

FERRISBURGH PEDESTRIAN SAFETY SCOPING STUDY REPORT



FERRISBURGH
VERMONT

Addison County
REGIONAL PLANNING COMMISSION

**DuBois
& King**
inc.

October 2023

TABLE OF CONTENTS

INTRODUCTION

1.1 Project Background and Location	1
1.2 Project Coordination	1

EXISTING CONDITIONS

2.1 Land Use	3
2.2 Right of Way	4
2.3 Existing Conditions Review	4
2.4 Environmental and Cultural Resources	5
2.5 Public Transit	5

PROJECT ALTERNATIVES

Project Alternatives	8
3.1. Alternative 1: No Build	9
3.2. Alternative 2: Curbed Sidewalk	9
3.3. Alternative 3: Sidewalk with Green Strip	10
3.3.1 Alternative 3, Phase A	11
3.3.2 Alternative 3, Phase A+B	12
3.4. Crosswalks	13
3.4.1. Crosswalks – Alternative 1	13
3.4.2. Crosswalks – Alternative 2	13
3.4.3. Crosswalks – Alternative 3	13
3.5. Estimated Project Costs for Alternatives	14
3.6. Evaluation Matrix	14

PROJECT SUMMARY

4.1. Local Input	24
4.2. Preferred Alternative	24
4.3. Project Implementation Phasing	24
4.4. Potential Funding Sources	25

APPENDICES

[Appendix A – Meeting Notes and Key Correspondence](#)

[Appendix B – Right-of-Way Research](#)

[Appendix C – Opinions of Probable Construction Cost and Anticipated Project Costs](#)

1. INTRODUCTION

1.1. PROJECT BACKGROUND AND LOCATION

A Safe Routes to School (SRTS) Travel Plan was developed in 2012 by Ferrisburgh Central School, VTrans, and the Addison County Regional Planning Commission (ACRPC) in order to develop recommendations for making walking to and from Ferrisburgh Central School more sustainable and safer for students and the community. As part of this project a number of recommendations were made in vicinity of the School as well as a larger, more broad area within the Town to address a variety of short-term and long-term needs for improving walkability across the community.

This Ferrisburgh Pedestrian Safety Scoping Study was initiated by the Town via a Transportation Planning Initiative grant through the ACRPC, in order to develop and evaluate potential alternatives for sidewalk options along both sides of Route 7 from the intersection with Little Chicago Road / Middlebrook Road to the Town Hall (approximately 800'), along the north side of Little Chicago Road between Route 7 and the recreation field (approximately 900'), and along the north side of Middlebrook Road between Route 7 and the Union Meeting Hall (approximately 200').

The grant for this project addresses a need for improved safety and walkability in proximity to the Ferrisburgh Central School, also including the Town Hall / Community Center, Post Office, Union Meeting, Post Office, the Town-owned building that is formerly the Methodist Church, Union Meeting Hall, and Gilfeathers (a local deli). The project area is seen as a “first step” in achieving the goals of the 2012 SRTS Travel Plan. In addition to incorporating pedestrian infrastructure network, one of the needs identified by the Town is a crosswalk along Route 7 within the project area to improve safety for pedestrians crossing the road in this area, especially with elementary age children and their families walking along these roads. [The goal of this project is to develop and evaluate potential future pedestrian infrastructure along](#)

the length of the project area, provide recommendations for future sidewalk implementation, and document this process through a Scoping Study Report that the Town can utilize for future grant applications to assist in bringing the recommended alternative(s) into the design and construction phases.

1.2. PROJECT COORDINATION

The overall project team consists of the Town of Ferrisburgh as the project “owner”, the ACRPC 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 the project from beginning to end. Appendix A includes notes pertaining to project meetings.

PROJECT KICK-OFF MEETING

A meeting to kick-start the project was held on April 13, 2023 which discussed project goals, project area limits, site specific project elements, and provided an opportunity to gather input on the project area along with obtaining relevant information from the town. In addition, pedestrian infrastructure type (e.g. sidewalks versus multi-use paths) and material preferences (e.g. concrete, asphalt, stamped pavement, and aggregate) were discussed.

As part of the project area discussion, we reviewed the length along Little Chicago Road included as part



1. INTRODUCTION

of this project. The proposal for this project had included the section of Little Chicago Road between Route 7 and the Ferrisburgh Central School driveway. There was discussion at this meeting regarding extending the project area westerly to the recreation field driveway. Following this meeting the inclusion of this section was incorporated into the Scope of Work for development of alternatives for this project.

ALTERNATIVES PRESENTATION MEETING

Following development and evaluation of alternatives, a public meeting was held on September 5, 2023 to introduce the project, discuss the project process, discuss the alternatives developed to achieve the projects goals, and solicit input regarding the project in general, as well as the alternatives developed. General input received at this meeting includes the following:

- The overall need for the project was discussed. There were attendees present that are in support of the project (example - young family whom frequently walks through the project area and has safety concerns with the existing walkability, or lack of, in the project area) as well as those that questioned the need for the project. Related to this, there was also discussion of the 2012 SRTS Study that was a precursor to this project which identified this area specifically as a location for potential pedestrian infrastructure. In addition, this area as a “Town Center” was discussed.
- There was discussion, and some concern, regarding the overall project costs of the alternatives presented. There is interest in phasing the project so that the first phase would prioritize connections of key locations (School, Union Meeting Hall, and Post Office) and a second phase to expand sidewalks for the length of the project area.
- Related to project costs, the future need for maintenance and the Town’s cost to maintain potential future sidewalks was discussed.
- There was strong interest in a new crosswalk across Route 7. There was discussion regarding

the need for a proposed crosswalk to lead pedestrians to a sidewalk on both sides. This is especially true since proposed improvements along Route 7, a State owned roadway, will ultimately need VTrans approval.

- The Superintendent of the School District attended this meeting and expressed support for the project, noting existing safety concerns for pedestrians in the project area in proximity to the School.

ACRPC TRANSPORTATION ADVISORY COMMITTEE (TAC) MEETING

This project was presented to the ACRPC TAC on September 20, 2023 to summarize the project process, discuss alternatives, summarized public input received to date, and presented draft findings of the study.

PUBLIC INFORMATIONAL MEETING

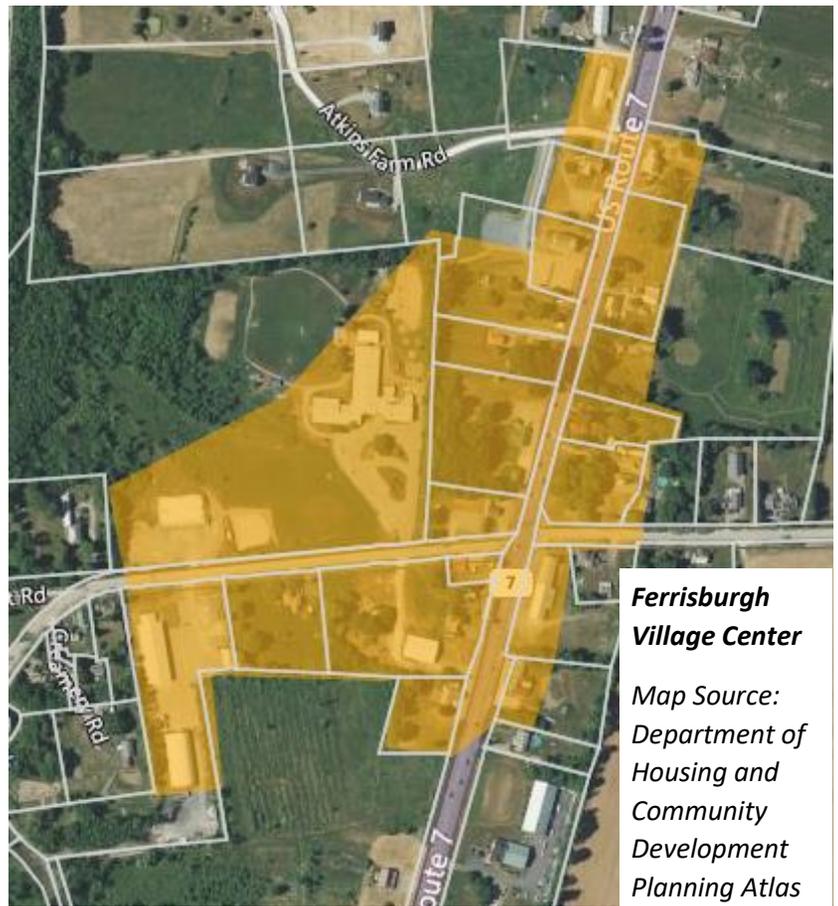
A public meeting was held on October 24, 2023 in conjunction with the Town’s Building Maintenance Committee to present the draft Report. General input received at this meeting includes the following:

- General support for the project, especially as it relates to the need for a crosswalk across Route 7.
- Due to the anticipated project costs presented, there was local interest in phasing of sidewalks – with support for focusing on pedestrian infrastructure to key locations first (such as connections to the Post Office, elementary school driveway, and Union Meeting Hall).
- There were discussions regarding what the “next steps” would entail if the Town would like to move forward into the next phase of sidewalk implementation.

2. EXISTING CONDITIONS

2.1. LAND USE

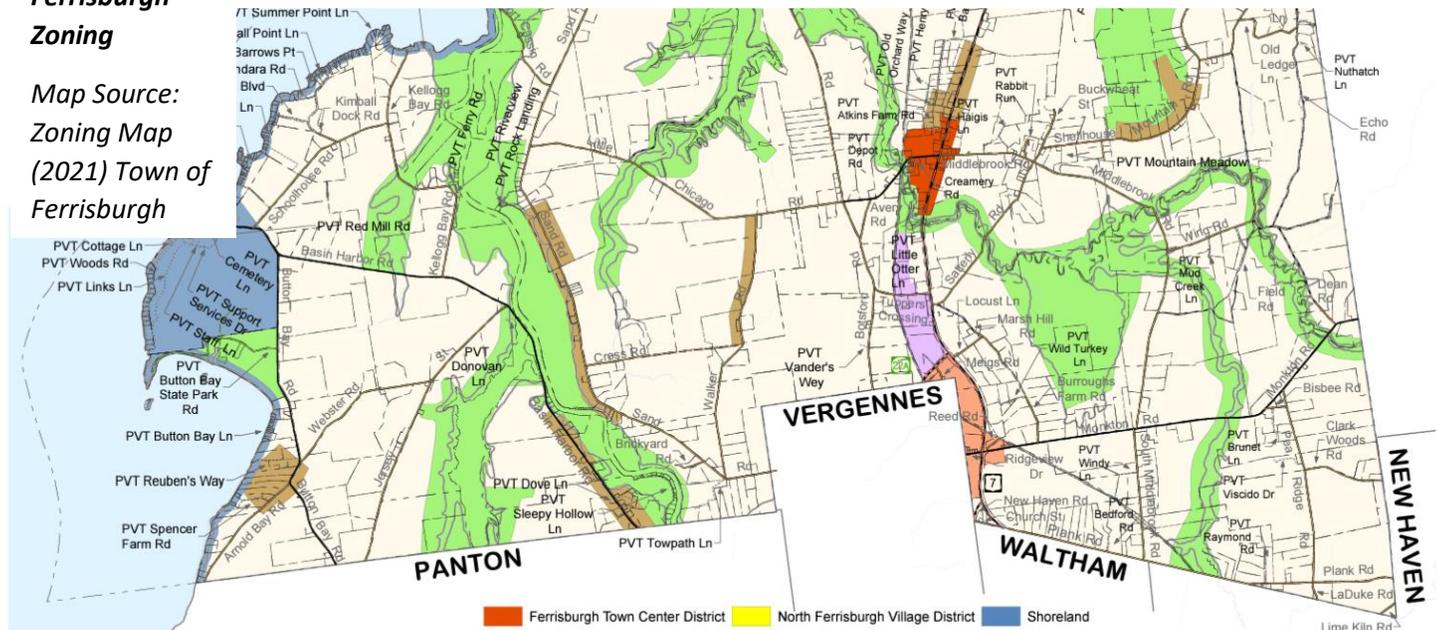
The project area is within the Ferrisburgh Town Center District. The establishment and recognition of the Ferrisburgh Village Center as an official “Village Center” is a new designation as of March 2023. As noted previously, there are a number of destinations along the project area – these include the elementary school, Union Meeting Hall, Post Office, Town Offices and Community Center, Historical Society, and Gilfeathers. It is our understanding, from Town input, that there is intention for the Union Meeting Hall to host local events in the future which would attract additional pedestrians. In addition, just north of the project area is the former Methodist Church which is now owned by the Town. These destinations are all facilities which can benefit from pedestrian infrastructure connections. As shown in the Community Facilities Map in the Town Plan, it is evident that this area is an important hub for the community.



Ferrisburgh Village Center
 Map Source: Department of Housing and Community Development Planning Atlas

Ferrisburgh Zoning

Map Source: Zoning Map (2021) Town of Ferrisburgh



ACRPC 04/14/2021

Land Use Regulations adopted March 2, 2021

Tax parcels prepared by RJ Turner Co, 2019



2. EXISTING CONDITIONS

2.2. RIGHT OF WAY

D&K conducted right-of-way (ROW) research for the project area to include on base-mapping and for use in estimating potential ROW impacts of the various alternatives. Through this research, it was estimated that the three roadway sections within the project area all have a 3-rod (49.5') ROW. The ROW along Route 7 is wider to the south of the project area intersection as well as north of Atkins Farm Road. Appendix B includes ROW research documentation.

2.3. EXISTING CONDITIONS REVIEW

US Route 7 is a State owned roadway that is considered a rural principle arterial (other). Both Little Chicago Road and Middlebrook Road are local roadways. The VTrans Annual Average Daily Traffic Report estimates the annual average daily traffic (AADT) along Route 7 within the project area for 2022 was estimated to be 12,243 vehicles per day (vpd). The 2022 AADT along Middlebrook Road in close proximity to the project area was estimated at 625 vpd. The 2022 AADT along Little Chicago Road in close proximity to the project area intersection was 917 vpd, with a slight increase to 1,028 vpd west of the school.

Route 7 has left turn lanes for each approach at the signalized intersection. Outside of this, Route 7 is one lane in each direction within the project area. There are no existing sidewalks within the project area. Just north of the project area there is a sidewalk in front of the Town Offices / Community Hall that is separated from the road by a green strip.

A site review was conducted to review potential opportunities for sidewalk alternatives and also identify potential constraints. Some features in close proximity to the roadway include the following:

- Curbing along both sides of Route 7 and along the northern radii of approaches to Route 7 at the intersection.
- Utility poles along Route 7 (predominantly the west side, but also one pole on the east side); along the north side of Middlebrook Road, and along the south side of Little Chicago Road (and crossing the road to head towards the School).
- Roadway signs and residential mailboxes.
- Signal equipment in close proximity to the roadway.
- Mature trees along a section of the east side of Route 7.
- Stormwater infrastructure includes a closed drainage system along Route 7 with catch basins along the west side of the road. There is also one catch basin on Middlebrook Road on the north side of the road in vicinity of the intersection with Route 7. There are two 24" culverts along Little Chicago Road on the north side of the road. Drainage swales are also located along the north side of Little Chicago Road.



