# Town of Charlotte
# Ferry Road Sidewalks

## FINAL
## Conceptual Alternatives and Costs

**Prepared for the**

**The Chittenden County Metropolitan Planning Organization**
**South Burlington, VT 05403**

Prepared by:

DuBois & King Inc.

**February 23, 2007**

**TOWN OF CHARLOTTE**
**FERRY ROAD SIDEWALKS**

# CONCEPTUAL ALTERNATIVES AND COSTS

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## I. INTRODUCTION

The Town of Charlotte would like to determine the feasibility and approximate costs of installing sidewalks along Ferry Road in the heart of the Village. The sidewalks would increase pedestrian mobility and safety, and encourage more people to walk rather than drive. To that end, the Town has requested assistance from the CCMPO in developing a brief study for implementation of these sidewalks to determine the feasibility and approximate costs of installing the sidewalks, and options for funding the design and construction. The CCMPO, under a technical services contract, has retained DuBois & King, Inc. to develop the study on their behalf for the benefit of the Town of Charlotte.

DuBois & King's work on this study has consisted of conducting a site visit to review existing conditions and photograph the area, investigating several options for sidewalk types and alignments, conducting a public meeting to discuss options, preparing construction cost estimates for the options, and preparing a brief report to summarize our findings. The project area for this study encompasses this segment of Ferry Road from VT Route 7 to the intersection with Greenbush Road.

## II. BACKGROUND

For several years, the Town of Charlotte has desired to install sidewalks in and around the Village to improve the mobility and safety of residents. A group of consultants including T.J. Boyle and Associates developed a study and conceptual plans in 2001; however, further design plans were not developed and the sidewalks were not constructed at that time. The Town now desires to move the sidewalk project in some form forward by having up-to-date cost information, options for the extent and type of sidewalks, and options for funding.

A field review and office meeting was held on November 16, 2006 with Town, CCMPO, and DuBois & King representatives, and several local property owners to discuss options for the sidewalks. Topics discussed included possible segments for construction, options for which side of the road, material for construction, curbed or grassed cross-sections, and impacts to fences, parking and property. Right-of-way widths, utility impacts, and possible roadway centerline shifts were also discussed. As a result of those discussions, a number of possible sidewalk segments and options for construction were identified for more detailed consideration. The following information documents the investigations and conclusions that were developed.

## III. EXISTING CONDITIONS

Ferry Road is the main roadway access into the Village from VT Route 7. Approximately 1,550 feet west of the intersection with VT Route 7 is the Ferry Road intersection with Greenbush Road. Throughout this segment, the Ferry Road pavement varies in width from approximately 22 feet to 40 feet. According to Town Officials, the existing right-of-way of Ferry Road is 4-rods, or 66 feet in width. Currently the only sidewalk along Ferry Road is located in front of the post office. The portion of roadway in front of the post office has been widened to allow parallel parking, and the edge of the road is curbed. The only other segment of curb is in front of the residence on the north side of the road, adjacent to the general store. At this location, the property owner has placed bumper curbs along the edge of the road to define the front yard line and keep traffic and stormwater off of their property. Throughout this segment, the roadway generally has no shoulders outside of the travel lanes. Near the intersection of Greenbush Road, the pavement is wide enough that cars can parallel park on either side of the road. Parking is utilized by patrons of the general store, and by several residents.

Existing Sidewalk in front of Post Office

This segment of Ferry Road is fronted by properties with a variety of uses, including the library, town offices, a daycare center, the emergency services building, the post office, an elder housing facility, the general store, and several residences. Generally, overhead utilities are located along the south side of the road; however, several utility poles are located on the north side a few hundred feet east of the general store. There is a gravity sanitary sewer and a sanitary sewer force main running along the southern edge of Ferry Road from the intersection of Greenbush Road to a pump station in the front lawn of the town offices. There are also several stormwater catch basins on both sides of the road, and a parallel piping system exists in close proximity to the sanitary sewer on the south side of the road. Much of Ferry Road has a relatively

General Store and existing on-street parking

flat grade; however, as the road approaches its intersection with Greenbush Road, it rises steeply up to a grade of approximately 8%.

## IV. SEGMENT DESCRIPTIONS

For the purpose of this study, the project area has been broken into segments that have logical terminii and could be implemented as separate projects. The segments are as follows:

**Segment A** – South side of Ferry Road from the library access driveway to opposite the Senior Center driveway.
**Segment B –** South side of Ferry Road from where Segment A terminates to the general store.
**Segment C –** North side of Ferry Road from the west side of the senior center driveway to the general store.
**Segment D** – South side of Ferry Road from the east end of Segment A to connect to the town offices.
**Segment E –** South side of Ferry Road from the library access driveway to VT Route 7. It should be noted that Segment E was discussed and dismissed from further consideration during the meeting on November 16, 2006 due to relatively low pedestrian traffic and high cost.

