Chittenden County
Metropolitan Planning Organization
Technical Assistance Program

Town of Underhill
Route 15 Sidewalk Feasibility Study

Final Report

July, 2007

Prepared By:

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A. Purpose and Need

In April, 2006 the Town of Underhill Selectboard contacted the Chittenden County Metropolitan Planning Organization (CCMPO) to request a feasibility study for sidewalk improvements along Park Street and VT Route 15 from Park Street to Meadow Lane. The existing sidewalk that extends along the east side of VT Route 15 between Park Street and the fire station is in very poor condition and needs to be replaced. In addition to evaluating the replacement of this existing sidewalk, the Selectboard requested an evaluation of new sidewalk installation from the fire station to Meadow Lane.

Meadow Lane provides access to a relatively large residential area, consisting of approximately 55 residential lots, with 5 additional residential lots further to the north along Route 15 and Dumas Road. At its intersection with VT Route 15, Park Street hosts several commercial uses, and a church. The Underhill ID School and Browns River Middle School are located along River Road approximately two-thirds of a mile from the VT Route 15/Park Street intersection. VT Route 15 in this area is a heavily traveled roadway with a 2006 Annual Average Daily Traffic of 7,200 vehicles per day. The existing roadway shoulder is not a desirable route for pedestrian travel due to the volume of vehicle traffic and 35 mph speed limit along this section of roadway. In addition, the poor conditions of the existing sidewalk between the fire station and Park Street make drainage and winter maintenance difficult.

The purpose of the request by the Selectboard was in support the goals and objectives of the Town of Underhill to enhance pedestrian access in this area, to connect to recently completed sidewalk improvements along VT Route 15, Park Street, and River Road to the south, and to promote connectivity to the existing schools along River Road.

The proposed sidewalk is needed as there are a significant number of residences along Meadow Lane that currently do not have pedestrian access north of the fire station. Construction of the requested sidewalk would serve to provide a safe and convenient pedestrian connection from the residential area along Meadow Lane and the commercial uses, the church, and schools to the south and east.

To this end, as part of the CCMPO Technical Assistance Program, we were asked to provide assistance in the form of a sidewalk feasibility study. The text that follows presents a summary of our findings and conclusions.

B. Project Area and Existing Conditions

B1. Project Area

The project area is located along the east side of VT Route 15 in the Town of Underhill between Park Street and Dumas Road, which is located approximately 500 feet north of Meadow Lane. The original project area terminated at Meadow Lane, but was later extended to Dumas Road at the

request of the citizens at the Public Concerns Meeting. Appendix A presents plans depicting the location of the project area.

B2. Existing Conditions

Starting at the south end of the project area, there is an existing sidewalk along the east side of Park Street adjacent to the church and commercial uses. This sidewalk is narrow and in very poor condition, as depicted in Figure 1.

Figure 1
Existing sidewalk, looking north from Church

Continuing to the north, the existing sidewalk passes adjacent to the large residential and commercial building at the intersection of Park Street and VT Route 15. In this area, there is existing parallel parking along VT Route 15 adjacent to the sidewalk serving the commercial uses in the building, which is depicted in Figure 2. This existing parking consists of a gravel area located between the edge of the existing pavement and the existing sidewalk and provides space for approximately 3-4 parked vehicles.

Figure 2
Existing sidewalk and parallel parking

Between Park Street and the fire station to the north, the existing sidewalk is located between the edge of the roadway shoulder and the existing residential properties on the east side of the roadway. The condition of the existing sidewalk in this area is very poor with an uneven walking surface and inadequate drainage. There are several existing catch basins located in the area between the edge of the roadway shoulder and the existing sidewalk. This area mainly consists of a rough gravel surface.

Figure 3
Existing sidewalk and roadside drainage

The existing sidewalk terminates at the access drive to the fire station. In the vicinity of the fire station is a large grassy area adjacent to the roadway. There is an existing catch basin located in this grassy area and an existing culvert under a drive serving a very large open area located behind the fire station property.

Between the fire station and Meadow Lane, there are several residential properties and an auto service station. At the fire station drives, there are two existing curb cuts, approximately 24' wide and 75' in width. In front of the service station, there is an approximately 130' wide paved area with

no channelization for vehicular ingress/egress. In the center of the paved area is an existing gas pump island located on the edge of the public right-of-way.

Figure 4
Existing sidewalk terminating at fire station

Figure 5
Grassy area in front of fire station

Figure 6
Service station and gas pump island

Between the service station and Meadow Lane there is one residential property and then a sloping grass area adjacent to the roadway. There is one existing utility pole located in this grass area, with a supporting guy wire, as shown in Figure 7.

Existing conditions between Meadow Lane and Dumas road consist of grass areas in front of several residential properties, as depicted in Figures 8 and 9.

Figure 7
Grass area with utility support pole

Figure 8
Meadow Lane

Figure 9
End of Project at Dumas Road

B3. Proposed Sidewalk Improvements

The proposed sidewalk improvements consist of the removal and replacement of the existing sidewalk with new 5' wide cement concrete sidewalk. Along Park Street and the parallel parking spaces in front of the large commercial building, new granite curbing would be installed along the edge of the roadway and adjacent to the sidewalk. As part of the proposed improvements, the existing gravel parking spaces would be paved and striped to delineate 3 parallel parking spaces in front of the commercial building. From this point to the fire station, the new concrete sidewalk would be installed generally in the same location as the existing sidewalk and generally follow the existing grades. The new sidewalk would be installed approximately 5 feet from the edge of the existing 4 foot wide, paved shoulder. This 5 foot wide buffer area, which is currently gravel, would be planted

with grass and graded to drain to the existing roadside drainage structures. There will likely be areas where the new sidewalk will need to be raised slightly above the existing grade in order to maintain positive drainage flow to the existing roadside drainage structures.

The Conceptual Plans for the proposed sidewalk, which are presented in Appendix A, depict the installation of an additional catch basin in the vicinity of the residential drive located south of the fire station drive. This additional catch basin structure will be connected to the existing drainage infrastructure and will serve to improve the drainage in this area.

At the Public Concerns meeting, the citizens expressed the desire to install the concrete sidewalk in the pavement across the drives, including the church, fire station, and service station. Alternatives considered for the major drives included the installation of textured pavement, painted cross walks, or leaving the existing pavement untouched. The citizens felt that embedding the new concrete sidewalk in the pavement would not only provide a visual cue to motorists alerting them to the presence of pedestrian facilities, but also promote a pedestrian-friendly, village-like feel throughout the area and take the focus away from VT Route 15.

As part of the initial conceptual layout, the new sidewalk was routed away from the roadway and onto the fire station property north of the fire station drive. This was done to avoid impacts to the existing catch basin and culvert in this vicinity, but would require an easement for the encroachment onto the fire station property. At the Public Concerns Meeting, the citizens expressed concern over this alignment as it took away from the “look and feel” they were envisioning through this area, as discussed above. Despite the need to make modifications to the existing drainage in this area to accommodate the new 5 foot wide green belt adjacent to the roadway shoulder and 5 foot wide sidewalk, the citizens expressed desire to maintain this typical section through this area. This configuration is depicted on Sheet #2 of the Concept Plan presented in Appendix A.

At the existing service station, the proposed improvements will consist of the construction of bulb-out islands on either side of the service station drive. This will serve to narrow the approximately 130’ wide expanse of pavement in this area to approximately 94’ wide and provide some level of channelization. Extensive discussions were held between the Town and property owners concerning the balance between the need to provide safe pedestrian access in this area while at the same time respecting and maintaining the commercial uses occurring on their property. There are large fuel delivery trucks that need access to the subsurface fuel storage tanks. Therefore the bulb-out islands and other improvements in this area need to be designed with these large vehicles in mind. Following input received from the citizens and service station owners, the bulb-out islands will be constructed without raised curbing, but will have a colored, textured concrete surface to provide

a visual contrast between the pavement surface and new concrete sidewalk. This configuration will also facilitate winter snow plowing operations, which were also a concern to the service station owners.

It was previously discussed that the new concrete sidewalk would be embedded in the pavement across the service station drive in an effort to alert motorists to the presence of pedestrian facilities. In the area of the gas pumps, the new sidewalk will be installed adjacent to the 4' wide roadway shoulder. This was necessary in order to maintain service to vehicles on both sides of the gas pumps. Constructing the sidewalk on a raised curb island was considered, however there was insufficient space available between the edge of the roadway shoulder and the existing gas pumps for such an island, while maintaining service to the west side of the pumps. As the sidewalk will be adjacent to the roadway shoulder, the installation of flexible post delineators has been included along the west side of the sidewalk in this area to provide a visual barrier between motorists and the pedestrian facilities. It is envisioned that these delineators would be removed during the winter months to facilitate winter plowing. At the Public Concerns Meeting, the citizens expressed concern regarding the flexible post delineators and how they would look in the context of the new improvements. Consideration was given to removing them from the design, but it was eventually decided that they would remain as there was a recognized need for providing a visual barrier between the roadway shoulder and sidewalk. In addition, it was suggested that a warning sign be installed in advance of the service station to alert motorists of the presence of pedestrian facilities. The proposed improvements in this area are depicted on Sheet #3 of the Concept Plans in Appendix A.

