkton to the Vermont Housing and Conservation Board, of even date herewith to be recorded in the Town of Monkton Land Records, or as specifically permitted in Section III of this Grant.

2. Except as permitted by this Section III of this Grant, no rights-of-way, easements of ingress or egress, driveways, roads, or utility lines or easements shall be constructed, developed or maintained into, on, over, under, or across the Protected Property, without the prior written permission of Grantee. Grantee may grant such permission if it determines, in its sole discretion, that any such improvement would be consistent with the Purposes of this Grant, and not adversely affect the natural and recreational significance or the scenic beauty of the Protected Property.

3. There shall be no signs, billboards, or outdoor advertising of any kind erected or displayed; provided, however, that the Grantor may erect and maintain reasonable signs indicating the name of the Protected Property, organizations providing funding or sponsorship, boundary markers, directional signs, memorial plaques, historical markers and signs informing the public about reasonable use,including, but not limited to, signs indicating no hunting or trapping.

4. The Protected Property shall be open to the public to use for all types of dispersed recreational and educational purposes (e.g. walking, snowshoeing, cross-country skiing, nature study, fishing) not inconsistent with this Grant, provided that the Grantor may adopt reasonable rules and regulations which limit access or use by the public.

5. The placement, collection or storage of trash, human waste, or any other unsightly or offensive material on the Protected Property shall not be permitted except at such locations, if any, and in such a manner as shall be approved in advance in writing by Grantee. The temporary storage of trash in receptacles for periodic off-site disposal, shall be permitted without such prior written approval.

6. Except as permitted by this Grant or as may be reasonably necessary to carry out the uses permitted by this Grant, there shall be no disturbance of the surface of the Protected Property including but not limited to filling, excavation, removal of topsoil, sand, gravel, rocks or minerals, or change of the topography of the land in any manner. In no case shall surface mining of subsurface oil, gas or other minerals be permitted.

7. Grantor shall not give, grant, sell, convey, transfer, mortgage, pledge or otherwise encumber the Protected Property without the prior written approval of Grantee, which approval shall not be unreasonably withheld.

8. No use shall be made of the Protected Property, and no activity thereon shall be permitted which, in the reasonable opinion of Grantee, is or is likely to become inconsistent with the Purposes of this Grant.

III. Permitted Uses of the Protected Property.

Notwithstanding the foregoing, Grantor shall have the right to make the following uses of the Protected Property:

1. The right to conduct all activities allowed by the Town Management Plan, provided that such activities are reasonably necessary to carry out the Purposes of this Grant and are not inconsistent with this Grant.

2. The right to clear, construct, repair, maintain and replace roads, structures or facilities, together with necessary access drives and utilities, on the Protected Property, provided that such roads, structures or facilities are used for purposes allowed by the Management Plan.

3. The right to utilize, maintain, establish, construct, and improve water sources, courses, and bodies within the Protected Property for uses otherwise permitted hereunder, provided that Grantor does not unnecessarily disturb the natural course of the surface water drainage and runoff flowing over the Protected Property, except where such disturbance is made in order to improve drainage, reduce soil erosion or improve the Protected Property.

4. The right to clear, construct, and maintain trails for walking, horseback riding, skiing, and other non-motorized recreational activities within and across the Protected Property. Snowmobiling may be permitted at the discretion of the Grantor.

5. The right to construct and maintain structures, including the bird watch tower, and facilities and related improvements for school or Town public outdoor recreational activities and purposes, such as, but not limited to, baseball fields and back-stops, outdoor sports bleachers and benches, tennis courts and fencing, track facilities, and docks and lake access, and buildings for recreational use (eg. changing facilities, indoor recreation, and community meetings.

IV. Enforcement of the Restrictions.

1. Grantee shall make reasonable efforts from time to time to assure compliance by Grantor with all of the covenants and restrictions herein. In connection with such efforts, Grantee may make periodic inspection of all or any portion of the Protected Property and for such inspection and enforcement purposes, the Grantees shall have the right of reasonable access to the Protected Property. In the event that Grantee becomes aware of an event or circumstance of non-compliance with the terms and conditions herein set forth, Grantee shall give notice to Grantor of such event or circumstance of non-compliance via certified mail, return receipt requested, and demand corrective action by the Grantor sufficient to abate such event or circumstance of non-compliance and restore the Protected Property to its previous condition. In the event there has been an event or circumstance of non-compliance which is corrected through negotiation and voluntary compliance, Grantor shall reimburse Grantee all reasonable costs incurred in investigating the non-compliance and in securing its correction.

2. Failure by the Grantor to cause discontinuance, abatement or such other corrective action as may be demanded by the Grantee within a reasonable time after receipt of notice and reasonable opportunity to take corrective action shall entitle the Grantee to bring an action in a court of competent jurisdiction to enforce the terms of this Grant and to recover any damages by way of corrective action arising from such non-compliance. Such damages, when recovered, may be applied by the Grantee to corrective action on the Protected Property, if necessary. If the court determines that the Grantor has failed to comply with this Agreement, Grantor shall reimburse the Grantee for any reasonable costs of enforcement, including court costs and reasonable attorneys' fees, in addition to any other payments ordered by such court. In the event that Grantee initiates litigation and the court determines that the Grantor has not failed to comply with this Grant and that the Grantee have initiated litigation without reasonable cause or in bad faith, then the Grantee shall reimburse Grantor for any reasonable costs of defending such action, including court costs and reasonable attorneys' fees. The parties to this Grant specifically acknowledge that events and circumstances of non-compliance constitute immediate and irreparable injury, loss and damage to the Protected Property and accordingly entitle Grantee to such equitable relief, including but not limited to injunctive relief, as the Court deems just.

3. The remedies described herein are in addition to, and not in limitation of, any other remedies available to the Grantee at law, in equity, or through administrative proceedings. No delay or omission by the Grantee in the exercise of any right or remedy upon any breach of Grantor shall impair the Grantee's rights or remedies or be construed as a waiver.

V. **Miscellaneous Provisions.**

1. The construction of any buildings, structures or improvements, or any use of the land otherwise permitted under this Grant, shall be in accordance with all applicable ordinances, statutes and regulations. It is also hereby agreed that Grantor shall consult with the Vermont Division for Historic Preservation (or any successor historic preservation expert identified by the Division) concerning the protection of historic properties or resources and underwater historic properties, as defined in 22 V.S.A. §701, on or near the Protected Property.

2. Where Grantor is required, as a result of this Grant, to obtain the prior written approval of Grantee before commencing an activity or act, and where Grantee has designated in writing another organization or entity which shall have the authority to grant such approval, the approval of said designee shall be deemed to be the approval of Grantee. Grantor shall reimburse Grantee or Grantee's designee for all extraordinary costs, including staff time, incurred in reviewing the proposed action requiring Grantee's approval; but not to include those costs which are expected and routine in scope.

3. Grantee may transfer the development rights and conservation restrictions conveyed by Grantor herein, but only to a qualified holder as defined in 10 V.S.A. §821, in accordance with the laws of the State of Vermont and the regulations established by the Internal Revenue Service governing such transfers.

4. In any deed conveying an interest in all or part of the Protected Property, Grantor shall make reference to the grant of development rights and conservation easement, restrictions and obligations described herein and shall indicate that said easement and restrictions are binding upon all successors in interest in the Protected Property in perpetuity. Grantor shall also notify Grantee of the name(s) and address(es) of Grantor's successor(s) in interest.

5. Grantee shall be entitled to rerecord this Grant or to record a notice making reference to the existence of this Grant, in the Land Records of the Town of Monkton, as may be necessary to satisfy the requirements of the Marketable Record Title Act, 27 V.S.A., Chapter 5, Subchapter 7, including 27 V.S.A. §§603 and 605.

6. In the event the development rights or conservation restrictions conveyed to the Grantee herein are extinguished by eminent domain or other legal proceedings, Grantees shall be entitled to any proceeds which pertain to the extinguishment of Grantee's rights and interests. Any proceeds from such extinguishment shall be allocated between Grantor and Grantee in accordance with the value of their respective interests as determined by a qualified appraisal commissioned by Grantee at the time of extinguishment.

7. The term "Grantor" shall include the successors and assigns of the original Grantor, Town of Monkton School District. The term "Grantee" shall include the respective

successors and assigns of the original Grantee, Vermont Housing and Conservation Board.

8. Any signs erected on the Protected Property which mention funding sources shall include the Vermont Housing and Conservation Board.

9. This Grant shall be governed by and construed in accordance with the laws of the State of Vermont. In the event that any provision or clause in this Grant conflicts with applicable law, such conflict shall not affect other provisions hereof which can be given effect without the conflicting provision. To this end the provisions of this Grant are declared to be severable. Invalidation of any provision hereof shall not affect any other provision of this Grant.

TO HAVE AND TO HOLD said granted development rights and conservation easement and restrictions, with all the privileges and appurtenances thereof, to the said Grantee, VERMONT HOUSING AND CONSERVATION BOARD, its respective successors and assigns, to their own use and behoof forever, and the said Grantor, TOWN OF MONKTON SCHOOL DISTRICT, for itself and its successors and assigns, does covenant with the said Grantee, its successors and assigns, that until the ensealing of these presents, it is the sole owner of the premises and has good right and title to convey the same in the manner aforesaid, that the premises are free from every encumbrance, except easements and use restrictions of record as set forth in **Schedule B** attached hereto and incorporated herein, and it hereby engages to warrant and defend the same against all lawful claims whatever.

IN WITNESS WHEREOF, Grantor has caused this Grant to be executed by its duly authorized agent on this 29 day of MARCH, 1996.

IN THE PRESENCE OF

Mark D Sperry
Witness

Town of Monkton School District:

By: Carol P. Layn
Its Duly Authorized Agent

STATE OF VERMONT
COUNTY OF ADDISON, SS.

At MONKTON, Vermont, on this 29 day of MARCH, 1996, personally appeared ANNE P. LYNN, duly authorized agent of the **Town of Monkton School District,** and he/she acknowledged this instrument, by him/her sealed and subscribed, to be his/her free act and deed and the free act and deed of the Town of Monkton.

Before me, _____
Notary Public

My Commission Expires: 2-10-99

Approved by the **Vermont Housing and Conservation Board:**

3/28/96
Date

By: _____
Its Duly Authorized Agent

Schedule A

DESCRIPTION OF PROTECTED PROPERTY

Beginning at an iron pipe marking the northwest corner of the Town of Monkton School District parcel per Vol. 34, Pg. 268 and also marking a corner of a parcel obtained by the Town of Monkton from James W. & Margaret A. Morse.

Thence southerly in and along said property line between the Town, formerly Morse, and the School District on a magnetic bearing of S 17° 58' W, one hundred fifty five feet, (155.0'), to a point.

Thence easterly on a magnetic bearing of N 75° 18' E, one thousand eight feet, (1,008'), more or less, to a point in the easterly sideline of Monkton School District property per Vol. 34, Pg. 268.

Thence northeasterly on a magnetic bearing of N 26° 28' E, fifty nine feet, (59'), more or less, along the easterly sideline of Monkton School District property to a point being a point near the edge of Cedar Lake.

Thence northwesterly on a tie line with a magnetic bearing of N 46° 26' W, one hundred one feet, (101'), more or less, to a point being a point near the edge of Cedar Lake.

Thence westerly on a magnetic bearing of S 75° 18' W, nine hundred ten feet, (910'), more or less to the point of beginning.

Said Protected Property contains 2.9 acres, more or less, and is as shown on a plat by Pinkham Engineering Associates, Inc. titled "Sewer Easement Plat -- Monkton Central School" dated 3/27/96, Project No. 7192 as "Conservation Easement Area."

Also included in the description of the Protected Property is the area between the aforesaid tie line and the mean low water mark of Cedar Lake.

Being a portion of the lands and premises conveyed to the Town of Monkton School District by Warranty Deed of James and Margaret Morse dated August 30, 1979 and recorded at Book 34, Page 268 of the Monkton Land Records.

SCHEDULE B

Easements and Use Restrictions

1. Utility easement granted by Ghislaine Evers to the Vermont Power Company, Inc., dated October 26, 1970 and recorded in Book 28 at Page 412 of the Town of Monkton Land Records.

2. Utility easement granted by Guy J. Baldwin to the Green Mountain Power Corporation, dated July 24, 1947 and recorded in Book 25 at Page 112 of the Town of Monkton Land Records.

3. Restrictive Covenants set forth in warranty deed from Ghislaine Evers to Cedar Lake Associates, Inc., dated July 9, 1973 and recorded in Book 30 at Page 95 of the Town of Monkton Land Records.

4. Rights and easements conveyed to the Green Mountain Power Corporation by instrument dated August 19, 1993 and recorded in Book 57 at Page 129 of the Town of Monkton Land Records.

5. Any other utility easements or utility rights of way of record, or clearly apparent by observation.

Vermont Property Transfer Tax
32 V.S.A. Chap. 231
--ACKNOWLEDGMENT--
Return Receipt--Tax Paid--Board of Health Cert. Rec'd.--
Vt. Land Use & Development Plans Act Cert. Rec'd.
Return No. 96-#24
Signed Carmelita C Burritt, Clerk
Date 3-29-96

ebeth\cons\monk-1.eas

MONKTON TOWN CLERKS OFFICE: Received and recorded on March 29, 1996 at 12 noon..

ATTEST: Carmelita C Burritt TOWN CLERK

REVIEW AND COMPLIANCE – FEDERAL

DHP# AD06-009

RELATED DHP# _____

Project Name Morse Park Playing Fields Project

Town Monkton County Addison

Federal Agency RD

Property Name _____

Property Location _____

Contact Person _____ Phone _____

Photo File # _____ Slides Filed ( )

ARCHEOLOGICAL SITES: KNOWN (x) POTENTIAL ( )

Property Type(s) VT-AD-1378 identified not avoided

Historic Context(s) _____

NRCS review, see also LWCF 2006 sign-off

BUILDINGS/STRUCTURES:

Property Type(s) _____

Historic Context(s) _____

Applicable MPDF _____

Listed on Survey ( ) Survey # _____ State Register ( )

Listed on NR – individual ( )

district ( ) NRHD Name _____

NRHD Map # _____

Previous NR review (date) _____ Eligible ( ) Not Eligible ( )

Eligible SR – ( ) Staff determination by _____ Date _____

Eligible NR – individual ( ) contributing part of district ( )

Not Eligible NR ( )

Determination by: Staff ( ) Who _____ Date _____

AC ( ) Date of preliminary review _____

Description and Significance Information on Reverse ( )

Project Reviewed by (initial/date) _____ _____

_____ _____

Need Notification of Local Officials ( ) Date Notified _____

Need AC Review ( ) Why _____ Date Scheduled _____

Meeting: Staff Attending _____ Date _____

Site Visit: Staff Attending _____ Date _____

Documentation Required as Condition ( )

Specify _____

_____

Applicable Standards _____

Documentation Received ( ) Date _____

Documentation Approved By _____

REVIEW AND COMPLIANCE GENERATED INFORMATION
DHP PROJECT # _____

****

STATE OF VERMONT Division for Historic Preservation Montpelier, Vermont 05602 HISTORIC SITES AND STRUCTURES SURVEY Individual Structure Survey Form	SURVEY NUMBER: NEGATIVE FILE NUMBER: UTM REFERENCES: Zone/Easting/Northing
COUNTY:	U.S.G.S. QUAD. MAP:
TOWN: LOCATION:	PRESENT FORMAL NAME: ORIGINAL FORMAL NAME:
COMMON NAME:	STYLE:
PROPERTY TYPE: OWNER: ADDRESS:	DATE BUILT:

ARCHITECTURAL OR STRUCTURAL DESCRIPTION:

RELATED STRUCTURES:

STATEMENT OF SIGNIFICANCE:

Meets State Register Criteria _____
Meets National Register Criteria _____
Historic Contexts _____

Map Attached ( )
Photos Attached ( )

RECORDED BY: _____
ORGANIZATION: _____
DATE RECORDED: _____

VERMONT DIVISION FOR HISTORIC PRESERVATION

Review & Compliance Data Form

Last Data Entry:_____

Project Name [ ][ ]
Town [ ] County [ ] Local Review [ ]
State Agency [ ] State No. [ ]
Federal Agency [ ] Federal No.[ ]
Act 250 No. [ ] DHP Number [ ]
Management Concerns: Structures [ ] Landscapes [ ] Archeology [ ]

Date in: [ ] Date due: [ ] Date out: [ ]
Date in: [ ] Date due: [ ] Date out: [ ]
Date in: [ ] Date due: [ ] Date out: [ ]

Project Description:
[ ][ ]

Comments:
[ ][ ]

Preliminary Comments Sent [ ]
Site Visit Conducted [ ]
Additional Comments Sent [ ]
Request Additional Info. [ ]
Survey Requested:
Phase I [7/29/05, 9/16/05, 10/31/05]
Phase II [4/12/06]
Phase III [ ]
Technical Assis. Provided [ ]
Contains No Properties [ ]
Listed on the NR: Yes [ ] No [ ]
Federal Fiscal Year of Finding [ ]

Buffer Zone Requested [6/1/06]
Buffer Zone in Permit [ ]
Cond. No Adverse Effect [ ]
No Adverse Effect [ ]
Adverse Effect [ ]
MOA [ ]
PMOA [ ]
No. of Properties Identified [ ]
Considered Eligible [ ]
Will Not Effect [ ]
Listed on the SR: Yes [ ] No [ ]

{Property Information/Status Sub-table}

DHP No [ ] Resource Name [ ]
Location [ ] HS Survey/VAI Site Number [VT-RD-037]

1rst Context [ ] Property Type [ ] Property Code [ ]
2nd Context [ ]
3rd Context [ ] NR Criterion A [ ] Insufficient Information [ ]
4th Context [ ] NR Criterion B [ ] Not NR Eligible [ ]
5th Context [ ] NR Criterion C [ ] NR Eligible [x]
5th Context [ ] NR Criterion D [x] Not SR Eligible [ ]
State Register Eligible [ ]
Date Opinion Made [ ]

APPENDIX

D – ACRPC SPEED STUDY ALONG MONKTON ROAD

Addison County Regional Planning Commission

14 Seminary Street Middlebury, VT 05753 • www.acrpc.org • Phone: 802.388.3141

MEMO

To: Monkton Selectboard
From: Mike Winslow, ACRPC
Date June 19, 2024
InRe: Traffic Study on Monkton Road

ACRPC conducted a traffic study on Monkton Rd. between Pond Rd. and Silver St. at the request of the town of Monkton. The study began on Monday June 10th and concluded on Tuesday June 18th, 2024 providing seven complete days of data. This memo provides an overview of the results and discusses the implications of those results with regards to speed limits.

The traffic count recorded data from 21,214 vehicles. The average daily traffic over the seven full days of the count was 2,720 vehicles. The 85th percentile speed was 42 mph.

Engineering guidance through the Manual on Uniform Traffic Control Devices (MUTCD) Section 2B.21 states that the posted speed limit for a rural highway should be within 5 mph of the 85th-percentile speed. Vermont statute and guidance generally follows the MUTCD. Thus, with no other context, the data would suggest raising the speed limit from the current 35 mph to 40 mph. However, the context justifies leaving the current speed limit in place.

The MUTCD identifies six factors that should be considered when evaluating speed zones:

1. Roadway environment (such as roadside development, number and frequency of driveways and access points, and land use), functional classification, public transit volume and location or frequency of stops, parking practices, and pedestrian and bicycle facilities and activity;
    a. Land use along Monkton Road is rural residential. There are approximately 10 curb cuts on either side of the road (20 total including the school and Park and Ride) in the 1.2 miles between Silver St. and Pond Rd. There is no public transit

along the road, no parking, and no on-road pedestrian or bicycle facilities. There is a mowed walking path separate from the road south of the Park and Ride.

   b. The roadway environment includes an Elementary School. The presence of the school is a factor that supports having a speed limit lower than the 85th percentile. However, the absence of sidewalks, crosswalks, or bike paths creates an uncomfortable environment for self-powered access to the school by students irrespective of vehicle speeds.
   c. The functional class of the road is a Major Collector. While the 85th percentile speed should not be used to set limits on urban and suburban arterials, and on rural arterials that serve as main streets through developed areas of communities, these exceptions do not exist for this road.

2. Roadway characteristics (such as lane widths, shoulder condition, grade, alignment, median type, and sight distance);
   a. Travel lanes are approximately 12’ in width with no shoulder. Slopes are generally less than 5%, but sight distances can be limited.
   b. The posted speed limit on this section of road is 35 mph.
3. Geographic context (such as an urban district, rural town center, non-urbanized rural area, or suburban area), and multi-modal trip generation;
   a. The area is rural residential with the Elementary School being the most significant potential multi-modal trip generator. However, the absence of road shoulders would be an impediment to multi-modal trips.
4. Reported crash experience for at least a 12-month period;
   a. There has been one crash reported between Silver St. and Pond Rd. in the last year. That was a single vehicle crash with freezing precipitation near the intersection with Pond Lane.
   b. In the last five years there have been nine crashes reported between Silver St. and Pond Rd.; two at the intersection of Pond Rd. including the previously noted crash, two at the intersection with Silver St., and the other five at various points along the road. The publicly available crash reports include little to no information about the nature of the crashes.
   c. The crash data do not suggest an excess of crashes due to vehicle speeds.
5. Speed distribution of free-flowing vehicles including the pace, median (50th-percentile), and 85th percentile speeds; and
   a. 10 mph pace = 32-41 mph;

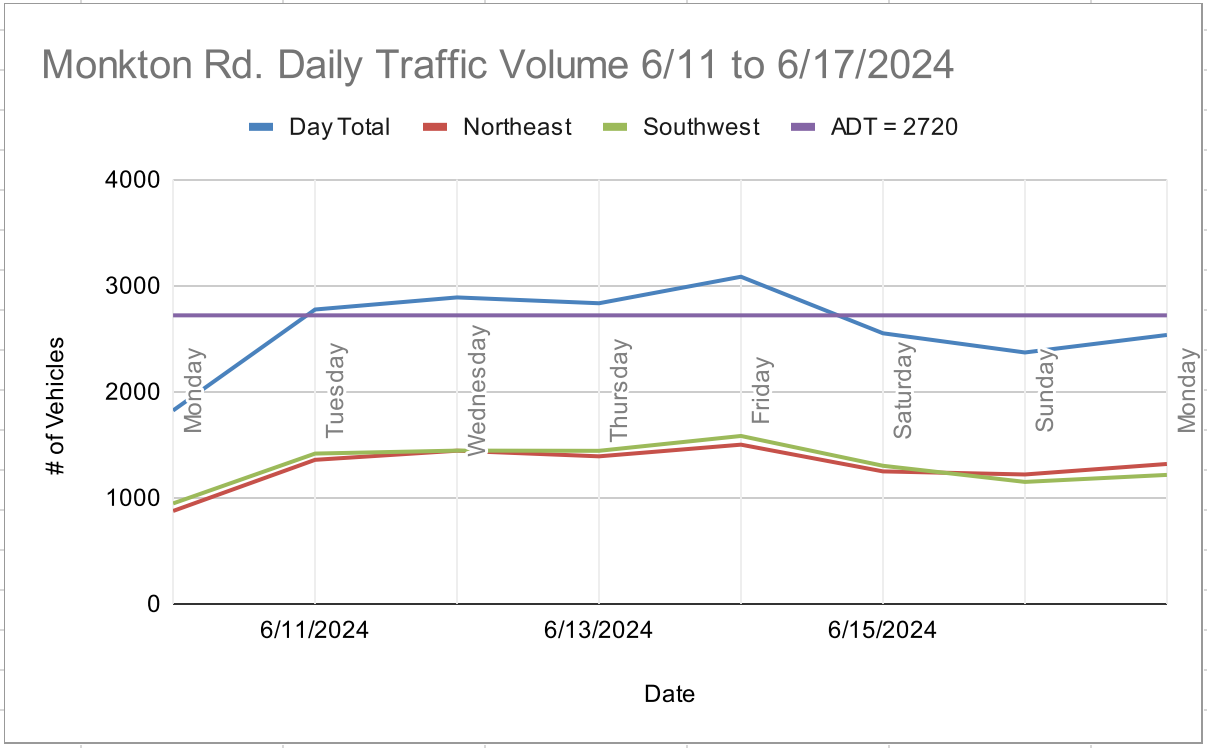
   b. average speed = 37 mph;
   c. 85th percentile speed = 42 mph.
   d. ADT = 2,720
6. A review of past speed studies to identify any trends in operating speeds.
   a. The last traffic count in this area was in 2021.
      i. Pace = 40-50 mph
      ii. 85th percentile = 48 mph
      iii. ADT = 2,120
   b. A previous traffic count occurred in 2014, but did not include speed data
      i. ADT = 1,900
   c. Traffic volumes have increased 28% since 2021 and 43% since 2014. However, vehicles appear to be moving slightly slower in 2024 compared to 2021.

Additional factors that could increase compliance with posted speed limits include changes to geometric features, enforcement, and/or other speed-reduction countermeasures. Changes to geometric features would require a substantial investment on the part of Monkton and do not seem realistic for this area. Enforcement is a viable option for the town to pursue with the Addison County Sheriff or other local law enforcement agencies. Speed-reduction counter measures might include narrowing of travel lanes, addition of shoulders, installation of school warning signs, or establishment of a school speed zone.

State statutes are silent about establishment of school zones on town roads. However, the statutes applied to state roads can provide useful guidance. Selectboards can determine and declare a reasonable and safe limit that is effective when appropriate signs stating the limit are erected. This limit may be declared to be effective at all times or at times indicated upon the signs; and differing limits may be established for different times of day, different types of vehicles, varying weather conditions, or based on other factors bearing on safe speeds, which are effective when posted upon appropriate fixed or alterable signs. The civil penalty for violating a municipal speed limit in a school zone designated with signs in accordance with 19 V.S.A. § 921 is twice the penalty for a non-school zone speed limit violation.

Please reach out to me if you have any questions about the traffic study.

Day	Date	Lane	Day Total	Northeast	Southwest	ADT = 2720
Monday	6/10/2024	Day Total	1,823	876	947	2720
Tuesday	6/11/2024	Day Total	2,775	1,358	1,417	2720
Wednesday	6/12/2024	Day Total	2,889	1,444	1,445	2720
Thursday	6/13/2024	Day Total	2,834	1,391	1,443	2720
Friday	6/14/2024	Day Total	3,084	1,501	1,583	2720
Saturday	6/15/2024	Day Total	2,551	1,249	1,302	2720
Sunday	6/16/2024	Day Total	2,370	1,220	1,150	2720
Monday	6/17/2024	Day Total	2,535	1,319	1,216	2720



Addison County
REGIONAL PLANNING COMMISSION

SPEED DATA ANALYSIS

Location

Monkton Rd
Latitude: 44.242664
Longitude: -73.141143

Analysis Time Period

Start	End
6/10/2024 9:20 AM	6/18/2024 7:52 AM

Vehicles Analyzed

21,214

Average Speed

37

Total Enforceable Violations

13,792

10 MPH Pace Speed

32-41

Peak Time of Violations

6/10/2024
4:20 PM

85th Percentile Speed

42

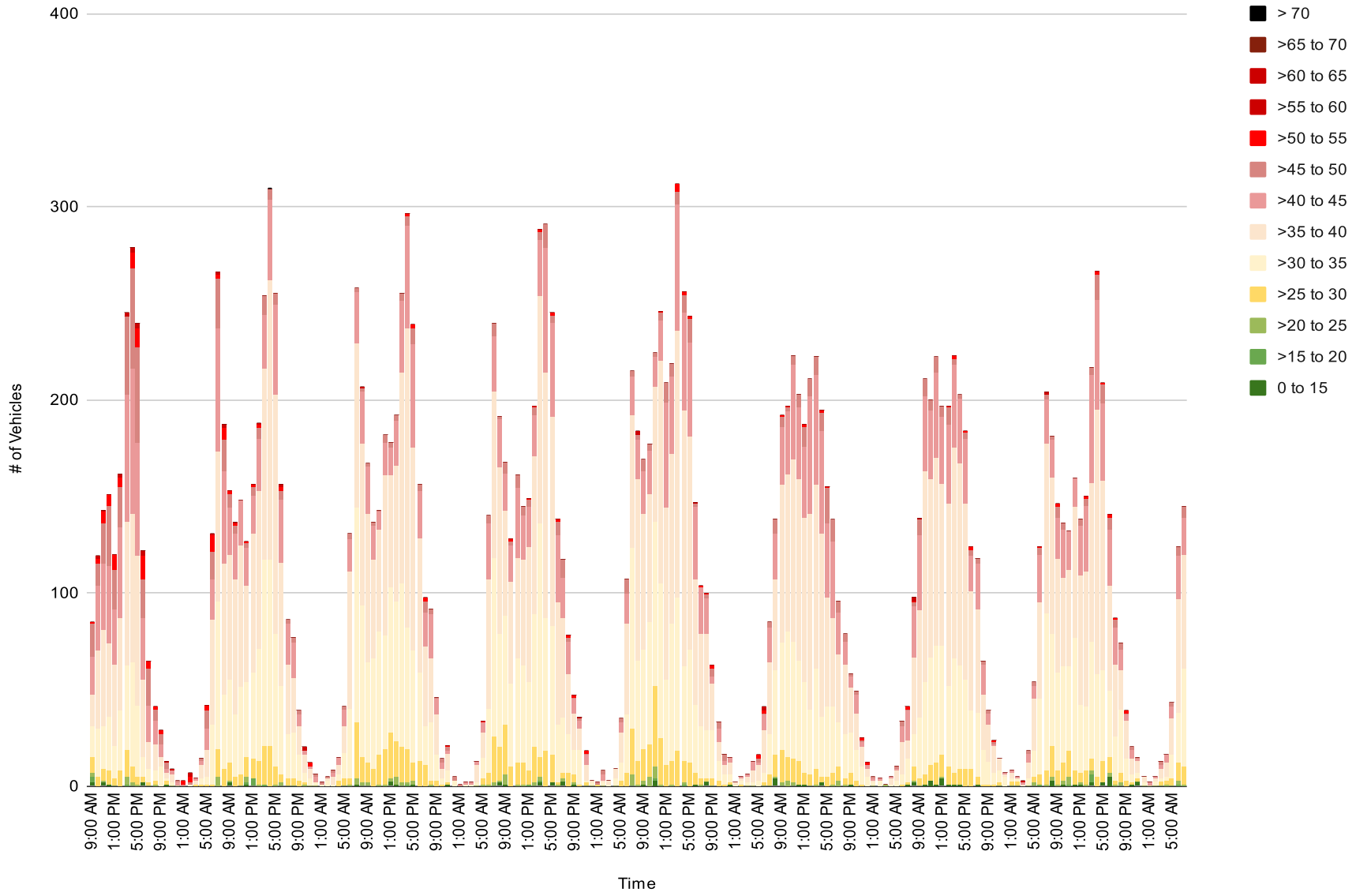
Speed Limit

35

Fastest Speed

76

Monkton Rd. Traffic Speeds 6/10 to 17/2024



Addison County
REGIONAL PLANNING COMMISSION

CLASS DATA ANALYSIS

Location

Monkton Rd
Latitude: 44.242664
Longitude: -73.141143

Analysis Time Period

Start	End
6/10/2024	6/18/2024
12:00 AM	7:51 AM

Vehicles Analyzed

21,214

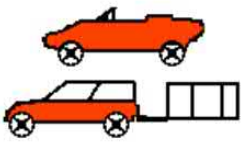
Unclassed

Unclassed
Volume: 74
Average Speed: 28 MPH
Length: 11' 0"