2. EXISTING CONDITIONS

2.4. ENVIRONMENTAL AND CULTURAL RESOURCES

ENVIRONMENTAL RESOURCES

A preliminary review of environmental resources was conducted by utilizing the Vermont ANR Natural Resources Atlas online database. The following is a review of this data:

- Floodplains. The VT ANR Atlas does not include digital data for floodplains within the Town of Ferrisburgh. However, we assume that due to the lack of streams/ivers in proximity to the project area, that there are no floodplains within the project area.
- Wetlands. Mapping available on the VT ANR Atlas does not show any mapped wetlands within the project area. However, the National Wetlands Inventory shows a wetland area (riverine) crossing Little Chicago Road just east of the recreation fields drive. Based on a site visit it appears that there is vegetation along the north side of Little Chicago Road which may suggest wetlands on the north side of this road in the project area.
- Rare, Threatened, Endangered (RTE) Species. There is a mapped plant species that is mapped as an RTE near the eastern side of the School driveway. There are no alternatives that are being evaluated as part of this project that are anticipated to impact the area where this is shown to be mapped. However, during the design phase this should be confirmed.
- It is not shown on the graphic on the following page, however there are prime agricultural soils over the length of Route 7 within the project area and along Middlebrook Road from the Route 7 intersection to the School Driveway. Beyond that, there are Statewide (b) soils along Middlebrook Road and along Route 7 between the school driveway and the western end of the project area.

CULTURAL RESOURCES

A review of historical / archaeological resources within the project area was not included as part of the scope for this project.

2.5. PUBLIC TRANSIT

Tri-Valley Transit provides public transit services connecting communities within Addison, Orange, and Northern Windsor counties. The LINK to Burlington route traverses through Ferrisburgh and has stops Monday through Friday along (1) Route 7 at Old Hollow Road (northbound) / Stage Road (southbound) and (2) the Ferrisburgh Park and Ride.

Map Source: Tri-Valley Transit
www.trivalleytransit.org

[LINK to Burlington Map](#)

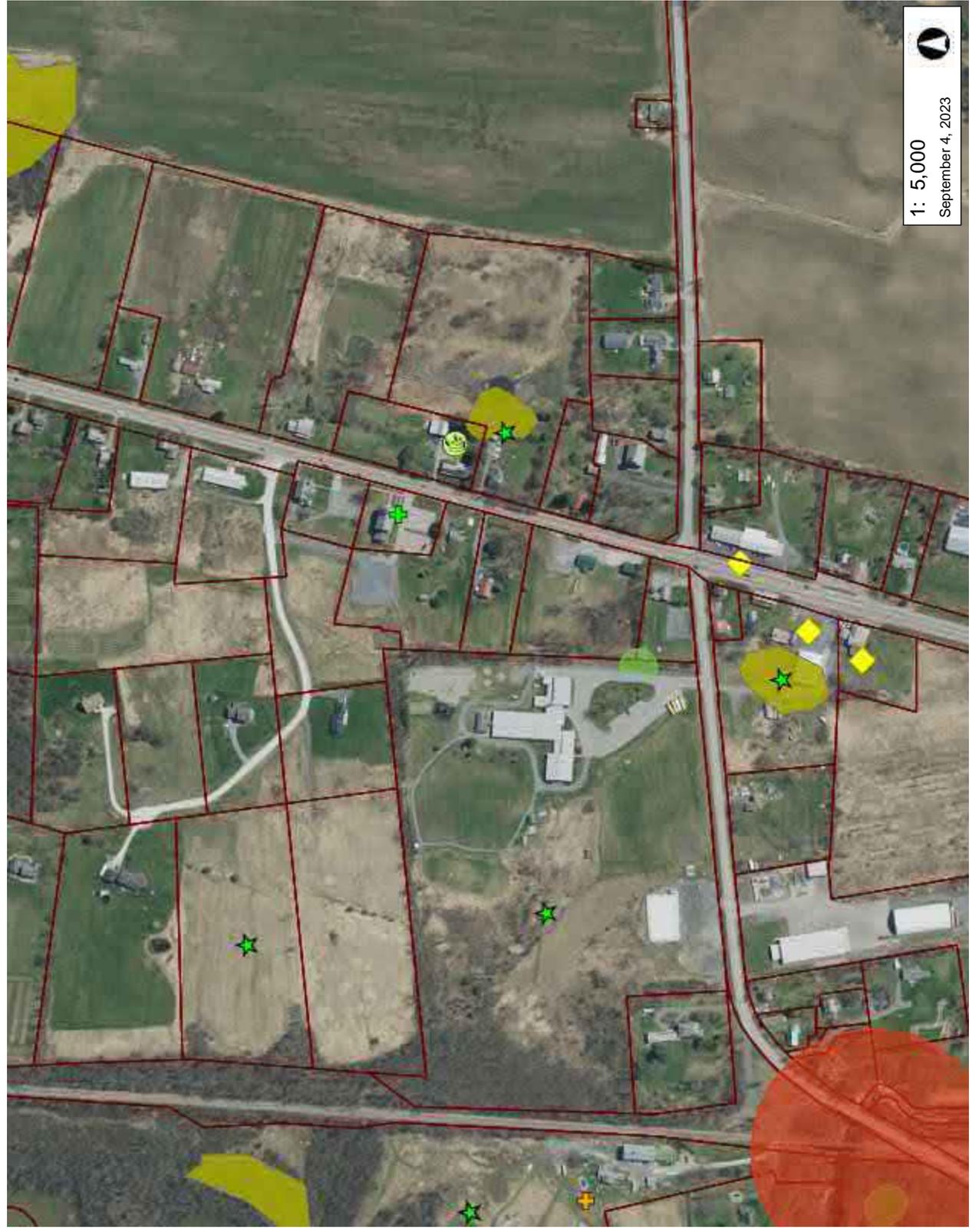




Natural Resources Atlas

Vermont Agency of Natural Resources

vermont.gov



LEGEND

Rare Threatened and Endangered

- RTE Animal (Red square)
- RTE Plant (Green square)

Wetland Projects

- Wetland - VSWI (Green star)
- Class 1 Wetland (Orange square)
- Class 2 Wetland (Yellow square)
- Wetland Buffer (Light green square)

Stormwater Permits (Issued)

- Operational (Green cross)
- Construction (Yellow cross)
- Industrial - NOI (Blue cross)
- Industrial - NOX (Purple cross)
- Other (Grey cross)

Hazardous Site (Yellow diamond)

Parcels (standardized) (Red outline)

ACT250 Permits (Green circle)

NOTES

Map created using ANR's Natural Resources Atlas

1: 5,000
September 4, 2023

254.0 0 127.00 254.0 Meters

1" = 417 Ft. 1cm = 50 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.

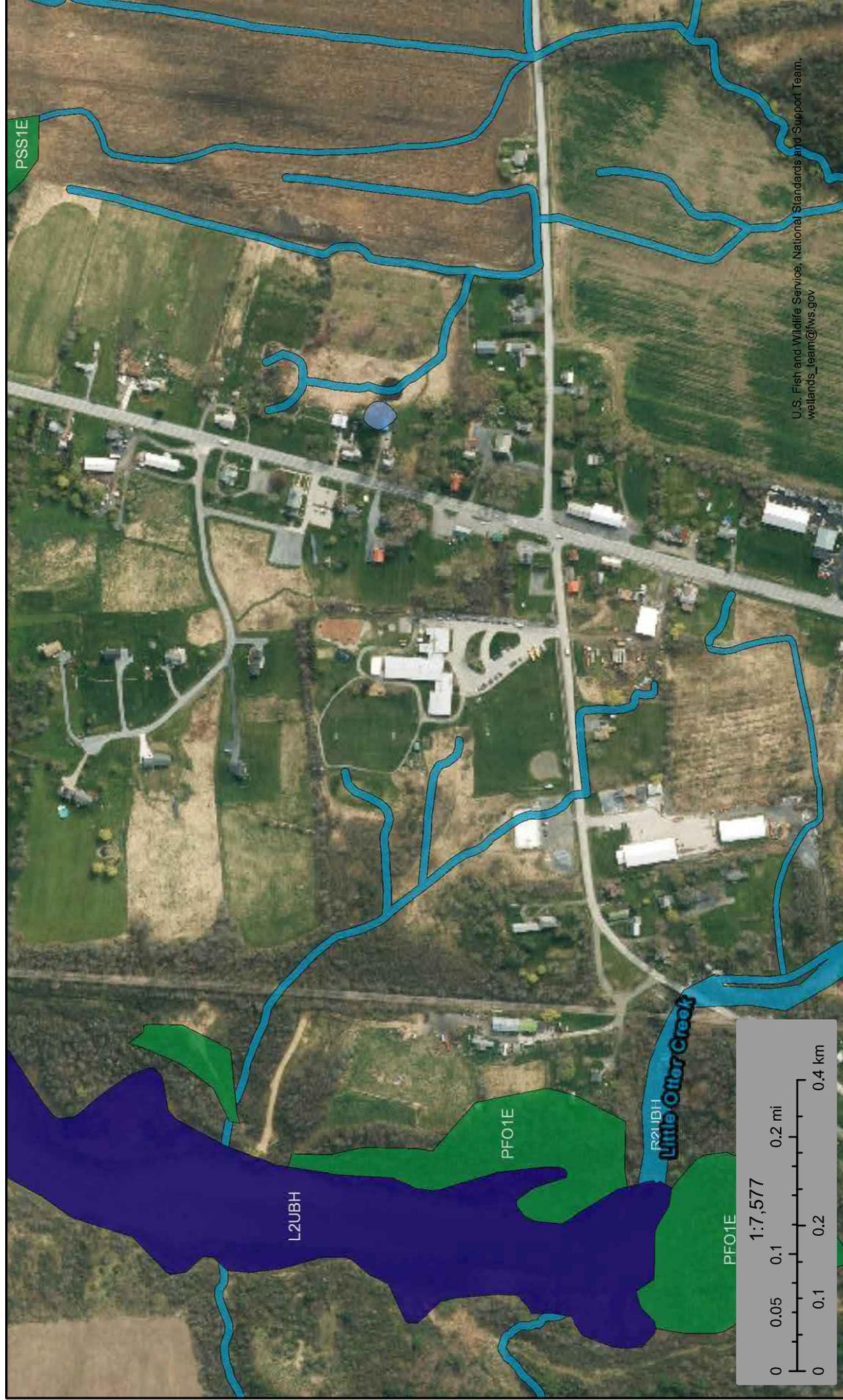
WGS_1984_Web_Mercator_Auxiliary_Sphere
© Vermont Agency of Natural Resources



U.S. Fish and Wildlife Service

National Wetlands Inventory

Ferrisburgh Scoping Study Project Area



September 15, 2023

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.

3. PROJECT ALTERNATIVES

Project alternatives were developed based on findings during the existing conditions review; input from the Town, ACRPC, and from input at the Alternatives Presentation Meeting; locations of pedestrian destinations along the project area; and overall ability to meet the goals of the project.

All project alternatives begin along Route 7 at the Little Chicago Road / Middlebrook Road intersection and extend north to the Town Offices / Community Center, along Little Chicago Road from Route 7 to the recreation field, and along Middlebrook Road from Route 7 to the Union Meeting Hall. Based on input received through the project process, there is interest in phasing alternatives in order to make overall project costs more affordable. This will be discussed in more detail later in this section.

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.



3. PROJECT ALTERNATIVES

Project Alternatives

Project alternative sketches are shown at the end of this section discussing alternatives.

3.1 ALTERNATIVE 1: NO BUILD

Route 7, Little Chicago Road, and Middlebrook Road

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 pedestrians within the project area.

3.2 ALTERNATIVE 2: CURBED SIDEWALK

Route 7 (west) and Route 7 (east)

A new 5-foot wide concrete sidewalk separated from the roadway by a curb beginning at the Little Chicago Road / Middlebrook Road intersection and continuing north to the south side of the Town Offices / Community Center. This graphic for this alternative shows sidewalks on both sides of the road. However, this project evaluates a potential sidewalk on the west side of the road separately from a potential sidewalk on the east side of the road.

Route 7 (west side): This alternative will require the need for relocation of 4 utility poles, 5 signs, and 1 mailbox. There will likely be some minor site work needed at the islands at the entrances of the Post Office and Gilfeather's. If this alternative is furthered into the design phase, the engineering consultant should also discuss with the Town and Gilfeather's property owner whether there is any potential to improve access management at the three curb cuts for the Post Office and Gilfeather's to maximize safety for both vehicles and pedestrians.

Route 7 (east side): The topography adjacent to Route 7 on this side of the road suggests that a new short retaining wall will be needed for a portion of the project area in order to minimize impacts to the adjacent fencing and trees (*photo below shows the east side of Route 7*). There are also two mailboxes that will need to be relocated as part of this project.



3. PROJECT ALTERNATIVES

Little Chicago Road

A new 5-foot wide concrete sidewalk separated from the road by a curb beginning at the Route 7 / Middlebrook Road intersection and continuing on the north side of the road westerly to the driveway on the west side of the recreation field.

This sidewalk may require regrading at the existing swale on the north side of Little Chicago Road. It is anticipated that one sign will need to be relocated as part of this project. The portion of the sidewalk that is on the northwest side of the intersection will need to be narrowed to 3' for a short section in order to minimize impacts to existing signal equipment. If amenable to VTrans, there could be the potential to tighten the shoulder here in order to increase sidewalk width. The pros and cons regarding sidewalk width versus potential roadway geometry changes were not reviewed as part of this scoping project – this level of detail should be included during the design phase. Any potential changes to existing geometry would need to involve further review during the engineering design phase as well as coordination and input from VTrans.

Middlebrook Road

A new 5-foot wide concrete sidewalk separated from the roadway by a curb beginning at the Route 7 / Little Chicago Road intersection and continuing on the north side of the road easterly to the Union Meeting Hall driveway. This sidewalk alternative is anticipated to involve the need to relocate two signs and one mailbox.

3.3 ALTERNATIVE 3: SIDEWALK WITH GREEN STRIP

Originally, Alternative 3 included new proposal sidewalks separated from the roadway by green strips over the length of the project area, including sidewalks on the west side of Route 7 and the north sides of both Little Chicago Road and Middlebrook Road. A sidewalk with green strip alternative was not developed for the east side of Route 7 due to the proximity of fences and mature trees close to the roadway and the impact a sidewalk with a green strip would have to these features. A new retaining wall, which would likely need to be taller than what would be expected with Alternative 2, would also be needed for sidewalk constructed. In addition, while there are residential homes on this side of the road, the primary “community” destinations are located on the west side of the road along this section. For these reasons a proposed alternative for a sidewalk with a green strip was not developed for the east side of the road. At the Alternatives Presentation Meeting there was general concurrence that attendees at this meeting felt a sidewalk on the east side is not needed at this time.

At the Alternatives Presentation Meeting there was interest in incorporating Phasing of sidewalks, a main concern being the combined construction and project costs associated with new sidewalks on all three roadways within the project area. Typically, construction costs for a sidewalk with a green strip are generally less expensive than a curbed sidewalk. For this reason, D&K revised our Alternative 3 into two phases: Phase A and Phase A + B. The intent of breakout of Phase A and Phase A + B (versus a breakdown of Phase A and Phase B) is to illustrate the cost differential between constructing Phase A alone versus constructing the full sidewalk length as one project, Phase A + B.

3. PROJECT ALTERNATIVES

3.3.1 Alternative 3, Phase A

Route 7 (west)

A new 5-foot wide concrete sidewalk on the west side of Route 7 beginning at the Little Chicago Road / Middlebrook Road intersection and continuing north to the Post Office driveway. The sidewalk will begin at the intersection behind existing signal equipment. *The photo below shows the signal equipment located on the northeast corner of the intersection.* North of the signal equipment the sidewalk will transition to a 5-foot wide concrete sidewalk separated from the roadway by a curb, ending at the Post Office driveway. A curbed sidewalk was chosen for this short section of sidewalk based on engineering judgment to better tie into the open curb cut at the Post Office and Gilfeathers.