Between the service station and Meadow Lane, the new sidewalk and green belt will be constructed generally along the edge of the roadway shoulder. One new fire hydrant will need to be relocated to accommodate the new sidewalk. There is one existing utility support pole that will need to be relocated to accommodate the new sidewalk.

At its intersection with Meadow Lane, the new sidewalk will stop and a new crosswalk and stop bar will be installed. Between Meadow Lane and Dumas Road, the new sidewalk and green belt will generally follow the roadway shoulder. However, as VT Route 15 turns to the northwest near the start of Dumas Road, the sidewalk will proceed straight along Dumas Road; where it will terminate at the first driveway along the east side of Dumas Road.

B4. Alternatives

As the new sidewalk would replace the existing sidewalk on the east side of the roadway, it was decided that the extended portion of the new sidewalk would also be located on the east side of the

roadway. This is also the side that Meadow Lane is located on, which avoids the need for most pedestrians to cross VT Route 15 in order to access the new sidewalk.

Alternate configurations for specific portions of the sidewalk as discussed above were considered, for example, several different sidewalk alignments were considered in the grass area north of the fire station drive in order to avoid impacts to the existing drainage features in this area. Ultimately, it was decided by the citizens that the preferred configuration would be to maintain the 5 foot green belt and 5 foot sidewalk section inasmuch as possible. Although this configuration would result in a slightly higher construction cost due to the additional drainage structure and piping required, the citizens specifically requested this configuration as they felt it presents a more consistent sidewalk alignment and avoids the need for an easement across the fire station property.

B5. Origins and Destinations

This sidewalk project was requested by the Town of Underhill Selectboard with origins and destinations in mind from the very onset. Meadow Lane, on the north end of the project area, is a relatively large residential area and abuts a large, vacant parcel behind the fire station. This approximately 58 acre parcel of land is planned for residential development in the near future, which is consistent with the Town Plan for encouraging growth in this area of Town.

On the opposite end of the project area are located several commercial uses and a church. Further to the south, approximately 2/3 of a mile, are located the Browns River Middle School and Underhill ID School. The Town Plan encourages the creation of pedestrian-friendly, village-like areas to promote pedestrian access and recreation.

At the Public Concerns Meeting, several citizens present were residents along this section of VT Route 15. They indicated strong support for the creation of pedestrian connections from this area to the nearby schools. In 2004, an extensive sidewalk enhancement project was completed that involved the construction of new sidewalks along VT Route 15, Park Street, and River Road that provide access to the school facilities. The currently proposed project would provide a vital link between the project area and these recently constructed sidewalks to achieve the connectivity so desired.

C. Right of Way

Right of way and property boundary lines depicted on the Concept Plans were obtained from the Vermont Agency of Transportation (VTrans) and the CCMPO and are approximate. During further stages of this project, detailed right-of-way investigations will be performed in order to confirm the right-of-way locations.

The existing VT Route 15 roadway is not centered inside of the existing 4-rod State right-of-way, but is instead shifted towards the east side of the right-of-way. The proposed typical section for the new sidewalk consists of an 11' wide travel lane and 4' wide paved shoulder for VT Route 15, a 5' wide grass belt, and the 5' wide concrete sidewalk. With this typical section and utilizing the existing roadway centerline, the back of the new sidewalk will be generally 1' inside the right-of-way. This will likely require temporary construction easements from the adjacent property owners. The extent of these easements is not known at this time due to the conceptual nature of the design. At the Public Concerns Meeting, there was some discussion that it would take just one property owner unwilling to grant a temporary easement to delay the project. This potential occurrence will need to be addressed during final design stages of this project, once the extent of any temporary easements can be identified.

D. Utility Impacts

The proposed project will have limited impacts to existing utilities within the project area. Due to the nature of the construction, impacts to existing subsurface utilities are not anticipated. There are existing overhead utility lines located on the west side of VT Route 15, which will not be impacted by this project. There are two utility poles located on the east side of VT Route 15 that provide overhead utility crossings. One of these poles will need to be relocated in order to accommodate the sidewalk alignment.

There are existing roadside drainage structures along the east side of the roadway, between the roadway and the proposed sidewalk. In general, it is anticipated that the new sidewalk will be installed in such as manner as to maintain positive drainage to the existing catch basins. The conceptual design includes the installation of one additional catch basin in the vicinity of the residential drive west of the fire station. This new catch basin will be connected to the existing drainage system adjacent to the fire station.

In the grass area north of the fire station, there is an existing catch basin that will need to be modified due to the new sidewalk. This catch basin is located in a low area several feet below the surface of the roadway. As the new sidewalk will be installed generally at the same or slightly lower elevation as the roadway, this new catch basin will be raised and fitted with a solid cover. A new drainage pipe will be installed from this catch basin to accept drainage from the low area. In addition, a nearby culvert will be replaced to connect to this catch basin structure. The proposed improvements are depicted on Sheet #3 of the Concept Plans in Appendix A.

There is one existing fire hydrant that will need to be relocated to accommodate the new sidewalk alignment.

E. Natural and Cultural Resources

The proposed sidewalk is located within the existing Town and/or State rights-of-way along Park Street and VT Route 15. A significant portion of the proposed sidewalk will replace an existing sidewalk that is in very poor condition. The remaining area of the proposed sidewalk is located in the grass area adjacent to the roadway in front of residential properties, with the exception of the fire station and service station. In consideration of the location of the proposed sidewalk, impacts to natural and cultural resources will be minimal, as described below.

E1. Natural Resources

E1.1 Wetlands

According to the National Wetland Inventory maps, there are no mapped wetlands within the project area.

E1.2 Lakes/Ponds/Streams/Rivers

Roaring Brook crosses beneath VT Route 15 and just north of the end of Dumas Road, approximately 465 feet beyond the end of the proposed sidewalk; and therefore will not be adversely impacted by the proposed sidewalk.

E1.3 Floodplains

According to the FEMA Flood Insurance Rate Maps, the limits of the 100-year floodplain extend approximately 100 feet on either side of the Roaring Brook in the vicinity of Dumas Road. The proposed sidewalk is outside the limits of the 100-year flood plain.

E1.4 Endangered Species

There are no rare, threatened, or endangered species that will be adversely impacted by the proposed project.

E1.5 Flora/Fauna

No adverse impacts to flora/fauna are anticipated as a result of the proposed project.

E1.6 Stormwater

There is existing stormwater drainage infrastructure adjacent to the roadway within the project area. Minor modifications to the existing drainage infrastructure will be required to accommodate the preferred alignment of the proposed sidewalk. These modifications will not adversely impact the operation and functionality of the drainage system.

E1.7 Hazardous Wastes

No hazardous waste sites will be adversely impacted as a result of the proposed project. The proposed sidewalk construction at the service station will be limited to the area inside the State right-of-way.

E1.8 Forest Land

The proposed project will not adversely impact forest lands.

E.2 Cultural Resources

E2.1 Historic

The proposed sidewalk will be installed adjacent to the existing roadways within the project area. In addition, in the vicinity of Park Street and the adjacent commercial buildings, the proposed sidewalk will replace an existing sidewalk that is in very poor condition and presents a safety hazard to pedestrians. No impacts to historic structures are anticipated as a result of this project.

E2.2 Archaeological

The project area is located adjacent to existing roadway, which has been disturbed in the past as part of the roadway construction and development of adjacent properties; and as such no impacts to archaeological resources are anticipated.

E2.3Architectural

The proposed project will not adversely impact the architectural resources within the project area.

E2.4 Public Lands

There are no public lands that will be adversely impacted as a result of the proposed sidewalk.

E2.5 Agricultural Lands

According to the USDA's *Farmland Classification Systems for Vermont Soils*, April 2003 Edition, the soils adjacent to VT Route 15 and within the project area are classified as primary agricultural soils. In consideration of the project's location being immediately adjacent to VT Route 15 and inside the State right-of-way, there will be no impact to the use of the adjoining lands for agricultural purposes.

F. Preliminary Project Cost Estimate

Based on the Concept Plans presented in Appendix A, the estimate of probable construction cost is presented below, assuming construction during the 2009 construction season. A breakdown of the cost estimate is presented in Appendix F.

Project Construction	$ 282,000
Right-of-Way Acquisition	$ 15,000
Final Engineering Design	$ 23,000
Project Management & Construction Supervision	$ 40,000
Total Project Cost	$ 360,000

G. Maintenance

Anticipated maintenance needs will primarily be limited to winter snow plowing. Currently, the Town of Underhill plows the existing sidewalk between Park Street and the fire station; although the poor condition of this existing walk makes winter plowing difficult. The new sidewalk will be approximately two feet wider and will have a consistent surface that will be more conducive to winter plowing.

During the summer months, necessary maintenance will include mowing of the adjacent grass areas and inspection and cleaning of the storm drainage infrastructure, as needed. These maintenance items are on-going currently.

H. Public Involvement

Throughout the course of the project, close contact has been maintained between the Town staff and community members. During the design development, a meeting was held with the owners of the service station to review the proposed improvements and ensure that they were compatible with their business operations inasmuch as possible. As a result of input from the community, several revisions were incorporated into the design.