## V. TYPICAL SECTIONS

For the safety of pedestrians and the traveling pubic, a horizontal and/or vertical separation is typically provided between sidewalks and adjacent roadways. The minimum horizontal separation required by VTrans without vertical separation (curb) is 5 feet from the edge of pavement to the edge of sidewalk. This 5-foot strip is often planted with grass and is sometimes planted with landscaping elements, and provides a place for utility poles or streetlights. An offset of more than 5 feet is desirable, but right-of-way limitations often restrict the ability to provide more than 5 feet of width. Although Ferry Road is not a State highway, the Town should maintain at least a 5-foot offset between the edge of road and the sidewalk in order to be in compliance with State practice. Many municipalities grade the 5-foot stripe as a roadside swale to collect storm water runoff from the road before it runs over the sidewalk.

Curbing can be used as a vertical separator, which allows the sidewalk to be constructed immediately adjacent to the edge of roadway; however some horizontal separation is desirable to provide additional safety whenever possible. On Ferry Road, the existing travel lanes are quite narrow, and some additional pavement widening would be recommended if a curb section were proposed. VTrans typically provides at least 15-feet from the centerline of a road to the curb line. Lesser widths tend to calm traffic, but can be difficult to snow plow. With the existing Ferry Road lanes approximately 11-feet wide, some roadway widening would be needed if a curb section were chosen.

An option discussed at the meeting of November 16, 2006 was to shift the centerline of Ferry Road slightly to the south in the area of the general store to provide enough width on the north side to have the travel lane, a sidewalk and parallel parking. Depending on the exact roadway width today, and the proximity of the buildings, curb lines, and fences, and the requirements of the Town for lanes widths and parking, this option may be worth pursuing. Only once a thorough topographic survey is completed and base plan developed, could a more detailed assessment be conducted to determine if a roadway centerline shift makes sense at this location.

For the purpose of this study, we have developed a typical section utilizing a 5-foot wide grass panel separating the sidewalk from the edge of road, and a typical section with the sidewalk located behind granite curbing immediately adjacent to the roadway. Typical sections of the two sidewalk sections are included in Appendix A. With a 4-rod right-of-way width, the Town could construct either option and keep all improvements within the existing right-of-way. Wider offsets between the road and sidewalk could be provided if desired by the Town or property owners, and the impacts for slopes, etc were not too intrusive on adjacent properties.

## VI. COSTS

The following are probable construction costs associated with the construction of the individual sidewalk segments. These costs have been estimated for a 5-foot wide sidewalk with a 5-foot grass buffer to the edge of roadway, and are based on unit prices for VTrans construction projects. Costs assume the sidewalk is constructed to a thickness of 5 inches with Portland cement concrete. This is typical construction for most VTrans projects, and it would match the post office sidewalk. A cost savings could be realized by constructing bituminous concrete sidewalks instead of Portland cement concrete sidewalks. However, the initial cost difference is not significant and the cement concrete sidewalks will wear much longer. Therefore, cement concrete is recommended over bituminous. The additional cost of constructing a raised granite curb sidewalk typical (along with minor roadway widening) has been provided as an alternative for Segments A, B and C. Segment D is not located adjacent to the roadway, and therefore granite curb would not be needed. A gravel path surface option has also been included for comparison.

**Ferry Road Sidewalk Project – Probable Construction Costs**

| Segment | Probable Cost if Constructed Separately PCC | Gravel Path Option | Bituminous Concrete (Savings) | Additional Cost For Granite Curb |
|---|---|---|---|---|
| Segment A | **$65,000** | **$54,000** | **$58,500** | $12,500 |
| Segment B | **$45,000** | **$39,000** | **$41,500** | $13,500 |
| Segment C | **$60,000** | **$51,000** | **$54,500** | $19,000 |
| Segment D | **$25,000** | **$22,500** | **$22,500** | - |
| | | | | |
| Total | **$195,000** | **$166,500** | **$177,000** | $45,000 |

If Segments A, B, C and D are constructed together under one construction project, the Town could realize a saving of approximately 10%. This saving would be realized through items such as traffic control, flaggers, testing equipment as well as providing, monitoring and maintaining the erosion prevention and sediment control plan. The probable cost of construction for all segments under one contract is **$175,000** assuming a 5-foot wide Portland cement concrete sidewalk with a 5-foot wide grass panel**.** The estimated construction cost could range from $160,000 to $215,000 depending on what the Town chooses for pavement type and if curbing is utilized (see table above). A tabulation of construction costs for each alignment is included in Appendix B.