Little Chicago Road

A new 5-foot wide concrete sidewalk separated from the roadway by a green strip of varying width beginning at the Route 7 / Middlebrook Road intersection and continuing on the north side of the road westerly to the Ferrisburgh Central School driveway. This alternative is shown to be on the north side of the swale to the east of the School driveway. Tree cutting may be needed along the proposed alignment to the west of the Historical Society Museum. The intent of the proposed alignment is to avoid impacts to existing signal equipment and the drainage swale and 24" pipe outlet on the north side of the road.

Middlebrook Road

A new 5-foot wide concrete sidewalk separated from the roadway by a 4-foot green strip beginning at the Route 7 / Little Chicago Road intersection and continuing on the north side of the road easterly to the Union Meeting Hall driveway. A 4-foot green strip was chosen to minimize the need for permanent ROW easements. This sidewalk alternative is anticipated to involve the need to relocate two utility poles and one sign.



3. PROJECT ALTERNATIVES

3.3.2 Alternative 3, Phase A + B

Route 7 (west)

A new 5-foot wide concrete sidewalk on the west side of Route 7 beginning at the Little Chicago Road / Middlebrook Road intersection and continuing north to the Town Offices / Community Center. The sidewalk will begin at the intersection behind (on the west side of) existing signal equipment. North of the signal equipment the sidewalk will transition to a 5-foot wide concrete sidewalk separated from the roadway by a curb up through Gilfeather's (with curb cuts for driveways). North of Gilfeather's the proposed sidewalk will be separated from the roadway by a 5' green strip to the Town Offices / Community Center.

This alternative is estimated to require the need to relocate 4 utility poles and 4 signs. Similar to Alternative 2, there will likely be some minor site work at the islands at the entrances of the Post Office and Gilfeather's. If this alternative is furthered into the design phase, the engineering consultant should discuss whether there is a potential to improve access management at the three curb cuts for the Post Office and Gilfeather's to maximize safety for both vehicles and pedestrians.

Little Chicago Road

A new 5-foot wide concrete sidewalk separated from the roadway by a green strip of varying width beginning at the Route 7 / Middlebrook Road intersection and continuing on the north side of the road westerly to the recreation field driveway. This alternative is shown to be on the north side of the swale beginning on the east side of the School driveway and continuing westerly towards the recreation field drive. Tree cutting may be needed along the proposed alignment to the west of the Historical Society Museum. In addition, the baseball dugout towards the western end of the project area would need to be relocated as part of this project. It is anticipated that one sign relocation will be needed for this alternative. The intent of the proposed alignment is to avoid impacts to existing signal equipment and also to the drainage swale and 2 24" culverts on the north side of the road.

Middlebrook Road

A new 5-foot wide concrete sidewalk separated from the roadway by a 4-foot green strip beginning at the Route 7 / Little Chicago Road intersection and continuing on the north side of the road easterly to the Union Meeting Hall driveway. This sidewalk alternative is anticipated to involve the need to relocate two utility poles and one sign. *The photo below shows Middlebrook Road, looking easterly from the intersection with Route 7.*



3. PROJECT ALTERNATIVES

3.4 CROSSWALKS

As shown on graphics for the above alternatives on the following pages, all alternatives except the No Build Alternative show inclusion of crosswalk(s) along the project area, the locations of which vary depending on the alternative. As part of this project, D&K reached out to VTrans to gather a sense of what sort of work would need to be done with the existing signal equipment in order to accommodate a potential future crosswalk on the north side of Route 7 at the intersection with Little Chicago Road and Middlebrook Road. Based on input from VTrans, it is our understanding that the potential for a crosswalk here was anticipated during the signal construction project and that there is a spare conduit in place. Work needed (in regards to signal equipment) for a US 7 crossing on the north side would include adding pedestrian bases, buttons, poles, heads and potentially some conduit and wiring them back to the signal cabinet, and reprogramming of the controller. VTrans estimated the construction cost for this work would be approximately \$45,000 - \$50,000. Correspondence regarding this matter is included in Appendix A.

The following is a summary of crosswalks assumed as part of the alternatives discussed above.

3.4.1 Crosswalks - Alternative 1

Alternative 1 is the No Build alternative and does not include any proposed crosswalks due to a lack of sidewalks on both side of the project area roads.

3.4.2 Crosswalks - Alternative 2

Alternative 2 depicts crosswalks along Route 7 at two locations: (1) the Route 7 / Little Chicago Road / Middlebrook Road intersection, and (2) Route 7 at the Town Hall / Community Center. However, if there is only a proposed sidewalk on either the east or west side of Route 7, the proposed crosswalk at the Town Hall / Community Center would not be included as part of proposed improvements due to a lack of connecting pedestrian infrastructure on one side of the road. In addition, depending on which pedestrian infrastructure improvements are pursued, if there are not proposed sidewalks on both side of Route 7 at the intersection with Little Chicago Road and Middlebrook Road, then a proposed crosswalk at this intersection is assumed to not be included as part of proposed improvements.

3.4.3 Crosswalks - Alternative 3

Alternative 3 depicts one crosswalk along Route 7 at the intersection with Little Chicago Road and Middlebrook Road. Due to no proposed sidewalk on the east side of Route 7 with this alternative it is assumed that there would be no crosswalk on the northern end of the project along Route 7. The crosswalk at the intersection is assumed to be part of Alternative 3 only if there is a connection to pedestrian infrastructure on Middlebrook Road. The proposed crosswalk at the intersection applies to both Alternative 3 Phase A and Alternative 3 Phase A + B.

Graphics for the above alternatives are shown on the following pages.

This project did not include traffic evaluations of the Route 7 / Little Chicago Road / Middlebrook Road intersection, in regards to how the potential addition of pedestrian phasing could impact the traffic operations of the project.

3. PROJECT ALTERNATIVES

3.5 ESTIMATED PROJECT COSTS FOR ALTERNATIVES

As part of this project, opinions of probable construction cost (OPCC) were developed for each alternative. The following is a summary of estimated project costs for each alternative – this includes the OPCC, engineering design costs, administration costs, and construction administration costs. Also shown below is the estimated OPCC cost per linear foot of proposed sidewalk. Typically, a sidewalk with green strip is less expensive than a sidewalk separated by a curb; however, this depends on site-specific quantities and variations of impacts between alternatives. The Alternative 2 sidewalk for the east side of the road is significantly more expensive per foot primarily due to the assumed need for a retaining wall. In addition, as shown with Alternative 3 Phase A versus Alternative 3 Phase A+B, the cost per linear foot of sidewalk is typically less expensive for constructing both phases at once, as opposed to separately. The significant increase in OPCC per linear foot for the Route 7 west sidewalk of Phase A+B versus Phase A is partially due to the construction near the intersection being more involved than the section in Phase A+B which is further north. In addition, there are some items which have the same quantity for both variations. In addition, for short alternatives there are certain items (such as uniformed officers and flaggers, where we assume a minimum quantity regardless of length). Additional detail regarding project costs can be found in Appendix C.

	Total Estimated Project Costs*	OPCC cost/lf of sidewalk **
Alternative 1, No Build		
All road segments	\$0	
Alternative 2, Curbed Sidewalk		
Rte 7 (west)	\$550K - \$650K	\$566
Rte 7 (east)	\$1.5M - \$1.6M	\$1,530
Little Chicago Rd	\$650K - \$750K	\$577
Middlebrook Rd	\$150K - 250K	\$681
Alternative 3, Phase A, Sidewalk with Green Strip		
Rte 7 (west)	\$100K - 150K	\$684
Little Chicago Rd	\$125K - \$250K	\$385
Middlebrook Rd	\$100K - \$200K	\$420
Alternative 3, Phase A + B, Sidewalk with Green Strip		
Rte 7 (west)	\$450K - \$550K	\$455
Little Chicago Rd	\$400K - \$500K	\$378
Middlebrook Rd	\$75K - 150K	\$420
Crosswalk Improvements***		
Alternative 2	\$125K-\$150K	
Alternative 3	\$125K-\$150K	

* Total Estimated Project Costs includes Engineering design, Administration costs, and Construction Administration.

** OPCC cost per linear foot of sidewalk is the estimated opinion of probable construction cost only divided by the length of the proposed sidewalk.

*** Assume crosswalks only to be developed if sidewalks on both sides of the road are being proposed for the given location.

3.6 EVALUATION MATRIX

Following development of alternatives, alternatives were evaluated considering a number of criteria. The results of this evaluation are shown below.

An Evaluation Matrix for project Alternatives is shown following alternatives graphics below.

3.1 ALTERNATIVE 1: NO BUILD
ROUTE 7



DuBois & King inc.
ENGINEERING • PLANNING •
MANAGEMENT • DEVELOPMENT
28 NORTH MAIN ST.
RANDOLPH, VT 05060
TEL: (802) 726-3376
FAX: (802) 783-7101
www.dubois-king.com
SO. BURLINGTON, VT
SPRINGFIELD, VT
BRANDON, VT
BEDFORD, NH LACONIA, NH
© Copyright 2020 DuBois & King Inc.
PROFESSIONAL SEAL

**NOT FOR
CONSTRUCTION
CONCEPTUAL
PLANS**

NO.	DATE	DESCRIPTION	BY	CHK'D
1	00-00-0000		XXX	XXX

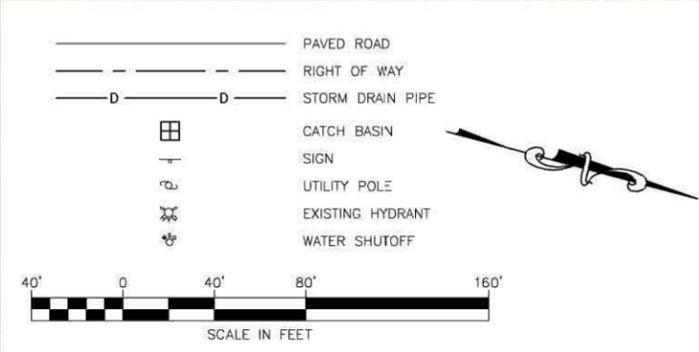
ADDISON COUNTY
REGIONAL
PLANNING
COMMISSION

ACRPC
FERRISBURGH
PEDESTRIAN
SCOPING STUDY

SHEET TITLE
**ALTERNATIVE 1
ROUTE 7**

DRAWN BY JN	DATE AUG. 2023
CHECKED BY JDA	DSK PROJECT # 228963
PROJ. ENG. JDA	DSK ARCHIVER #

SHEET NUMBER
1
SHEET OF XXX



ALTERNATIVE 1, NO BUILD; ROUTE 7

I:\228963 ACRPC Ferrisburgh Pedestrian Safety Scoping Study\Drawings\Civil\228963_01ts_recover.dwg 9/15/2023 11:55 AM

3.1 ALTERNATIVE 1: NO BUILD
MIDDLEBROOK ROAD &
LITTLE CHICAGO ROAD



ALTERNATIVE 1, NO BUILD; MIDDLEBROOK ROAD



ALTERNATIVE 1, NO BUILD; LITTLE CHICAGO ROAD

	PAVED ROAD
	RIGHT OF WAY
	STORM DRAIN PIPE
	CATCH BASIN
	SIGN
	UTILITY POLE
	EXISTING HYDRANT
	WATER SHUTOFF

SCALE IN FEET

40' 0 40' 80' 160'

DuBois & King Inc.
ENGINEERING • PLANNING •
MANAGEMENT • DEVELOPMENT
28 NORTH MAIN ST.
RANDOLPH, VT 05060
TEL: (802) 728-3376
FAX: (802) 783-7101
www.dubois-king.com
SO. BURLINGTON, VT
SPRINGFIELD, VT
BRANDON, VT
BEDFORD, NH LACONIA, NH
© Copyright 2020 DuBois & King Inc.