A Public Concerns Meeting was held on October 24, 2006 at the Underhill Town Hall in Underhill Center. There were 9 citizens and 3 Selectboard members present at the meeting. Following a brief introduction to the project, the concept plans were presented and discussed. Following the review of the plans, the meeting was opened up for questions and comments from the public. There was extensive discussion regarding several specific items regarding the project, which included the following:

- VT Route 15 Right-of-Way location
- Winter Sidewalk Maintenance
- Sidewalk surface at major drive crossings
- Roadside parking at the end of Park Street
- Drainage concerns
- Sidewalk alignment through the fire station property
- Service station sidewalk alignment, surfaces, and use of flexible delineators
- Extension of project from Meadow Lane to Dumas Road

At the conclusion of the meeting, there was substantial support for the project. Many of the concerns expressed at the meeting were very specific items, outside of the scope of this feasibility study, which will be addressed in the final design stages of the project. In fact, the citizens were so supportive of the project that they requested that the project be extended from Meadow Lane to Dumas Road; a request that was subsequently approved. A summary of the Public Concerns Meeting is presented in Appendix E.

I. Compatibility with Planning Efforts

This project was initiated by the Town of Underhill Selectboard through a request to the CCMPO for a feasibility study for this project. This project was envisioned as an extension of the sidewalk

construction along Park Street, River Road, and VT Route 15 as part of a 2004 transportation enhancement grant for the Town of Jericho and Underhill. With this proposed sidewalk in place, it would provide a safe pedestrian connection between the relatively large residential areas in and around Meadow Lane with the new sidewalks leading to the schools along River Road.

The Underhill Town Plan designates the Underhill Flats area of town as a growth-center, which includes the project area, with a vision for a "…pedestrian-friendly, high-density, mixed-use village center that promotes contacts among residents and that does not require driving to shops farther away…" In addition, the Town Plan presents objectives to "ensure access to education", "provide transportation options", and "provide recreation opportunities."

J. Project Time Line

This study has shown strong public support for this project, with minimal adverse impacts to natural and cultural resources. The project design is relatively straight forward with few complications. Accordingly, from the time that funding is secured, preliminary engineering, categorical exclusion determination, and final engineering design is estimated to be completed within 12 months. Acquisition of required permits for the project is estimated to take approximately 4-6 months. The construction duration is estimated to be approximately 4-5 months for this project.

K. Viability

The Town of Underhill Selectboard envisions this project as a continuation of the extensive sidewalk construction that occurred in 2004 along Park Street, River Road, and VT Route 15 to provide safe pedestrian access to the nearby schools along River Road. The proximity of the project area to the schools will provide an opportunity for students to safely walk or bike to/from school and make this project a natural extension of the existing sidewalk network.

The proposed project will provide the Town of Underhill with a vital link between residential areas and existing pedestrian facilities to encourage non-motorized transportation alternatives in an area designated to be a "pedestrian-friendly, high-density, mixed-use village center."

In consideration of the proximity of the Meadow Lane residential areas to the schools along River Road and the nearby Mills Riverside Park along VT Route 15, the proposed project meets the objectives of the Town Plan and aids in the fulfillment of the town's vision.

Appendix A

CCMPO TECHNICAL ASSISTANCE PROGRAM
TOWN OF UNDERHILL
ROUTE 15 SIDEWALK FEASIBILITY STUDY

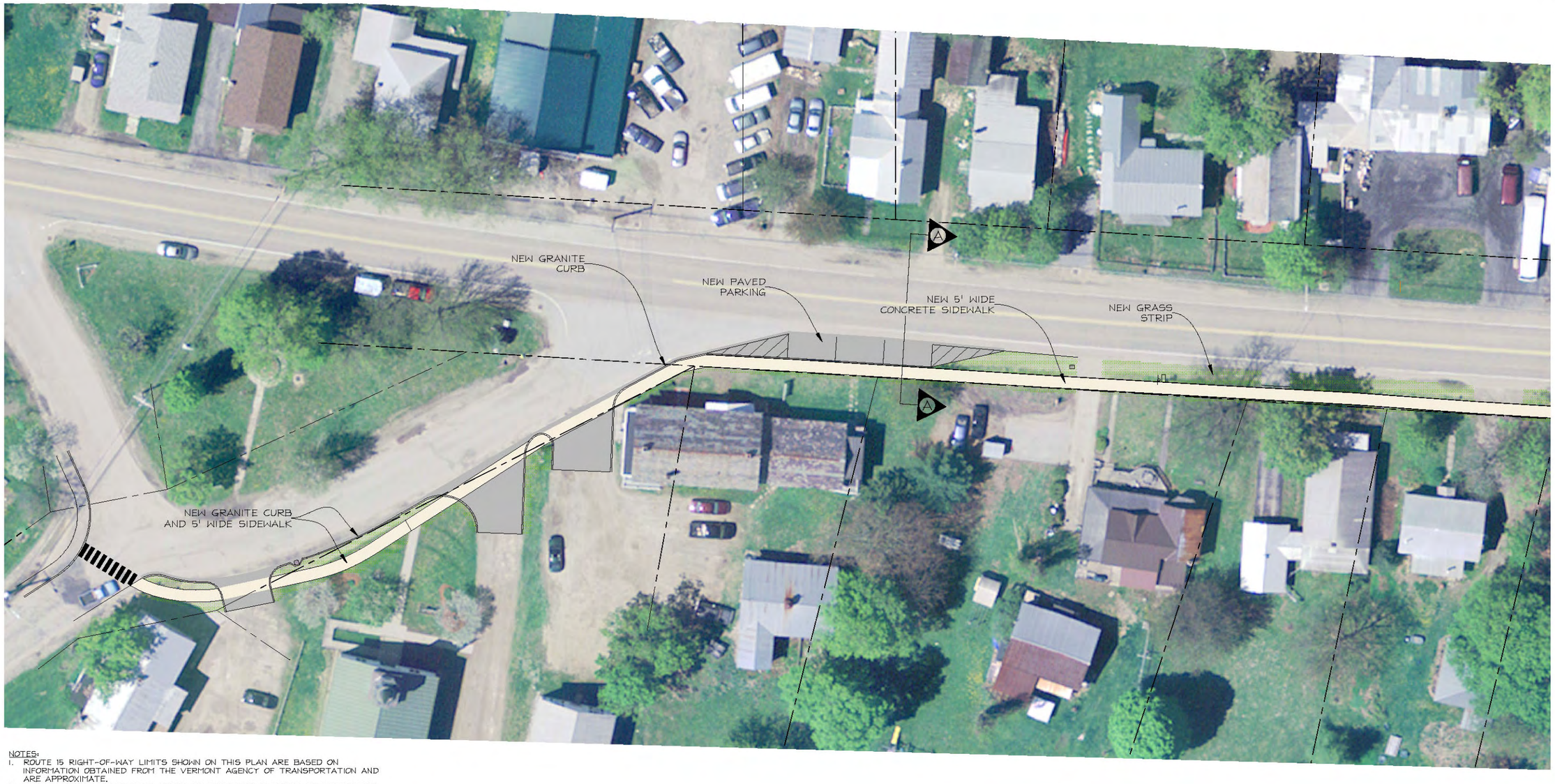
1" = 1000'

1" = 200'

DONALD L. HAMLIN CONSULTING ENGINEERS, INC.

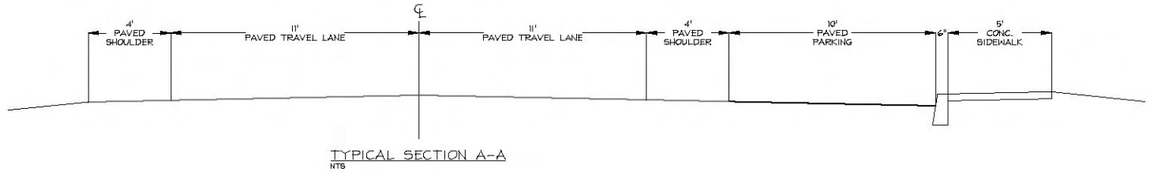
136 Pearl Street, Essex Junction Vermont 05452

JULY, 2007



NOTES:

1. ROUTE 15 RIGHT-OF-WAY LIMITS SHOWN ON THIS PLAN ARE BASED ON INFORMATION OBTAINED FROM THE VERMONT AGENCY OF TRANSPORTATION AND ARE APPROXIMATE.
2. BOUNDARY LINE INFORMATION SHOWN ON THIS PLAN IS BASED ON INFORMATION OBTAINED FROM THE CHITTENDEN COUNTY METROPOLITAN PLANNING ORGANIZATION AND ARE APPROXIMATE.
3. PROPOSED SIDEWALK LOCATION IN FRONT OF THE CHURCH WAS TAKEN FROM A PLAN ENTITLED "TOWNS OF JERICHO-UNDERHILL, PEDESTRIAN/BIKE FACILITIES", SHEET #P8, DATED 08/06/02 AND LAST REVISED 04/13/04, PREPARED BY O'LEARY-BURKE CIVIL ASSOCIATES, PLC.