Motorcycles

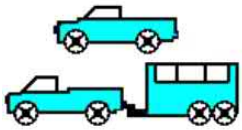
Motorcycles
Volume: 218
Average Speed: 32 MPH
Length: 6' 9"

Cars Trailers



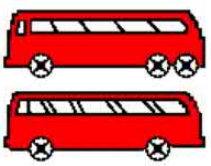
Cars Trailers
Volume: 15,915
Average Speed: 37 MPH
Length: 10' 2"

2 Axle Long



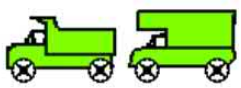
2 Axle Long
Volume: 4,094
Average Speed: 37 MPH
Length: 14' 2"

Buses



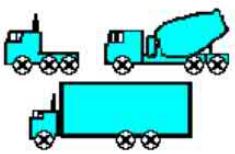
Buses
Volume: 86
Average Speed: 32 MPH
Length: 25' 8"

2 Axle 6 Tire



2 Axle 6 Tire
Volume: 564
Average Speed: 39 MPH
Length: 15' 7"

3 Axle Single

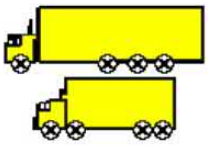


3 Axle Single
Volume: 104
Average Speed: 33 MPH
Length: 19' 8"

Addison County
REGIONAL PLANNING COMMISSION

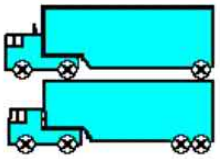
CLASS DATA ANALYSIS

4 Axle Single



4 Axle Single
Volume: 7
Average Speed: 34 MPH
Length: 21' 0"

<5 Axl Double

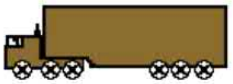


<5 Axl Double
Volume: 111
Average Speed: 37 MPH
Length: 35' 6"

5 Axle Double

5 Axle Double
Volume: 33
Average Speed: 35 MPH
Length: 49' 6"

>6 Axl Double

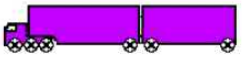


>6 Axl Double
Volume: 8
Average Speed: 34 MPH
Length: 52' 2"

<6 Axl Multi

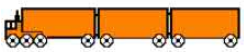
<6 Axl Multi
Volume: 0
Average Speed: 0 MPH
Length: 0' 0"

6 Axle Multi



6 Axle Multi
Volume: 0
Average Speed: 0 MPH
Length: 0' 0"

>6 Axl Multi



>6 Axl Multi
Volume: 0
Average Speed: 0 MPH
Length: 0' 0"

APPENDIX

E - MEETING NOTES AND KEY CORRESPONDENCE

Monkton Bike/Ped Scoping Study

Project Kick-Off Meeting
October 26, 20232 @ 3pm
Meeting Agenda

Attendees:

1. Introductions

2. Project Overview – Scope of Work
   - 2.1. Kick Off Meeting
   - 2.2. Compile Base Map / Document Existing Conditions
   - 2.3. Local Concerns Meeting
   - 2.4. Develop Purpose and Need Statement
   - 2.5. Natural and Cultural Resources Reviews
   - 2.6. Permitting Needs Review
   - 2.7. Develop Conceptual Alternatives
   - 2.8. Alternatives Evaluation
   - 2.9. Alternatives Presentation Meeting
   - 2.10. Scoping Study Report
   - 2.11. Public Informational Presentation

3. Schedule

4. Discussion Items
   - 4.1. Project Area Limits
   - 4.2. Sidewalks vs Multi-Use Path Facilities
   - 4.3. Relevant information from Town
   - 4.4. Town input on project area

5. Other

Monkton Bike/Ped Scoping Study
Project Kick-Off Meeting

Introductions

Project Overview – Scope of Work
- Kick Off Meeting
- Base Map / Existing Conditions (thru Nov.)
- Local Concerns Meeting (Dec.)
- Develop Purpose and Need Statement (Dec.)
- Natural and Cultural Resources Reviews (through Dec.)
- Permitting Needs Review (Dec.)
- Develop Conceptual Alternatives (Jan. - Feb.)
- Alternatives Evaluation (March - April)
- Alternatives Presentation Meeting (May)
- Scoping Study Report (early July, end of August)
- Public Informational Presentation (July)

Schedule
- See dates noted above

Discussion Items
- Project Area Limits
  - sides of roads
  - how far back from roads to consider
  - define limits at Morse Lot and School
- Sidewalks vs Multi-Use Path Facilities
  - 5' sidewalks, 8'-10' multi-use, bike lanes, etc.
- Relevant information from Town
  - utilities, future plans in the area, etc.
  - Morse Lot (shows as conserved land on State GIS layer)
- Town input on project / project area

Other

Monkton Bike / Ped Scoping Study Project

Local Concerns Meeting
March 14, 2024 @ 6:00 pm
Meeting Minutes

Attendees:

See sign-in sheet

1. Introduction
   1.1. Stephen Pilcher introduced the project, being a bike/ped scoping study that focuses on developing potential alternatives for bike/ped infrastructure on the roads surrounding Cedar Lake. He noted that this project is being funded through VTrans with a TAP grant.
   1.2. Stephen Pilcher introduced Jenny Austin, DuBois & King, engineer for the project. The following is a summary of the D&K presentation and discussion.
2. Project Overview
   2.1. A general project introduction was made, including reference to the project area roads being Monkton Road, Pond Road, Rotax Road, Davis Road, and Monkton Ridge Road.
   2.2. The total project length is approximately 3.5-miles.
   2.3. The project area roads appear to all have a 3-rod right of way (49.5-feet).
3. Scoping Study Process
   3.1. The scoping study process was briefly reviewed. This generally includes a project kick-off meeting, compiling a basemap and documenting existing conditions, the Local Concerns Meeting, development and evaluation of alternatives, an Alternatives Presentation Meeting, Public Informational Meeting, and a Scoping Study Report.
4. Project area: Existing Conditions
   4.1. Project area characteristics of each road within the project area were briefly discussed. Paved roads include Monkton Road, Monkton Ridge Road, and Davis Road; and gravel roads include Pond Road and Rotax Road. Destinations within the project area that could benefit by bike/ped improvements include the school, park and ride, dog park, two cemeteries, Morse Park, an orchard, the Town Hall, residential areas, and more.
   4.2. Results from an environmental resources review in the project area were discussed. These include wetlands, streams, invasive plants, potential bat roost trees, and protected lands in the project area. The Morse Park, located in the southwest corner of the project area, is considered as a protected land.
   4.3. An archaeological resource assessment was conducted for this project, which identified 4 sites in proximity to the project area, 2 of which are likely to be within 20' of the roadways – one of which is along the south side of Monkton Road and the other of which is on the west side of Pond Road (off Cedar Lane). Therefore, there is greater likelihood for potential archaeological resource impacts if bike/ped infrastructure is located on these sections.
   4.4. The historic resource inventory review for the project was discussed. There is 1 NRHP listed property in the project area (the Town Hall). There are 10 contributing resources and 36 built

environment properties within the area. The area along Monkton Ridge through the Historic District is the most sensitive in relation to historic resources. However, it was noted that bike/ped infrastructure could serve as an enhancement to the area by reinforcing village characteristics.

5. Overview of Next Steps
   5.1. A brief summary of next steps for the project was reviewed, including development of alternatives, forwarding these to the Town for input, finalizing an alternatives list for evaluations, an Alternatives Presentation Meeting to present alternatives, preparation of the Draft Scoping Study Report, presentation of this report at a Public Informational Meeting, town review of the Scoping Study Report and finalization of the Final Report. The alternatives Presentation Meeting and Public Informational Meeting will both be meetings that are open to the public.
6. Project alternatives Discussion & Public Input
   6.1. There was discussion regarding right of way (ROW) along the project area. There was a question regarding the right-of-way (ROW) and whether the 50' (technically 49.5') is the total width or if the right of way is 50' from the centerline. It was clarified that 50' is the total width of the road right of way. Stephen noted that all roads within Town except one are 3-rod rights of way. During the ROW discussion there was public comment that there are houses that are very close to the roadway. There was also mention that someone believes the Town formerly had an access to the Pond, but it is believed that this is now private property.
   6.2. There was input from a resident that they would like to see a path cut through land between the school and rec field, a majority of which is within the Morse Park. There was also input from this resident that they would like to see a path to the rec field that is located west of Pond Road. Jenny noted that the scope for this project is limited to the areas adjacent to the roadways identified.
   6.3. There was some discussion regarding prior plans, years ago, for a path in the area discussed above. However, the Town no longer has these plans and are not sure who the engineer was that development these plans.
   6.4. There was input from at least a couple residents that people feel safe walking along Pond Road and Rotax Road, noting that these two roads are less traveled than Monkton Road and Monkton Ridge Road.
   6.5. It was noted that Rotax Road is quite wide, wider than it used to be. There was the question whether this road could be narrower, using some of the existing width for bike/ped infrastructure. Jenny noted that this is something that D&K will look into in the development of alternatives, whether it is reasonable to reduce the width of Rotax Road.
   6.6. It was noted that there are houses along Monkton Ridge Road which have their septic systems in the front lawn of their houses. Jenny noted that D&K can review the State's database for wastewater system permits to see if we can find any documentation of these systems and where they might be located.
   6.7. There was general discussion regarding side of the road preference for potential alternatives. There were mixed feelings regarding preference for north or south side of the road for Monkton Road. There seemed to be general interest in bike/ped infrastructure on the east side

of Pond Road. There seemed to be general consensus for infrastructure on the west side of Monkton Ridge Road. Stephen mentioned that he has seen a path in a location of similar topography to Monkton Road which had infrastructure that was boardwalk-like.

6.8. There was general discussion regarding potential types of alternatives – curbed sidewalks, sidewalks with green strip, multi-use paths, and bike lanes, for examples. There was the question about the typical width of sidewalks and multi-use paths. Jenny noted that a standard sidewalk is 5' wide, though it can pinch down narrower for a short distance if needed. She suggested that multi use paths are typically 10' wide, though are sometimes as narrow as 8' wide. There was question about how to delineate a green strip between the road and sidewalk. It was noted that this is typically grass, but could have some other sort of vegetation. One member of the public noted the potential use of posts between the road and sidewalk, or even having a ditch between the road and sidewalk.

6.9. There was brief discussion of the potential for crosswalk(s) depending on alternative alignment. Jenny commented that when developing alternatives will also take into consideration sight distance at any potential crosswalks to ensure that crosswalks would be proposed at appropriate location(s), if needed.

Monkton Bike/Ped Scoping Study
Local Concerns Meeting
Handout - Public Input

Response #	Side of Road preferences, or combination of:					Bike/Ped Facility type preferences or combination of					Input on Order of priority for proposed improvements:					What is your vision for bike/ped improvements within the project area?
	Monkton Rd	Pond Rd	Rotax Rd	Davis Rd	Monkton Ridge	Monkton Rd	Pond Rd	Rotax Rd	Davis Rd	Monkton Ridge	Monkton Rd	Pond Rd	Rotax Rd	Davis Rd	Monkton Ridge	
1	south	north(*1)	south	south	west	sidewalk	multi use path	multi use path	sidewalk	curbed sidewalk(*3)	1	5	4	3	2	
2	right				west	curbed sidewalk				curbed sidewalk	1	2	3	4	1	
3	north	east	south	south	west	curbed sidwalk / boardwalk	sidewalk with green strip	curbed sidewalk	curbed sidewalk	curbed sidewalk	1	3	4	5	2	
4	north	east	south	south	west	multi use path	multi use path	multi use path	multi use path	multi use path (*4)	2	3	3	3	1	
5	south	east(*2)			west	multi use path	multi use path	multi use path	multi use path	curbed multi use (*5)	1	3	3	2	1	Eventually connect with Bristol + Hinesburg
											TOTAL POINTS					
											6	16	17	17	7	
											OVERALL RANKING					
											1	3	4	4	2	

*1: noted north and use rec path for portion
*2: noted east / inner by park

*3: noted for Monkton Ridge - curbed (but sidewalk on 1 side, curbs on both side to
*4: noted for Monkton Ridge - multi use. Would love to see traditional sidewalk with
*5: noted for Monkton Ridge - curbed multi use

MONKTON SELECTBOARD MEETING
MINUTES
Tuesday, August 27, 2024
DRAFT

The meeting was called to order by Stephen Pilcher at 7:02 p.m.

Members in attendance: Stephen Pilcher (chair), Joe Szarejko, Walter Crandall, Marikate Kelley, John McNerney, Joe Szarejko

Members absent: none

Others in attendance: Jessica Demeritt (recording secretary), Stan Wilbur (town administrator), John Zaikowski, Jen Austin, Debra Sprague, Jaime Schulte, Mike Winslow, Janet Fairchild

ANNOUNCEMENTS:
none

REGULAR BUSINESS:

APPROVE MINUTES
W. Crandall moved to approve the minutes of August 13, 2024 as written. J. Szarejko seconded. All voted in favor.

REVIEW AND APPROVE CHECK WARRANTS
W. Crandall moved to approve AP 40816 in the amount of $177,133.98. He noted that this item was for Pike Industries hot mix. **J. McNerney seconded. All voted in favor.**
W. Crandall moved to approve AP 40826 in the amount of $13,336.61. J. Szarejko seconded. All voted in favor.
W. Crandall moved to approve AP 40827 in the amount of $44,775.34. He noted this paid for road repairs across the board. **J. Szarejko seconded. All voted in favor.**
W. Crandall moved to approve PR 40826 in the amount of $13,310.58. J. Szarejko seconded. S. Pilcher asked how overtime was going for the road crew. J. Szarejko responded that it appeared to have been reduced for a while since the storms. **All voted in favor.**

REVIEW AND APPROVE OVERWEIGHT PERMITS, ETC
none

FACILITY USE REQUEST
There was one, said W. Crandall.

PUBLIC COMMENT
none

NEW BUSINESS:

BIKE/PEDESTRIAN FACILITY ALTERNATIVES PRESENTATION - DUBOIS & KING

J. Austin presented the project for a 3.5 mile loop around the pond. There was discussion about bike lanes, aggregate paths, curbed sidewalks, needs for drainage and permitting. The Opinion of Probable Construction Costs (OPCC) were discussed. The final scoping study report will be completed in October. S. Pilcher asked about bike lane and car lane sizes. S. Pilcher asked about Rotax Road and bike lanes; and learned it would require paving the road. J. Zaikowski, speaking for himself, noted that there is currently a gate on one of the proposed routes through Morse Park. He also noted that there are archeological considerations in that there are pre-contact Indigenous findings on the Morse Park property. J. Zaikowski noted that the Recreation Committee had ARPA funds for improving the paths at Morse Park. He noted the class 2 wetlands on the property. VHCB has an easement on Morse Park, J. Zaikowski stated.
M. Winslow noted traffic calming and narrowing of lanes. Link to the Bike/Pedestrian Facility Alternatives Presentation.

HIGHWAY DEPARTMENT UPDATE

J. Szarejko noted the road crew is working on roadside mowing, grading, a pump for chloride machine is on order to calm the dust, still working on storm clean up, and cutting back brush. The Mountain Road ditching is nearly done, and gravel is coming next. Pond Road will get attention soon. States Prison Hollow Road will get some ditching in a problem washout area. There was discussion about cutting trees, digging deeper ditches, and bigger culverts for Piney Woods Road. There was discussion about FEMA and the Tyler Bridge Road culvert, which has sunken quite a bit. J. Szarejko noted FEMA is here this week. Engineering studies and hydrology studies may be needed before work is done. FEMA is only covering 75%, rather than 90%. The state will cover 12%, said S. Pilcher. It was noted that Piney Woods Road follows a creek. There was discussion about invoices from contractors doing work for Monkton. There was discussion about the Procurement Policy. There was discussion about the road crew being able to purchase from nearby stores. There was discussion about needs from the treasurer. W. Crandall noted that Hardscrabble Road was looking good and thanked the road crew.