**NOT FOR
CONSTRUCTION
CONCEPTUAL
PLANS**

NO.	DATE	DESCRIPTION	BY	CKD

ADDISON COUNTY
REGIONAL
PLANNING
COMMISSION

ACRPC
FERRISBURGH
PEDESTRIAN
SCOPING STUDY

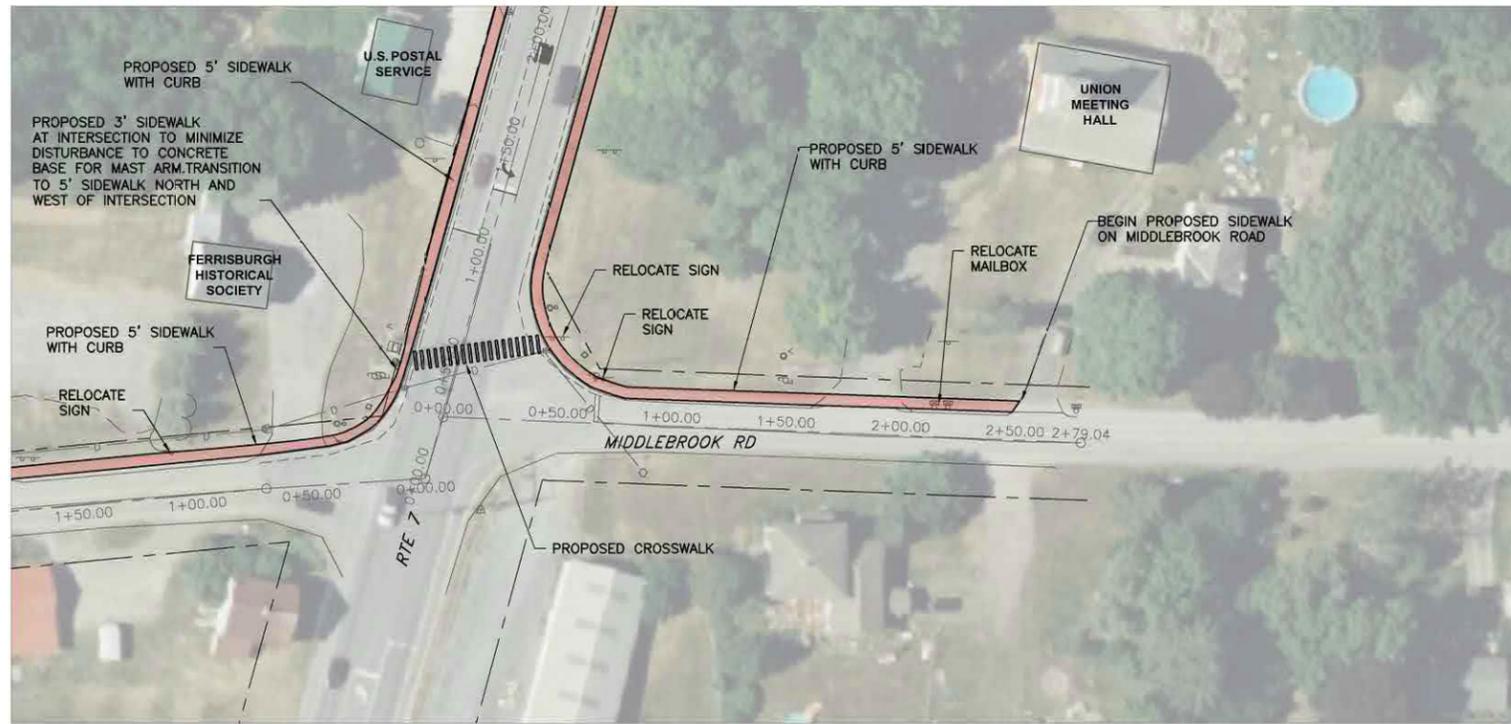
SHEET TITLE
ALTERNATIVE 1
MIDDLEBROOK AND
LITTLE CHICAGO
ROAD

DRAWN BY	DATE
JN	AUG. 2023
CHECKED BY	DSK PROJECT #
JDA	228963
PROJ. ENG.	DSK ARCHIVE #
JDA	

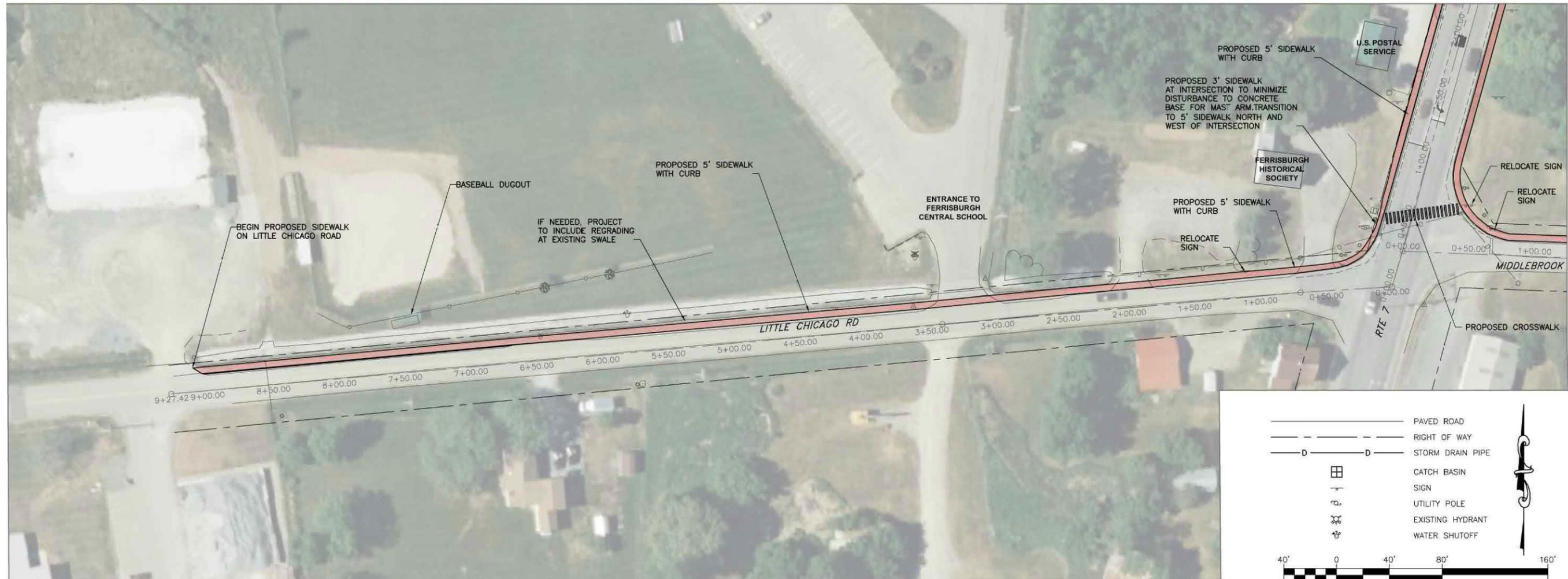
SHEET NUMBER
2
SHEET OF XXX

I:\228963 ACRPC Ferrisburgh Pedestrian Safety Scoping Study\Drawings\Civil\228963_01s_recover.dwg 9/15/2023 11:54 AM

3.2 ALTERNATIVE 2:
CURBED SIDEWALK
MIDDLEBROOK ROAD &
LITTLE CHICAGO ROAD



ALTERNATIVE 2, CURBED 5' SIDEWALK; MIDDLEBROOK ROAD



ALTERNATIVE 2, CURBED 5' SIDEWALK; LITTLE CHICAGO ROAD

**NOT FOR
CONSTRUCTION
CONCEPTUAL
PLANS**

NO.	DATE	DESCRIPTION	BY	CHKD
00-00-0000			XXX	XXX
1				

ADDISON COUNTY
REGIONAL
PLANNING
COMMISSION

ACRPC
FERRISBURGH
PEDESTRIAN
SCOPING STUDY

SHEET TITLE
ALTERNATIVE 2
MIDDLEBROOK AND
LITTLE CHICAGO
ROAD

DRAWN BY JN	DATE AUG. 2023
CHECKED BY JDA	DSK PROJECT # 228963
PROJ. ENG. JDA	DSK ARCHIVER #

SHEET NUMBER
4
SHEET OF XXX

3.3 ALTERNATIVE 3 A: SIDEWALK WITH GREEN STRIP ROUTE 7



ALTERNATIVE 3, PHASE A, 5' SIDEWALK WITH GREEN STRIP; ROUTE 7

DuBois & King inc.
 ENGINEERING • PLANNING •
 MANAGEMENT • DEVELOPMENT
 28 NORTH MAIN ST.
 RANDOLPH, VT 05060
 TEL: (802) 726-3376
 FAX: (802) 783-7101
 www.dubois-king.com
 SO. BURLINGTON, VT
 SPRINGFIELD, VT
 BRANDON, VT
 BEDFORD, NH LACONIA, NH
 © Copyright 2020 DuBois & King Inc.
 PROFESSIONAL SEAL

**NOT FOR
CONSTRUCTION
CONCEPTUAL
PLANS**

NO.	DATE	DESCRIPTION	BY	CHK'D
1	00-00-0000		XXX	XXX

ADDISON COUNTY
REGIONAL
PLANNING
COMMISSION

ACRPC
FERRISBURGH
PEDESTRIAN
SCOPING STUDY

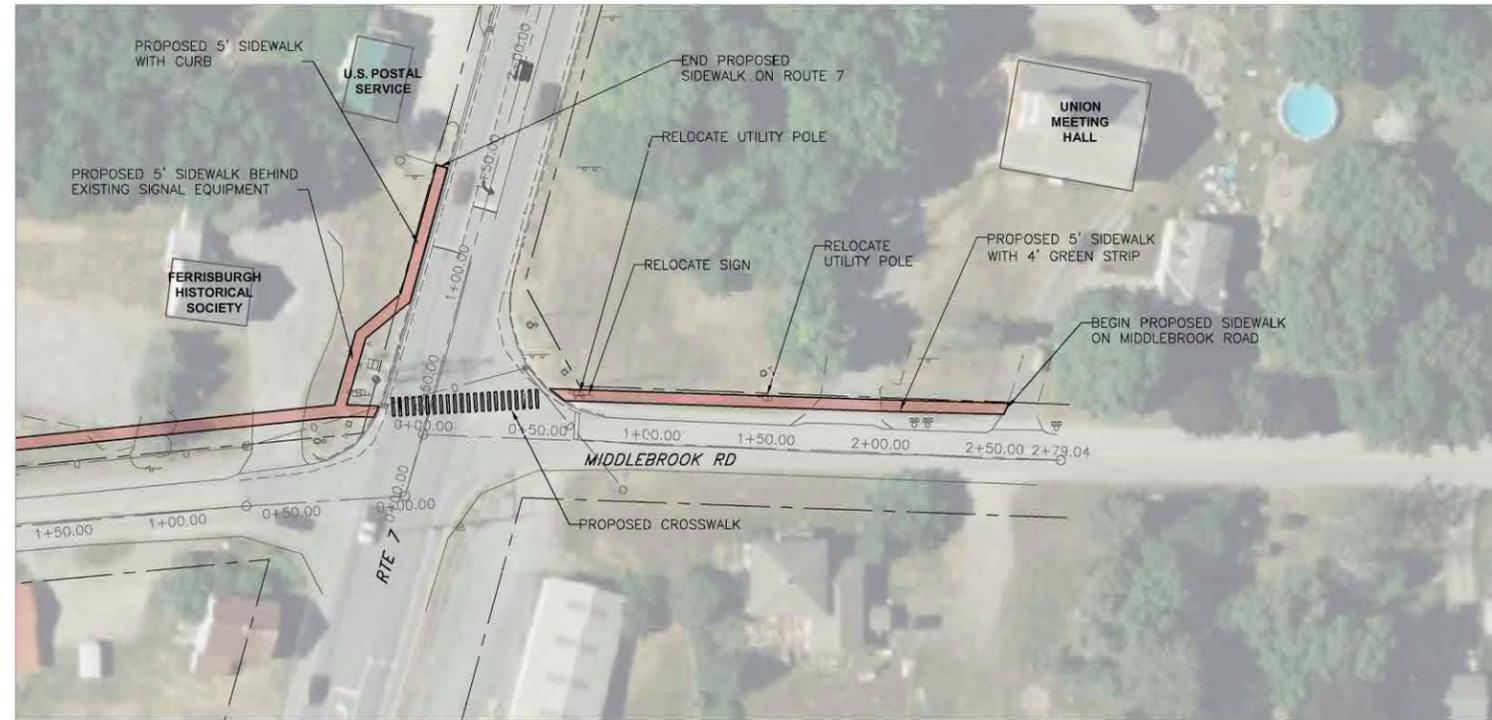
SHEET TITLE
**ALTERNATIVE 3
PHASE A
ROUTE 7**

DRAWN BY JN	DATE AUG. 2023
CHECKED BY JDA	CHK PROJECT # 228963
PROJ. ENG. JDA	CHK ARCHIVER #

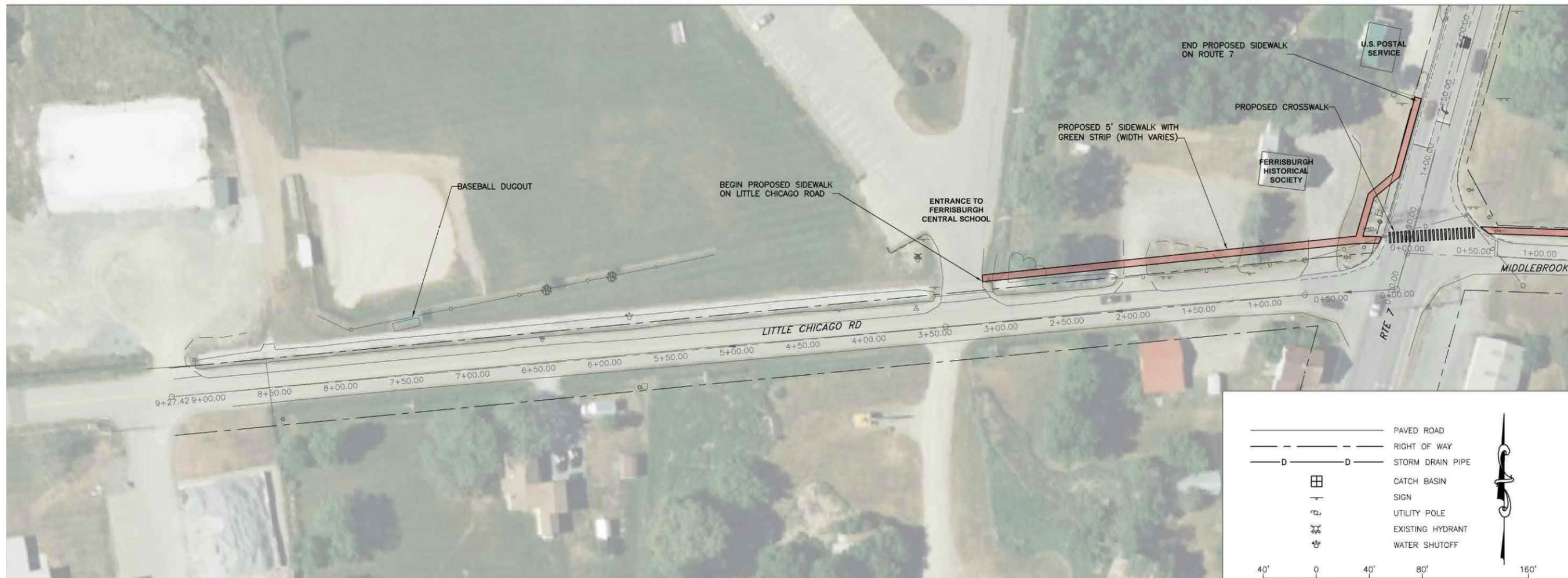
SHEET NUMBER
5
SHEET OF XXX

I:\228963 ACRPC Ferrisburgh Pedestrian Safety Scoping Study\Drawings\Civil\228963_01ts_recover.dwg 9/15/2023 2:08 PM

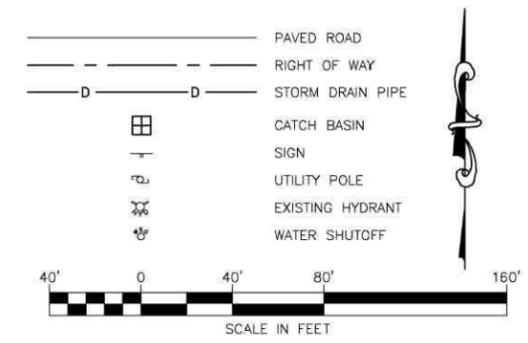
3.3 ALTERNATIVE 3 A:
SIDEWALK WITH
GREEN STRIP
MIDDLEBROOK ROAD &
LITTLE CHICAGO ROAD



ALTERNATIVE 3, PHASE A, 5' SIDEWALK WITH GREEN STRIP; MIDDLEBROOK ROAD



ALTERNATIVE 3, PHASE A, 5' SIDEWALK WITH GREEN STRIP; LITTLE CHICAGO ROAD



DuBois & King Inc.
ENGINEERING • PLANNING •
MANAGEMENT • DEVELOPMENT
28 NORTH MAIN ST.
RANDOLPH, VT 05060
TEL: (802) 726-3376
FAX: (802) 783-7101
www.dubois-king.com
SO. BURLINGTON, VT
SPRINGFIELD, VT
BRANDON, VT
BEDFORD, NH LACONIA, NH
© Copyright 2020 DuBois & King Inc.
PROFESSIONAL SEAL

**NOT FOR
CONSTRUCTION
CONCEPTUAL
PLANS**

NO.	DATE	DESCRIPTION	BY	CHK'D
00-00-0000			XXX	XXX

ADDISON COUNTY
REGIONAL
PLANNING
COMMISSION

ACRPC
FERRISBURGH
PEDESTRIAN
SCOPING STUDY

SHEET TITLE
ALTERNATIVE 3
PHASE A
MIDDLEBROOK AND
LITTLE CHICAGO
ROAD

DRAWN BY JN	DATE AUG. 2023
CHECKED BY JDA	DSK PROJECT # 228963
PROJ. ENG. JDA	DSK ARCHIVER #

SHEET NUMBER
6
SHEET OF XXX

I:\228963 ACRPC Ferrisburgh Pedestrian Scoping Study\Drawings\Civil\228963_alts_recover.dwg 9/15/2023 2:04 PM

3.3 ALTERNATIVE 3 A+B: SIDEWALK WITH GREEN STRIP ROUTE 7

DuBois & King inc.
 ENGINEERING • PLANNING •
 MANAGEMENT • DEVELOPMENT
 28 NORTH MAIN ST.
 RANDOLPH, VT 05060
 TEL: (802) 726-3376
 FAX: (802) 783-7101
 www.dubois-king.com
 SO. BURLINGTON, VT
 SPRINGFIELD, VT
 BRANDON, VT
 BEDFORD, NH LACONIA, NH
 © Copyright 2020 DuBois & King Inc.
 PROFESSIONAL SEAL