TYPICAL SECTION A-A
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CLIENT
CHITTENDEN COUNTY
METROPOLITAN PLANNING ORGANIZATION
SOUTH BURLINGTON, VERMONT

PROJECT TITLE
TOWN OF UNDERHILL
ROUTE 15 SIDEWALK FEASIBILITY STUDY

DRAWING TITLE
CONCEPT PLAN

Survey	—
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Drawn	JPK
Checked	RFH
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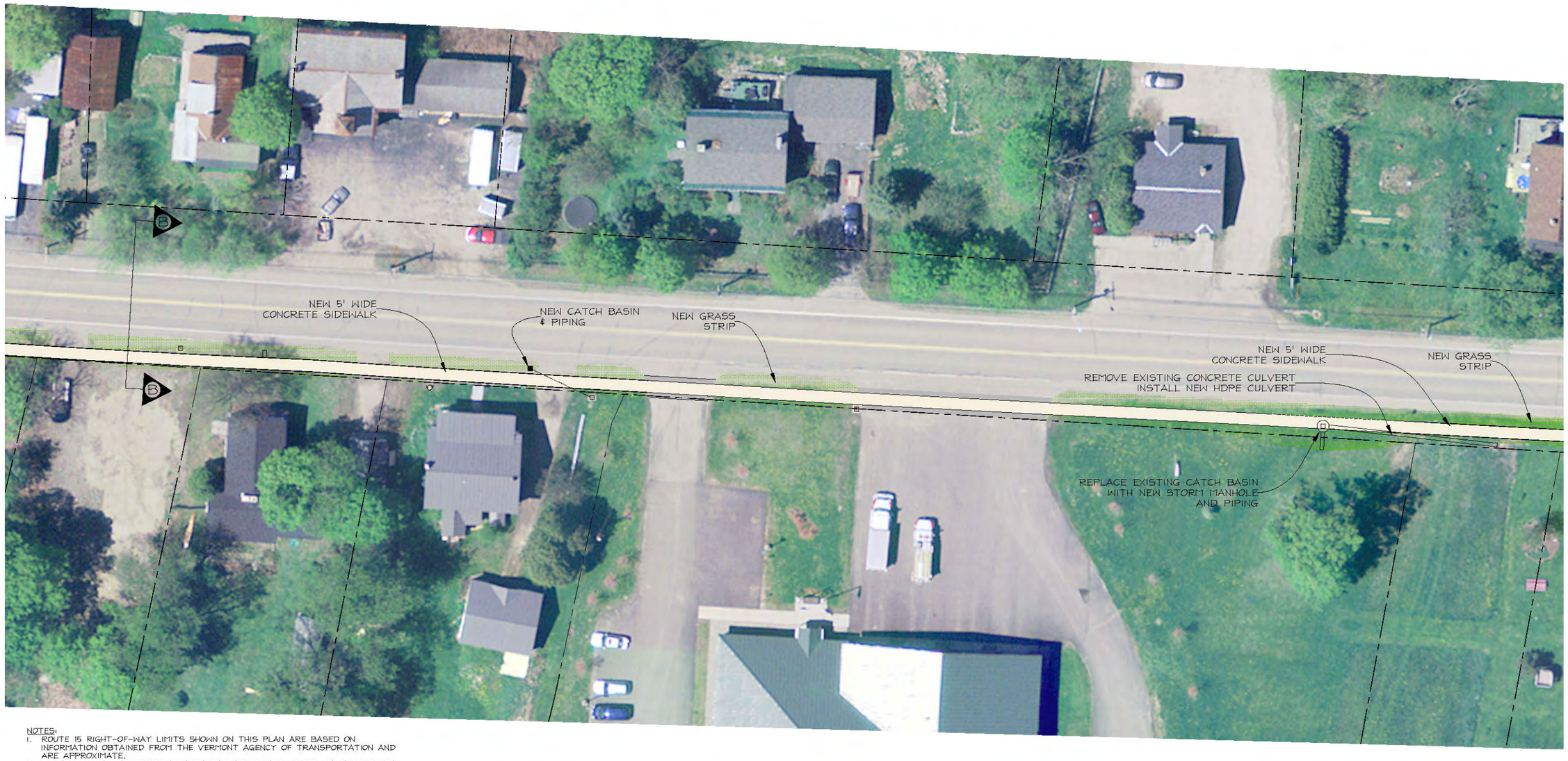
Donald L. Hamlin Consulting Engineers, Inc.
135 Pearl Street
River Junction, Vermont



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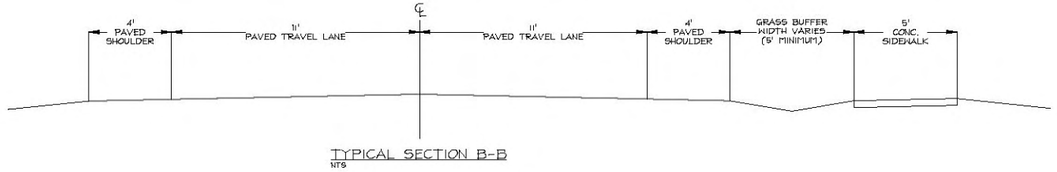

TYPICAL SECTION B-B
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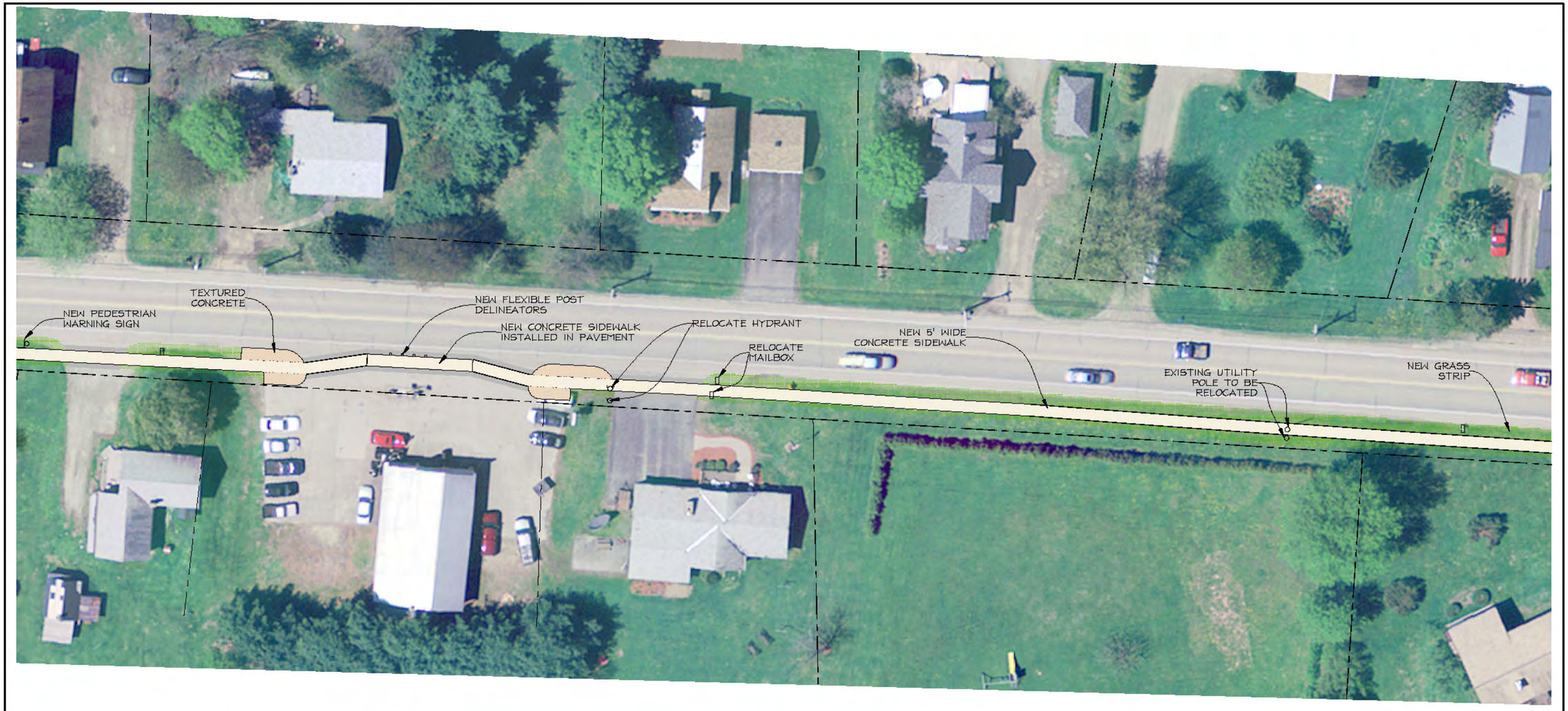

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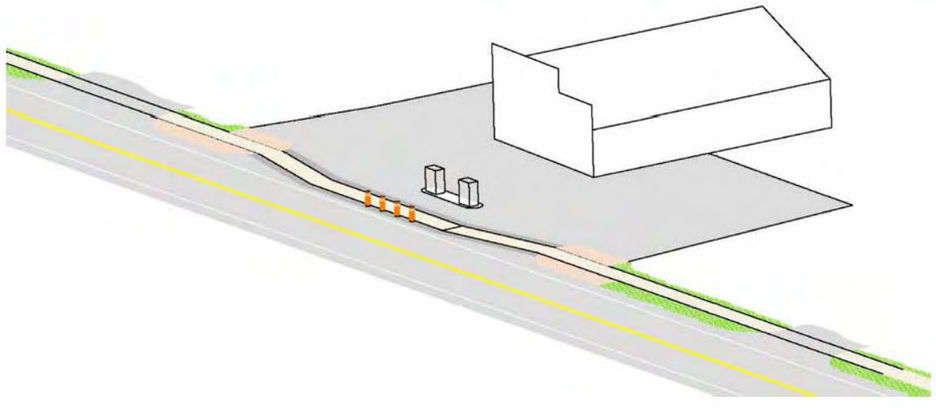