The cost of design for a project such as this is typically about 15-20% of the construction cost. In this case, that would equate to $25,000 to $50,000 if done as a single project. If the project were separated into several segments, the cost would increase depending on how many separate projects were developed.

## VII. PROGRAMMING OPTIONS

In Vermont, there are several funding sources available for a Town to construct sidewalks. One is to fund the project with 100% local, or Town, funds. This funding is normally used for relatively low cost projects on local roads. The municipality can build a sidewalk as they see fit, and are not encumbered by the sometimes onerous State or Federal requirements and regulations. Under this scenario, the Town would contract directly with a consulting engineer to perform a field survey, develop final design drawings and specifications, and secure any permits. The Town would then advertise the project for construction bids, select a construction contractor, and then have the project built. With 100% local funding, the design and construction phases of sidewalks for Ferry Road would each take several months to complete, but the sidewalks could probably be constructed within a year once the Town decided to move the project forward.

A second common way that sidewalks are funded in Vermont is with a Transportation Enhancement (TE) Grant from the Federal government. These funds are administered through VTrans, even for projects on local roads. Grant applications are accepted once a year, in August, and applicant projects are selected for funding based on demonstrated need and availability of funds. There is no guarantee that an application will be approved, or approved for the full amount, once it is submitted. Approved grants are expected to cover 80% of the anticipated project costs, with the municipality being obligated to fund the remaining 20%. This funding mechanism is often used for more costly projects where municipalities cannot afford to pay 100% of the costs. Unfortunately, these projects typically take several years to develop, and the State and Federal requirements for TE projects must be followed. With the available grant money being sought more competitively each year, it is getting more difficult for municipalities to successfully attain these grants without a clear plan of what the project will involve, and how to develop the project. For the Ferry Road project, the Town would probably need to develop a detailed engineering study before applying for construction funds. The engineering study could be funded using an initial TE Grant or 100% local funds if the Town could afford a study and preferred not to wait for the TE funding. A detailed engineering study suitable for applying for a TE Grant for construction typically includes field survey, development of Conceptual Plans, conducting public meetings, investigating cultural and natural resources, investigating utility and

right-of-way limitations, identification of permitting issues, and developing estimated costs. A study for Ferry Road would cost approximately $20,000-$25,000. Once the study was completed, the information could be used to complete a grant application for both the final design and construction. The Federal portion of TE Grant is limited to $300,000 per grant per year currently by VTrans. For Ferry Road, a single grant would be more than adequate to cover the 80% Federal contribution for the entire project.

Another way to fund sidewalk projects is through the CCMPO Sidewalk Program, which is a competitive grant program for CCMPO municipalities with about $250,000 in funds available annually. The next round of applications for the program should be announced in late April 2007, with applications due to the MPO in May, and notification on whether or not you receive funding in late June. Because funding is limited to $250,000 per year for the entire County, this would not likely supply enough money for the entire project, but it could fund a portion of the work. David Roberts of the CCMPO could provide you with additional details.

Another option, which is potentially quite time consuming, is to pursue funding through the MPO Transportation Improvement Program (TIP) as a separate project. This would require completing a more detailed scoping study for the sidewalk project and then working with the MPO and VTrans to include project funding in the TIP. These tasks could take quite some time to complete. Because of the lengthy process and uncertainty of the outcome, the Town should pursue the MPO Sidewalk program and/or the VTrans TE program before trying to advance a new TIP project.

## VIII. RECOMMENDATIONS

If the Town decides to move forward with this sidewalk project, the basic goal of increasing mobility and safety of pedestrians along Ferry Road should be attained as a minimum. This could be minimally accomplished by constructing Segments A & C. Completing Segments A & C would provide a continuous path from the library to the general store that could be accessed with relative ease by anyone within the project area. Ideally, Segments B & D would also be constructed to provide a direct walkway to the Town office, and provide a sidewalk along the residential properties on the south side of Ferry Road between the post office and Greenbush Road.