**NOT FOR
CONSTRUCTION
CONCEPTUAL
PLANS**

NO.	DATE	DESCRIPTION	BY	CHK'D
1	00-00-0000		XXX	XXX

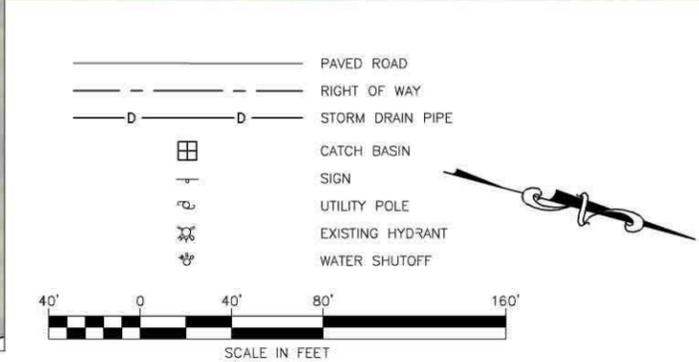
**ADDISON COUNTY
REGIONAL
PLANNING
COMMISSION**

**ACRPC
FERRISBURGH
PEDESTRIAN
SCOPING STUDY**

**SHEET TITLE
ALTERNATIVE 3
PHASE A + B
ROUTE 7**

DRAWN BY JN	DATE AUG. 2023
CHECKED BY JDA	DSK PROJECT # 228963
PROJ. ENG. JDA	DSK ARCHIVER #

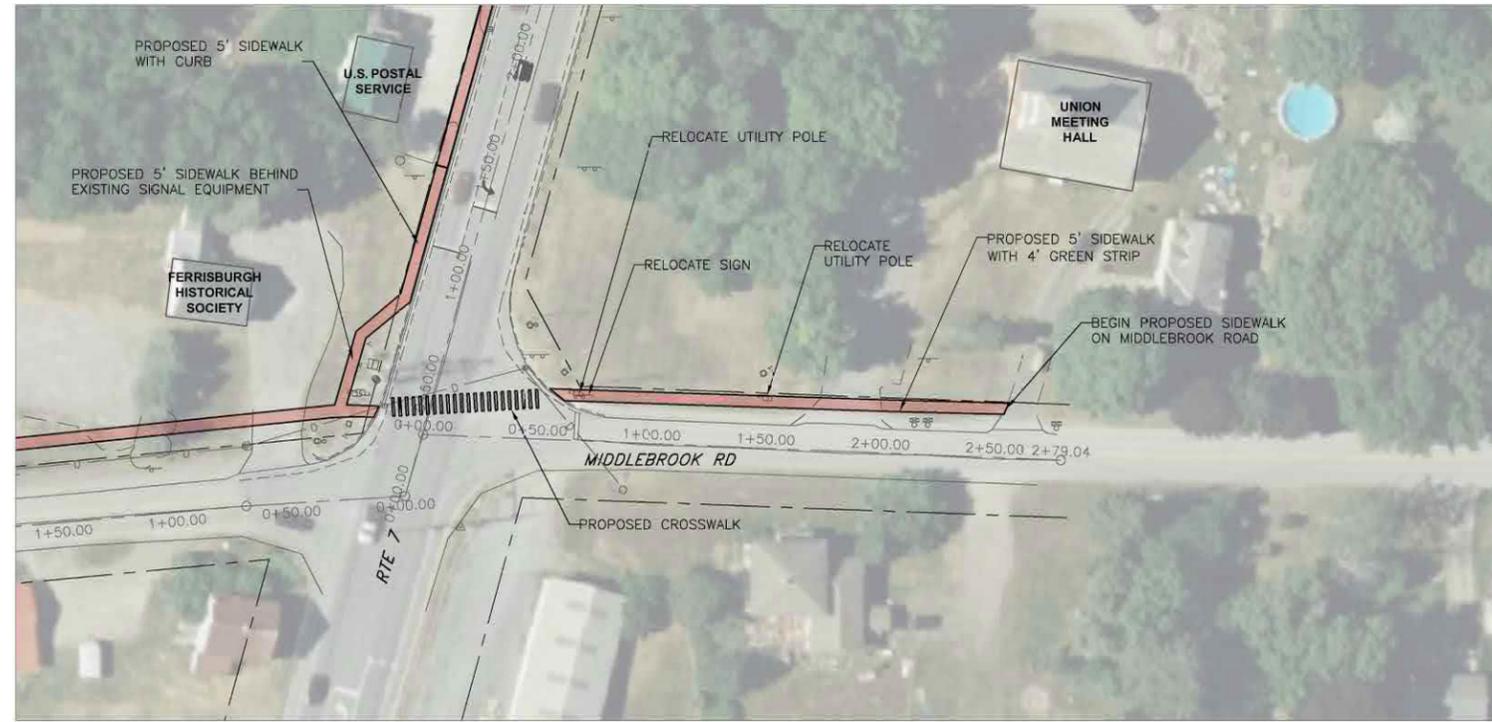
**SHEET NUMBER
7**
SHEET OF XXX



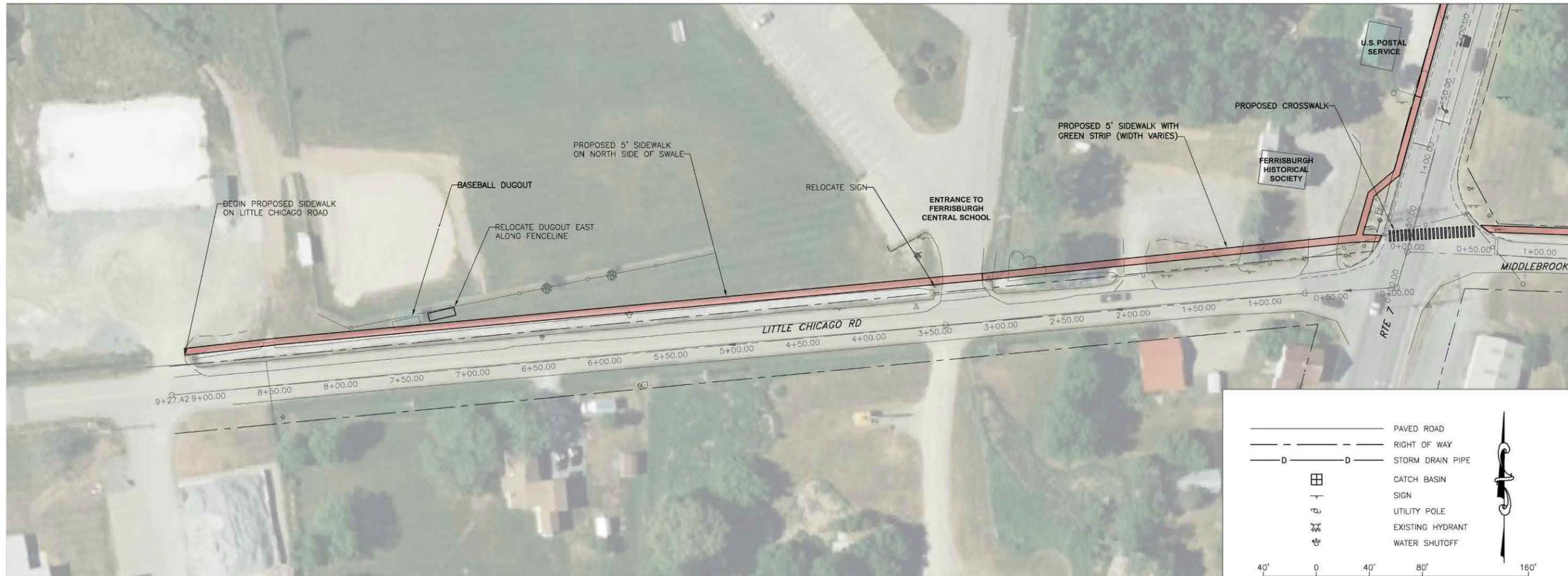
ALTERNATIVE 3, PHASE A+B, 5' SIDEWALK WITH GREEN STRIP; ROUTE 7

I:\228963 ACRPC Ferrisburgh Pedestrian Safety Scoping Study\Drawings\Civil\228963_alts_recover.dwg 9/15/2023 12:04 PM

3.3 ALTERNATIVE 3 A+B:
SIDEWALK WITH
GREEN STRIP
MIDDLEBROOK ROAD &
LITTLE CHICAGO ROAD



ALTERNATIVE 3, PHASE A+B, 5' S DEWALK WITH GREEN STRIP; MIDDLEBROOK ROAD



ALTERNATIVE 3, PHASE A+B, 5' SIDEWALK WITH GREEN STRIP; LITTLE CHICAGO ROAD

DuBois & King Inc.
ENGINEERING • PLANNING •
MANAGEMENT • DEVELOPMENT
28 NORTH MAIN ST.
RANDOLPH, VT 05060
TEL: (802) 726-3376
FAX: (802) 783-7101
www.dubois-king.com
SO. BURLINGTON, VT
SPRINGFIELD, VT
BRANDON, VT
BEDFORD, NH LACONIA, NH
© Copyright 2020 DuBois & King Inc.
PROFESSIONAL SEAL

**NOT FOR
CONSTRUCTION
CONCEPTUAL
PLANS**

NO.	DATE	DESCRIPTION	BY	CHK'D
00-00-0000			XXX	XXX
1				

ADDISON COUNTY
REGIONAL
PLANNING
COMMISSION

ACRPC
FERRISBURGH
PEDESTRIAN
SCOPING STUDY

SHEET TITLE
ALTERNATIVE 3
PHASE A + B
MIDDLEBROOK AND
LITTLE CHICAGO
ROAD

DRAWN BY JN	DATE AUG. 2023
CHECKED BY JDA	DSK PROJECT # 228963
PROJ. ENG. JDA	DSK ARCHIVER #

SHEET NUMBER
8
SHEET OF XXX

4. PROJECT SUMMARY

The goal of this project is to develop and evaluate alternatives for the Town's consideration for potential pedestrian infrastructure options in improving the safety for pedestrians along portions of Route 7, Little Chicago Road, and Middlebrook as described above. There are a number of destinations along the project area that would benefit from new pedestrian infrastructure. In addition, new sidewalks in this area will be a "first step" in achieving some of the goals and recommendations in the 2012 SRTS study.

4.1 LOCAL INPUT

Prior to the Alternatives Presentation Meeting, there was no incorporation of Phasing of project alternatives. At the Alternatives Presentation Meeting there were concerns regarding the overall project costs of designing and constructing sidewalks for Route 7, Little Chicago Road, and Middlebrook. Therefore, following this meeting D&K incorporated potential phasing of Alternative 3 into the project. Due to known concerns regarding construction costs and with Alternative 2 expected to have a higher construction cost than Alternative 3, combined with the potential to be able to avoid the swale on the north side of Little Chicago Road with the sidewalk option with a grass strip, a phased alternative for Alternative 3 was included but not for Alternative 2.

As shown in the Evaluation Matrix, Alternative 3 does have more right-of-way impacts than Alternative 2. There were no comments regarding the need for ROW easements at the Alternatives Presentation Meeting.

4.2 PREFERRED ALTERNATIVE

Based on input at public meetings and received by the Town, as well as a comparison of alternatives in the Evaluation Matrix, the recommended alternative for this project would be such that it includes phasing, where the first phase would include connections to key destinations such as the School, Union Meeting Hall, and Post Office, as well as the Route 7 intersection crosswalk. For reasons identified earlier in this report, a phased alternative is being evaluated for Alternative 3 but not Alternative 2 (for reasons cited earlier in this report). Therefore,

the preferred alternative for this project is Alternative 3 Phase A for the short term, and Alternative 3 Phase A+B for the long-term. As noted earlier, this alternative broken down by Phase A and Phase A+B is shown as is in order to show the cost differential between what it would cost to construct a first phase of the project as opposed to the cost for constructing the two phases at once.

4.3 PROJECT IMPLEMENTATION PHASING

The following is the assumed priority for project phasing, based on engineering reviews and judgment as well as local input:

1. Due to the high priority of a crosswalk at the project area intersection it is recommended that Alternative 3 Phase A for Little Chicago Road and Alternative 3 Phase A for Middlebrook Road be constructed first, along with the Route 7 intersection crosswalk.
2. Route 7 Alternative 3 Phase A to connect pedestrian infrastructure to the Post Office.
3. Route 7 Alternative 3 Phase A+B to connect pedestrian infrastructure to the Town Offices / Community Center.
4. Little Chicago Road to the recreation center. There was discussion at the Alternatives Presentation Meeting that, depending on the interest of the school, this could be a section of sidewalk that is implemented and constructed by the School. We recommend that prior to pursuing future sidewalks between the School entrance and recreation field driveway, that the Town and School have discussions related to the potential for a future sidewalk here.

4. PROJECT SUMMARY

4.4 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. At the time of this report, the date which applications for SFY 2024 has not yet been posted to the website above.

- 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)
Websites:
Local Motion Vermont Safe Routes to School
https://www.localmotion.org/safe_routes_to_school_vt
State of Vermont Safe Routes to School website:
<https://saferoutes.vermont.gov/>
VTrans MAB file transfer website:
[2022 Safe Routes to School Spot Improvements - All Documents \(vermont.gov\)](https://2022.saferroutes.vermont.gov/spot-improvements)

Ferrisburgh Central School is currently on the SRTS partner school list. At the time of this report, there does not appear to be any current applications open for SRTS projects.



APPENDIX

A - MEETING NOTES AND KEY CORRESPONDENCE

Ferrisburgh Pedestrian Safety Scoping Study
Project Kick-Off Meeting

April 13, 2023 @ 9am
Meeting Notes

1. Introductions

1.1. Attendees: Mike Winslow, ACRPC; Bonnie Barnes (point of contact for Town); Jean Richardson (Ferrisburgh Planning Commission); and Jenny Austin, DuBois & King, Inc. (engineer for the project).

2. Project Overview / Scope of Work

2.1. The overall project process was briefly discussed:

- Kick Off Meeting
- Survey / Existing Conditions / Basemap
- Right of Way / Utilities
- Develop Conceptual Alternatives
- Alternatives Evaluation
- Alternatives Presentation Meeting
- Scoping Study Report
- Public Informational Meeting
- ACRPC TAC Meeting Presentation

3. Schedule

3.1. Project completion by September 30, 2023 per funding source.

4. Discussion Items

4.1. Project Area Limits and Town input on project area

4.1.1. The 2012 SRTS study recommendations relevant to this project were discussed. There was also some discussion regarding recommendations outside of the area specific to this project.

4.1.2. Jenny noted that during the development of the proposal for this project, it was confirmed with ACRPC that the Project Priority Areas include (1) US 7 from the Town Hall to Little Chicago Road, (2) Little Chicago Road to the Elementary School, and (3) Middlebrook Road to the Ferrisburgh Community Church.

4.1.3. The potential for extending the project area along Little Chicago Road to the recreation field was discussed. This was a section that was identified in the SRTS Study and Jenny noted that we may be able to incorporate this into the project area without impacting the overall budget due to this section being in such close

proximity to the current project area (would simply be an extension of the project area for the project). It was decided that Jenny would take a look at this after the meeting in regarding to the scope / budget and follow-up with the Town and RPC to make a decision on this.

4.1.4. Jean noted that she wasn't sure if sidewalks on both sides of Route 7 is realistic, and that she thinks a sidewalk on the west side of Route 7 does seem realistic.

4.1.5. There was discussion regarding the Towns' strong desire for crosswalk(s) within the project area.

4.2. Site specific project elements

4.2.1. D&K confirmed with the Town which side(s) of the roads within the project area were going to be included in the project. It was confirmed that both sides of US 7 would be included, as well as the north sides of both Little Chicago Road and Middlebrook Road.

