



## APPENDIX

# APPENDIX F

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## Cost Estimates

| In Most Convenient Units                              |                                                              |                                                                                                                                           |                                             |                                             |                                |                             |            |            |         |
|-------------------------------------------------------|--------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|---------------------------------------------|--------------------------------|-----------------------------|------------|------------|---------|
| Feature                                               | Unit                                                         |                                                                                                                                           | North of S Champlain<br>(Complete Street 3) | South of S Champlain<br>(Complete Street 2) | S Champlain (Slow<br>Street 1) | S Champlain<br>Intersection | T (Signal) | Roundabout | Tangent |
| Pavement Area                                         | SF                                                           |                                                                                                                                           | 19,721                                      | 2,785                                       | 13,085                         | 2,272                       | 12,841     | 27,716     | 19,691  |
| Green Space Area                                      | SF                                                           |                                                                                                                                           | 4,484                                       | 1,434                                       | 4,112                          | 0                           | 5,170      | 21,594     | 21,306  |
| Fence Area (assume green)                             | SF                                                           |                                                                                                                                           | 2,547                                       | 388                                         | 0                              | 0                           | 520        | 520        | 552     |
| Fence Length                                          | LF                                                           |                                                                                                                                           | 850                                         | 126                                         | 0                              | 0                           | 282        | 282        | 183     |
| Concrete Sidewalk Area                                | SF                                                           |                                                                                                                                           | 0                                           | 708                                         | 3,468                          | 0                           | 2,041      | 7,103      | 2,950   |
| Bituminous Path Area                                  | SF                                                           |                                                                                                                                           | 8,715                                       | 1,286                                       | 0                              | 0                           | 4,561      | 6,380      | 7,719   |
| Centerline Length                                     | LF                                                           |                                                                                                                                           | 818                                         | 115                                         | 338                            | 0                           | 426        | 582        | 808     |
| Yellow CL Striping Length                             | LF                                                           |                                                                                                                                           | 1,635                                       | 230                                         | 676                            | 0                           | 1,852      | 1,475      | 1,616   |
| Shoulder/Pkg White Striping Length                    | LF                                                           |                                                                                                                                           | 1,635                                       | 230                                         | 676                            | 0                           | 1,852      | 1,475      | 1,616   |
| Curb Length                                           | LF                                                           |                                                                                                                                           | 1,635                                       | 230                                         | 676                            | 0                           | 1,852      | 2,008      | 1,616   |
| Mountable Curb Area / Truck Apron                     | SF                                                           |                                                                                                                                           | 2,695                                       | 0                                           | 0                              | 0                           | 0          | 3,342      | 0       |
| Stop Bar Number                                       | EA                                                           |                                                                                                                                           | 2                                           | 1                                           | 1                              | 0                           | 3          | 3          | 1       |