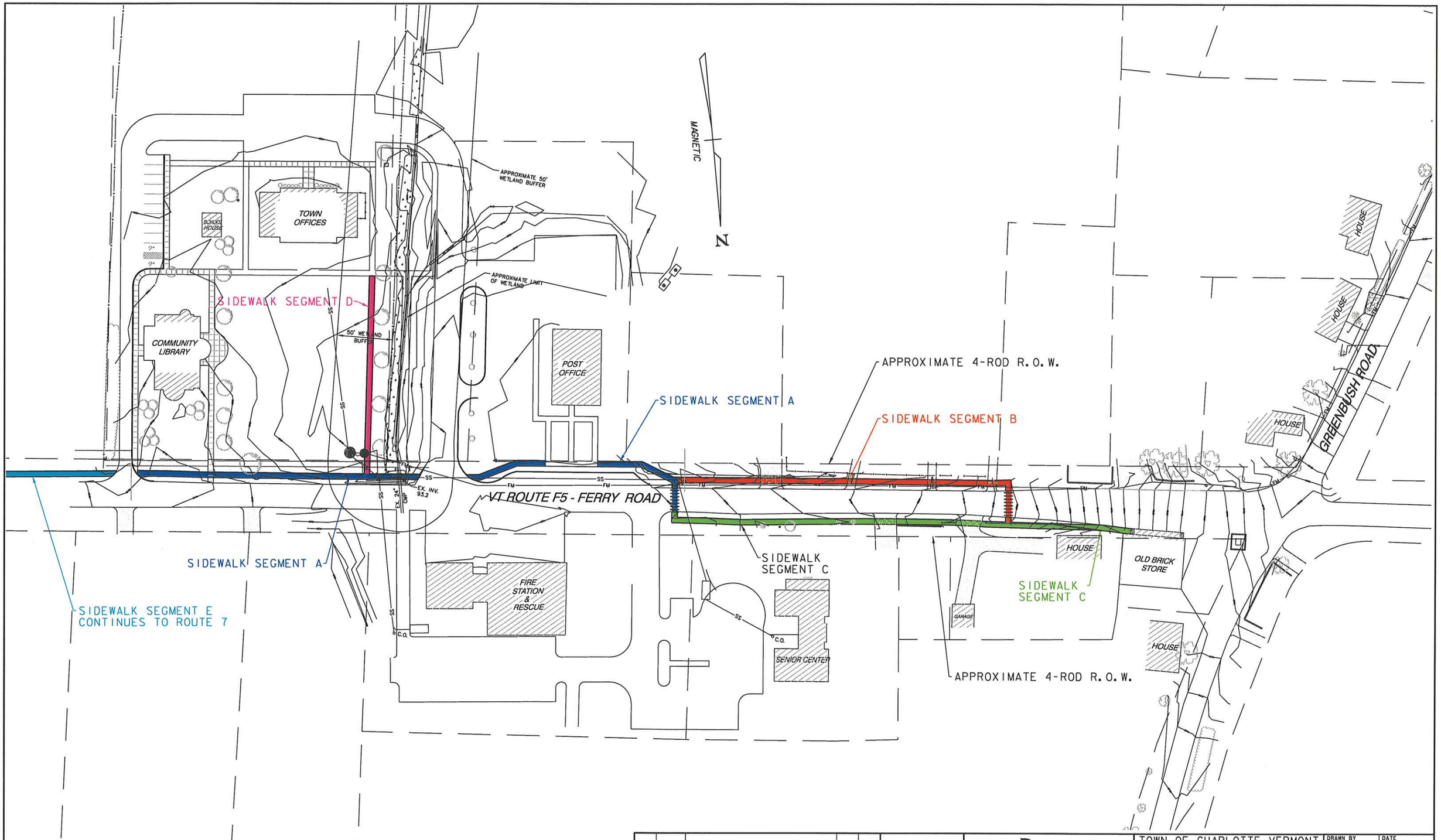
If the Town has the financial means and desires to move the project forward quickly, we recommend that the Town retain a design consultant to prepare design plans and specifications for Segments A & C of the project as a 100% local project. This will give the Town the most flexibility with design, the Town can control the schedule, and the project can be developed relatively quickly. If the Town were to go 100% local, the project could be constructed in 2008.

If the Town cannot afford the project on its own, and can wait for several years before the sidewalks are installed, then we recommend that one or more TE Grant Applications be submitted to fund the project. A thorough engineering study could be developed with either local or TE funds, and then final design and construction could be developed with another TE Grant following the completion of the initial study. This approach will save the Town money, but will add considerable time to implementation of the project. A realistic time line would be to

apply for a grant for the initial study in August, 2007; complete the study to solicit design and construction funds in August, 2008; complete design by the fall of 2009 and construct in 2010. This time line could be shortened by a year if the Town developed the study immediately with 100% local funds and completed the study in time for the August, 2007 grant applications.