PINEY WOODS ROAD REBUILD

see above

SOUTH WING BID REQUEST FOR PROPOSALS

There was discussion about requesting proposals and storage space and timing.

RIGHT OF WAY APPLICATION - DUCHARME

S. Pilcher proposed a site visit. W. Crandall volunteered to do the visit.

APPOINTMENTS
S. Pilcher noted a Health Officer has not been appointed, and the Planning Commission needs appointments. **W. Crandall nominated Debra Sprague to the Planning Commission for a term ending 3/2027. J. McNerney seconded. All voted in favor.**

OLD AIRPORT ROAD SURVEY
S. Pilcher noted that there were a number of markings by T. Short on Old Airport Road. J. Schulte noted that the survey held no surprises. S. Pilcher commented that the Selectboard was generally satisfied with the survey. The invoice could be submitted for payment.

MONKTON TOWN FOREST CONSERVATION EASEMENT
no action taken

EDGELINE MARKING AWARD
S. Pilcher noted only one bid was submitted when the project was put out to bid. There was discussion about getting stop bars painted. J. McNerney asked about narrowing lanes for traffic calming. **W. Crandall moved to accept the bid for the edge line marking from L & D Safety Marking Corp. for $28,000.** It was noted that lane width should be checked in the complete streets study. **M. Kelley seconded. All voted in favor.**

TRAFFIC ORDINANCE UPDATE
S. Pilcher made two changes to the traffic ordinance: 1) included a description of a designated school zone, 2) added to parking regulations, no vehicles in town right of way for more than 48 hours. There was discussion about safety. J. McNerney noted a few additions including seasonal conditions. M. Kelley noted that during the winter, nothing should be parked in the right-of-way. There was discussion about a winter parking ordinance. S. Wilbur spoke about towing or ticketing.

HIGHWAY ACCESS POLICY UPDATE
S. Pilcher noted that the policy listed the b71a and b71b regulations and some typos. **W. Crandall moved to approve the Town of Monkton Highway Access Policy as amended. M. Kelley seconded. All voted in favor.**

OLD BUSINESS
none

OTHER BUSINESS
none

EXECUTIVE SESSION:
none

The next meeting will be Tuesday, September 10, 2024, at 7 p.m.

W. Crandall moved to adjourn the meeting at 9:06 p.m. All voted in favor.

Respectfully submitted,

Jessica Demeritt

To: Jenny Austin, P.E., Senior Project Engineer
Monkton Selectboard
Stan Wilbur, Town Administrator
From: Monkton Recreation Committee
Date: 9/9/24
Re: Comments on the Bike/Pedestrian Alternatives Proposal utilizing Morse Park

At the request of the Town Administrator and Selectboard, the Recreation Committee provides the following comments regarding the Bike/Pedestrian Path Alternative utilizing portions of the Morse Park (the Park) walking paths. John Zaikowski, Chair of the Rec Committee provided these comments verbally during the Selectboard's 8/27/24 meeting. Below is a summary of those comments:

1. The proposed alternative path through the Park utilizes the entrance at the northwest corner of the Park to access its existing walking trails. This access point is currently gated, and at various times in the past has been locked to prevent unauthorized motor vehicle entry onto the paths and playing fields. Vandalism from vehicle entry has been a recent challenge. In the event the Town elects to utilize the walking paths for this project, consideration should be given to methods to limit or restrict motor vehicle entry at this location.

2. During the planning process for the construction of the Park's playing fields and Pond Road parking lot, the Town was required to undertake an archeological assessment of the area. The assessment, conducted by the United States Department of Agriculture's Natural Resource Conservation Service (NRCS), identified a pre-contact Native American archeological site, and as a result, portions of the project had to be moved and re-designed to avoid/minimize impacts. In the event the bike/pedestrian path utilizes the Park, and depending on the details of construction, the Town may need to consult and coordinate with NRCS and the Vermont Department of Historic Preservation.

3. The Rec Committee has an existing approved ARPA project in place which contemplates repairs to sections of the Park's walking paths. Some of those sections include the route contemplated by the bike/pedestrian path. In the event the Town elects to utilize the walking paths for this project, coordination with the Rec Committee may be needed depending on the timing of the respective projects.

4. The Park contains a small stream which flows in a roughly north easterly direction into Monkton Pond. This stream corridor contains a wetland regulated by the State as a Class II wetland. A portion of the walking path includes a small footbridge which crosses this stream and the wetland. The proposed bike/pedestrian path would utilize this section of the walking path and footbridge. In the event the Town elects to utilize the walking paths for this project, and depending on the details of the construction, the Town may need to consult with the State's Wetlands Program to determine if a permit is needed prior to construction.

5. The Vermont Housing and Conservation Board (VHCB) holds a conservation easement on the property. While this project would appear to meet the purposes of the easement, the Rec Committee recommends conferring with VHCB in the event this project moves forward.

MONKTON SELECTBOARD SPECIAL
MEETING MINUTES
Tuesday, February 11, 2025
DRAFT

The meeting was called to order by Marikate Kelley at 6:30 p.m.

Members in attendance: Walter Crandall, John McNerney, Marikate Kelley (acting chair), Joe Szarejko

Members absent: none

Others in attendance: Stan Wilbur (town administrator), Jessica Demeritt (recording secretary), Beverly Soychak, Theresa Payea, Paul Bertalan, Tom Steadman, Jenny Austin, Stephen Pilcher, Marilyn Cargill, and other members of the public.

PUBLIC INFORMATION MEETING:

MONKTON BIKE/PED SCOPING STUDY DRAFT REPORT
J. Austin explained the draft of the scoping study. She noted that the purpose was to identify and evaluate alternative infrastructure options for bike and pedestrian travel around Cedar Lake. The study was largely funded by a grant from VTrans. The process began in 2023 by looking at existing conditions and general characteristics including environmental mapping. Archaeological and historical resources were examined. Some infrastructure options included: Monkton road, bike lane on both sides of road, widening road, or 5' sidewalk on north side of road, which would need a boardwalk; Pond Road, eastern side of road, a 5' aggregate with a 5' buffer, or 8' with a 5' buffer; Rotax Road, 5' sidewalk with 5' buffer, pave road with 4' bike lane on both sides, Davis Road and the Ridge, 5' curbed sidewalk or 4' bike lanes on both sides; 8' path in Morse Park. An evaluation matrix summarized all the alternatives and considerations. J. Austin summed up the community survey responses from 2024, a survey that opened after the public informational meeting in August of 2024. Thirty responses were received. The priority identified from the survey was Monkton road; Monkton Ridge/Davis Road was second. Pricing for all of the various alternatives ranged from $0 to $900,000 to $6,500,000. Next steps will be finalizing the scoping study.

B. Soychak asked if a bike path was just for bikes? It was explained that it would be for all uses. B. Soychak mentioned erosion issues. Concern about runoff into the pond was expressed. T. Steadman asked if the survey was sent in the mail? The response was that it was electronic. T. Steadman expressed concern about the survey response numbers. Is the speed on Monkton Road going to be addressed? asked P. Bertalan. It was answered that the town was aware of the speed issues. The survey is still open, it was noted. It may be accessed here: https://www.surveymonkey.com/r/MonktonBikePed-Alternatives

T. Payea asked about the timeline. It was noted that the survey can stay open but the scoping study is wrapping up. T. Payea asked about street lighting for safety? It was noted that that issue had not come up.

M. Kelley closed the special meeting at 7:07 p.m.

Respectfully submitted,

Jessica Demeritt

APPENDIX

F - OPINIONS OF PROBABLE CONSTRUCTION COSTS AND ANTICIPATED PROJECT COSTS

Monkton Bike/Ped Scoping Study Alternatives: Opinions of Probable Construction Costs

Note: Costs included in this table are meant to give a ball-park figure for overall projects costs for the various alternatives. There was no topographic survey completed for this project, therefore quantities are included for the purposes of estimating ball-park opinions of probable construction costs. It is assumed that VTrans unit costs for curbed sidewalks include costs, as needed, for catch basins and storm drains. However, additonal drainage costs have been incorporated in the table below to be conservative.

				Monkton Road				Pond Road				Rotax Road				Monkton Ridge / Davis Road				Morse Lot	
				Alt. 1		Alt. 2		Alt. 1		Alt. 2		Alt. 1		Alt. 2		Alt. 1		Alt. 2		Alt. 1	
				4' Bike Lanes on Both Sides of Road		5' Sidewalk on North Side of Road		5' Aggregate Sidewalk with Green Strip / Swale on East Side of Road		10' Aggregate Multi-Use Path with Green Strip / Swale on East Side of Road		5' Aggregate Sidewalk with Green Strip / Swale on South Side of Road		4' Bike Lanes on Both Sides of Road		5' Curbed Concrete Sidewalk on West Side of Road		4' Bike Lanes on Both Sides of Road		10' Aggregate Multi-Use Path Through Lot	
Item	Description	Unit	Unit Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost
*	5' Concrete Walk, No Curb	lf	$228																		
*	5' Concrete Walk, Concrete Curb	lf	$343			2570	$882,744									2580	$886,178				
*	5' wide aggregate surface path	lf	$259					4008	$1,038,259			2900	$751,235								
*	10' wide aggregate surface path	lf	$373							4008	$1,495,946									2630	$981,621
201.10	clearing and grubbing	ac	$70,000	0.23	$16,100	0.23	$16,100	0.36	$25,200	0.51	$35,700.00	0.06	$4,200	0.01	$700	0.03	$2,100	0.01	$700	0.30	$21,000
203.15	Common Excavation	cy	$21	5300	$111,300	500	$10,500	700	$14,700	1300	$27,300	400	$8,400	1400	$29,400	50	$1,050	1925	$40,425	50	$1,050
203.3	Earth Borrow	cy	$20	2900	$58,000	50	$1,000	200	$4,000	200	$4,000	100	$2,000	550	$11,000	50	$1,000	1000	$20,000		
301.35	Subbase of Dense Graded Crushed Stone	cy	$50	1780	$89,000									650	$32,500			1150	$57,500		
406	Bituminous Concrete Pavement	ton	$200	2500	$500,000									2940	$588,000			1020	$204,000		
620.50	Removing and Resetting Fence	lf	$20	100	$2,000	100	$2,000							440	$8,800						
621.20	Steel Beam Guardrail, Galvanized	lf	$30	1460	$43,800	750	$22,500														
621.80	Removal and Disposal of Guardrail	lf	$2	1460	$2,920	1460	$2,920														
635.11	Mobilization / Demobilization (10% of beyond typical items)				$90,000		$425,000		$10,000		$10,000		$5,000		$70,000		$5,000		$35,000		$10,000
646.403	Durable 4" White Line, Epoxy Paint	lf	$1.00	12800	$12,800									5800	$5,800			5160	$5,160		
646.413	Durable 4" Yellow Line, Epoxy Paint	lf	$1.00	12800	$12,800									5800	$5,800			5160	$5,160		
646.493	Durable Letter or Symbol, Epoxy Paint	ea	$150	20	$3,000									12	$1,800			24	$3,600		
651.15	Seed	lb	$15	185	$2,775	170	$2,550	45	$675	45	$675	20	$300	100	$1,500			75	$1,125		
651.18	Fertilizer	lb	$7	370	$2,590	335	$2,345	90	$630	90	$630	40	$280	200	$1,400			150	$1,050		
651.20	Agricultural limestone	ton	$1,000	1.5	$1,500	1.40	$1,400	0.40	$400	0.40	$400	0.20	$200	0.80	$800			0.60	$600		
651.35	Topsoil	cy	$50	297	$14,850	268	$13,400	70	$3,500	70	$3,500	29	$1,450	162	$8,100			$120	$6,000		
653.10	Hay Mulch	ton	$1,550	1.5	$2,325	1.40	$2,170	0.40	$620	0.40	$620	0.20	$310	0.80	$1,240			0.60	$930		
SP	5' Concrete Sidewalk Elevated on Piers	sf	$160			15200	$2,432,000														
SP	Railing	lf	$125			3040	$380,000														
SP	Retaining Wall	sf	$500			2700	$1,350,000														
SP	Pedestrian Bridge	LS	$20,000																	1	$20,000
SP	Wildlife Crossings	LS	$5,000																	1	$5,000
SP	Drainage Improvements	LS	varies	1	$7,000	1	$6,000	1	$4,000	1	$4,000	1	$3,000	1	$3,000	1	$3,000	1	$3,000	1	$3,000
Subtotal Construction					$972,760		$5,552,629		$1,101,984		$1,582,771		$776,375		$769,840		$898,328		$384,250		$1,041,671
Approx. 20% Contingency on Alternative Specific Items					$194,552		$933,977		$12,745		$17,365		$5,028		$153,968		$2,430		$76,850		$12,010
OPCC, Conceptual (Rounded)					$1,167,312		$6,486,606		$1,114,729		$1,600,136		$781,403		$923,808		$900,758		$461,100		$1,053,681
Engineering and Administration Costs (22%) plus Construction Engineering (14%), adjusted for rounding**					$422,688		$2,343,394		$405,271		$579,864		$288,597		$336,192		$329,242		$168,900		$386,319
Rounded Total Project Costs (Excluding ROW costs)					$1,590,000		$8,830,000		$1,520,000		$2,180,000		$1,070,000		$1,260,000		$1,230,000		$630,000		$1,440,000

* Average base sidewalk construction cost value from the VTrans Report on Shared-Use Path and Sidewalk Costs, January 2020 and projected to 2026 using ENR Index Value projections.

** Percentages based on VTrans Report on Shared-Use Path and Sidewalk Costs, January 2020, rounded.

Assumption: Utility company will pay for costs associated with required relocation of utility poles.

Report on Shared-Use Path and Sidewalk Costs

January 2020

Table 1 - 5 ft. Wide Sidewalk Unit Costs

Curb/Walk Configuration	Basic Cost/Foot	Total Cost/Foot
Concrete Walk w/No Curb	$63	$184
Concrete Walk w/Granite Curb	$109	$317
Concrete Walk w/Concrete Curb	$95	$277
Bituminous Walk w/No Curb	$33	$94
Bituminous Walk w/Granite Curb	$78	$227
Bituminous Walk w/Concrete Curb	$64	$187
Aggregate Walk w/No Curb	$28	$68
Aggregate Walk w/Granite Curb	$74	$214
Aggregate Walk w/Concrete Curb	$60	$175

Table 2 - Shared Use Path Unit Costs

Shared Use Path Configuration	Basic Cost/Foot	Total Cost/Foot
8 Ft. Wide Bituminous Concrete Path	$71	$297
10 Ft. Wide Bituminous Concrete Path	$82	$342
12 Ft. Wide Bituminous Concrete Path	$92	$384
8 Ft. Wide Aggregate Surface Path	$64	$267
10 Ft. Wide Aggregate Surface Path	$72	$301
12 Ft. Wide Aggregate Surface Path	$80	$334

Projecting 2020 Sidewalk And Path Costs to 2026

VTrans Report on Shared-Use Path and Sidewalk Costs, 2020	**2020 Total Cost/Ft**	**2026 Total Cost/Ft**	**2026 Total Cost/Ft ADJUSTED**
5-ft Wide Concrete Walk w/ No Curb	$184	$228	
5-ft Wide Concrete Walk w/ Concrete Curb	$277	$343	
5-ft Wide Bituminous Walk w/ No Curb	$94	$117	
aggregate walk w/ no curb (5')*	$68	$84	$259
8' wide aggregate surface path	$267	$331	
10' wide aggregate surface path	$301	$373	
12' wide aggregate surface path	$334	$414	

* adjusted based off 8' and 10' path costs as cost in 2020 guidelines seems low.