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Checked	RPH
Date	12/1/2016

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Essex Junction, Vermont

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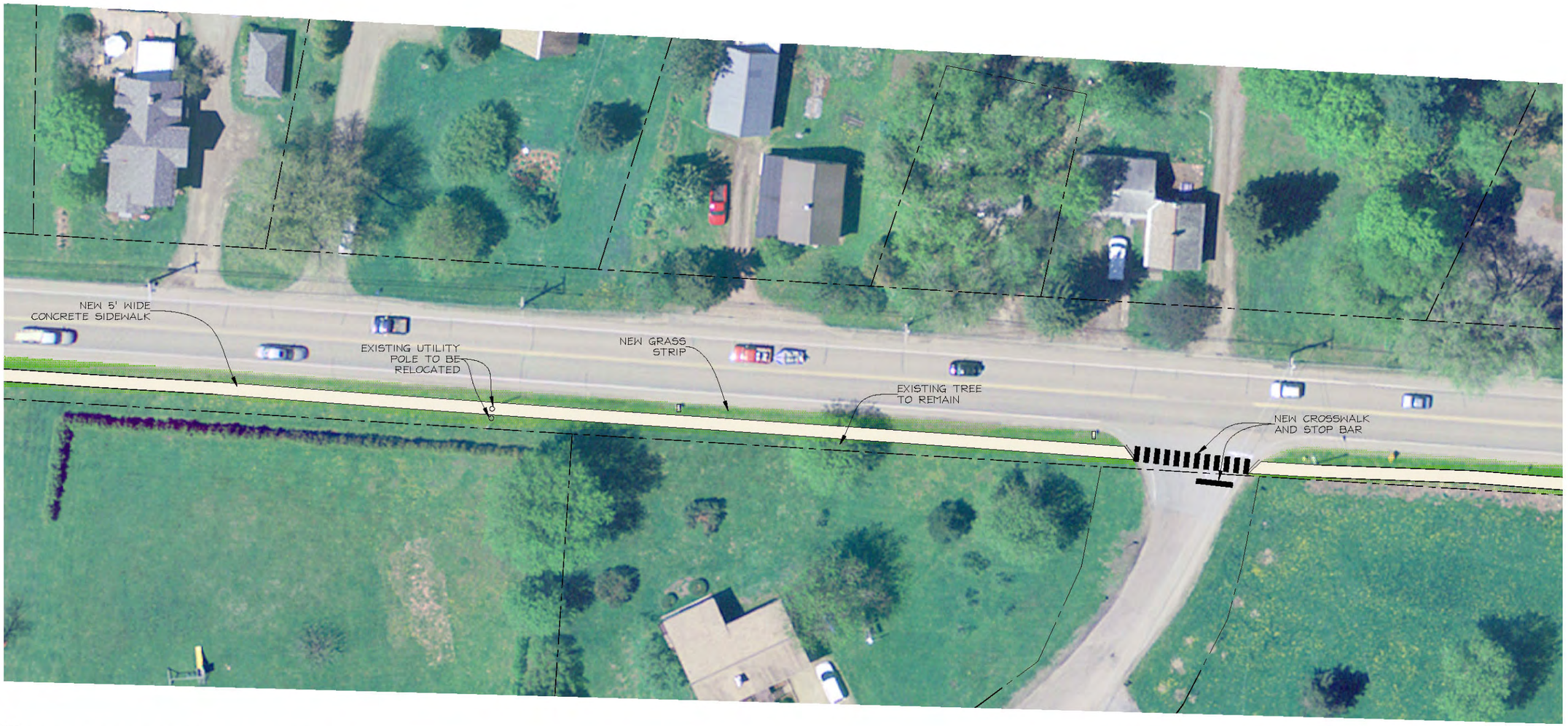

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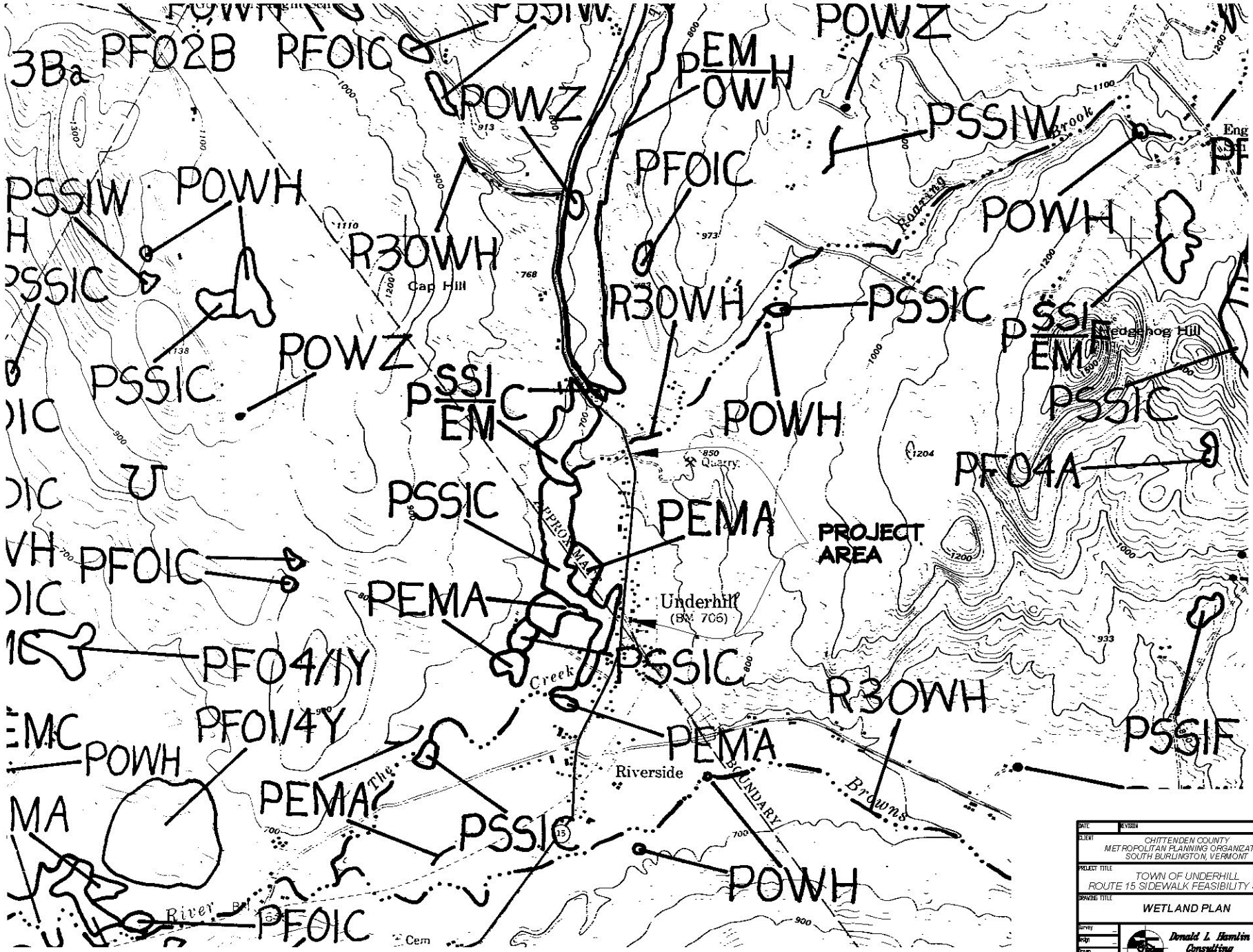
Survey	—
Design	JPK
Drawn	JPK
Checked	RFH
Date	12/12/06

Donald L. Hamlin
Consulting
Engineers, Inc.
135 Pearl Street
Essex Junction, Vermont