# APPENDIX A

# TYPICAL SECTIONS




DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83

SCALE 1" = 40'-0
40 0 40

PLOTTED 01/03/2007

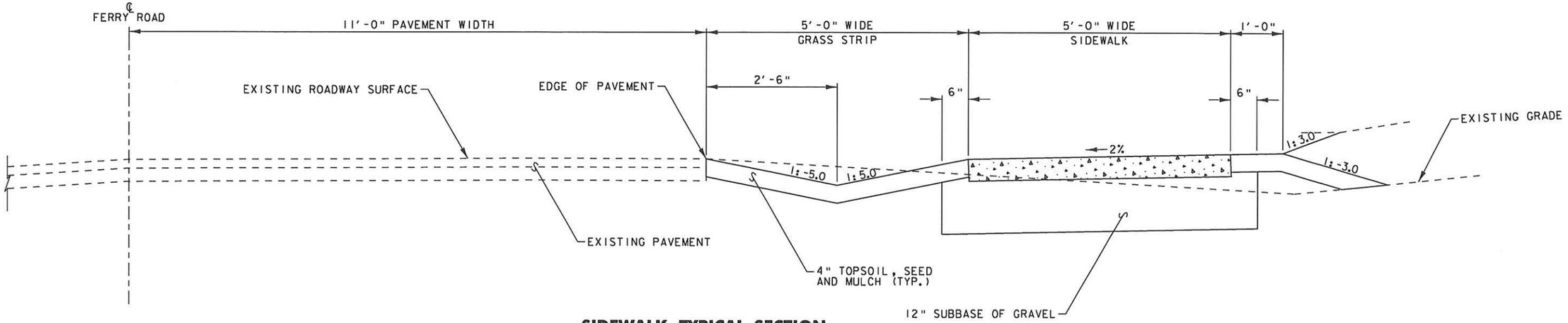
| NO. | DATE | REVISIONS | BY | CK'D |
|---|---|---|---|---|

DuBois & King inc.
engineering planning management development

TOWN OF CHARLOTTE, VERMONT
FERRY ROAD SIDEWALK STUDY
SIDEWALK PLAN SHEET

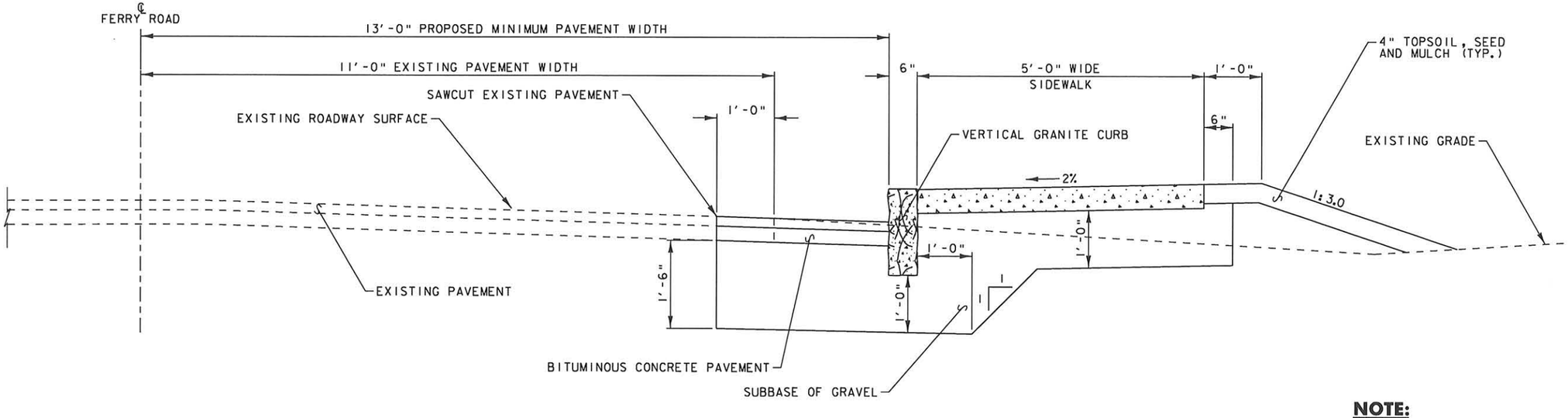
| DRAWN BY | DATE |
|---|---|
| RHB | DEC. 2006 |
| CHECKED BY | PROJ. NO. |
| CDL | 619533P3 |
| PROJ. ENG. | DRAW. NO. |
| CDL | --- |

SHEET 1 OF 2




## SIDEWALK TYPICAL SECTION WITH 5'-0" GRASS STRIP

SCALE 1" = 1'-0




## SIDEWALK TYPICAL SECTION WITH CURBING

SCALE 1" = 1'-0

**NOTE:**

TYPICALS SHOWN ARE APPLICABLE TO EITHER SIDE OF THE ROAD.