ENR Index Value for projecting VTrans 2020 Sidewalk/Path costs to 2026	
ENR Index Value, Jan. 2020	11496.31
ENR Index Value, Jan. 2026	14229.38
% increase	123.8%
% assumed rounded projection, 2020 to 2026:	124%

ENR Index Value for projecting VTrans 2024 pay item unit costs to 2026	
ENR Index Value, June 2024	13546.8
ENR Index Value, Jan. 2026	14229.38
% increase	105%

DuBois & King inc.

JOB Monkton Scoping Study
SHEET NO. _____ OF _____
CALCULATED BY: JDA DATE: 7/16/2024

Opinion of Probable Construction Cost Calculation (Conceptual)
Monkton Road - Alternative 1

Monkton Road
Alternative 1
Provide 4' Bike Lanes on Both Sides of Road (widen, min. 5' for paving width)

Alternative Specific Costs (Costs Above and Beyond Standard Sidewalk / Path Construction)

Road segment length 6400 ft
Existing road width approx. 24' (1.5' - 10.5' - 10.5' - 1.5')

NOTE: QUANTITIES ASSUMED ARE APPROXIMATE AND ARE NOT BASED ON SURVEYED DIMENSIONS.

201.11 Clearing and Grubbing
assume some will be needed for accommodating widening of road

	1000 ft
est. length =	1000 ft
est. width (both sides)=	10 ft
area =	0.23 ac
rounding	0.00 ac
total area =	0.23 ac

203.15 Common Excavation

		road widening (both sides)	adjacent to rd for north side	adjacent to rd for south side
length, ft	assume	6400		4800 est.
width, ft	no ex. rd.	5	assume minimal	8
depth, ft	repaving	2		2
volume, cy	cy	2370 cy		2844 cy
subtotal	5215 cy			
rounding	85 cy			
total	5300 cy			

203.30 Earth Borrow
assumed quantity needed:

		adjacent to rd for north side	adjacent to rd for south side
length, ft		4800 est.	
width, ft		8	assume minimal
depth, ft		2	
volume, cy		2844 cy	cy
subtotal	2844 cy		
rounding	56 cy		
total	2900 cy		

301.35 Subbase of Dense Graded Crushed Stone
to be used under road widening areas

length	6400	ft
width	5	ft
depth	1.5	ft
volume	1778	cy
rounding	2	cy
total	1780	cy

JOB Monkton Scoping Study
SHEET NO. _____ OF _____
CALCULATED BY: JDA DATE: 7/16/2024

Opinion of Probable Construction Cost Calculation (Conceptual)
Monkton Road - Alternative 1

Monkton Road
Alternative 1
Provide 4' Bike Lanes on Both Sides of Road (widen, min. 5' for paving width)

Alternative Specific Costs (Costs Above and Beyond Standard Sidewalk / Path Construction)

NOTE: QUANTITIES ASSUMED ARE APPROXIMATE AND ARE NOT BASED ON SURVEYED DIMENSIONS.

406 Bituminous Concrete Pavement
one pass on each side of road, 5' min. pass

length	6400	ft
width	10	ft
depth	0.5	ft
volume	32000	cf
density	155.5	lb/cf
volume	2488	ton
rounding	12	ton
total	2500	ton

620.50 Removing and Resetting Fence
There is a short fence on the Weaver parcel that will need to be relocated back
100 ft (EST.)

621.20 Steel Beam Guardrail, Galvanized
Guardrail needing to be replaced (set back)

	Length, ft
Vonbruns parcel	
Bendrienne parcel	720
Gould parcel	
@ school parcel	740

subtotal:	1460	ft
Assumed reset:	0	ft
Assume new:	1460	ft

621.80 Removal and Disposal of Guardail
Removal of existing guardrail that is being replaced:
1460 ft

646.403 Durable 4" White Line, Epoxy Paint
to be used for newly paved road

length	6400	ft
# lines	2	ft
subtotal	12800	lf
rounding	0	lf
total	12800	lf

646.413 Durable 4" Yellow Line, Epoxy Paint
to be used for newly paved road

length	6400	ft
# lines	2	ea
subtotal	12800	lf
rounding	0	lf
total	12800	lf

JOB Monkton Scoping Study
SHEET NO. _____ OF _____
CALCULATED BY: JDA DATE: 7/16/2024

Opinion of Probable Construction Cost Calculation (Conceptual)
Monkton Road - Alternative 1

Monkton Road
Alternative 1
Provide 4' Bike Lanes on Both Sides of Road (widen, min. 5' for paving width)

Alternative Specific Costs (Costs Above and Beyond Standard Sidewalk / Path Construction)

NOTE: QUANTITIES ASSUMED ARE APPROXIMATE AND ARE NOT BASED ON SURVEYED DIMENSIONS.

646.493 Durable Letter or Symbol, Epoxy Paint
to be used along new bike lanes

approximate spacing	.25 - .5 mi
project lengh	1.21 mi

symbol	qty, per side of rd	
bike	5	
arrow	5	
subtotal, per side of rd	10	ea
total	20	ea

651.15 Seed
to be used adjacent to road on each side as needed

length	6400	ft
width (both sides of road)	5	ft
	0.73	ac
Total area:	0.73	ac
Assumed rate (lb/ac):	250	
Weight:	184	lb
Rounded Total:	185	lb

651.18 Fertilizer
to be used where seeding / topsoil is needed

Area of seeding/topsoil:	0.73	ac
Assumed rate (lb/ac):	500	
Weight:	367.3	lb
Rounded Total:	370	lb

651.21 Agricultural Limestone
to be used where seeding / topsoil is needed

Area of seeding/topsoil:	0.73	ac
Assumed rate (T/ac):	2	T/ac
Weight:	1.469	T
Rounded Total:	1.50	T

651.35 Topsoil
to be used adjacent to road on each side as needed

Area of seeding:	32000	sf
Depth:	0.25	ft
Volume:	296.3	cy
Rounded Total:	297	cy

653.10 Hay Mulch
to be used where seeding / topsoil is needed

Area of seeding/topsoil:	0.73	ac
Assumed rate:	2	T/ac
Weight:	1.47	T
Rounded Total:	1.50	T

SP Drainage Improvements

1 LS

JOB Monkton Scoping Study
SHEET NO. _____ OF _____
CALCULATED BY: JDA DATE: 8/28/2024

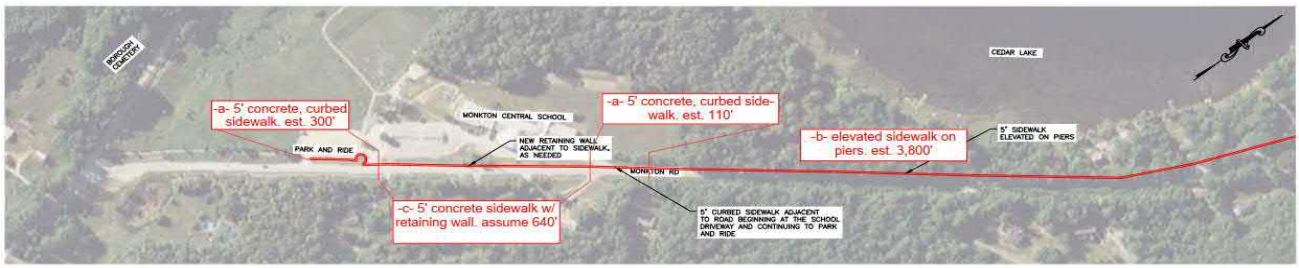
Opinion of Probable Construction Cost Calculation (Conceptual)
Monkton Road - Alternative 2

Monkton Road
Alternative 2
5' concrete sidewalk
(includes portion of sidewalk that is elevated on piers and a retaining wall in vicinity of the School)

Alternative Specific Costs (Costs Above and Beyond Standard Sidewalk / Path Construction)

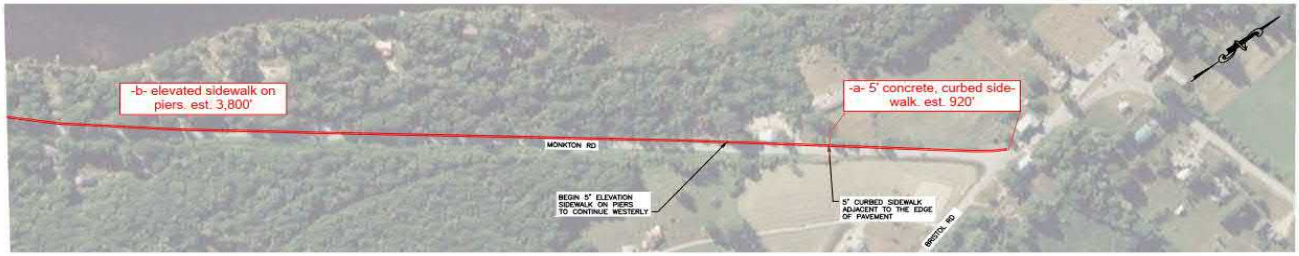
Various sections of improvements:

a. 5' curbed concrete sidewalk adjacent to road	1930	ft
b. elevated sidewalk on piers (estimate)	3200	ft *
* (modified from 3,800 shown below due to drives, tying into drives, etc)		
c. 5' curbed concrete sidewalk with retaining wall	640	ft



MONKTON ROAD ALTERNATIVE 2
(EASTERN SECTION)


example of sidewalk elevated on piers, during construction and final product (Ashland, VA)



201.11 Clearing and Grubbing
assume some will be needed for accommodating widening of road

	1000	ft
est. length =	1000	ft
est. width =	10	ft
area =	0.23	ac
rounding	0.00	ac
total area =	0.23	ac

NOTE: QUANTITIES ASSUMED ARE APPROXIMATE AND ARE NOT BASED ON SURVEYED DIMENSIONS.

203.15 Common Excavation
assumed quantity if needed beyond typical sidewalk construction
500 cy

203.30 Earth Borrow
assumed quantity if needed beyond typical sidewalk construction
50 cy

JOB Monkton Scoping Study
SHEET NO. _____ OF _____
CALCULATED BY: JDA DATE: 8/28/2024

Opinion of Probable Construction Cost Calculation (Conceptual)
Monkton Road - Alternative 2

Monkton Road
Alternative 2
5' concrete sidewalk
(includes portion of sidewalk that is elevated on piers and a retaining wall in vicinity of the School)

Alternative Specific Costs (Costs Above and Beyond Standard Sidewalk / Path Construction)

301.35 Subbase of Dense Graded Crushed Stone
assume not needed for this alternative

NOTE: QUANTITIES ASSUMED ARE APPROXIMATE AND ARE NOT BASED ON SURVEYED DIMENSIONS.

406 Bituminous Concrete Pavement
assume not needed for this alternative

620.50 Removing and Resetting Fence
There is a short fence on the Weaver parcel that will need to be relocated back
100 ft (EST.)

621.20 Steel Beam Guardrail, Galvanized

Existing guardrail sections	exist. length, ft	length to be removed and replaced with sidewalk rail	length to be reset
Vonbruns parcel			
Bendrienne parcel	720	720	
Gould parcel			
@ school parcel	740		740
	1460 ft	720 ft	740 ft

subtotal (new GR)	740	ft
rounding	10	ft
total	750	ft

621.80 Removal and Disposal of Guardail
Removal of existing guardrail that is being replaced with new rail constructed as part of elevated sidewalk or new guardrail by the school:

subtotal	1460	ft
rounding	0	ft
total	1460	ft

646.403 Durable 4" White Line, Epoxy Paint
assume not needed for this alternative

646.413 Durable 4" Yellow Line, Epoxy Paint
assume not needed for this alternative

646.493 Durable Letter or Symbol, Epoxy Paint
assume not needed for this alternative

JOB Monkton Scoping Study
SHEET NO. _____ OF _____
CALCULATED BY: JDA DATE: 8/28/2024

Opinion of Probable Construction Cost Calculation (Conceptual)
Monkton Road - Alternative 2

Monkton Road
Alternative 2
5' concrete sidewalk
(includes portion of sidewalk that is elevated on piers and a retaining wall in vicinity of the School)

Alternative Specific Costs (Costs Above and Beyond Standard Sidewalk / Path Construction)

NOTE: QUANTITIES ASSUMED ARE APPROXIMATE AND ARE NOT BASED ON SURVEYED DIMENSIONS.

651.15 Seed
to be used adjacent to road as needed

length	5770	ft
width (est.)	5	ft
	0.66	ac

Total area: 0.66 ac
Assumed rate (lb/ac): 250
Weight: 166 lb
Rounded Total: 170 lb

651.18 Fertilizer
to be used where seeding / topsoil is needed

Area of seeding/topsoil: 0.66 ac
Assumed rate (lb/ac): 500
Weight: 331.2 lb
Rounded Total: 335 lb

651.21 Agricultural Limestone
to be used where seeding / topsoil is needed

Area of seeding/topsoil: 0.66 ac
Assumed rate (T/ac): 2 T/ac
Weight: 1.325 T
Rounded Total: 1.40 T

651.35 Topsoil
to be used adjacent to road as needed

Area of seeding: 28850 sf
Depth: 0.25 ft
Volume: 267.1 cy
Rounded Total: 268 cy

653.10 Hay Mulch
to be used where seeding / topsoil is needed

Area of seeding/topsoil: 0.66 ac
Assumed rate: 2 T/ac
Weight: 1.32 T
Rounded Total: 1.40 T

SP 5' Concrete Sidewalk on Elevated Piers

length, est.	3200	ft
width	5	ft
area	15200	sf

JOB Monkton Scoping Study
SHEET NO. _____ OF _____
CALCULATED BY: JDA DATE: 8/28/2024

Opinion of Probable Construction Cost Calculation (Conceptual)
Monkton Road - Alternative 2

Monkton Road
Alternative 2
5' concrete sidewalk
(includes portion of sidewalk that is elevated on piers and a retaining wall in vicinity of the School)

Alternative Specific Costs (Costs Above and Beyond Standard Sidewalk / Path Construction)

NOTE: QUANTITIES ASSUMED ARE APPROXIMATE AND ARE NOT BASED ON SURVEYED DIMENSIONS.

SP Railing
To be used along new sidewalk elevated on piers

length, est.	3040	ft

SP Retaining Wall

length, est.	540	ft
height, est.	5	ft
area	2700	sf

SP Drainage Improvements

1 LS

JOB Monkton Scoping Study
SHEET NO. _____ OF _____
CALCULATED BY: JDA DATE: 7/16/2024

Opinion of Probable Construction Cost Calculation (Conceptual)
Pond Road - Alternative 1

Pond Road
Alternative 1
5' aggregate sidewalk on eastern side of road, separated from road by 5' green strip/swale, beginning at north end of Morse Park

Alternative Specific Costs (Costs Above and Beyond Standard Sidewalk / Path Construction)

5' aggregate wak w/ no curb:	4008	ft

NOTE: QUANTITIES ASSUMED ARE APPROXIMATE AND ARE NOT BASED ON SURVEYED DIMENSIONS.