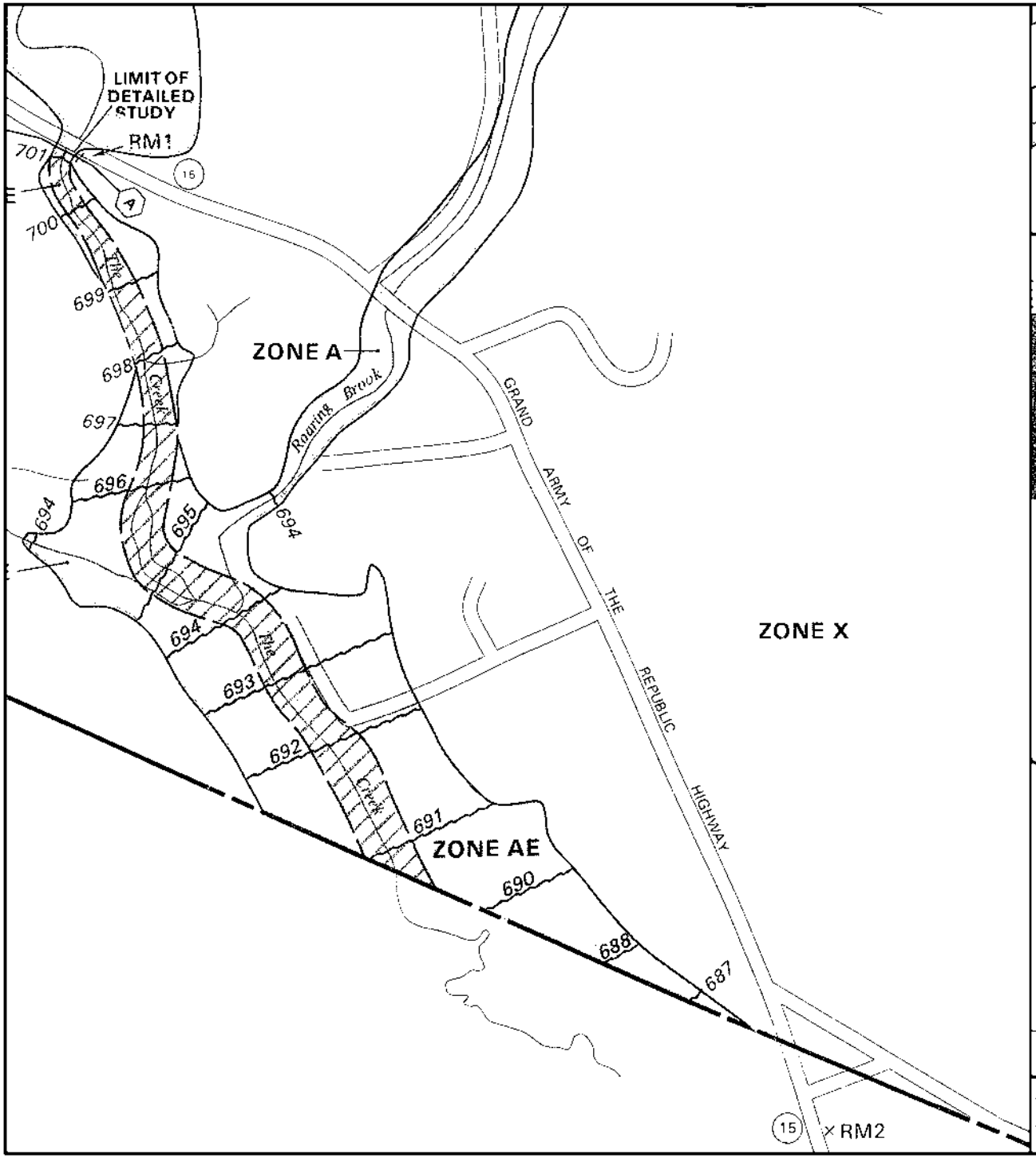
Scale	1" = 20'
Job	04-011
File	
Drawing	5 of 5

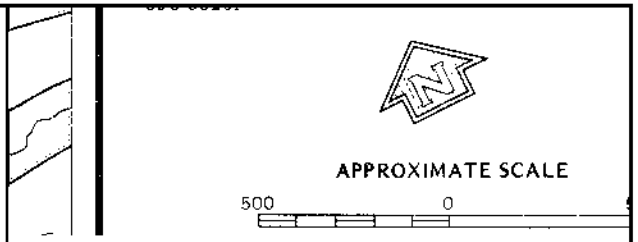
Appendix B



DATE	REVISION
CLIENT	CHITTENDEN COUNTY METROPOLITAN PLANNING ORGANIZATION SOUTH BURLINGTON, VERMONT
PROJECT TITLE	TOWN OF UNDERHILL ROUTE 15 SIDEWALK FEASIBILITY STUDY
DRAWING TITLE	WETLAND PLAN
Donald L. Hamlin Consulting Engineers, Inc.	196 Pearl Street, Essex Junction, Vermont
Scale	1" = 2000'
Job	04-011
File	
Drawing	1

Appendix C





NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

TOWN OF
UNDERHILL, VERMONT
CHITTENDEN COUNTY

PANEL 16 OF 25
(SEE MAP INDEX FOR PANELS NOT PRINTED)

PANEL LOCATION

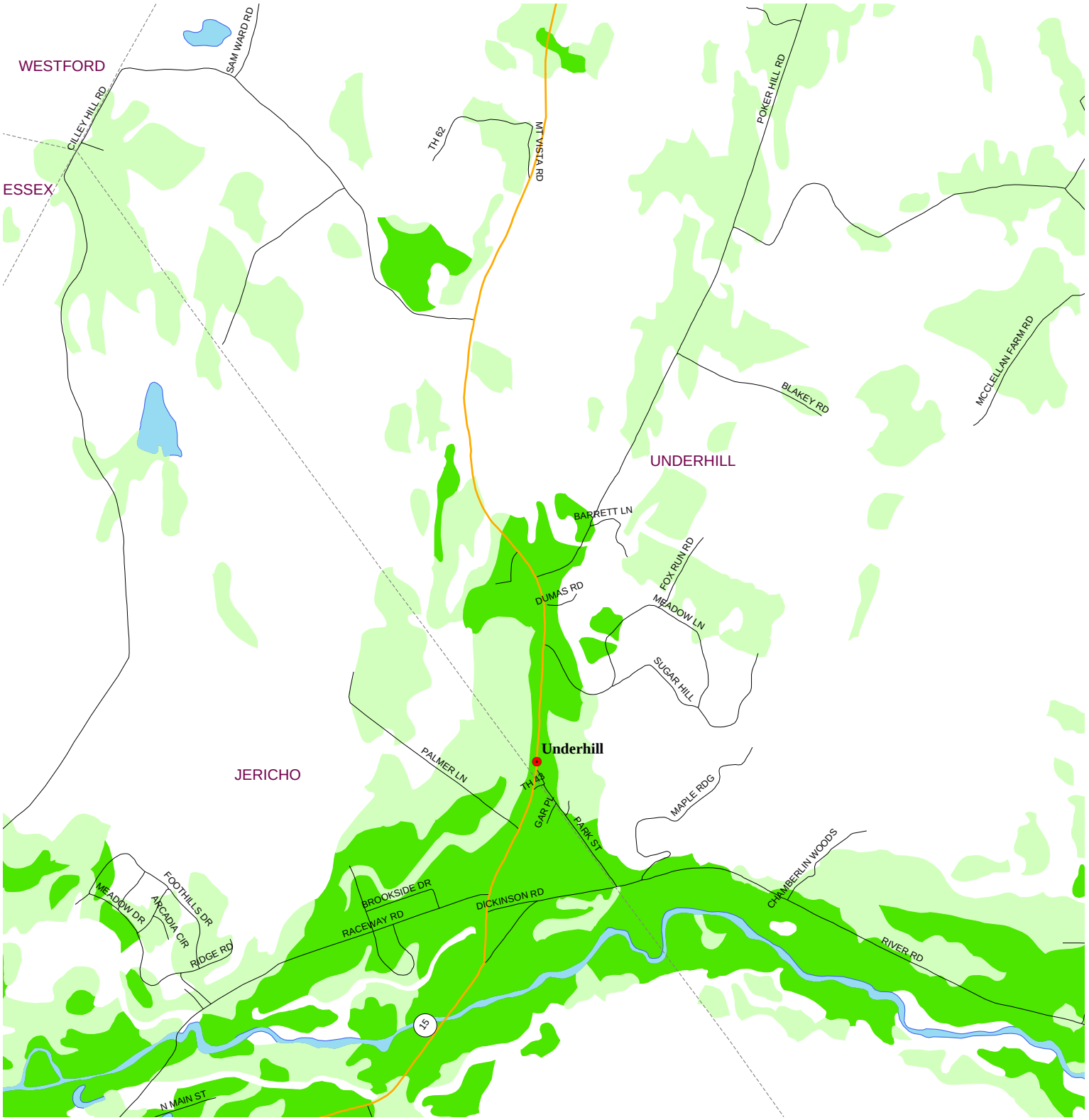
COMMUNITY-PANEL NUMBER
500042 0016 B

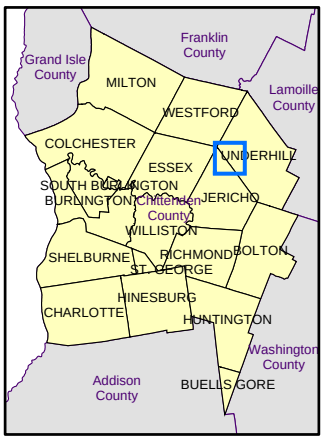
EFFECTIVE DATE:
JUNE 15, 1988

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

Appendix D





Important Farmlands Chittenden County, Vermont

Scale

1:24,000

Locator map - area outlined in blue is map extent

This data is not certified and needs additional quality control work - soil delineations are subject to change.

Legend

Main Roads
CLASS
- State Highway
- St. Hway Ramp
- US Route
- Interstate
- Town Connector

Soils of Chittenden County
Important Farmland Rating
- Prime
- Statewide; Statewide (a); Statewide (b); Statewide (c)
- water

USDA

Appendix E

Donald L. Hamlin Consulting Engineers, Inc.

memorandum

Date: 10/24/06

To: File

From: Jeffrey P. Kershner, P.E.

RE: Underhill Sidewalk – Public Concerns Meeting

Below is a summary of the discussion at the Public Concerns Meeting regarding the proposed Underhill Sidewalk along the east side of Route 15 from Park Street to Meadow Lane.