PLOTTED 01/03/2007

| NO. | DATE | REVISIONS | BY | CK'D |
|---|---|---|---|---|

DuBois & King inc.
engineering planning management development

TOWN OF CHARLOTTE, VERMONT
FERRY ROAD SIDEWALK STUDY

TYPICAL SECTION SHEET

| DRAWN BY | DATE |
|---|---|
| RHB | DEC. 2006 |
| CHECKED BY | PROJ. NO. |
| CDL | 619533P3 |
| PROJ. ENG. | DRAW. NO. |
| CDL | --- |

SHEET 2 OF 2

# APPENDIX B

# COST ESTIMATES

DuBois & King inc.

PROJECT NO: 619533
CLIENT: CCMPO

PROJECT NAME: 619533 - Charlotte Sidewalk Study
SHEET NO: OF
CALCULATED BY: CDL DATE: 20-Dec-06
CHECKED BY: EPD DATE: 03-Jan-07
REVIEWED BY: DATE:

# 619533 - CHARLOTTE SIDEWALK STUDY

## QUANTITY CALCULATIONS

DuBois & King inc.

☐ Randolph, VT 05060 (802) 728-3376
☐ Nashua, NH 03063 (603) 883-0463
☐ Rutland, VT 05495 (802) 773-7016
☐ Williston, VT 05495 (802) 878-7661

Engineering • Planning • Development • Management

JOB 619533 - Charlotte Sidewalk Study

SHEET NO. 1 OF 1

CALCULATED BY: RHB DATE: 13-Dec-06

CHECKED BY: CDL DATE: 13-Dec-06

SCALE:

## CONSTRUCTION COST ESTIMATE - FERRY ROAD SIDEWALK SEGMENT B

| ITEM NO. | DESCRIPTION | UNIT | QUANT. | UNIT PRICE | AMOUNT |
|---|---|---|---|---|---|
| | | | | | |
| | **SEGMENT B** | | | | |
| 203.15 | COMMON EXCAVATION | CY | 88 | $15.30 | $1,343.00 |
| 301.26 | SUBBASE OF CRUSHED GRAVEL (FINE GRADED) | CY | 67 | $36.55 | $2,436.67 |
| 618.10 | PORTLAND CEMENT CONCRETE SIDEWALK, 5" | SY | 167 | $42.00 | $7,000.00 |
| 618.30 | DETECTABLE WARNING SURFACE (TRUNCATED DOMES) | SF | 20 | $40.00 | $800.00 |
| 630.15 | FLAGGERS | HR | 175 | $20.00 | $3,500.00 |
| 631.16 | TESTING EQUIPMENT - CONCRETE | LS | 1 | $500.00 | $500.00 |
| 641.10 | TRAFFIC CONTROL | LS | 1 | $2,000.00 | $2,000.00 |
| 646.500 | DURABLE CROSSWALK MARKING | LF | 25 | $15.39 | $384.75 |
| 649.51 | GEOTEXTILE FOR SILT FENCE | SY | 30 | $8.00 | $240.00 |
| 651.15 | SEED | LB | 6 | $14.95 | $86.49 |
| 651.18 | FERTILIZER | LB | 48 | $2.91 | $140.29 |
| 651.20 | AGRICULTURAL LIMESTONE | T | 0.19 | $480.00 | $92.56 |
| 651.25 | HAY MULCH | T | 0.19 | $570.00 | $109.92 |
| 651.35 | TOPSOIL | CY | 37 | $38.58 | $1,414.60 |
| 652.10 | EROSION PREVENTION & SEDIMENT CONTROL PLAN | LS | 1 | $1,500.00 | $1,500.00 |
| 652.20 | MONITORING EROSION PREVENTION & SEDIMENT CONTROL PLAN | HR | 20 | $75.00 | $1,500.00 |
| 652.30 | MAINTENANCE OF EROSION PREVENTION & SEDIMENT CONTROL PLAN (N.A.B.I.) | LU | 1 | $1,000.00 | $1,000.00 |
| | ALLOWANCE FOR DRAINAGE | | | | $10,000.00 |
| | **Subtotal** | | | | **$34,048.27** |
| 635.11 | MOBILIZATION/DEMOBILIZATION (10%) | | | | **$3,404.83** |
| | Add 20.00% Contingency | | | | **$6,809.65** |
| | **Conceptual Estimate TOTAL** | | | | **$44,262.75** |