| Detectable Warning Strip Number                       | EA                                                           |                                                                                                                                           | 4                                           | 4                                           | 2                              | 0                           | 4          | 12         | 4       |
| Signal System                                         | EA                                                           |                                                                                                                                           | 1                                           | 0                                           | 0                              | 2                           | 1          | 0          | 1       |
| Green Strip Length (with trees)                       | LF                                                           |                                                                                                                                           | 818                                         | 230                                         | 676                            | 0                           | 1,852      | 1,475      | 1,616   |
| Total Impervious                                      | SF                                                           |                                                                                                                                           | 28,436                                      | 4,779                                       | 16,553                         | 2,272                       | 19,443     | 41,199     | 30,360  |
| Catchbasins under/near (within ~25' of) new alignment | EA                                                           |                                                                                                                                           | 4                                           | 6                                           | 2                              | 0                           | 6          | 10         | 10      |
| In VTrans Item Units                                  |                                                              |                                                                                                                                           |                                             |                                             |                                |                             |            |            |         |
| Feature                                               | Unit                                                         | calculations &<br>assumptions                                                                                                             | North of S Champlain<br>(Complete Street 3) | South of S Champlain<br>(Complete Street 2) | S Champlain (Slow<br>Street 1) | S Champlain<br>Intersection | T at Pine  | Roundabout | Tangent |
| 203.15                                                | COMMON EXCAVATION                                            | (sum of depth of travelway, paths, sidewalks, subbase, and topsoil) divided by 2 since part overground for drainage. + landscape backfill |                                             |                                             |                                |                             |            |            |         |
|                                                       | CY                                                           |                                                                                                                                           | 20,199                                      | 3,265                                       | 12,266                         | 1,799                       | 13,890     | 29,183     | 21,449  |
| 204.20                                                | TRENCH EXCAVATION OF EARTH                                   | 3' wide, 5' deep, x length of pipe                                                                                                        | 909                                         | 128                                         | 376                            | 0                           | 473        | 647        | 898     |
| 204.30                                                | GRANULAR BACKFILL FOR STRUCTURES                             | (1/3) of trench excavation                                                                                                                | 303                                         | 43                                          | 125                            | 0                           | 158        | 216        | 299     |
| 301.26                                                | SUBBASE OF CRUSHED GRAVEL, FINE GRADED                       | 7" under travelway                                                                                                                        | 426                                         | 60                                          | 283                            | 49                          | 277        | 599        | 425     |
| 301.35                                                | SUBBASE OF DENSE GRADED CRUSHED STONE                        | 12" under travelway, path, and sidewalk                                                                                                   | 1,053                                       | 177                                         | 613                            | 84                          | 720        | 1,526      | 1,124   |
| 406.25                                                | BITUMINOUS CONCRETE PAVEMENT                                 | travelway area * 5" deep. 145 lb/ft3                                                                                                      | 596                                         | 84                                          | 395                            | 69                          | 388        | 837        | 595     |