The meeting commenced at 7:00 PM at the Underhill Town Hall in Underhill Center. There were 9 citizens and 3 Selectboard members present at the meeting.

We opened the meeting with a brief presentation describing how we became involved in this project based on a request from the Town of Underhill to the CCMPO regarding the project. We next reviewed the current concept plan for the sidewalk, the typical section, and several of the difficult areas.

The meeting was then opened up for questions and comments from the public. Below is a summary of the items discussed:

Route 15 Right-of-Way

There was some discussion regarding the location of the right-of-way for Route 15 and the fact that the roadway is not centered in the right-of-way. We acknowledged that the roadway is definitely shifted towards the east side of the right-of-way. The right-of-way lines shown on our plans are based on information obtained from the CCMPO and the Vermont Agency of Transportation and are approximate. During the final design stages of this project, detailed right-of-way investigations will be performed in order to confirm the right-of-way locations.

The proposed typical section consists of an 11' wide paved travel lane, a 4' wide paved shoulder, a 5' wide grass belt, and the 5' wide concrete sidewalk. Based on the plan information, the back of the sidewalk will be generally 1' inside of the right-of-way. This is likely to require temporary construction easements from the adjacent property owners. The extent of these easements is not known at this time due to the conceptual nature of the design. There was some concern expressed that one landowner who was not willing to grant an easement could delay the project advancement. We indicated that this would need to be addressed during final design stages of the project.

Winter Sidewalk Maintenance

A question was raised concerning winter maintenance of the proposed sidewalk. The Selectboard Chair indicated that the Town currently maintains the existing sidewalk during the winter and have been doing so for several years. Maintenance of this sidewalk would be completed in a similar fashion.

Textured Pavement at Drive Crossings

Several citizens questioned why some drive crossings had textured pavement while others had the sidewalk embedded in the pavement across the drive. We indicated that it was the recommendation of VTrans that the textured surface be utilized for the fire station drive crossings. The other drive crossings at the beginning of the project (in the area of Park Street) were shown with a textured surface for no specific reason. Following some discussion, it was concluded by the majority that they would prefer to see the sidewalks embedded in the pavement across all of the drive crossings. The plans will be revised accordingly.

Parking Spaces

Several questions were raised regarding the paved parking spaces shown along Route 15 at its intersection with Park Street. These parking spaces were provided based on field observations of vehicles currently using this area for parking. The spaces are shown as being paved with concrete curbing at the request of VTrans. One citizen expressed concern that there was insufficient space available for these spaces. These parallel parking spaces are shown as being 10' wide and 20' long, which is typical of a parallel parking space. Based on our work, there is sufficient space available to accommodate these parking spaces, the concrete curbing, and proposed sidewalk. A question was raised as to who would utilize these spaces. Several citizens indicated that these spaces are currently utilized by patrons of the Gazette and felt that they should remain in the plan.

Sidewalk Drainage

Several citizens expressed concern regarding the drainage of the existing sidewalk, stating that this walk is frequently flooded with water. Based on our field observations, there are several areas of the existing sidewalk that are lower than the adjacent area and drainage structures. We explained that as part of this project, the sidewalk will be generally installed along the existing grade. However, where necessary, the new sidewalk would be raised to flow to the existing drainage features adjacent to the roadway. An additional drainage structure is anticipated in the area just south of the fire station drive. Identification of the final sidewalk grading in specific areas is beyond the scope of this study.

Fire Station Easement

A question was raised as to why the sidewalk crossed over onto the fire station property. We discussed the roadway fill slope, existing catch basin, and culvert in this area. We explained that the sidewalk was moved to avoid impacts to these existing drainage features. It was concluded by the majority of the citizens present that they would prefer to maintain the alignment of the sidewalk adjacent to the roadway. We reviewed the modifications to the drainage infrastructure that would be required, which were found to be acceptable. The plans will be revised accordingly.

Service Station

There was extensive discussion concerning the service station and the need to respect the business related traffic, pedestrian traffic, and the large fuel delivery trucks. Embedding the sidewalk in the pavement across the service station drive was well received. In addition, providing textured concrete bulb-out islands on each side of the service station drive had substantial support. There was discussion as to whether or not the bulb-outs should have tapered curbing or not. We indicated that the service station owners were concerned with winter plowing operations and accommodating the fuel delivery trucks. While tapered curbing will accommodate fuel delivery trucks, it will slightly affect the ease of plowing. We suggested that the different texture and color of textured concrete compared to the adjacent roadway pavement and sidewalk concrete would be sufficient to alert drivers of the presence of pedestrians. A suggestion was made to utilized colored concrete in addition to the textured surface. We indicated that we have utilized this in similar circumstances with successful results.

Flexible Delineators

Several citizens expressed concern regarding the installation of the flexible delineators between the shoulder and sidewalk in the area of the gas pumps in front of the service station. Concerns expressed included aesthetics and respecting large turning vehicles at the service station. We explained that the delineators were flexible and were capable of being run over by large vehicles. In terms of aesthetics, we explained that these devices come several shapes, sizes and colors. We presented a catalog cut of the devices as we envision them. In addition, we also explained that we envision that these devices would be removed during the winter months to facilitate winter plowing. It was eventually decided that the flexible delineators would remain on the concept plan.

Several citizens indicated that they felt something should be present in this area to alert vehicles of the presence of pedestrians. Installation of curbing on one or both sides of the sidewalk in front of the gas pumps was discussed. We explained that there was insufficient space available for the installation of curbing. A suggestion for the installation of warning signs in advance of the service station to alert drivers to the presence of pedestrians was made; which received general support.

Extension to Dumas Road

In general the citizens expressed overall support for the project in an effort to promote safe pedestrian activity. With this being said, several citizens expressed a strong desire to extend the proposed sidewalk beyond Meadow Lane to Dumas Road, approximately 500 feet to the north along Route 15. The Selectboard Chair indicated that they would make a request to the CCMPO to extend the limits of the project to Dumas Road.

The meeting concluded at approximately 8:30 PM

Appendix F

Chittenden County

Metropolitan Planning Organization

Town of Underhill / Route 15 Sidewalk Feasibility Study

Estimate of Probable Construction Cost Revised: 07/16/07

	ITEM	QUANTITY	UNIT	PRICE	TOTAL
1)	Saw Cut Existing Pavement	1,100	lf	$ 2.50	$ 2,750.00
2)	Remove Existing Pavement	500	sy	$ 5.10	$ 2,550.00
3)	Remove Existing Cement Concrete Sidewalk	300	sy	$ 10.30	$ 3,090.00
4)	New Cement Concrete Curb	400	lf	$ 26.20	$ 10,480.00
5)	New Cement Concrete Sidewalk - 5" Thick	1,100	sy	$ 67.60	$ 74,360.00
6)	New Cement Concrete Sidewalk - 8" Thick	300	sy	$ 95.60	$ 28,680.00
7)	New Colored Cement Concrete Sidewalk - 8" Thick	50	sy	$ 118.60	$ 5,930.00
8)	New Bituminous Concrete Pavement 3" Thick	500	sy	$ 45.20	$ 22,600.00
9)	Gravel Driveway Repair	8	each	$ 160.00	$ 1,280.00
10)	New Catch Basin	2	each	$ 3,700.00	$ 7,400.00
11)	15" HDPE Drainage Pipe	110	lf	$ 71.60	$ 7,876.00
12)	Supply and Spread Topsoil	200	cy	$ 33.40	$ 6,680.00
13)	Lime, Seed, Fertilize and Matting	1,650	sy	$ 2.30	$ 3,795.00
14)	New Guide Pole and Anchor	1	each	$ 5,200.00	$ 5,200.00
15)	Relocate Existing Hydrant	1	ls	$ 7,700.00	$ 7,700.00
16)	New Painted Stop Bar	15	lf	$ 2.70	$ 40.50
17)	New Painted Crosswalk	200	lf	$ 1.40	$ 280.00
18)	New Painted 4" White Line	175	lf	$ 0.40	$ 70.00
19)	New Flexible Post Delineators	4	each	$ 150.00	$ 600.00
20)	Traffic Control	40	day	$ 1,300.00	$ 52,000.00
	Contingency	---	---	20%	$ 38,272.30

Construction Cost	$ 281,633.80
Right-of-way Acquisition	$ 15,000.00
Final Engineering	$ 23,000.00
Project Management & Construction Supervision	$ 40,000.00
Total Project Cost	$ 359,633.80

Appendix G

LOCAL TRANSPORTATION FACILITIES

MEMORANDUM

TO: Dave Roberts, CCMPO Senior Transportation Planner

FROM: Amy H. Bell, Bicycle & Pedestrian Coordinator

DATE: February 8, 2007

SUBJECT: Underhill – Rte. 15 Draft Sidewalk Feasibility Study

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Thank you for providing me an opportunity to review the Draft Report dated Dec. 2006. I appreciate the effort taken to revise the concept plans and to provide a draft report that conforms to the VTrans Feasibility Study outline. Please keep in mind my comments are intended to enhance the quality of the report and strengthen the competitiveness of the project should the Town seek funding via the VTrans Transportation Enhancements Program or other similar programs.

General Comments:

1. The Purpose & Need would benefit from the addition of specific data that better quantifies the project purpose and need. For example, statements such as "relatively large residential area", "very heavily traveled roadway" and "significant number of residences" would benefit from real numbers. Adding specific data e.g. # of units, average daily traffic etc. strengthens the need statement and helps differentiate your project from others.