201.11 Clearing and Grubbing
assumed to be needed in vicinity of:

tieing into trail at north side of Morse Park	50	ft
Miner parcel	350	ft
Nardelli parcel	200	ft
New parcel (south)	250	ft
New parcel (north)	400	ft
Leavitt parcel	50	ft
total length =	1300	ft
rounded length for clearing and grubbing =	1500	ft
width =	12	
area =	0.36	ac
rounding	0.00	ac
total area =	0.36	ac

203.15 Common Excavation
assume needed for new swale where clearing and grubbing is needed

length =	1500	ft
width =	5	ft
depth =	2.00	ft
volume:	556	cy
est. qty, as needed, for remainder of project:	100	cy
subtotal =	656	cy
rounded total =	700	cy

203.30 Earth Borrow
Assume some earth borrow needed for project that is beyond typical sidewalk needs
Project length minus clearing and grubbing sections

length =	2508	ft
assumed portion needing earth borrow =	20%	
width =	5	
depth =	2	ft
volume:	186	cy
rounded volume:	200	cy

301.35 Subbase of Dense Graded Crushed Stone
assume not needed for this alternative

JOB Monkton Scoping Study
SHEET NO. _____ OF _____
CALCULATED BY: JDA DATE: 7/16/2024

Opinion of Probable Construction Cost Calculation (Conceptual)
Pond Road - Alternative 1

Pond Road
Alternative 1
5' aggregate sidewalk on eastern side of road, separated from road by 5' green strip/swale, beginning at north end of Morse Park

Alternative Specific Costs (Costs Above and Beyond Standard Sidewalk / Path Construction)

NOTE: QUANTITIES ASSUMED ARE APPROXIMATE AND ARE NOT BASED ON SURVEYED DIMENSIONS.

406 Bituminous Concrete Pavement
assume not needed for this alternative

620.50 Removing and Resetting Fence
There is a short fence on the Kimball parcel. Assume sidewalk will be on back side of fence. Assume sidewalk to go around (on road side) of stone wall @ access rd

621.20 Steel Beam Guardrail, Galvanized
assume not needed for this alternative

621.75 Remove and Reset Guardrail
assume not needed for this alternative

621.80 Removal and Disposal of Guardail
assume not needed for this alternative

646.403 Durable 4" White Line, Epoxy Paint
assume not needed for this alternative

646.413 Durable 4" Yellow Line, Epoxy Paint
assume not needed for this alternative

646.493 Durable Letter or Symbol, Epoxy Paint
assume not needed for this alternative

651.15 Seed
Assumed seeding beyond typical sidewalk construction assumed as follows:

	portions where new swale is needed	
length	1500	ft
width	5	ft
	0.17	ac
Total area:	0.17	ac
Assumed rate (lb/ac):	250	
Weight:	43.04	lb
Rounded Total:	45	lb

JOB Monkton Scoping Study
SHEET NO. _____ OF _____
CALCULATED BY: JDA DATE: 7/16/2024

Opinion of Probable Construction Cost Calculation (Conceptual)
Pond Road - Alternative 1

Pond Road
Alternative 1
5' aggregate sidewalk on eastern side of road, separated from road by 5' green strip/swale, beginning at north end of Morse Park

Alternative Specific Costs (Costs Above and Beyond Standard Sidewalk / Path Construction)

651.18 Fertilizer
To be used where there is additional seeding/topsoil beyond typical sidewalk construction project.

Area of seeding/topsoil:	0.17	ac
Assumed rate (lb/ac):	500	
Weight:	86.09	lb
Rounded Total:	90	lb

651.21 Agricultural Limestone
To be used where there is additional seeding/topsoil beyond typical sidewalk construction project.

Area of seeding/topsoil:	0.17	ac
Assumed rate (T/ac):	2	T/ac
Weight:	0.344	T
Rounded Total:	0.40	T

651.35 Topsoil
To be used where there is additional seeding/topsoil beyond typical sidewalk construction project.

Area of seeding:	7500	sf
Depth:	0.25	ft
Volume:	69.44	cy
Rounded Total:	70	cy

653.10 Hay Mulch
To be used where there is additional seeding/topsoil beyond typical sidewalk construction project.

Area of seeding/topsoil:	0.17	ac
Assumed rate:	2	T/ac
Weight:	0.344	T
Rounded Total:	0.40	T

SP Drainage Improvements

1 LS

NOTE: QUANTITIES ASSUMED ARE APPROXIMATE AND ARE NOT BASED ON SURVEYED DIMENSIONS.

JOB Monkton Scoping Study
SHEET NO. _____ OF _____
CALCULATED BY: JDA DATE: 2/14/2025

Opinion of Probable Construction Cost Calculation (Conceptual)
Pond Road - Alternative 1

Pond Road
Alternative 1
10' aggregate sidewalk on eastern side of road, separated from road by 5' green strip/swale, beginning at north end of Morse Park

Alternative Specific Costs (Costs Above and Beyond Standard Sidewalk / Path Construction)

10' aggregate wak w/ no curb:	4008	ft

NOTE: QUANTITIES ASSUMED ARE APPROXIMATE AND ARE NOT BASED ON SURVEYED DIMENSIONS.

201.11 Clearing and Grubbing
assumed to be needed in vicinity of:

tieing into trail at north side of Morse Park	50	ft
Miner parcel	350	ft
Nardelli parcel	200	ft
New parcel (south)	250	ft
New parcel (north)	400	ft
Leavitt parcel	50	ft
total length =	1300	ft
rounded length for clearing and grubbing =	1500	ft
width =	17	
area =	0.51	ac
rounding	0.00	ac
total area =	0.51	ac

203.15 Common Excavation
assume needed for new swale where clearing and grubbing is needed

length =	1500	ft
width =	10	ft
depth =	2	ft
volume:	1111	cy
est. qty, as needed, for remainder of project:	140	cy
subtotal =	1251	cy
rounded total =	1300	cy

203.30 Earth Borrow
Assume some earth borrow needed for project that is beyond typical sidewalk needs
Project length minus clearing and grubbing sections

length =	2508	ft
assumed portion needing earth borrow =	20%	
width =	5	
depth =	2	ft
volume:	186	cy
rounded volume:	200	cy

301.35 Subbase of Dense Graded Crushed Stone
assume not needed for this alternative

JOB Monkton Scoping Study
SHEET NO. _____ OF _____
CALCULATED BY: JDA DATE: 2/14/2025

Opinion of Probable Construction Cost Calculation (Conceptual)
Pond Road - Alternative 1

Pond Road
Alternative 1
10' aggregate sidewalk on eastern side of road, separated from road by 5' green strip/swale, beginning at north end of Morse Park

Alternative Specific Costs (Costs Above and Beyond Standard Sidewalk / Path Construction)

NOTE: QUANTITIES ASSUMED ARE APPROXIMATE AND ARE NOT BASED ON SURVEYED DIMENSIONS.

406 Bituminous Concrete Pavement
assume not needed for this alternative

620.50 Removing and Resetting Fence
There is a short fence on the Kimball parcel. Assume sidewalk will be on back side of fence. Assume sidewalk to go around (on road side) of stone wall @ access rd

621.20 Steel Beam Guardrail, Galvanized
assume not needed for this alternative

621.75 Remove and Reset Guardrail
assume not needed for this alternative

621.80 Removal and Disposal of Guardail
assume not needed for this alternative

646.403 Durable 4" White Line, Epoxy Paint
assume not needed for this alternative

646.413 Durable 4" Yellow Line, Epoxy Paint
assume not needed for this alternative

646.493 Durable Letter or Symbol, Epoxy Paint
assume not needed for this alternative

651.15 Seed
Assumed seeding beyond typical sidewalk construction assumed as follows:

	portions where new swale is needed	
length	1500	ft
width	5	ft
	0.17	ac
Total area:	0.17	ac
Assumed rate (lb/ac):	250	
Weight:	43.04	lb
Rounded Total:	45	lb

JOB Monkton Scoping Study
SHEET NO. _____ OF _____
CALCULATED BY: JDA DATE: 2/14/2025

Opinion of Probable Construction Cost Calculation (Conceptual)
Pond Road - Alternative 1

Pond Road
Alternative 1
10' aggregate sidewalk on eastern side of road, separated from road by 5' green strip/swale, beginning at north end of Morse Park

Alternative Specific Costs (Costs Above and Beyond Standard Sidewalk / Path Construction)

651.18 Fertilizer
To be used where there is additional seeding/topsoil beyond typical sidewalk construction project.

Area of seeding/topsoil:	0.17	ac
Assumed rate (lb/ac):	500	
Weight:	86.09	lb
Rounded Total:	90	lb

651.21 Agricultural Limestone
To be used where there is additional seeding/topsoil beyond typical sidewalk construction project.

Area of seeding/topsoil:	0.17	ac
Assumed rate (T/ac):	2	T/ac
Weight:	0.344	T
Rounded Total:	0.40	T

651.35 Topsoil
To be used where there is additional seeding/topsoil beyond typical sidewalk construction project.

Area of seeding:	7500	sf
Depth:	0.25	ft
Volume:	69.44	cy
Rounded Total:	70	cy

653.10 Hay Mulch
To be used where there is additional seeding/topsoil beyond typical sidewalk construction project.

Area of seeding/topsoil:	0.17	ac
Assumed rate:	2	T/ac
Weight:	0.344	T
Rounded Total:	0.40	T

NOTE: QUANTITIES ASSUMED ARE APPROXIMATE AND ARE NOT BASED ON SURVEYED DIMENSIONS.

SP Drainage Improvements

1 LS

JOB Monkton Scoping Study
SHEET NO. _____ OF _____
CALCULATED BY: JDA DATE: 7/16/2024

Opinion of Probable Construction Cost Calculation (Conceptual)
Rotax Road - Alternative 1

Rotax Road
Alternative 1
5' aggregate sidewalk on southern side of road, separated from road by 5' green strip / swale (narrow road to 22' where aplicable)

Alternative Specific Costs (Costs Above and Beyond Standard Sidewalk / Path Construction)

5' aggregate wak w/ no curb: 2900 ft

NOTE: QUANTITIES ASSUMED ARE APPROXIMATE AND ARE NOT BASED ON SURVEYED DIMENSIONS.

201.11 Clearing and Grubbing
assumed to be needed in vicinity of:
between ABCD Ln and orchard 620 ft

est. length =	620	ft
est. width =	4	ft *

* (assume approx. 2'-3' of south side of rd transitioning to the buffer space)

area =	0.06	ac
rounding	0.00	ac
total area =	0.06	ac

203.15 Common Excavation
assume needed for new swale where clearing and grubbing is needed

length =	620	ft
width =	5	ft
depth =	2	ft
volume:	230	cy
est. qty, as needed, for remainder of project:	100	cy
subtotal =	330	cy
rounded total =	400	cy

203.30 Earth Borrow
Assume some earth borrow needed for project that is beyond typical sidewalk needs
Project length minus clearing and grubbing sections

length =	2280	ft
assumed portion needing earth borrow =	10%	
width =	5	
depth =	2	ft
volume:	84	cy
rounded volume:	100	cy

301.35 Subbase of Dense Graded Crushed Stone
assume not needed for this alternative

406 Bituminous Concrete Pavement
assume not needed for this alternative

620.50 Removing and Resetting Fence
assume not needed for this alternative

JOB Monkton Scoping Study
SHEET NO. _____ OF _____
CALCULATED BY: JDA DATE: 7/16/2024

Opinion of Probable Construction Cost Calculation (Conceptual)
Rotax Road - Alternative 1

Rotax Road
Alternative 1
5' aggregate sidewalk on southern side of road, separated from road by 5' green strip / swale (narrow road to 22' where aplicable)

Alternative Specific Costs (Costs Above and Beyond Standard Sidewalk / Path Construction)

NOTE: QUANTITIES ASSUMED ARE APPROXIMATE AND ARE NOT BASED ON SURVEYED DIMENSIONS.

621.20 Steel Beam Guardrail, Galvanized
assume not needed for this alternative

621.75 Remove and Reset Guardrail
assume not needed for this alternative

621.80 Removal and Disposal of Guardail
assume not needed for this alternative

646.403 Durable 4" White Line, Epoxy Paint
assume not needed for this alternative

646.413 Durable 4" Yellow Line, Epoxy Paint
assume not needed for this alternative

646.493 Durable Letter or Symbol, Epoxy Paint
assume not needed for this alternative

651.15 Seed
Assumed seeding beyond typical sidewalk construction assumed as follows:

	portions where new swale is needed	
length	620	ft
width	5	ft
	0.07	ac

Total area:	0.07	ac
Assumed rate (lb/ac):	250	
Weight:	17.79	lb
Rounded Total:	20	lb

651.18 Fertilizer
To be used where there is additional seeding/topsoil beyond typical sidewalk construction project.

Area of seeding/topsoil:	0.07	ac
Assumed rate (lb/ac):	500	
Weight:	35.58	lb
Rounded Total:	40	lb

JOB Monkton Scoping Study
SHEET NO. _____ OF _____
CALCULATED BY: JDA DATE: 7/16/2024

Opinion of Probable Construction Cost Calculation (Conceptual)
Rotax Road - Alternative 1

Rotax Road
Alternative 1
5' aggregate sidewalk on southern side of road, separated from road by 5' green strip / swale (narrow road to 22' where aplicable)

Alternative Specific Costs (Costs Above and Beyond Standard Sidewalk / Path Construction)

651.21 Agricultural Limestone
To be used where there is additional seeding/topsoil beyond typical sidewalk construction project.

Area of seeding/topsoil:	0.07	ac
Assumed rate (T/ac):	2	T/ac
Weight:	0.142	T
Rounded Total:	0.20	T

651.35 Topsoil
To be used where there is additional seeding/topsoil beyond typical sidewalk construction project.

Area of seeding:	3100	sf
Depth:	0.25	ft
Volume:	28.7	cy
Rounded Total:	29	cy

653.10 Hay Mulch
To be used where there is additional seeding/topsoil beyond typical sidewalk construction project.

Area of seeding/topsoil:	0.07	ac
Assumed rate:	2	T/ac
Weight:	0.142	T
Rounded Total:	0.20	T

NOTE: QUANTITIES ASSUMED ARE APPROXIMATE AND ARE NOT BASED ON SURVEYED DIMENSIONS.

SP Drainage Improvements

1 LS

JOB Monkton Scoping Study
SHEET NO. _____ OF _____
CALCULATED BY: JDA DATE: 8/28/2024

Opinion of Probable Construction Cost Calculation (Conceptual)
Rotax Road - Alternative 2

Rotax Road
Alternative 2
Provide 4' Bike Lanes on Both Sides of Road
(including paving road to accommodate bike lanes, narrow road on south side where greater than 22' wide)

Alternative Specific Costs (Costs Above and Beyond Standard Sidewalk / Path Construction)

Road segment length 2900 ft

NOTE: QUANTITIES ASSUMED ARE APPROXIMATE AND ARE NOT BASED ON SURVEYED DIMENSIONS.

201.11 Clearing and Grubbing
assume small amount may be needed:

	100	ft
est. length =	100	ft
est. width =	2	ft
area =	0.00	ac
rounding	0.01	ac
total area =	0.01	ac

203.15 Common Excavation
assumed quantity needed:

	adjacent to rd combined both sides	
length	2900	ft
width	4	ft
depth	2	ft
volume:	859	cy

subtotal, adjacent to road =	859	cy
EST. along existing road as needed for paving prep =	500	cy
subtotal =	1359	cy
rounding =	41	
rounded total =	1400	cy

203.30 Earth Borrow
assumed quantity needed:

	along / adjacent to rd	
length	2900	ft
width	5	ft
depth	1	ft
subtotal =	537	cy
rounding =	13	
rounded total =	550	cy

301.35 Subbase of Dense Graded Crushed Stone
to be used under road widening areas

length	2900	ft
width	4	ft
depth	1.5	ft
volume	644.44	cy
rounding	6	cy
total	650	cy

JOB Monkton Scoping Study
SHEET NO. _____ OF _____
CALCULATED BY: JDA DATE: 8/28/2024

Opinion of Probable Construction Cost Calculation (Conceptual)
Rotax Road - Alternative 2

Rotax Road
Alternative 2
Provide 4' Bike Lanes on Both Sides of Road
(including paving road to accommodate bike lanes, narrow road on south side where greater than 22' wide)

Alternative Specific Costs (Costs Above and Beyond Standard Sidewalk / Path Construction)

406 Bituminous Concrete Pavement
paving road to include bike lanes (9' lanes + 4' bike lanes on each side)

length	2900	ft
width	26	ft
depth	0.5	ft
volume	37700	cf
density	155.5	lb/cf
volume	2931.18	ton
rounding	8.825	ton
total	2940	ton

NOTE: QUANTITIES ASSUMED ARE APPROXIMATE AND ARE NOT BASED ON SURVEYED DIMENSIONS.