| 601.09                                                | 18" CPEP                                                     | along whole road, both sides                                                                                                              | 1,635                                       | 230                                         | 676                            | 0                           | 852        | 1,164      | 1,616   |
| 604.2                                                 | PRECAST REINFORCED CONCRETE CATCH BASIN WITH CAST IRON GRATE | 2 every 400 ft                                                                                                                            | 4                                           | 1                                           | 2                              | 0                           | 2          | 3          | 4       |
| 616.21                                                | VERTICAL GRANITE CURB                                        | curb length                                                                                                                               | 1,635                                       | 230                                         | 676                            | 0                           | 1,852      | 2,008      | 1,616   |
| 618.10                                                | PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH                    | sidewalk area                                                                                                                             | 0                                           | 79                                          | 385                            | 0                           | 227        | 789        | 328     |
| 618.15                                                | BITUMINOUS CONCRETE SIDEWALK                                 | path area * 4" deep. 145 lb/ft3                                                                                                           | 211                                         | 31                                          | 0                              | 0                           | 110        | 154        | 187     |
| 620.12                                                | CHAIN-LINK FENCE, 6 FEET                                     | fence length                                                                                                                              | 850                                         | 126                                         | 0                              | 0                           | 282        | 282        | 183     |
| 620.21                                                | BRACING ASSEMBLY FOR CHAIN-LINK FENCE, 6 FEET                | assembly every 10 LF of fence                                                                                                             | 85                                          | 13                                          | 0                              | 0                           | 28         | 28         | 18      |
| 646.406                                               | DURABLE 4 INCH WHITE LINE, RECESSED POLYUREA                 | shoulder/parking aisle length                                                                                                             | 1,635                                       | 230                                         | 676                            | 0                           | 1,852      | 1,475      | 1,616   |
| 646.416                                               | DURABLE 4 INCH YELLOW LINE, RECESSED POLYUREA                | centerline length                                                                                                                         | 1,635                                       | 230                                         | 676                            | 0                           | 1,852      | 1,475      | 1,616   |
| 646.486                                               | DURABLE 24 INCH STOP BAR, RECESSED POLYUREA                  | 10' stop bar                                                                                                                              | 20                                          | 10                                          | 10                             | 0                           | 30         | 30         | 10      |
| 649.510                                               | GEOTEXTILE FOR SILT FENCE                                    | along entire length, 6' high                                                                                                              | 545                                         | 77                                          | 225                            | 0                           | 284        | 388        | 539     |
| 651.15                                                | SEED                                                         | for all green space. 80 lb/acre                                                                                                           | 13                                          | 3                                           | 8                              | 0                           | 10         | 41         | 40      |
| 651.25                                                | HAY MULCH                                                    | for green space with trees (not fence zone). 2 tons/acre                                                                                  | 0.21                                        | 0.07                                        | 0.19                           | 0.00                        | 0.24       | 0.99       | 0.98    |
| 651.35                                                | TOPSOIL                                                      | for all green space. 6" deep                                                                                                              | 130                                         | 34                                          | 76                             | 0                           | 105        | 410        | 405     |