   This section of the report has been revised to include specific data as requested.

2. I strongly recommend that the project plans and report be submitted to the VTrans District Transportation Administrator, VTrans Utilities and Permits, and the Traffic Operations sections for review and comment. As currently designed I do not believe that the Town could get the required permits to construct the project – particularly in the area of the gas station.

   A representative of the VTrans District Office was consulted during the early stages of the project. In addition, comments have been received from the Project Supervisor of the VTrans Utilities and Permits Unit and are attached.

Specific Comments:

3. Page 2, 2nd paragraph – How many existing on-street parking spaces will be impacted by the proposed sidewalk improvements and how many parking spaces will be incorporated into the new design?

   The existing parking spaces are located in a gravel area between the existing edge of pavement and the existing sidewalk. Although the spaces are not delineated, there is space for 3-4 vehicles. The proposed improvements provide for 3 parking spaces in this area. The report has been revised to incorporate this information.

4. Page 2, last paragraph – The report would benefit from the inclusion of information about the length of the existing curb cuts at the gas and fire stations?

   The report has been revised in present this information.

5. Page 3, last paragraph – We would prefer to see granite curbing in lieu of concrete because of its enhanced durability. Cost is often cited as the limiting factor but we have found that concrete and. granite curbing costs are now comparable.

   The report and plans have been revised to specify new granite curbing instead of cement concrete curbing as requested.

6. Page 4, 4th paragraph, 2nd sentence – please quantify how much the gas station drive will be "narrowed" by the painted islands. Additionally, staff has reservation about the effectiveness of using colored textured islands and the delineator posts. Based on our experience without some form of vertical separation vehicles of all types will not respect the color/textured islands and the color and the delineator posts will be need frequent maintenance.

   The report has been revised to provide dimensional information pertaining to the service station drive. Curbing was initially considered for the bulb-out islands. However, the service station owners voiced concern due to the need for large fuel delivery trucks to access the site and winter plowing operations. They requested specifically that curb not be provided in these locations. The colored and textured concrete surface was suggested to delineate the limits of the bulb-out islands. Regarding the delineator posts, there was extensive discussion concerning these at the Public Concerns Meeting. In the end, the citizens felt these would serve to provide a visual buffer between the roadway and the sidewalk. During the winter months, these delineator posts would be removed so as not to interfere with winter plowing operations.

7. Page 5, 1st paragraph, next to last sentence – The installation of any sign will need to be approved by the VTrans Traffic Operations section.

   Proposed signs will need to be detailed during the preliminary and final design stages of this project, which will be submitted to VTrans for review and approval at that time.

8. Page 6, 1st paragraph – What are the cost implications of the decision to place the sidewalk adjacent to the roadway in the grass area north of the fire station vs. the previous design which pulled the sidewalk away from the roadway to avoid impacts to utilities, a culvert and storm drain.?

   Although this configuration results in a slightly higher construction cost due to the additional drainage structure and piping required, the citizens felt it presents a more consistent sidewalk alignment to preserve the "look and feel" envisioned for this area and avoids the need for an easement across the fire station property.

9. Page 6, Right of Way – Please clarify how the proposed typical varies from the existing typical? Does the proposed typical comply with the VT State Standards for travel lane and shoulder widths?

   The proposed typical was reviewed by the VTrans District 5 Office (see below) and found to be acceptable.

10. Page 7, Utility Impacts – Are there any underground utilities in the project area e.g. water, sewer, phone, fiber optics etc.? If so they should be mentioned and any impacts assessed.

Detailed location of underground utilities is beyond the scope of this study. Impacts to existing underground utilities are not anticipated as this project generally consists of the replacement of existing sidewalk and the construction of new sidewalk adjacent to the existing roadway.

11. Page 9, Preliminary Cost Estimate – I would strongly recommend that additional detail be provided in the cost estimate. Given the limited information provided my initial sense is that the estimate appears to be low. Additionally there should be at least a token amount ($5,000-10,000) included under right of way. Although your initial assessment indicates "the sidewalk will be built entirely within the State highway right of way" it seldom occurs this way.

    The purpose of this study was to evaluate the feasibility of constructing the proposed sidewalk and to provide a conceptual plan of the improvements and a budgetary cost estimate. As requested, the study has been revised to present a breakdown of the conceptual cost estimate in Appendix F. In addition, $15,000 has been included for right-of-way evaluations.

12. Page 11, J. Project Time Line – given that construction funding has not yet been secured to fund the construction of the project the timeline provided is completely unrealistic. It would be preferable to provide a time line that identifies the length of time (in months) at each project stage without tying it to a specific date and month. We also recommend that you use securing funding as the starting point in the timeline.

    The report has been revised to present a project time line identifying the estimated length of time for further project phases, commencing at the point at which funding has been secured.

13. Appendix A, Sheet #3 - At the gas station what is the distance from the outside edge of the sidewalk to the white line (fog line)? It would appear as if the sidewalk will reduce the shoulder width significantly in this area. Does the width as proposed meet the VT State Design Standards? If not you may need a design exception to construct the sidewalk as proposed.

    The distance from the white line to the edge of the sidewalk adjacent to the fuel pumps is 4'. This maintains the proposed section with the 11' paved travel lane and 4' paved shoulder.

Thanks again for providing me an opportunity to comment on the project. Feel free to contact me if you have any questions or need clarification of my comments.

Martha Price – VTrans District 5 Office Comments –

1) 11 foot lane and 4 foot shoulder is acceptable only if there is no curbing in place due to plow considerations. It appears the plans shown in the Dec 2006 draft report all have a grass shoulder or onstreet parking to buffer the sidewalk, so it appears the plans are acceptable.

    No comment necessary.

2) The Gas service station pumps should be moved from ROW. The configuration shown in the Dec 2006 draft report would not allow enough width for plowing without going over the centerline of the road.

    The currently proposed plan provides for an 11' paved travel lane and 4' paved shoulder in the vicinity of the fuel pumps. The owners of the service station have indicated that the location of the existing fuel pumps have been reviewed by VTrans in the past.

VERMONT

To: David Roberts, Chittenden County Metropolitan

From: Tim French, Utilities and Permits Unit Project Supervisor

Date: April 11, 2007

Subject: Underhill Route 15 Sidewalk Feasibility Study

I wanted to thank you for the opportunity to comment on the Underhill ~ Rte. 15 Draft Sidewalk Feasibility Study. I would like to concur with the comments that Amy Bell has already provided to you. I would like to add the following comments.

Existing Utilities:

- All existing utilities that will need to be relocated will need a separate Section 1111 permit before work is preformed in the State's Right-of-Way.
  This work will need to be detailed during the preliminary and final design stages of this project, which will be submitted to VTrans for review and approval at that time.
- I would also recommend that you contact dig safe to determine if there is any buried utilities such as Vermont Gas, Sewer, Water, Fiber Optic and Telephone.
  The purpose of this study was to evaluate the feasibility of constructing the proposed sidewalk and to provide a conceptual plan of the improvements and a budgetary cost estimate. Existing available plan information was utilized for this study; no field survey work was performed. Development of detailed plans depicting the locations of existing underground utilities is beyond the scope of this study.
- If this is going to be a town project then the town will need to contact and set up relocation or adjustments to the existing utility facilities.
  This work will need to be detailed during the preliminary and final design stages of this project, which will be submitted to VTrans for review and approval at that time.
- There are several proposed changes to existing and new catch basins, these changes will have to be approved by District 5 and be built to State Standards.
  This work will need to be detailed during the preliminary and final design stages of this project, which will be submitted to VTrans for review and approval at that time.

Right-of-Way

- The edge of the proposed sidewalk is located along the Right-of-Way boundary. The project will require temporary rights to install the sidewalk. The purchase of the Right-of-Way may be expensive and may delay the project for a period of time.

For a significant portion of the project, the proposed sidewalk will replace an existing sidewalk that is in poor condition. In these areas, the back edge of the sidewalk will be constructed 12" inside the existing right-of-way. Temporary easements are anticipated to be needed for the sidewalk construction. This matter was reviewed at the Public Concerns meeting and it was noted that just one property owner unwilling to grant a temporary easement could delay the project. This potential occurrence will need to be addressed during the final design stages, once the extent of any temporary easements can be identified.

Access

- This is the perfect opportunity to do access management along Route 15 in the project area. Existing Residential and Commercial accesses should be built to State Standard B-71. We can review each access if you would like at a later date.

  This work is beyond the scope of this study.

- The portion of new sidewalk in front of the gas station needs more review. I am in agreement with Amy regarding the location of the sidewalk in front of the gas station being to close to the travel portion of Route15. Our biggest concern is the safety of the pedestrians along the sidewalk.

  Throughout this study, this area has proved to be a significant area of focus, as pedestrian safety is of utmost importance. Several different configurations were considered, including the construction of a raised island adjacent to the fuel pumps. However, there is insufficient space available to construct a raised island and maintain service to both sides of the fuel pumps and maintain the 4' paved shoulder. The current proposal represents the compromise to balance the needs and safety of the community, operation of the service station, and VTrans requirements along this section of roadway.

I would like to thank you again for the opportunity to comment on this project. I will be available to discuss any of the comments above at 1-802-828-2487.