4.3. Sidewalks vs Multi-Use Path Facilities

4.3.1. There was brief discussion regarding different types of sidewalk facilities – primarily those adjacent to the curb and those separated from the road by a green strip. Jenny noted that D&K assumes we will not be including any multi-use paths (8-10' path, typically intended for both pedestrians and bicyclists) as part of the project due to the proximity of houses / buildings and other existing topography along the project area.

4.3.2. Various sidewalk materials were discussed briefly (e.g. concrete, asphalt, stamped pavement, aggregate). Jenny noted that D&K will assume concrete sidewalks to be evaluated, unless we receive input otherwise from the Town.

4.4. Other

4.4.1. Bonnie noted that Ferrisburgh has recently received approval of the Downtown Village Center Designation.

4.4.2. It was noted that two local committees in Town are the Town Center Committee and Trails Committee.

Ferrisburgh Pedestrian Safety Scoping Study
Alternatives Presentation Meeting

September 5, 2023 @ 6:30 pm Selectboard Meeting
Meeting Notes (Draft)

For a list of Meeting attendees, we refer to Selectboard Meeting Notes.

The following topics were presented as part of the Ferrisburgh Pedestrian Safety Scoping Study Alternatives Presentation Meeting, which was held in conjunction with the September 5, 2023 Town of Ferrisburgh Selectboard Meeting.

Alternatives Presentation Meeting Discussion Items:

- A. Project Overview
- B. Kick-Off Meeting
- C. Existing Conditions
- D. Project Alternatives & Evaluations
- E. Alternatives Presentation Meeting
- F. Draft Scoping Study Report
- G. Public Informational Meeting
- H. Final Scoping Study Report

The following is a summary of Town and public input on the project during this meeting.

1. Red Muir – Didn't think a sidewalk is needed on the east side of the road
2. Jim Benoit – Thinks the numbers are underreported and that the Town should expect to add on \$150K per year for maintenance, road crew salary, and equipment. He noted he felt that the project starts and ends where there is "nothing". He suggested that the Town values the rural and historic character and feels a sidewalk is not needed.
3. A local resident with kids said that he lives in vicinity of the project and walks this area frequently. He feels that it is not safe to cross Route 7. He suggested that adding sidewalks will help to create a "community center". He thinks that others with kids in the same age group are supportive of new sidewalks and that this could help to ultimately build a more robust town center.
4. Chris Campbell noted that there is a balancing act – how much is the Town willing to spend and also what is the value comparison of adding sidewalks versus the cost that will need to be spent on future sidewalks.
5. Bonnie noted that leading up to this project, she had talked to VTrans about the potential of getting a crosswalk across Route 7 and that VTrans said that it would need to connect to something (e.g. pedestrian infrastructure to lead up to a destination). There was reference to a crosswalk in North Ferrisburgh that connects to a short section of sidewalk on either side of the crosswalk. Jim noted that this is not a "legal" crossing.
6. A resident noted that there is an overall concern of safety in the area and suggested the need to lower the speed limit. He suggested a speed study be conducted.
7. Sheila Soule, Superintendent of the School District, noted safety concerns in vicinity of the project area as it relates to the school. She had indicated she had inquired about whether there could be a flashing light

for school traffic on Route 7, but was told by VTrans that the sign/light would have to be on the same road as the school, therefore the State wouldn't support a flashing sign for the school on Route 7.

8. There was a question about the potential of a bike lane and whether that can be a way to improve safety for pedestrians. Jenny noted that a bike lane is not typically used as a measure for pedestrian improvements because there is still a safety concern of vehicles next to pedestrians with no buffer between them (i.e. curb, green strip, or other measure). She noted that wider shoulders would provide more area for pedestrians but that it is still a safety concern as with wider shoulders there can be the tendency that vehicles may drive faster through the area than a similar section of road with an overall narrower pavement width.
9. Red Muir asked why this area is being considered for sidewalks and asked if it is because this is the Town center. Bonnie responded that one item that has driven the need for this study is due to the Town's desire for a crosswalk, and that a crosswalk cannot be installed across Route 7 without connecting sidewalks on both sides. Clark Hinsdale referenced the 2012 Study that looked at a larger area and that this area was one of the locations identified for potential pedestrian improvements.
10. There was a question about the proposed sidewalk surface and whether it could be pavement instead. Jim Benoit replied that if the Town is going to spend the money on sidewalks that he recommends they be concrete. He noted that paved sidewalks would need more maintenance and for long-term would suggest concrete sidewalk surface.
11. Katie Reycroft-Meyer discussed the project area length and asked if the proposed improvements could be shorter? Jenny discussed the background of working with the Town and ACRPC to establish the project area, and therefore that is the rationale for the starting and ending points of our alternatives (in order to meet the intent of the RFP). However, she also noted that we could include phasing the project, such that one phase of the project is a shorter section, which may be more affordable to the Town to break out.
12. Clark Hinsdale discussed potential thoughts on the idea of a path to the recreational field through working with the school, and that there is also the potential through the school property for a path that cuts through school property.
13. There was some discussion regarding the State's need for crosswalks to connect to sidewalks, as well as the question of "how long does the sidewalk need to be that the crosswalk connects to?" Jenny noted that there is no set length requirement but that VTrans does prefer it to connect it to something that can be considered a destination. In addition, there has to be a connection on both sides of the crosswalk that pedestrians are led to on each side.
14. There was a question regarding future grants and what local share is typical for State funded projects. Jenny noted that a typical split for a couple potential VTrans grants is 80/20 (with 20% local share).
15. Regarding maintenance, it was noted that the Town garage is close to the project area that that is a positive aspect of potential future maintenance.
16. Clark Campbell commented about the importance of potential sidewalks as it relates to the school. He noted that the Town has shown support for keeping their local elementary school and that he wouldn't want safety issues to be the "Achilles heel" for the school.
17. Unrelated to sidewalks, there was a comment from a resident regarding the offset alignment of Middlebrook Road and Little Chicago Road at the intersection.
18. There was general interest in having a first phase of the project that would include the section on Middlebrook Road, Little Chicago Road from the intersection to the school, and Route 7 from the intersection to the Post Office – this would connect some key destinations within the project area. There was also general consensus that a sidewalk is not necessary on the east side of Route 7.



Jenny Austin <jaustin@dubois-king.com>

RE: Ferrisburgh Rte 7 / Middlebrook Rd / Little Chicago Rd - question re. intersection

1 message

Palmer, Spencer <Spencer.Palmer@vermont.gov>

Wed, Sep 6, 2023 at 2:41 PM

To: Jenny Austin <jaustin@dubois-king.com>

Cc: "Lyman, Derek" <Derek.Lyman@vermont.gov>, "Ertel, Dan" <Dan.Ertel@vermont.gov>

Hi Jenny,

Adding a pedestrian crossing would be relatively straight forward at Little Chicago Rd. The controller would need some reprogramming and depending on the crossing location may need another sleeve under the road, but we anticipated the crossing during the signals construction and have spare conduit in place (see attached). Assuming a US7 crossing on the north side, In general, you will only need to add the pedestrian bases, buttons, poles, heads, maybe some conduit and wire them back to the signal cabinet then reprogram the controller and add durable markings. Excluding a new sleeve and the connecting sidewalk, I'd ballpark \$45-50K for a single crossing but expect it would be lower. I'm happy to answer any other questions, feel free to give me a call.

Spencer

Spencer Palmer | Traffic Signal Operations

Vermont Agency of Transportation

2178 Airport Road – Unit A | Barre, VT 05641

802-461-3413

vtrans.vermont.gov

From: Jenny Austin <jaustin@dubois-king.com>**Sent:** Tuesday, September 5, 2023 8:52 AM**To:** Palmer, Spencer <Spencer.Palmer@vermont.gov>**Subject:** Ferrisburgh Rte 7 / Middlebrook Rd / Little Chicago Rd - question re. intersection

You don't often get email from jaustin@dubois-king.com. [Learn why this is important](#)

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

Hi Spencer,

D&K is working on a pedestrian scoping study in the Town of Ferrisburgh (through an ACRPC grant). The project area includes portions of Rte 7, Middlebrook Road, and Little Chicago Road. The project are goes through the intersection of

these three routes. There are alternatives that include a proposed crosswalk at this signalized intersection. We are looking to get information regarding the signal equipment at this intersection, mainly to answer the question of "how easy or difficult would it be to incorporate a pedestrian phase into the signalization of this intersection?". Can the existing signal equipment add this into the signal timings? Would a whole new signal equipment system be needed? Could the equipment handle this capability, and just new push button "poles" be added and wired in? Or, somewhere in the middle of these scenarios?

I was wondering if you are able to provide some assistance in answering these questions. We will also want to be including in our study a ballpark range of what it would cost to incorporate this into the intersection as well.

Thank you for any assistance you are able to provide,

Jenny

Jenny Austin, P.E.

Senior Project Engineer

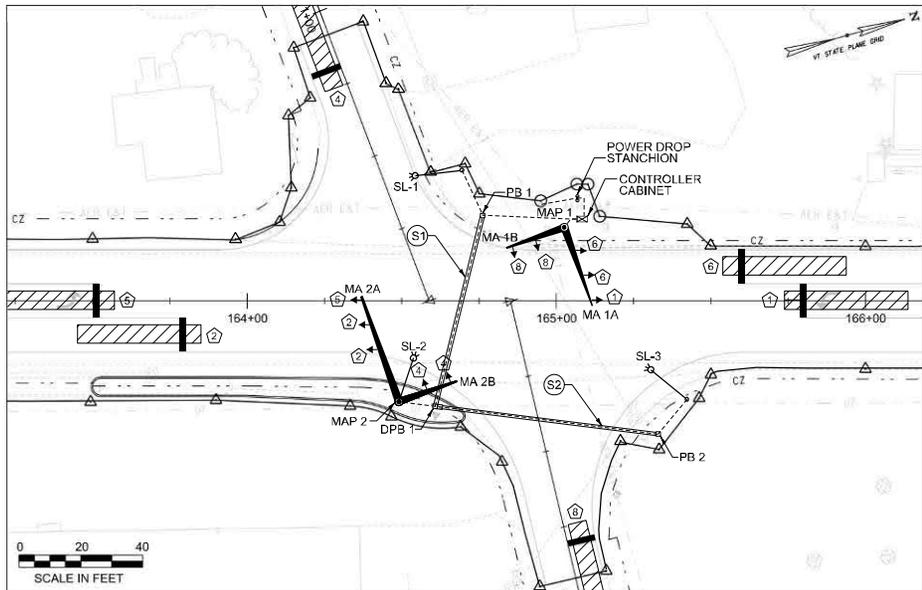
DuBois & King, Inc.

[27 Center Street](#)

[Brandon, Vermont 05733](#)

(D) 802.465.8396, ext.4813

 **MS510 Design & Phasing Plan.pdf**
421K



CONTROLLER TIMING CHART

PHASE	1	2	3	4	5	6	7	8	9
IN USE	X	X		X	X	X		X	
TRAFFIC MOVEMENT	←	→	←	→	←	→	←	→	
MIN. GREEN	5	8		5	5	8		5	
MAX 2 - GREEN (AM)	9	40		14	14	40		12	
MAX 1 - GREEN (OFF)	9	37		13	9	37		12	
MAX 3 - GREEN (PM)									
YELLOW CLEARANCE	4.4	4.4		4.1	4.4	4.4		4.4	
ALL RED CLEARANCE	1.9	1.9		1.9	1.9	1.9		1.9	
VEHICLE EXTENSION	3	3		3	3	3		3	
RECALL MODE		SOFT				SOFT			

SPLIT PATTERN	CYCLE LENGTH	PHASE							
		1	2	3	4	5	6	7	8
SPLIT PATTERN 1	94	15	42		19	15	42		18
SPLIT PATTERN 2	98	15	46		19	20	41		18
SPLIT PATTERN 3	109	15	58		18	15	58		18
SPLIT PATTERN 4	103	15	46		24	20	41		18

TIME OF DAY PROGRAM

FLASH	WEEKDAY TIMINGS	
	TO	TO
SPLIT PATTERN 2	6:00 AM	7:30 AM
SPLIT PATTERN 4	7:30 AM	8:00 AM
SPLIT PATTERN 2	8:00 AM	9:00 AM
SPLIT PATTERN 1	9:00 AM	2:45 PM
SPLIT PATTERN 4	2:45 PM	3:15 PM
SPLIT PATTERN 3	3:15 PM	6:00 PM
SPLIT PATTERN 1	6:00 PM	10:00 PM
FLASH	10:00 PM	12:00 AM

- TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION**
SEE LIST OF MAJOR EQUIPMENT, THIS SHEET
- CONSTRUCT MAST ARM POLES
 - STA. 164+49, RT (MAP2)
 - STA. 165+03, LT (MAP1)
 - CONSTRUCT CONTROLLER CABINET (GROUND-MOUNTED)
 - STA. 165+09, LT
 - WIRED CONDUIT (2") (SCH 80)
 - SEE CHART, THIS SHEET
 - SPECIAL PROVISION (HORIZONTAL DIRECTIONAL DRILLING) (12" CASING PIPE)
 - STA. 164+61, LT (DPB-1) - STA. 164+76, RT (PB-1) - 70'
 - STA. 164+61, LT (DPB-1) - STA. 165+33, RT (PB-2) - 83'
 - ELECTRICAL CONDUIT (2") (SCH 80)
 - SEE CHART, THIS SHEET
 - PULLBOX, STANDARD
 - STA. 164+76, LT (PB-1)
 - STA. 165+33, RT (PB-2)
 - PULLBOX, DOUBLE
 - STA. 164+61, RT (DPB-1)
 - LIGHT POLE
 - STA. 164+69, LT (SL-1)
 - STA. 165+42, RT (SL-3)
 - BREAKAWAY FEATURE FOR LIGHT POLE
 - STA. 164+69, LT (SL-1)
 - STA. 165+42, RT (SL-3)
 - BRACKET ARM
 - MAP-2 (SL-2)
 - STA. 164+69, LT (SL-1)
 - STA. 165+42, RT (SL-3)
 - SPECIAL PROVISION (LUMINAIRE, LED)
 - MAP2 (SL-2)
 - STA. 164+69, LT (SL-1)
 - STA. 165+42, RT (SL-3)

LIST OF MAJOR EQUIPMENT

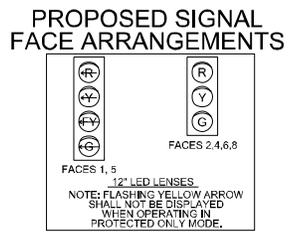
EQUIPMENT UNDER PAY ITEM 678.15 - (US ROUTE 7 & LITTLE CHICAGO/MIDDLEBROOK ROADS)	QUANTITY	REMARKS
STEEL MAST ARM SIGNAL POLE	2	FLAT BLACK, MAP 1=20', MAP 2=29'
STEEL MAST ARMS	4	FLAT BLACK, MA 1A=30', MA 1B=20', MA 2A=40', MA 2B=20'
POWER METER ON STANCHION	1	WITH TWO BAY BREAKER PANEL
TRAFFIC SIGNAL CONTROLLER	1	ECONOLITE ASC/3-2100 NEMATS.2
NEW 12-INCH LED SIGNAL HEADS (ONE-WAY, 3-SECTION, VISORS, DISCONNECT HANGERS, BACKPLATES AND MOUNTING HARDWARE)	8	FLAT BLACK
NEW 12-INCH LED SIGNAL HEADS (ONE-WAY, 4-SECTION, VISORS, DISCONNECT HANGERS, BACKPLATES AND MOUNTING HARDWARE)	2	FLAT BLACK
GPS TIME CLOCK	1	INSTANTANEOUS UPDATING
NEMA P44 BASE MOUNTED CONTROLLER CABINET WITH 15-INCH EXTENDED BASE ON A CONCRETE FOUNDATION, PAINTED FLAT BLACK WITH ANCILLARY EQUIPMENT	1	FLAT BLACK
DETECTOR ASSEMBLY	4-6	AS REQUIRED
VEHICLE DETECTION PROCESSOR (CARDS)	1-4	AS REQUIRED