| 653.350                                               | VEHICLE TRACKING PAD                                         | 12' wide, 30' long, 1' deep                                                                                                               | 13                                          | 0                                           | 0                              | 0                           | 13         | 13         | 13      |
| 653.410                                               | INLET PROTECTION DEVICE, TYPE II                             | for each catchbasin - new+existing every 40 LF along green strips (not fence zone)                                                        | 8                                           | 7                                           | 4                              | 0                           | 8          | 13         | 14      |
| 656.30                                                | DECIDUOUS TREES                                              |                                                                                                                                           | 20                                          | 6                                           | 17                             | 0                           | 46         | 37         | 40      |
| 656.80                                                | LANDSCAPE BACKFILL, TRUCK MEASUREMENT                        | 3' deep, 6' wide, 12' long for each tree                                                                                                  | 164                                         | 46                                          | 135                            | 0                           | 370        | 295        | 323     |
| 678.15                                                | TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION                  | worst case scenario                                                                                                                       | 0                                           | 0                                           | 0                              | 2                           | 1          | 0          | 1       |
| 678.23                                                | WIRED CONDUIT                                                | includes excavations and backfill                                                                                                         | 818                                         | 115                                         | 338                            | 0                           | 426        | 582        | 808     |
| 678.26                                                | JUNCTION BOX                                                 | 1 every 100 ft                                                                                                                            | 9                                           | 2                                           | 4                              | 0                           | 5          | 6          | 9       |
| 679.55                                                | POWER DROP STANCHION, STREET LIGHTING                        | 1 no matter which alternative                                                                                                             | 1                                           |                                             |                                |                             |            |            |         |
| 900.620                                               | Street Light Assembly                                        | 1 every 100 ft                                                                                                                            | 9                                           | 2                                           | 4                              | 0                           | 5          | 6          | 9       |
| 900.670                                               | Mountable Curb Area / Truck Apron                            | where trucks will drive between REP road and railyard near Maple + mountable curb area                                                    | 299                                         | 0                                           | 0                              | 0                           | 0          | 371        | 0       |
| n/a                                                   | Relocated Utility Poles                                      | assume possible impacts to be impacts                                                                                                     | 3                                           | 0                                           | 2                              | 0                           | 1          | 4          | 2       |
| n/a                                                   | Hazardous Soil Remediation                                   | half of (common excavation+trench excavation)                                                                                             | 10,554                                      | 1,696                                       | 6,321                          | 899                         | 7,182      | 14,915     | 11,173  |
| Stormwater                                            |                                                              |                                                                                                                                           |                                             |                                             |                                |                             |            |            |         |
| n/a                                                   | Off-Site Stormwater Remediation                              | impervious area: pavement, sidewalks, & path                                                                                              | 0.65                                        | 0.11                                        | 0.38                           | 0.05                        | 0.45       | 0.95       | 0.70    |
| n/a                                                   | Connection to Combined Sewer System                          |                                                                                                                                           |                                             |                                             |                                |                             |            |            |         |