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- Williston, VT 05495 (802) 878-7661

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JOB 619533 - Charlotte Sidewalk Study

SHEET NO. 1 OF 1

CALCULATED BY: RHB DATE: 13-Dec-06

CHECKED BY: CDL DATE: 13-Dec-06

SCALE:

# CONSTRUCTION COST ESTIMATE - FERRY ROAD SIDEWALK SEGMENT A

| ITEM NO. | DESCRIPTION | UNIT | QUANT. | UNIT PRICE | AMOUNT |
|---|---|---|---|---|---|
| | | | | | |
| | **SEGMENT A** | | | | |
| 203.15 | COMMON EXCAVATION | CY | 149 | $15.30 | $2,283.10 |
| 301.26 | SUBBASE OF CRUSHED GRAVEL (FINE GRADED) | CY | 113 | $36.55 | $4,142.33 |
| 618.10 | PORTLAND CEMENT CONCRETE SIDEWALK, 5" | SY | 283 | $42.00 | $11,900.00 |
| 618.30 | DETECTABLE WARNING SURFACE (TRUNCATED DOMES) | SF | 30 | $40.00 | $1,200.00 |
| 630.15 | FLAGGERS | HR | 220 | $20.00 | $4,400.00 |
| 631.16 | TESTING EQUIPMENT - CONCRETE | LS | 1 | $500.00 | $500.00 |
| 641.10 | TRAFFIC CONTROL | LS | 1 | $2,000.00 | $2,000.00 |
| 646.500 | DURABLE CROSSWALK MARKING | LF | 60 | $15.39 | $923.40 |
| 649.51 | GEOTEXTILE FOR SILT FENCE | SY | 50 | $8.00 | $400.00 |
| 651.15 | SEED | LB | 10 | $14.95 | $147.03 |
| 651.18 | FERTILIZER | LB | 82 | $2.91 | $238.49 |
| 651.20 | AGRICULTURAL LIMESTONE | T | 0.33 | $480.00 | $157.36 |
| 651.25 | HAY MULCH | T | 0.33 | $570.00 | $186.86 |
| 651.35 | TOPSOIL | CY | 62 | $38.58 | $2,404.82 |
| 652.10 | EROSION PREVENTION & SEDIMENT CONTROL PLAN | LS | 1 | $1,500.00 | $1,500.00 |
| 652.20 | MONITORING EROSION PREVENTION & SEDIMENT CONTROL PLAN | HR | 20 | $75.00 | $1,500.00 |
| 652.30 | MAINTENANCE OF EROSION PREVENTION & SEDIMENT CONTROL PLAN (N.A.B.I.) | LU | 1 | $1,000.00 | $1,000.00 |
| | ALLOWANCE FOR DRAINAGE | | | | $12,000.00 |
| | **Subtotal** | | | | **$46,883.39** |
| 635.11 | MOBILIZATION/DEMOBILIZATION (10%) | | | | **$4,688.34** |
| | Add 20.00% Contingency | | | | **$9,376.68** |
| | **Conceptual Estimate TOTAL** | | | | **$60,948.41** |

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JOB 619533 - Charlotte Sidewalk Study

SHEET NO. 1 OF 1

CALCULATED BY: RHB DATE: 13-Dec-06

CHECKED BY: CDL DATE: 13-Dec-06

SCALE:

# CONSTRUCTION COST ESTIMATE - FERRY ROAD SIDEWALK SEGMENT C

| ITEM NO. | DESCRIPTION | UNIT | QUANT. | UNIT PRICE | AMOUNT |
|---|---|---|---|---|---|
| | | | | | |
| | **SEGMENT C** | | | | |
| 203.15 | COMMON EXCAVATION | CY | 126 | $15.30 | $1,924.97 |
| 301.26 | SUBBASE OF CRUSHED GRAVEL (FINE GRADED) | CY | 96 | $36.55 | $3,492.56 |
| 618.10 | PORTLAND CEMENT CONCRETE SIDEWALK, 5" | SY | 239 | $42.00 | $10,033.33 |
| 618.30 | DETECTABLE WARNING SURFACE (TRUNCATED DOMES) | SF | 20 | $40.00 | $800.00 |
| 630.15 | FLAGGERS | HR | 200 | $20.00 | $4,000.00 |
| 631.16 | TESTING EQUIPMENT - CONCRETE | LS | 1 | $500.00 | $500.00 |
| 641.10 | TRAFFIC CONTROL | LS | 1 | $2,000.00 | $2,000.00 |
| 646.500 | DURABLE CROSSWALK MARKING | LF | 25 | $15.39 | $384.75 |
| 649.51 | GEOTEXTILE FOR SILT FENCE | SY | 40 | $8.00 | $320.00 |
| 651.15 | SEED | LB | 8 | $14.95 | $123.97 |
| 651.18 | FERTILIZER | LB | 69 | $2.91 | $201.08 |
| 651.20 | AGRICULTURAL LIMESTONE | T | 0.28 | $480.00 | $132.67 |
| 651.25 | HAY MULCH | T | 0.28 | $570.00 | $157.55 |
| 651.35 | TOPSOIL | CY | 53 | $38.58 | $2,027.59 |
| 652.10 | EROSION PREVENTION & SEDIMENT CONTROL PLAN | LS | 1 | $1,500.00 | $1,500.00 |
| 652.20 | MONITORING EROSION PREVENTION & SEDIMENT CONTROL PLAN | HR | 20 | $75.00 | $1,500.00 |
| 652.30 | MAINTENANCE OF EROSION PREVENTION & SEDIMENT CONTROL PLAN (N.A.B.I.) | LU | 1 | $1,000.00 | $1,000.00 |
| | | | | | |
| | | | | | |
| | ALLOWANCE FOR DRAINAGE | | | | $15,000.00 |
| | **Subtotal** | | | | **$45,098.47** |
| 635.11 | MOBILIZATION/DEMOBILIZATION (10%) | | | | **$4,509.85** |
| | Add 20.00% Contingency | | | | **$9,019.69** |
| | **Conceptual Estimate TOTAL** | | | | **$58,628.01** |

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SHEET NO. 1 OF 1

CALCULATED BY: RHB DATE: 13-Dec-06

CHECKED BY: CDL DATE: 13-Dec-06

SCALE:

# CONSTRUCTION COST ESTIMATE - FERRY ROAD SIDEWALK SEGMENT D

| ITEM NO. | DESCRIPTION | UNIT | QUANT. | UNIT PRICE | AMOUNT |
|---|---|---|---|---|---|
| | | | | | |
| | **SEGMENT D** | | | | |
| 203.15 | COMMON EXCAVATION | CY | 54 | $15.30 | $828.18 |
| 301.26 | SUBBASE OF CRUSHED GRAVEL (FINE GRADED) | CY | 41 | $36.55 | $1,502.61 |
| 604.42 | CHANGING ELEVATION OF SEWER MANHOLES | EA | 2.0 | $720.00 | $1,440.00 |
| 618.10 | PORTLAND CEMENT CONCRETE SIDEWALK, 5" | SY | 103 | $42.00 | $4,316.67 |
| 630.15 | FLAGGERS | HR | 80 | $20.00 | $1,600.00 |
| 631.16 | TESTING EQUIPMENT - CONCRETE | LS | 1 | $500.00 | $500.00 |
| 641.10 | TRAFFIC CONTROL | LS | 1 | $1,000.00 | $1,000.00 |
| 649.51 | GEOTEXTILE FOR SILT FENCE | SY | 65 | $8.00 | $520.00 |
| 651.15 | SEED | LB | 4 | $14.95 | $53.33 |
| 651.18 | FERTILIZER | LB | 30 | $2.91 | $86.51 |
| 651.20 | AGRICULTURAL LIMESTONE | T | 0.12 | $480.00 | $57.08 |
| 651.25 | HAY MULCH | T | 0.12 | $570.00 | $67.78 |
| 651.35 | TOPSOIL | CY | 23 | $38.58 | $872.34 |
| 652.10 | EROSION PREVENTION & SEDIMENT CONTROL PLAN | LS | 1 | $1,500.00 | $1,500.00 |
| 652.20 | MONITORING EROSION PREVENTION & SEDIMENT CONTROL PLAN | HR | 10 | $75.00 | $750.00 |
| 652.30 | MAINTENANCE OF EROSION PREVENTION & SEDIMENT CONTROL PLAN (N.A.B.I.) | LU | 1 | $750.00 | $750.00 |
| | | | | | |
| | | | | | |
| | ALLOWANCE FOR DRAINAGE | | | | $3,000.00 |
| | **Subtotal** | | | | **$18,844.51** |
| 635.11 | MOBILIZATION/DEMOBILIZATION (10%) | | | | **$1,884.45** |
| | Add 20.00% Contingency | | | | **$3,768.90** |
| | **Conceptual Estimate TOTAL** | | | | **$24,497.86** |