2014 HOURLY VOLUMES

US ROUTE 7 & LITTLE CHICAGO

AM	OFF	PM
20	25	15
S20	450	610
20	20	25

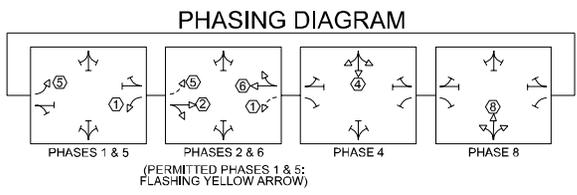
AM	OFF	PM
40	50	80
460	440	670
0	10	20



CONDUIT	WIRED CONDUIT SIZE		ELECTRICAL CONDUIT SIZE		DESCRIPTION
	2"	4"	2"	4"	
POLE TO STANCHION	25'				POWER
POLE TO STANCHION			25'		COMMUNICATIONS
STANCHION TO CABINET	15'				POWER
STANCHION TO CABINET			15'		COMMUNICATIONS
CONTROLLER TO MAP1	13'				SIGNAL/LIGHTING
CONTROLLER TO MAP1	13'				DETECTION
CONTROLLER TO MAP1			13'		FUTURE USE
CONTROLLER TO PB1	39'				SIGNAL/LIGHTING
CONTROLLER TO PB1	39'				DETECTION
CONTROLLER TO PB1			39'		FUTURE USE
PB1 TO DPB1	70'				SIGNAL/LIGHTING
PB1 TO DPB1	70'				DETECTION
PB1 TO DPB1			70'		FUTURE USE
DPB1 TO MAP2	18'				SIGNAL/LIGHTING
DPB1 TO MAP2	18'				DETECTION
DPB1 TO MAP2			18'		FUTURE USE
DPB1 TO PB2	85'				SIGNAL/LIGHTING
DPB1 TO PB2	85'				FUTURE PED USE
DPB1 TO PB2			85'		FUTURE USE
PB2 TO SL3	21'				SIGNAL/LIGHTING
PB2 TO SL3				21'	FUTURE USE
PB1 TO SL1	40'				SIGNAL/LIGHTING
PB1 TO SL1				40'	FUTURE USE
SUBTOTAL	551'		326'		
ROUNDING	9'		4'		
TOTALS	560'		330'		

- NOTES:**
- TRAFFIC ITEMS LISTED ARE APPROXIMATE LOCATIONS AND MAY BE MODIFIED BY THE ENGINEER IN THE FIELD.
 - CONDUIT NOTED AS FUTURE USE WILL BE PAID AS ELECTRICAL CONDUIT. ALL WIRED CONDUIT, REGARDLESS OF TYPE, WILL BE PAID AS WIRED CONDUIT.
 - STOP BAR AND ADVANCE DETECTOR MOUNTING LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR IN ACCORDANCE WITH THE MANUFACTURER'S GUIDANCE FOR THE TYPE OF DETECTOR SUPPLIED. THE CONTRACTOR SHALL SUBMIT PROPOSED MOUNTING LOCATIONS AND DOCUMENTATION OF CONFORMANCE WITH THE MANUFACTURER'S GUIDANCE TO THE ENGINEER FOR APPROVAL.
 - SLEEVE S2 IS ANTICIPATED TO CROSS UNDER AN EXISTING DRAINAGE PIPE AT APPROXIMATE STA. 20+50 LT. 26.5'. THE EXISTING DRAINAGE INVERT IS APPROXIMATE 4' BELOW GRADE.
 - ALL WORK RELATED TO PROVIDING A FULLY FUNCTIONAL TRAFFIC SIGNAL SYSTEM INCLUDING ALL DETECTION EQUIPMENT, WILL BE PAID FOR UNDER ITEM 678.15 TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION UNLESS OTHERWISE SPECIFIED.

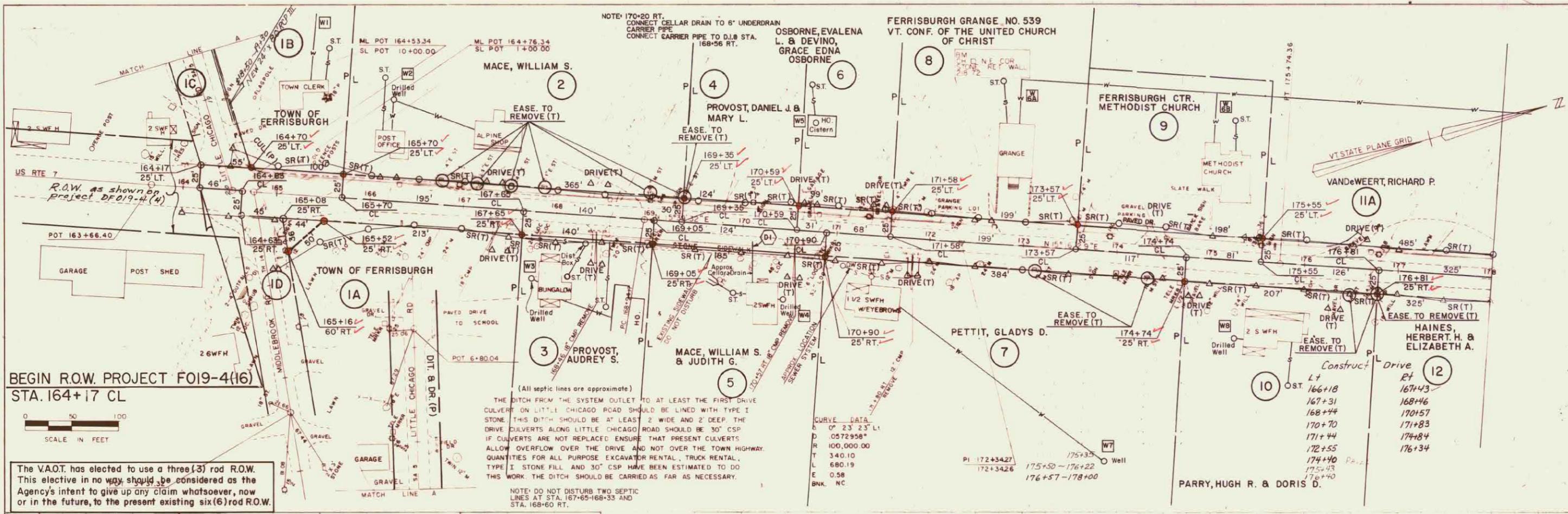
PROJECT NAME:	FERRISBURGH	PLOT DATE:	3/8/2016
PROJECT NUMBER:	NHG SCNL(42)	DRAWN BY:	K. RECORD
FILE NAME:	h3b061st.dgn	CHECKED BY:	P. COBURN
PROJECT LEADER:	I. DEGUTIS	TRAFFIC SIGNAL PLAN	SHEET 15 OF 22



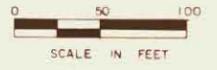
APPENDIX

B - RIGHT-OF-WAY RESEARCH

PLAN
NOTE BOOK
NO.



BEGIN R.O.W. PROJECT FO19-4(16)
STA. 164+17 CL



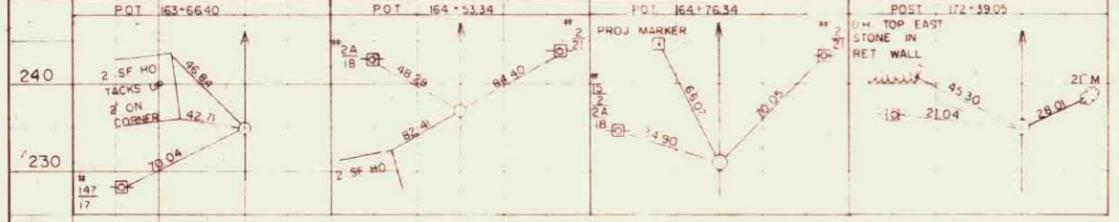
The V.A.O.T. has elected to use a three (3) rod R.O.W. This elective in no way should be considered as the Agency's intent to give up any claim whatsoever, now or in the future, to the present existing six (6) rod R.O.W.

(All septic lines are approximate)
THE DITCH FROM THE SYSTEM OUTLET TO AT LEAST THE FIRST DRIVE CULVERT ON LITTLE CHICAGO ROAD SHOULD BE LINED WITH TYPE I STONE. THIS DITCH SHOULD BE AT LEAST 2' WIDE AND 2' DEEP. THE DRIVE CULVERTS ALONG LITTLE CHICAGO ROAD SHOULD BE 30" CSP IF CULVERTS ARE NOT REPLACED ENSURE THAT PRESENT CULVERTS ALLOW OVERFLOW OVER THE DRIVE AND NOT OVER THE TOWN HIGHWAY. QUANTITIES FOR ALL PURPOSE EXCAVATOR RENTAL, TRUCK RENTAL, TYPE I STONE FILL AND 30" CSP HAVE BEEN ESTIMATED TO DO THIS WORK. THE DITCH SHOULD BE CARRIED AS FAR AS NECESSARY.

NOTE: DO NOT DISTURB TWO SEPTIC LINES AT STA. 167+65-168+33 AND STA. 168+60 RT.

CURVE DATA
A 0° 23' 23" L
D 0.572958'
R 100,000.00
T 340.10
L 680.19
E 0.58
BNK. NC

PROFILE
NOTE BOOK
NO.



HORIZONTAL SCALE 1" = 90'
VERTICAL SCALE 1" = 10'

DATUM
VERTICAL NGVD 1929
HORIZONTAL NAD 1927

SHEET 7 OF 8
R.O.W. PLANS

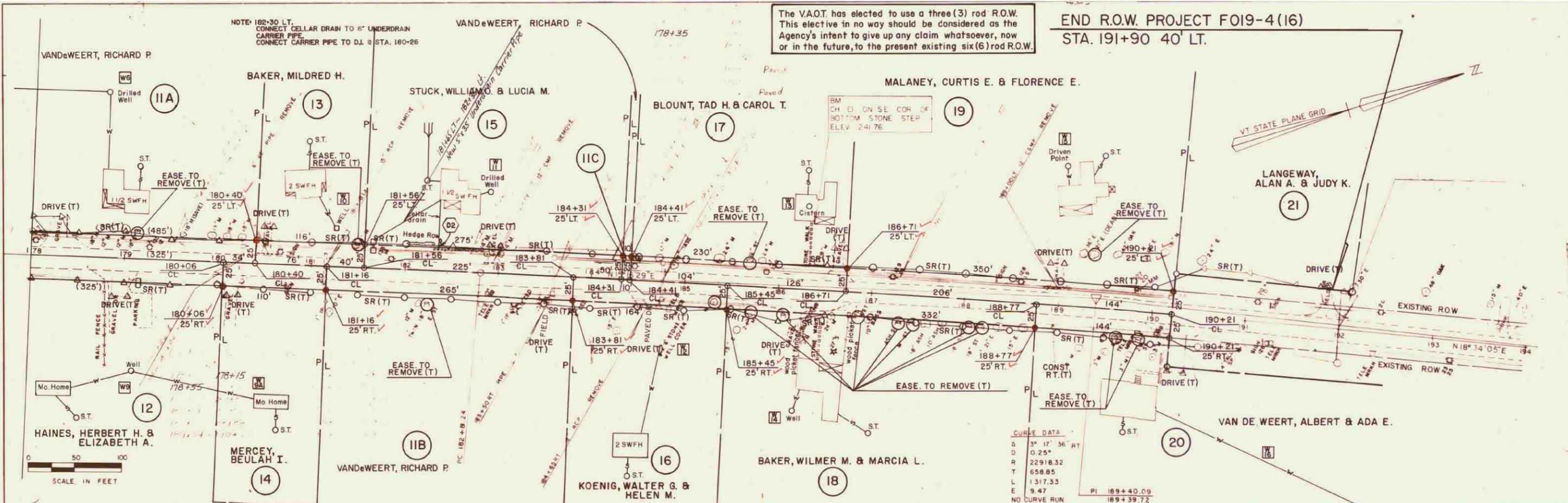
FERRISBURGH
F O19-4 (16)
SHEET 16 OF 100

164 00 165 00 166 00 167 00 168 00 169 00 170 00 171 00 172 00 173 00 174 00 175 00 176 00 177 00 178 00

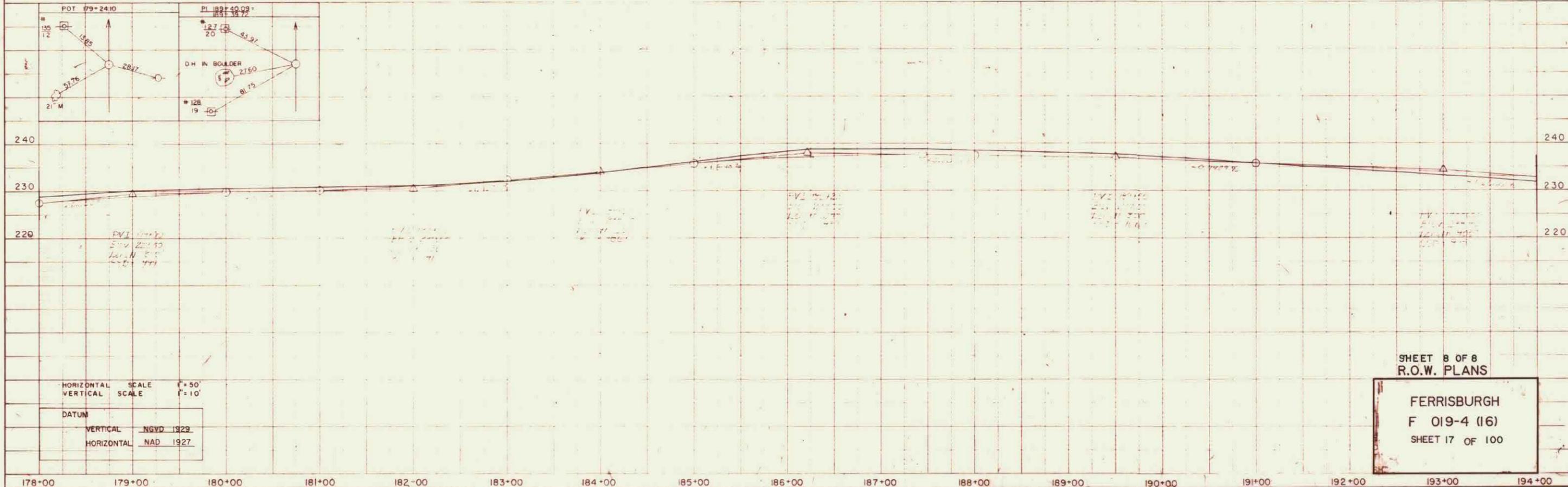
The V.A.O.T. has elected to use a three (3) rod R.O.W. This elective in no way should be considered as the Agency's intent to give up any claim whatsoever, now or in the future, to the present existing six (6) rod R.O.W.

END R.O.W. PROJECT FO19-4 (16)
STA. 191+90 40' LT.