| n/a                                                   | Cost of New Stormwater Outfall                               | early concept estimate from Stone Environmental, 4/17/18. same no matter which alt                                                        | 1                                           |                                             |                                |                             |            |            |         |

REP Unit Costs

Unit Costs from here: <http://vtrans.vermont.gov/sites/aot/files/estimating/documents/5YearEnglishAveragedPriceList11.pd>

|                                        |                                                   |                          |               | Segments             |                      |               |                          |                    |                    |                 |  |                       |                    |                 |                   |
|----------------------------------------|---------------------------------------------------|--------------------------|---------------|----------------------|----------------------|---------------|--------------------------|--------------------|--------------------|-----------------|--|-----------------------|--------------------|-----------------|-------------------|
| VTrans Item                            | Description                                       | Unit                     | Unit Cost     | Complete Street 3    | Complete Street 2    | Slow Street 1 | Complete Street          | Complete Street    | Complete Street    | Complete Street |  | Complete Street Total |                    |                 | Slow Street Total |
|                                        |                                                   |                          |               | North of S Champlain | South of S Champlain | S Champlain   | S Champlain Intersection | T (Signal) at Pine | Roundabout at Pine | Tangent to Pine |  | T (Signal) at Pine    | Roundabout at Pine | Tangent to Pine | S Champlain       |
|                                        |                                                   |                          |               |                      |                      |               |                          |                    |                    |                 |  |                       |                    |                 |                   |
| 203.15                                 | COMMON EXCAVATION                                 | CY                       | \$ 9.86       | \$ 199,200           | \$ 32,200            | \$ 121,000    | \$ 17,800                | \$ 137,000         | \$ 287,800         | \$ 211,500      |  | \$ 386,200            | \$ 537,000         | \$ 460,700      | \$ 121,000        |
| 204.20                                 | TRENCH EXCAVATION OF EARTH                        | CY                       | \$ 14.05      | \$ 12,800            | \$ 1,800             | \$ 5,300      | \$ -                     | \$ 6,700           | \$ 9,100           | \$ 12,700       |  | \$ 21,300             | \$ 23,700          | \$ 27,300       | \$ 5,300          |
| 204.30                                 | GRANULAR BACKFILL FOR STRUCTURES                  | CY                       | \$ 40.30      | \$ 12,300            | \$ 1,800             | \$ 5,100      | \$ -                     | \$ 6,400           | \$ 8,700           | \$ 12,100       |  | \$ 20,500             | \$ 22,800          | \$ 26,200       | \$ 5,100          |
| 301.26                                 | SUBBASE OF CRUSHED GRAVEL, FINE GRADED            | CY                       | \$ 40.03      | \$ 17,100            | \$ 2,500             | \$ 11,400     | \$ 2,000                 | \$ 11,200          | \$ 24,000          | \$ 17,100       |  | \$ 32,800             | \$ 45,600          | \$ 38,700       | \$ 11,400         |
| 301.35                                 | SUBBASE OF DENSE GRADED CRUSHED STONE             | CY                       | \$ 32.09      | \$ 33,800            | \$ 5,700             | \$ 19,700     | \$ 2,800                 | \$ 23,200          | \$ 49,000          | \$ 36,100       |  | \$ 65,500             | \$ 91,300          | \$ 78,400       | \$ 19,700         |
| 406.25                                 | BITUMINOUS CONCRETE PAVEMENT                      | TON                      | \$ 127.86     | \$ 76,200            | \$ 10,800            | \$ 50,600     | \$ 8,800                 | \$ 49,600          | \$ 107,100         | \$ 76,100       |  | \$ 145,400            | \$ 202,900         | \$ 171,900      | \$ 50,600         |
| 601.0915                               | 18" CPEP                                          | LF                       | \$ 64.04      | \$ 104,800           | \$ 14,800            | \$ 43,300     | \$ -                     | \$ 54,600          | \$ 74,600          | \$ 103,500      |  | \$ 174,200            | \$ 194,200         | \$ 223,100      | \$ 43,300         |
| 604.20                                 | PRECAST REINFORCED CONCRETE CATCH BASIN WITH CAST | EA                       | \$ 3,387.59   | \$ 13,900            | \$ 2,000             | \$ 5,800      | \$ -                     | \$ 7,300           | \$ 9,900           | \$ 13,700       |  | \$ 23,200             | \$ 25,800          | \$ 29,600       | \$ 5,800          |
| 616.21                                 | VERTICAL GRANITE CURB                             | LF                       | \$ 35.69      | \$ 58,400            | \$ 8,300             | \$ 24,200     | \$ -                     | \$ 66,100          | \$ 71,700          | \$ 57,700       |  | \$ 132,800            | \$ 138,400         | \$ 124,400      | \$ 24,200         |
| 618.10                                 | PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH         | SY                       | \$ 68.33      | \$ -                 | \$ 5,400             | \$ 26,400     | \$ -                     | \$ 15,500          | \$ 54,000          | \$ 22,400       |  | \$ 20,900             | \$ 59,400          | \$ 27,800       | \$ 26,400         |