620.50 Removing and Resetting Fence
assume not needed for this alternative

621.20 Steel Beam Guardrail, Galvanized
assume not needed for this alternative

621.75 Remove and Reset Guardrail
assume not needed for this alternative

621.80 Removal and Disposal of Guardail
assume not needed for this alternative

646.403 Durable 4" White Line, Epoxy Paint
to be used for newly paved road

length	2900	ft
# lines	2	ft
subtotal	5800	lf
rounding	0	lf
total	5800	lf

646.413 Durable 4" Yellow Line, Epoxy Paint
to be used for newly paved road

length	2900	ft
# lines	2	ea
subtotal	5800	lf
rounding	0	lf
total	5800	lf

DuBois & King inc.

JOB Monkton Scoping Study
SHEET NO. _____ OF _____
CALCULATED BY: JDA DATE: 8/28/2024

Opinion of Probable Construction Cost Calculation (Conceptual)
Rotax Road - Alternative 2

Rotax Road
Alternative 2
Provide 4' Bike Lanes on Both Sides of Road
(including paving road to accommodate bike lanes, narrow road on south side where greater than 22' wide)

Alternative Specific Costs (Costs Above and Beyond Standard Sidewalk / Path Construction)

NOTE: QUANTITIES ASSUMED ARE APPROXIMATE AND ARE NOT BASED ON SURVEYED DIMENSIONS.

646.493 Durable Letter or Symbol, Epoxy Paint
to be used along new bike lanes

approximate spacing	.25 - .5	mi
project lengh	0.55	mi

symbol	qty, per side of rd
bike	3
arrow	3
subtotal, per side of rd	6 ea
total	12 ea

651.15 Seed
to be used adjacent to road on each side as needed

length	2900	ft
width (both sides of road)	6	ft
	0.40	ac
Total area:	0.40	ac
Assumed rate (lb/ac):	250	
Weight:	99.86	lb
Rounded Total:	100	lb

651.18 Fertilizer
to be used where seeding / topsoil is needed

Area of seeding/topsoil:	0.40	ac
Assumed rate (lb/ac):	500	
Weight:	199.7	lb
Rounded Total:	200	lb

651.21 Agricultural Limestone
to be used where seeding / topsoil is needed

Area of seeding/topsoil:	0.40	ac
Assumed rate (T/ac):	2	T/ac
Weight:	0.799	T
Rounded Total:	0.80	T

651.35 Topsoil
to be used adjacent to road on each side as needed

Area of seeding:	17400	sf
Depth:	0.25	ft
Volume:	161.1	cy
Rounded Total:	162	cy

653.10 Hay Mulch
to be used where seeding / topsoil is needed

Area of seeding/topsoil:	0.40	ac
Assumed rate:	2	T/ac
Weight:	0.799	T
Rounded Total:	0.80	T

SP Drainage Improvements

1 LS

JOB Monkton Scoping Study
SHEET NO. _____ OF _____
CALCULATED BY: JDA DATE: 7/16/2024

Opinion of Probable Construction Cost Calculation (Conceptual)
Monkton Ridge Road / Davis Road - Alternative 1

Monkton Ridge Road / Davis Road
Alternative 1
5' curbed concrete sidewalk adjacent to road

Alternative Specific Costs (Costs Above and Beyond Standard Sidewalk / Path Construction)

5' concrete sidewak w/ curb: 2580 ft

NOTE: QUANTITIES ASSUMED ARE APPROXIMATE AND ARE NOT BASED ON SURVEYED DIMENSIONS.

201.11 Clearing and Grubbing
assumed to be needed in vicinity of:

Davis Rd - approaching Monkton Ridge Rd	100	ft
est. length =	100	ft
est. width =	10	
area =	0.023	ac
rounding	0.007	ac
total area =	0.03	ac

203.15 Common Excavation
assumed quantity if needed beyond typical sidewalk construction
50 cy

203.30 Earth Borrow
assumed quantity if needed beyond typical sidewalk construction
50 cy

301.35 Subbase of Dense Graded Crushed Stone
assume not needed for this alternative

406 Bituminous Concrete Pavement
assume not needed for this alternative

620.50 Removing and Resetting Fence
There is a fence along the Scull parcel. Assume this needs to be removed and reset.
440 lf

621.20 Steel Beam Guardrail, Galvanized
assume not needed for this alternative

621.75 Remove and Reset Guardrail
assume not needed for this alternative

621.80 Removal and Disposal of Guardail
assume not needed for this alternative

JOB Monkton Scoping Study
SHEET NO. _____ OF _____
CALCULATED BY: JDA DATE: 7/16/2024

Opinion of Probable Construction Cost Calculation (Conceptual)
Monkton Ridge Road / Davis Road - Alternative 1

Monkton Ridge Road / Davis Road
Alternative 1
5' curbed concrete sidewalk adjacent to road

Alternative Specific Costs (Costs Above and Beyond Standard Sidewalk / Path Construction)

NOTE: QUANTITIES ASSUMED ARE APPROXIMATE AND ARE NOT BASED ON SURVEYED DIMENSIONS.

646.403 Durable 4" White Line, Epoxy Paint
assume not needed for this alternative

646.413 Durable 4" Yellow Line, Epoxy Paint
assume not needed for this alternative

646.493 Durable Letter or Symbol, Epoxy Paint
assume not needed for this alternative

651.15 Seed
Assume within range of typical sidewalk construction

651.18 Fertilizer
Assume within range of typical sidewalk construction

651.21 Agricultural Limestone
Assume within range of typical sidewalk construction

651.35 Topsoil
Assume within range of typical sidewalk construction

653.10 Hay Mulch
Assume within range of typical sidewalk construction

SP Drainage Improvements

1 LS

JOB Monkton Scoping Study
SHEET NO. _____ OF _____
CALCULATED BY: JDA DATE: 7/16/2024

Opinion of Probable Construction Cost Calculation (Conceptual)
Monkton Ridge Road / Davis Road - Alternative 2

Monkton Ridge Road / Davis Road
Alternative 2
Provide 4' Bike Lanes on Both Sides of Road (widen, min. 5' for paving width)

Alternative Specific Costs (Costs Above and Beyond Standard Sidewalk / Path Construction)

Road segment length 2580 ft

NOTE: QUANTITIES ASSUMED ARE APPROXIMATE AND ARE NOT BASED ON SURVEYED DIMENSIONS.

201.11 Clearing and Grubbing
assume small amount may be needed:

	100	ft
est. length =	100	ft
est. width =	2	ft
area =	0.00	ac
rounding	0.01	ac
total area =	0.01	ac

203.15 Common Excavation

	within exist. rd		road widening (both sides)		adjacent to rd (combined both sides)	
length	assume		2580		2580	ft
width	no ex. rd.		8		4	ft
depth	repaving		2		1	ft
volume:		cy	1529	cy	382	cy

subtotal =	1911	cy
contingency (as needed in other areas)	14	cy
rounded total =	1925	cy

203.30 Earth Borrow
assumed quantity needed:

	along / adjacent to rd	
length	2580	ft
width	5	ft
depth	2	ft
subtotal =	956	cy
rounding =	44	
rounded total =	1000	cy

301.35 Subbase of Dense Graded Crushed Stone
to be used under road widening areas

length	2580	ft
width	8	ft
depth	1.5	ft
volume	1147	cy
rounding	3	cy
total	1150	cy

JOB Monkton Scoping Study
SHEET NO. _____ OF _____
CALCULATED BY: JDA DATE: 7/16/2024

Opinion of Probable Construction Cost Calculation (Conceptual)
Monkton Ridge Road / Davis Road - Alternative 2

Monkton Ridge Road / Davis Road
Alternative 2
Provide 4' Bike Lanes on Both Sides of Road (widen, min. 5' for paving width)

Alternative Specific Costs (Costs Above and Beyond Standard Sidewalk / Path Construction)

406 Bituminous Concrete Pavement
one pass on each side of road, 5' min. pass

length	2580	ft
width	10	ft
depth	0.5	ft
volume	12900	cf
density	155.5	lb/cf
volume	1003	ton
rounding	17.025	ton
total	1020	ton

NOTE: QUANTITIES ASSUMED ARE APPROXIMATE AND ARE NOT BASED ON SURVEYED DIMENSIONS.

620.50 Removing and Resetting Fence
There is a fence along the Scull parcel. Assume this fence can be avoided.

621.20 Steel Beam Guardrail, Galvanized
assume not needed for this alternative

621.75 Remove and Reset Guardrail
assume not needed for this alternative

621.80 Removal and Disposal of Guardail
assume not needed for this alternative

646.403 Durable 4" White Line, Epoxy Paint
to be used for newly paved road

length	2580	ft
# lines	2	ea
subtotal	5160	lf
rounding	0	lf
total	5160	lf

646.413 Durable 4" Yellow Line, Epoxy Paint
to be used for newly paved road

length	2580	ft
# lines	2	ft
subtotal	5160	lf
rounding	0	lf
total	5160	lf

JOB Monkton Scoping Study
SHEET NO. _____ OF _____
CALCULATED BY: JDA DATE: 7/16/2024

Opinion of Probable Construction Cost Calculation (Conceptual)
Monkton Ridge Road / Davis Road - Alternative 2

Monkton Ridge Road / Davis Road
Alternative 2
Provide 4' Bike Lanes on Both Sides of Road (widen, min. 5' for paving width)

Alternative Specific Costs (Costs Above and Beyond Standard Sidewalk / Path Construction)

646.493 Durable Letter or Symbol, Epoxy Paint
to be used along new bike lanes
assume 3 sets of symbols are needed for each of Monkton Ridge and Davis Roads

symbol	qty, 1 side of road	
bike symbols (Monkton Ridge + Davis)	6	(3/ road)
arrow symbols (Monkton Ridge + Davis)	6	(3/ road)
subtotal, per side of rd	12	ea
total	24	ea

NOTE: QUANTITIES ASSUMED ARE APPROXIMATE AND ARE NOT BASED ON SURVEYED DIMENSIONS.

651.15 Seed
to be used adjacent to road on each side as needed

length	2580	ft
width (both sides of road)	5	ft
	0.30	ac
Total area:	0.30	ac
Assumed rate (lb/ac):	250	
Weight:	74.04	lb
Rounded Total:	75	lb

651.18 Fertilizer
to be used where seeding / topsoil is needed

Area of seeding/topsoil:	0.30	ac
Assumed rate (lb/ac):	500	
Weight:	148.1	lb
Rounded Total:	150	lb

651.21 Agricultural Limestone
to be used where seeding / topsoil is needed

Area of seeding/topsoil:	0.30	ac
Assumed rate (T/ac):	2	T/ac
Weight:	0.592	T
Rounded Total:	0.60	T

651.35 Topsoil
to be used where seeding / topsoil is needed

Area of seeding:	12900	sf
Depth:	0.25	ft
Volume:	119.4	cy
Rounded Total:	120	cy

653.10 Hay Mulch
to be used where seeding / topsoil is needed

Area of seeding/topsoil:	0.30	ac
Assumed rate:	2	T/ac
Weight:	0.592	T
Rounded Total:	0.60	T

SP Drainage Improvements

1 LS

DuBois & King inc.

JOB Monkton Scoping Study
SHEET NO. _____ OF _____
CALCULATED BY: JDA DATE: 2/15/25

Opinion of Probable Construction Cost Calculation (Conceptual)
Morse Lot - Alternative 1

Morse Lot
Alternative 1
8' Aggregate Multi-Use Path

Alternative Specific Costs (Costs Above and Beyond Standard Sidewalk / Path Construction)

NOTE: QUANTITIES ASSUMED ARE APPROXIMATE AND ARE NOT BASED ON SURVEYED DIMENSIONS.

8' aggregate multi-use path length: 2630 ft
width: 10 ft

201.11 Clearing and Grubbing
assumed to be needed in vicinity of:

	alignment length, ft	width of currently mowed, ft	estimated width for clearing, ft	clearing area, sf
north of dog park	1227	10	6	7362
cut-through path	470	12	4	1880
southern section to park-and-ride	725	10	6	4350

subtotal 13592 sf
0.31 ac
assumed portion that is "standard" construction: 0.11 ac
total additional area (beyond "standard" construction: 0.20 ac
rounding: 0.10 ac
total: 0.30 ac

203.15 Common Excavation
to be used as needed, estimated qty in addition to "standard" construction
50 cy

203.30 Earth Borrow
to be used as needed, estimated qty in addition to "standard" construction
50 cy

301.35 Subbase of Dense Graded Crushed Stone
assume not needed for this alternative

406 Bituminous Concrete Pavement
assume not needed for this alternative

620.50 Removing and Resetting Fence
There is a gate along the north end of the alternative. Assume this will remain as is in case there is the need to keep this closed off.

621.20 Steel Beam Guardrail, Galvanized
assume not needed for this alternative

621.75 Remove and Reset Guardrail
assume not needed for this alternative

Opinion of Probable Construction Cost Calculation (Conceptual)
Morse Lot - Alternative 1

Morse Lot
Alternative 1
8' Aggregate Multi-Use Path

Alternative Specific Costs (Costs Above and Beyond Standard Sidewalk / Path Construction)

NOTE: QUANTITIES ASSUMED ARE APPROXIMATE AND ARE NOT BASED ON SURVEYED DIMENSIONS.