PLAN
DATE: _____
BY: _____
CHECKED: _____
NO. _____



PROFILE
DATE: _____
BY: _____
CHECKED: _____
NO. _____

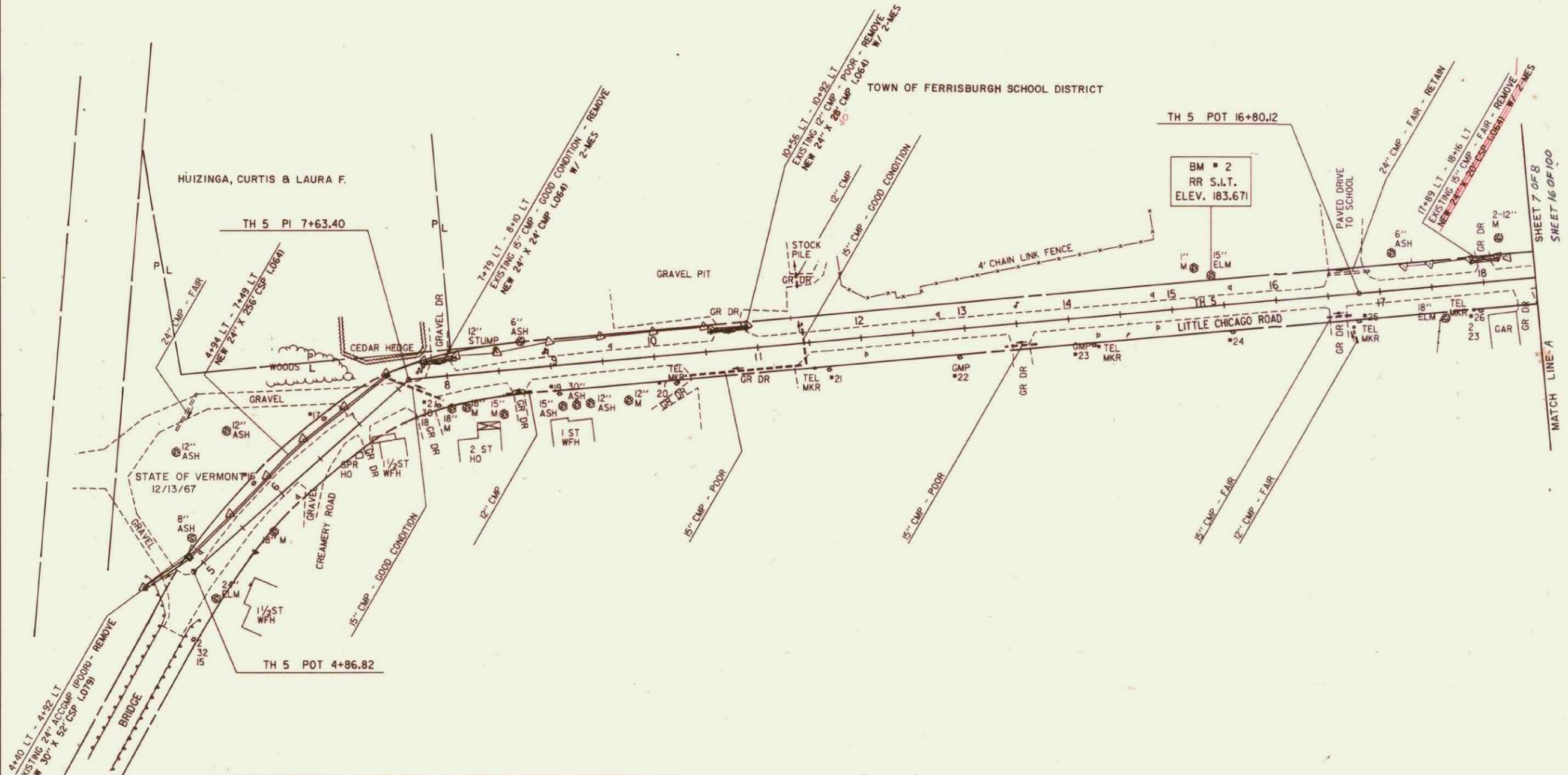


SHEET 8 OF 8
R.O.W. PLANS

FERRISBURGH
F 019-4 (16)
SHEET 17 OF 100

CONSTRUCT SPECIAL DITCH

7+51 LT - 7+79 LT
 8+10 LT - 10+56 LT
 17+25 LT - 17+89 LT



4+40 LT - 4+92 LT
 EXISTING 24" ACCOMP (PODR) - REMOVE
 NEW 30" X 52" CSP (LOT9)

TH 5 POT 4+86.82	TH 5 PI 7+63.40	TH 5 POT 16+80.12

DATUM
 VERTICAL _____
 HORIZONTAL _____



SURVEYED BY MOREAU DATE 7-88
 DRAWN BY BEYOR DATE 7-88
 SQUAD LEADER BOHL
 DESIGN FILE NO. 848812 DATE 8-9-88 PLOTTED
 PROJ. NAME FERRISBURG
 PROJ. NO. F 019-4(16)
 SHEET 8A OF 9 SHEETS
 17A OF 100

APPENDIX

C - OPINIONS OF PROBABLE CONSTRUCTION COSTS AND ANTICIPATED PROJECT COSTS

Ferrisburgh Pedestrian Safety Scoping Study -- Alternatives: Opinions of Probable Construction Costs

Item	Description	Unit	Unit Cost	Alt. 2: Curbed Sidewalk								Alt. 3, Phase A: Sidewalk with Green Strip						Alt. 3, Phase A+B: Sidewalk with Green Strip						Crosswalks			
				Route 7 (west)		Route 7 (east)		Little Chicago Rd		Middlebrook Rd		Route 7 (west)		Little Chicago Rd		Middlebrook Rd		Route 7 (west)		Little Chicago Rd		Middlebrook Rd		Alternative 2		Alternative 3	
				Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost
201.10	Clearing and Grubbing	LS	varies	1	\$2,000	1	\$2,000	1	\$2,000	1	\$500	1	\$500	1	\$2,000	1	\$500	1	\$2,000	1	\$5,000	1	\$500				
203.15	Common Excavation	CY	\$25	300	\$7,500	400	\$10,000	410	\$10,250	100	\$2,500	80	\$2,000	140	\$3,500	100	\$2,500	350	\$8,750	390	\$9,750	100	\$2,500				
203.30	Earth Borrow	CY	\$30	100	\$3,000	20	\$600	170	\$5,100	25	\$750	100	\$3,000	120	\$3,600	\$25	\$750	210	\$6,300	220	\$6,600	25	\$750				
210.10	Coarse-Milling, Bituminous Pavement	SY	\$5	370	\$1,850	340	\$1,700	410	\$2,050	100	\$500	30	\$150	30	\$150	\$15	\$75	240	\$1,200	50	\$250	15	\$75				
225.03	Retaining Wall, Cast-In-Place Concrete	SF	\$600			900	\$540,000						\$0		\$0	\$0	\$0										
301.28	Subbase of Crushed Gravel, Fine Graded	CY	\$30	160	\$4,800	170	\$5,100	200	\$6,000	50	\$1,500	30	\$900	30	\$900	\$20	\$600	120	\$3,600	90	\$2,700	20	\$600				
406.34	Bit. Conc. Pavement, Non-Paver Placed	SY	\$250	380	\$95,000	350	\$87,500	420	\$105,000	110	\$27,500	40	\$10,000	30	\$7,500	\$30	\$7,500	250	\$62,500	50	\$12,500	30	\$7,500				
616.2502	Precast Reinforced Concrete Curb, Type B	LF	\$100	572	\$57,200	696	\$69,600	809	\$80,900	176	\$17,600	60	\$6,000		\$0	\$0	\$0	285	\$28,500				\$0				
616.41	Removal of Existing Curb	LF	\$14	572	\$8,008	696	\$9,744	20	\$280	30	\$420	60	\$840		\$0	\$0	\$0	285	\$3,990				\$0				
617.11	Remove and Reset Mailbox, Single Support	EA	\$150	1	\$150	2	\$300			1	\$150		\$0		\$0	\$0	\$0										
618.1005	Portland Cement Concrete Sidewalk, 5"	SY	\$155	320	\$49,600	390	\$60,450	450	\$69,750	100	\$15,500	80	\$12,400	145	\$22,475	\$100	\$15,500	330	\$51,150	450	\$69,750	100	\$15,500				
618.1008	Portland Cement Concrete Sidewalk, 8"	SY	\$200	110	\$22,000	30	\$6,000	45	\$9,000	15	\$3,000	0	\$0	25	\$5,000	\$15	\$3,000	110	\$22,000	50	\$10,000	15	\$3,000				
618.3000	Detectable Warning Surface	SF																									
620.50	Removing and Resetting Fence	LF	\$100			100	\$10,000						\$0		\$0	\$0	\$0										
630.10	Uniformed Traffic Officers	HR	\$74	80	\$5,920	80	\$5,920	90	\$6,660	40	\$2,960	40	\$2,960	40	\$2,960	\$40	\$2,960	80	\$5,920	90	\$6,660	40	\$2,960	40	\$2,960	40	\$2,960
630.15	Flaggers	HR	\$45	500	\$22,500	500	\$22,500	600	\$27,000	200	\$9,000	200	\$9,000	200	\$9,000	\$200	\$9,000	500	\$22,500	600	\$27,000	200	\$9,000	100	\$4,500	100	\$4,500
635.11	Mobilization / Demobilization			1	\$27,000	1	\$70,000	1	\$32,000	1	\$8,000	1	\$6,000	1	\$7,000	1	\$5,000	1	\$22,000	1	\$21,000	1	\$5,000	1	\$7,000	1	\$7,000
641.11	Traffic Control, All-Inclusive	LS	varies	1	\$5,000	1	\$5,000	1	\$5,000	1	\$2,000	1	\$2,000	1	\$2,500	1	\$2,000	1	\$5,000	1	\$5,000	1	\$2,000	1	\$10,000	1	\$10,000
641.15	Portable Changeable Message Sign	EA	\$6,500	2	\$13,000	2	\$13,000	2	\$13,000	2	\$13,000	2	\$13,000	2	\$13,000	\$2	\$13,000	2	\$13,000	2	\$13,000	2	\$13,000	2	\$13,000	2	\$13,000
646	4" White Line	LF	\$4	770	\$3,080	750	\$3,000	890	\$3,560	200	\$800	60	\$240		\$0	\$0	\$0	290	\$1,160								
646	12" Durable Crosswalk Markings	LF	\$23																								
651.15	Turf Establishment, General Seed	LB	\$25	18	\$450	20	\$500	23	\$575	5	\$128	10	\$250	20	\$500	\$20	\$500	40	\$1,000	50	\$1,250	20	\$500				
651.35	Topsoil	CY	\$60	30	\$1,800	35	\$2,100	40	\$2,400	10	\$600	15	\$900	25	\$1,500	\$20	\$1,200	55	\$3,300	75	\$4,500	20	\$1,200				
653.01	EPSC Plan and Measures	LS	varies	1	\$5,000	1	\$5,000	1	\$5,000	1	\$1,000	1	\$1,000	1	\$2,500	\$1	\$0	1	\$5,000	1	\$5,000	1					
653.02	Monitoring EPSC Plan	HR	\$55	160	\$8,800	160	\$8,800	180	\$9,900	40	\$2,200	40	\$2,200	60	\$3,300	\$40	\$2,200	160	\$8,800	180	\$9,900	40	\$2,200				
653.03	Maintenance of EPSC Plan	LU	varies	1	\$5,000	1	\$5,000	1	\$5,000	1	\$2,000	1	\$2,000	1	\$2,500	\$1	\$2,000	1	\$5,000	1	\$5,000	1	\$2,000				
653.10	Hay Mulch	TON	\$1,300	0.2	\$260	0.2	\$260	0.2	\$260	0.1	\$130	0.1	\$130	0.2	\$260	\$0	\$130	0.3	\$390	0.4	\$520	0.1	\$130				
675	Removing and Resetting Sign	EA	\$102	5	\$510			1	\$102	2	\$204					\$1	\$102	4	\$408	1	\$102	1	\$102				
675	New Traffic Signs, Type A and Post	EA	\$400																								
SP	Site work at islands as needed	LS	\$5,000	1	\$5,000											\$0	\$0	1	\$5,000					4	\$1,600	2	\$800
SP	Drainage improvements	LS	varies	1	\$2,000	1	\$2,000	1	\$20,000	1	\$500	1	\$1,000	1	\$5,000	\$1	\$500	1	\$2,000	1	\$10,000	1	\$500				
SP	Relocate dugout	LS	varies													\$0	\$0			1	\$50,000						
SP	Utility Adjustments, as needed	LS	varies		\$5,000		\$5,000		\$5,000		\$1,000		\$1,000		\$1,000		\$1,000		\$5,000		\$5,000		\$1,000				
SP	Signal Equipment Upgrades	LS	varies																					\$1	\$50,000	\$1	\$50,000
Subtotal Opinion of Probable Construction Cost (OPCC)					\$361,428		\$951,074		\$425,787		\$113,442		\$77,470		\$96,145		\$70,017		\$295,468		\$280,482		\$70,017		\$90,900		\$89,180
Contingency (20%)					\$72,286		\$190,215		\$85,157		\$22,688		\$15,494		\$19,229		\$14,003		\$59,094		\$56,096		\$14,003		\$18,180		\$17,836
OPCC, Conceptual					\$433,714		\$1,141,289		\$510,944		\$136,130		\$92,964		\$115,374		\$84,020		\$354,562		\$336,578		\$84,020		\$109,080		\$107,016
\$ / LF (OPCC)					\$566		\$1,530		\$577		\$681		\$684		\$385		\$420		\$455		\$378		\$420		n/a		n/a
Engineering and Administration Costs (22%, adjusted for rounding)					\$95,417		\$251,084		\$112,408		\$29,949		\$20,452		\$25,382		\$18,484		\$78,004		\$74,047		\$18,484		\$23,998		\$23,544
Construction Admin (14%, adjusted for rounding)					\$60,720		\$159,780		\$71,532		\$19,058		\$13,015		\$16,152		\$11,763		\$49,639		\$47,121		\$11,763		\$15,271		\$14,982
Non-Construction Related Project Costs					\$156,137		\$410,864		\$183,940		\$49,007		\$33,467		\$41,535		\$30,247		\$127,642		\$121,168		\$30,247		\$39,269		\$38,526
Total Project Costs (Excluding ROW costs)					\$589,850		\$1,552,153		\$694,884		\$185,137		\$126,431		\$156,909		\$114,268		\$482,204		\$457,747		\$114,268		\$148,349		\$145,542
Estimated Total Project Costs Range (Excluding ROW costs)					\$550K - \$650K		\$1.5M - \$1.6M		\$650K - \$750K		\$150K - \$250K		\$100K - \$150K		\$125K - \$250K		\$100K - \$200K		\$450K - \$550K		\$400K - \$500K		\$75K - \$150K		\$125K-\$150K		\$125K-\$150K

Percentages for Engineering and Administration Costs and Construction Admin 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.

NOTE: In providing Opinions of Probable Construction Costs, the Client understands that DuBois & King, Inc. has no control over the cost or availability of labor, equipment or materials, or over market conditions or the Contractor's methods of pricing, and that our Opinion of Probable Construction Costs are made on the basis of our professional judgment and experience. DuBois & King, Inc. makes no warranty, expressed or implied, that the bids or the negotiated costs of the Work will not vary from the Opinion of Probable Construction Cost provided herein. DuBois & King, Inc. is not providing professional estimating services, and actual pay items and material quantities also may vary from the pay items and quantities included in this Opinion of Probable Construction Costs.