| 618.15                                 | BITUMINOUS CONCRETE SIDEWALK                      | TON                      | \$ 135.59     | \$ 28,600            | \$ 4,300             | \$ -          | \$ -                     | \$ 15,000          | \$ 21,000          | \$ 25,300       |  | \$ 47,900             | \$ 53,900          | \$ 58,200       | \$ -              |
| 620.12                                 | CHAIN-LINK FENCE, 6 FEET                          | LF                       | \$ 19.24      | \$ 16,400            | \$ 2,500             | \$ -          | \$ -                     | \$ 5,500           | \$ 5,500           | \$ 3,600        |  | \$ 24,400             | \$ 24,400          | \$ 22,500       | \$ -              |
| 620.21                                 | BRACING ASSEMBLY FOR CHAIN-LINK FENCE, 6 FEET     | EACH                     | \$ 158.26     | \$ 13,500            | \$ 2,000             | \$ -          | \$ -                     | \$ 4,500           | \$ 4,500           | \$ 2,900        |  | \$ 20,000             | \$ 20,000          | \$ 18,400       | \$ -              |
| 646.406                                | DURABLE 4 INCH WHITE LINE, RECESSED POLYUREA      | LF                       | \$ 1.37       | \$ 2,300             | \$ 400               | \$ 1,000      | \$ -                     | \$ 2,600           | \$ 2,100           | \$ 2,300        |  | \$ 5,300              | \$ 4,800           | \$ 5,000        | \$ 1,000          |
| 646.416                                | DURABLE 4 INCH YELLOW LINE, RECESSED POLYUREA     | LF                       | \$ 1.24       | \$ 2,100             | \$ 300               | \$ 900        | \$ -                     | \$ 2,300           | \$ 1,900           | \$ 2,100        |  | \$ 4,700              | \$ 4,300           | \$ 4,500        | \$ 900            |
| 646.486                                | DURABLE 24 INCH STOP BAR, RECESSED POLYUREA       | LF                       | \$ 16.95      | \$ 400               | \$ 200               | \$ 200        | \$ -                     | \$ 600             | \$ 600             | \$ 200          |  | \$ 1,200              | \$ 1,200           | \$ 800          | \$ 200            |
| 649.51                                 | GEOTEXTILE FOR SILT FENCE                         | SY                       | \$ 4.13       | \$ 2,300             | \$ 400               | \$ 1,000      | \$ -                     | \$ 1,200           | \$ 1,700           | \$ 2,300        |  | \$ 3,900              | \$ 4,400           | \$ 5,000        | \$ 1,000          |
| 651.15                                 | SEED                                              | LB                       | \$ 7.66       | \$ 100               | \$ 100               | \$ 100        | \$ -                     | \$ 100             | \$ 400             | \$ 400          |  | \$ 300                | \$ 600             | \$ 600          | \$ 100            |
| 651.25                                 | HAY MULCH                                         | TON                      | \$ 597.15     | \$ 200               | \$ 100               | \$ 200        | \$ -                     | \$ 200             | \$ 600             | \$ 600          |  | \$ 500                | \$ 900             | \$ 900          | \$ 200            |
| 651.35                                 | TOPSOIL                                           | CY                       | \$ 30.96      | \$ 4,100             | \$ 1,100             | \$ 2,400      | \$ -                     | \$ 3,300           | \$ 12,700          | \$ 12,600       |  | \$ 8,500              | \$ 17,900          | \$ 17,800       | \$ 2,400          |
| 653.35                                 | VEHICLE TRACKING PAD                              | CY                       | \$50.15       | \$ 700               | \$ -                 | \$ -          | \$ -                     | \$ 700             | \$ 700             | \$ 700          |  | \$ 1,400              | \$ 1,400           | \$ 1,400        | \$ -              |
| 653.41                                 | INLET PROTECTION DEVICE, TYPE II                  | EA                       | \$180.85      | \$ 1,500             | \$ 1,200             | \$ 700        | \$ -                     | \$ 1,500           | \$ 2,400           | \$ 2,600        |  | \$ 4,200              | \$ 5,100           | \$ 5,300        | \$ 700            |
| 656.30                                 | DECIDUOUS TREES                                   | EACH                     | \$ 289.14     | \$ 6,000             | \$ 1,700             | \$ 4,900      | \$ -                     | \$ 13,400          | \$ 10,700          | \$ 11,700       |  | \$ 21,100             | \$ 18,400          | \$ 19,400       | \$ 4,900          |
| 656.80                                 | LANDSCAPE BACKFILL, TRUCK MEASUREMENT             | CY                       | \$ 34.35      | \$ 5,700             | \$ 1,600             | \$ 4,700      | \$ -                     | \$ 12,800          | \$ 10,200          | \$ 11,200       |  | \$ 20,100             | \$ 17,500          | \$ 18,500       | \$ 4,700          |
| 678.15                                 | TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION       | EACH                     | \$ 119,975.35 | \$ -                 | \$ -                 | \$ -          | \$ 240,000               | \$ 120,000         | \$ -               | \$ 120,000      |  | \$ 360,000            | \$ 240,000         | \$ 360,000      | \$ -              |
| 678.23                                 | WIRED CONDUIT                                     | LF                       | \$ 18.04      | \$ 14,800            | \$ 2,100             | \$ 6,100      | \$ -                     | \$ 7,700           | \$ 10,500          | \$ 14,600       |  | \$ 24,600             | \$ 27,400          | \$ 31,500       | \$ 6,100          |
| 678.26                                 | JUNCTION BOX                                      | EACH                     | \$ 740.32     | \$ 6,700             | \$ 1,500             | \$ 3,000      | \$ -                     | \$ 3,800           | \$ 4,500           | \$ 6,700        |  | \$ 12,000             | \$ 12,700          | \$ 14,900       | \$ 3,000          |
| 679.55                                 | POWER DROP STANCHION, STREET LIGHTING             | EACH                     | \$ 3,948.36   | \$ 4,000             | \$ -                 | \$ -          | \$ -                     | \$ -               | \$ -               | \$ -            |  | \$ 4,000              | \$ 4,000           | \$ 4,000        | \$ -              |