621.80 Removal and Disposal of Guardail
assume not needed for this alternative

646.403 Durable 4" White Line, Epoxy Paint
assume not needed for this alternative

646.413 Durable 4" Yellow Line, Epoxy Paint
assume not needed for this alternative

646.493 Durable Letter or Symbol, Epoxy Paint
assume not needed for this alternative

651.15 Seed
Assume none beyond "typical" path construction

651.18 Fertilizer
Assume none beyond "typical" path construction

651.21 Agricultural Limestone
Assume none beyond "typical" path construction

651.35 Topsoil
Assume none beyond "typical" path construction

653.10 Hay Mulch
Assume none beyond "typical" path construction

SP Pedestrian Bridge
Needed to replace existing footbridge on existing trail
1 LS

SP Wildlife Crossings
As needed to replace existing crossings
1 LS

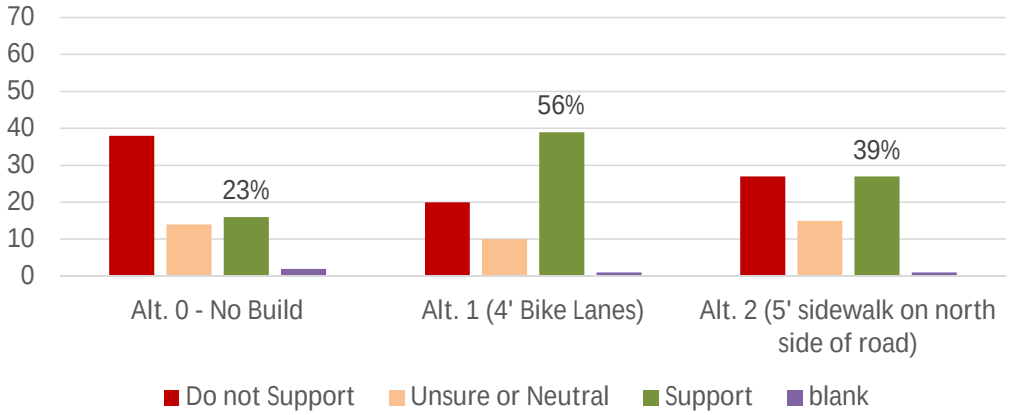
SP Drainage Improvements
1 LS

APPENDIX

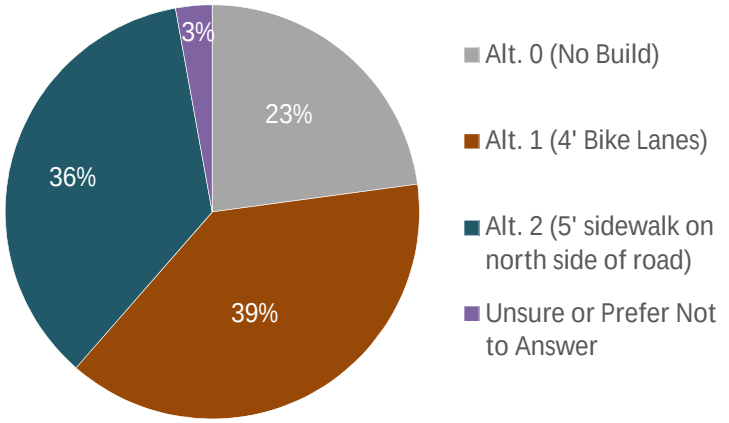
G – COMMUNITY SURVEY RESULTS

MONKTON ROAD ALTERNATIVES

1A. General level of support for the following Monkton Road alternatives:

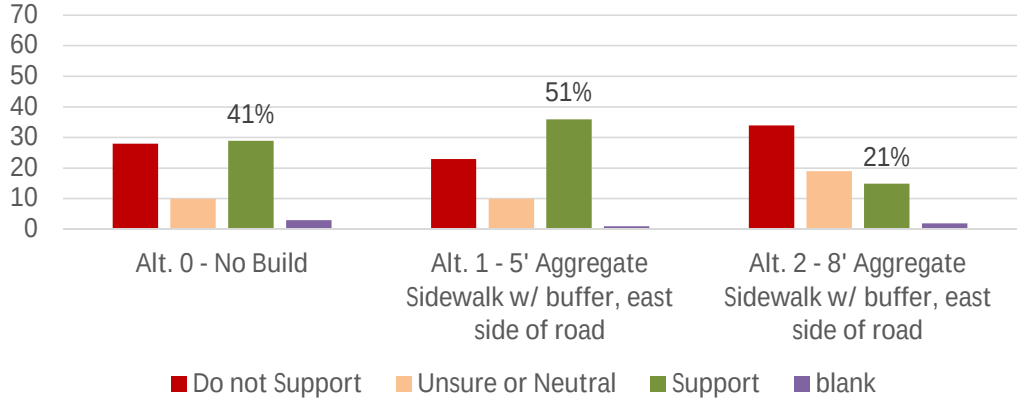


1B. Preferred Alternative for Monkton Road?

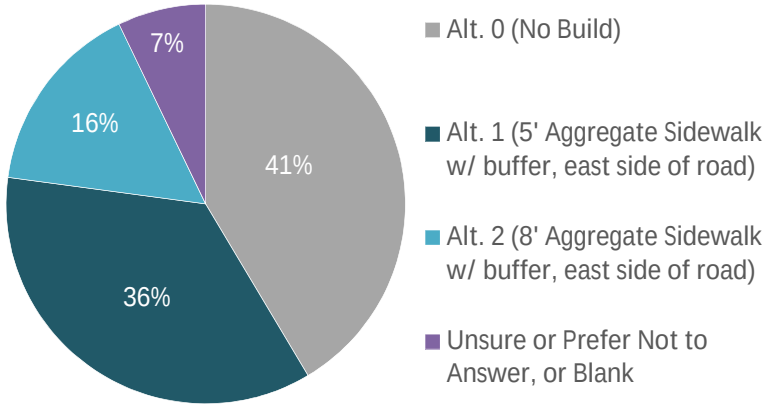


POND ROAD ALTERNATIVES

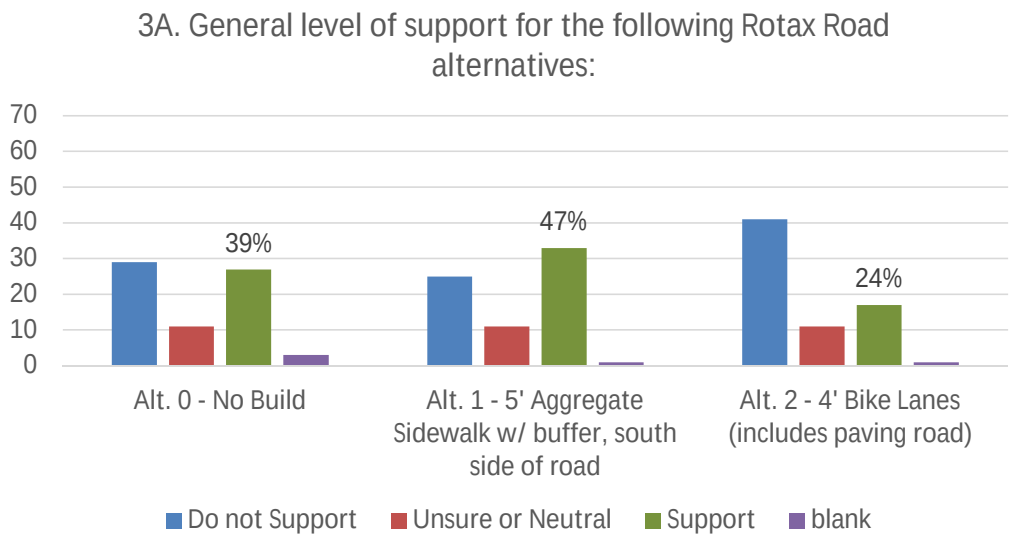
2A. General level of support for the following Pond Road alternatives:

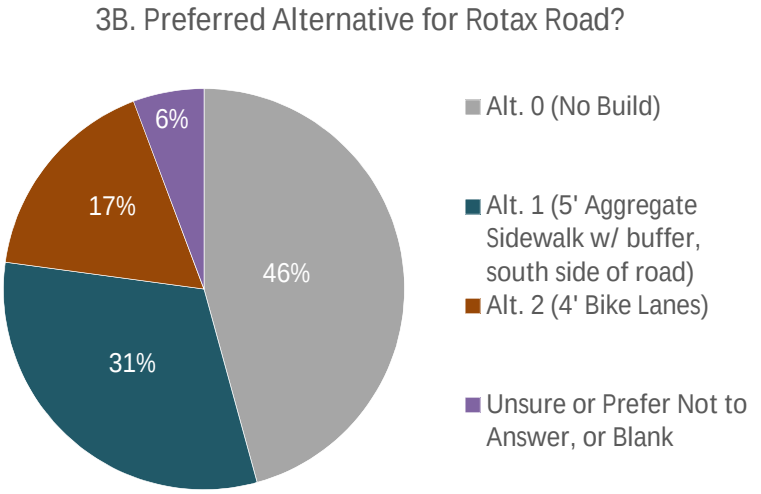


2B. Preferred Alternative for Pond Road?

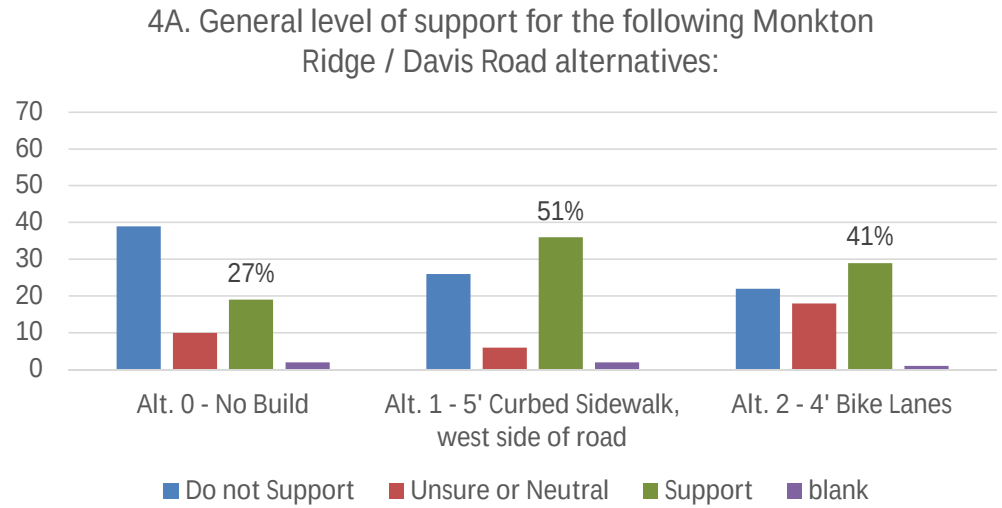


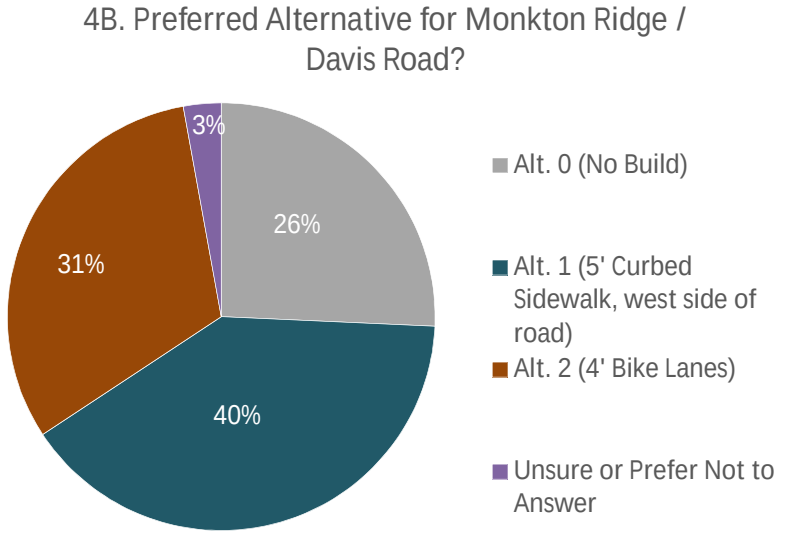
ROTAX ROAD ALTERNATIVES



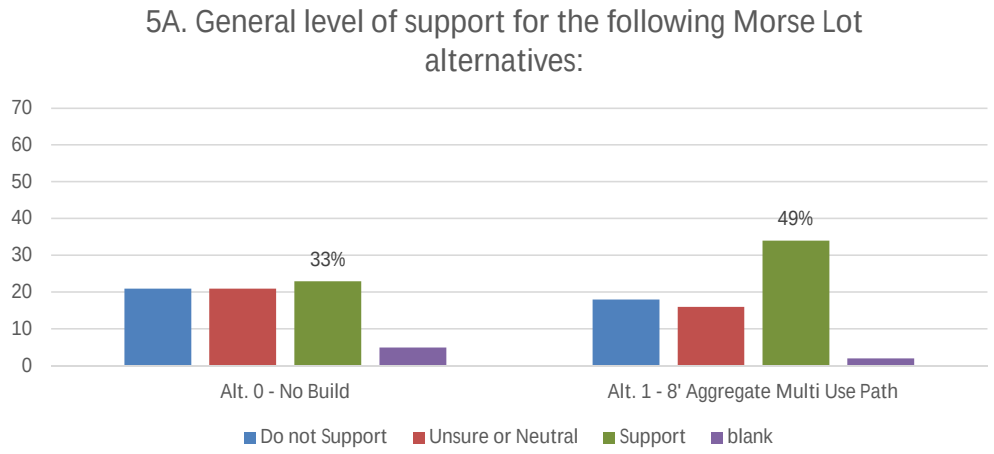


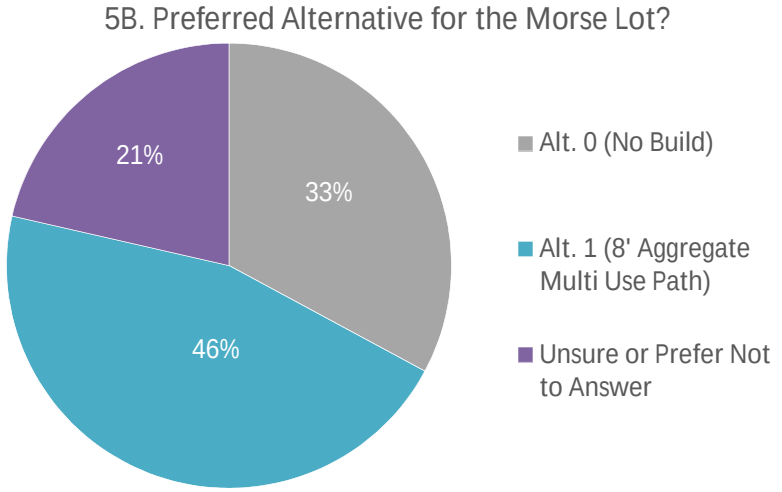
MONKTON RIDGE / DAVIS ROAD ALTERNATIVES



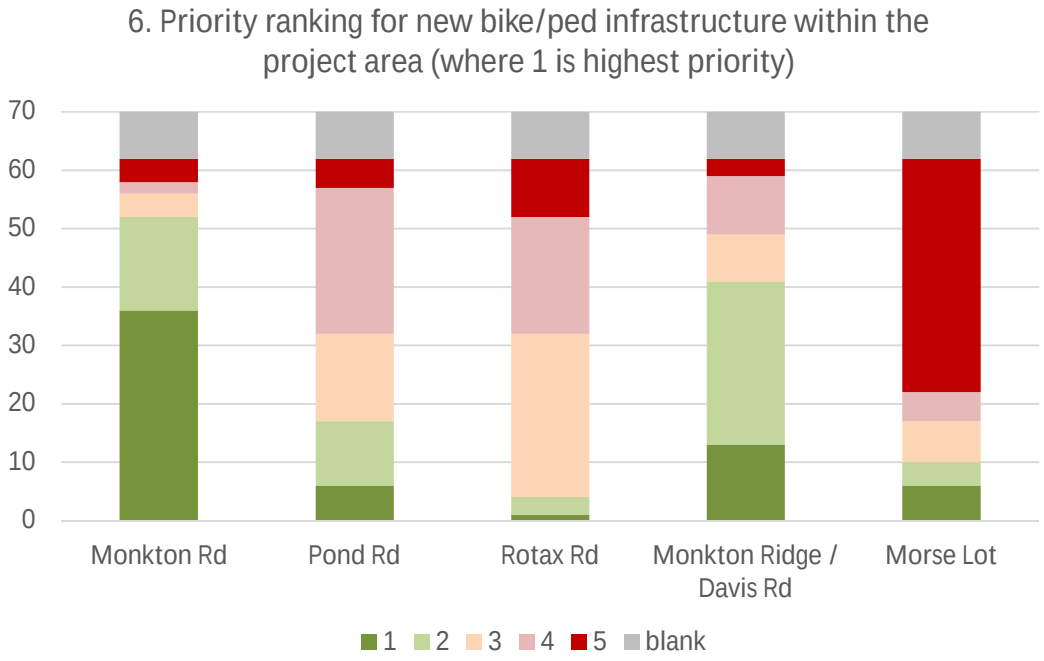


MORSE LOT ALTERNATIVES





PRIORITY RANKING



Road Segment	Average Ranking by Responses	Overall Priority Ranking
Monkton Rd	1.7	1
Monkton Ridge / Davis Rd	2.4	2
Pond Rd	3.2	3
Rotax Rd	3.6	4
Morse Lot	4.1	5