| 900.620                                | Street Light Assembly                             | EACH                     | \$ 8,000.00   | \$ 72,000            | \$ 16,000            | \$ 32,000     | \$ -                     | \$ 40,000          | \$ 48,000          | \$ 72,000       |  | \$ 128,000            | \$ 136,000         | \$ 160,000      | \$ 32,000         |
| 900.670                                | Truck Apron                                       | SY                       | \$ 78.68      | \$ 23,600            | \$ -                 | \$ -          | \$ -                     | \$ -               | \$ 29,300          | \$ -            |  | \$ 23,600             | \$ 52,900          | \$ 23,600       | \$ -              |
| n/a                                    | Relocated Utility Poles                           | EACH                     | \$ 10,000.00  | \$ 30,000            | \$ -                 | \$ 20,000     | \$ -                     | \$ 10,000          | \$ 40,000          | \$ 20,000       |  | \$ 40,000             | \$ 70,000          | \$ 50,000       | \$ 20,000         |
| n/a                                    | Hazardous Soil Remediation                        | CY                       | \$ 200.00     | \$ 2,110,800         | \$ 339,300           | \$ 1,264,300  | \$ 179,900               | \$ 1,436,400       | \$ 2,983,000       | \$ 2,234,700    |  | \$ 4,066,400          | \$ 5,613,000       | \$ 4,864,700    | \$ 1,264,300      |
| Building Demolition + New Construction |                                                   | See Property Impacts tab |               | \$ 1,617,500         | \$ -                 | \$ -          | \$ -                     | \$ -               | \$ -               | \$ -            |  | \$ -                  | \$ -               | \$ -            | \$ -              |

North of Pine InPine intersection

|  |  |  |  |  | Entire CS     | Entire CS     | Entire CS    |                   |
|--|--|--|--|--|---------------|---------------|--------------|-------------------|
|  |  |  |  |  | Roadway with  | Roadway with  | Roadway with | Entire SS Roadway |
|  |  |  |  |  | T (Signal) at | Roundabout at | Tangent to   |                   |
|  |  |  |  |  | Pine          | Pine          | Pine         |                   |
|  |  |  |  |  | Pine          | Pine          | Pine         |                   |
|  |  |  |  |  | Pine          | Pine          | Pine         |                   |
|  |  |  |  |  | Pine          | Pine          | Pine         |                   |
|  |  |  |  |  | Pine          | Pine          | Pine         |                   |
|  |  |  |  |  | Pine          | Pine          | Pine         |                   |
|  |  |  |  |  | Pine          | Pine          | Pine         |                   |
|  |  |  |  |  | Pine          | Pine          | Pine         |                   |
|  |  |  |  |  | Pine          | Pine          | Pine         |                   |
|  |  |  |  |  | Pine          | Pine          | Pine         |                   |
|  |  |  |  |  | Pine          | Pine          | Pine         |                   |
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|  |  |  |  |  | Pine          | Pine          | Pine         |                   |
|  |  |  |  |  | Pine          | Pine          | Pine         |                   |
|  |  |  |  |  | Pine          | Pine          | Pine         |                   |
|  |  |  |  |  | Pine          | Pine          | Pine         |                   |
|  |  |  |  |  | Pine          | Pine          | Pine         |                   |
|  |  |  |  |  | Pine          | Pine          | Pine         |                   |
|  |  |  |  |  | Pine          | Pine          | Pine         |                   |
|  |  |  |  |  | Pine          | Pine          | Pine         |                   |
|  |  |  |  |  | Pine          | Pine          | Pine         |                   |
|  |  |  |  |  | Pine          | Pine          | Pine         |                   |
|  |  |  |  |  | Pine          | Pine          | Pine         |                   |
|  |  |  |  |  | Pine          | Pine          | Pine         |                   |
|  |  |  |  |  | Pine          | Pine          | Pine         |                   |
|  |  |  |  |  | Pine          | Pine          | Pine         |                   |
|  |  |  |  |  | Pine          | Pine          | Pine         |                   |
|  |  |  |  |  | Pine          | Pine          | Pine         |                   |
|  |  |  |  |  | Pine          | Pine          | Pine         |                   |
|  |  |  |  |  | Pine          | Pine          | Pine         |                   |
|  |  |  |  |  | Pine          | Pine          | Pine         |                   |
|  |  |  |  |  | Pine          | Pine          | Pine         |                   |
|  |  |  |  |  | Pine          | Pine          | Pine         |                   |
|  |  |  |  |  | Pine          | Pine          | Pine         |                   |
|  |  |  |  |  | Pine          | Pine          | Pine         |                   |
|  |  |  |  |  | Pine          | Pine          | Pine         |                   |
|  |  |  |  |  | Pine          | Pine          | Pine         |                   |
|  |  |  |  |  | Pine          | Pine          | Pine         |                   |
|  |  |  |  |  | Pine          | Pine          | Pine         |                   |
|  |  |  |  |  | Pine          | Pine          | Pine         |                   |
|  |  |  |  |  | Pine          | Pine          | Pine         |                   |
|  |  |  |  |  | Pine          | Pine          | Pine         |                   |
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|                                                                                                                                                                                          |     |      |       | grouped by geographic segment          |               |              |              | grouped by complete street vs slow street |              |               |               |               |              |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|-------|----------------------------------------|---------------|--------------|--------------|-------------------------------------------|--------------|---------------|---------------|---------------|--------------|
| Additional Costs                                                                                                                                                                         | LOW | HIGH | AVG   | Using averages of the Additional Costs |               |              |              | Using averages of the Additional Costs    |              |               |               |               |              |
| Mobilization/Demobilization                                                                                                                                                              | 5%  | 6%   | 5.5%  | \$ 299,200                             | \$ 113,256    | \$ 213,741   | \$ 171,017   | \$ 321,470                                | \$ 421,955   | \$ 379,231    | \$ 90,987     |               |              |
| Traffic Control                                                                                                                                                                          | 2%  | 5%   | 3.5%  | \$ 190,400                             | \$ 72,072     | \$ 136,017   | \$ 108,829   | \$ 204,572                                | \$ 268,517   | \$ 241,329    | \$ 57,901     |               |              |
| Misc Items*                                                                                                                                                                              | 7%  | 10%  | 8.3%  | \$ 448,800                             | \$ 169,884    | \$ 320,612   | \$ 256,526   | \$ 482,204                                | \$ 632,932   | \$ 568,846    | \$ 136,480    |               |              |
| Demolition of Existing Facilities                                                                                                                                                        | 1%  | 1%   | 1.0%  | \$ 54,400                              | \$ 20,592     | \$ 38,862    | \$ 31,094    | \$ 58,449                                 | \$ 76,719    | \$ 68,951     | \$ 16,543     |               |              |
| Final Engineering                                                                                                                                                                        | 12% | 15%  | 13.5% | \$ 734,400                             | \$ 277,992    | \$ 524,637   | \$ 419,769   | \$ 789,062                                | \$ 1,035,707 | \$ 930,839    | \$ 223,331    |               |              |
| Construction Engineering                                                                                                                                                                 | 10% | 12%  | 11.0% | \$ 598,400                             | \$ 226,512    | \$ 427,482   | \$ 342,034   | \$ 642,939                                | \$ 843,909   | \$ 758,461    | \$ 181,973    |               |              |
| Contingency                                                                                                                                                                              | 25% | 35%  | 30.0% | \$ 1,632,000                           | \$ 617,760    | \$ 1,165,860 | \$ 932,820   | \$ 1,753,470                              | \$ 2,301,570 | \$ 2,068,530  | \$ 496,290    |               |              |
| Environmental Oversight                                                                                                                                                                  | 7%  | 11%  | 9.0%  | \$ 489,600                             | \$ 185,328    | \$ 349,758   | \$ 279,846   | \$ 526,041                                | \$ 690,471   | \$ 620,559    | \$ 148,887    |               |              |
| Erosion Prevention and Sediment Control (EPSC)                                                                                                                                           | 2%  | 2%   | 2.0%  | \$ 108,800                             | \$ 41,184     | \$ 77,724    | \$ 62,188    | \$ 116,898                                | \$ 153,438   | \$ 137,902    | 33086         |               |              |
| *Misc = crosswalks & truncated domes, signs, stormwater plan and monitor, erosion control, engineers trailer, testing equipment, power broom rental, dust control, public relations, etc |     |      |       | TOTAL                                  | \$ 9,996,000  | \$ 3,783,780 | \$ 7,140,893 | \$ 5,713,523                              | TOTAL        | \$ 10,740,004 | \$ 14,097,116 | \$ 12,669,746 | \$ 3,006,690 |
|                                                                                                                                                                                          |     |      |       |                                        |               |              |              |                                           |              | \$ 10,800,000 | \$ 14,100,000 | \$ 12,700,000 | \$ 3,100,000 |
|                                                                                                                                                                                          |     |      |       | ROUNDED UP                             | \$ 10,000,000 | \$ 3,800,000 | \$ 7,200,000 | \$ 5,800,000                              | ROUNDED UP   |               |               |               |              |

**Relocation of Facilities (per VRS 4/16/18)**

|                  |                 |
|------------------|-----------------|
| Calcium Chloride | \$ 150,000.00   |
| Salt Shed        | \$ 1,100,000.00 |
| Fuel Terminal    | \$ 650,000.00   |
| Limestone        | \$ 607,000.00   |

From VHB 4/16/18:

| Conceptual Cost Estimates Summary |  |
|-----------------------------------|--|
| 1. Alternative 1                  |  |

|                          | Cost<br>(\$)       |
|--------------------------|--------------------|
| New Horn Track           | \$250,000          |
| Removal of Ties and Rail | \$76,500           |
| Rail Highway Crossing    | \$200,000          |
| Rail Crossing Signal     | \$200,000          |
| Railroad Switch          | \$150,000          |
| Relocate SLC/Bulk Goods  | \$607,000          |
| Relocate Salt Shed       | \$1,100,000        |
| Relocate CaCl Facility   | \$150,000          |
| Relocate Fuel Facility   | \$650,000          |
| Subtotal:                | <b>\$3,383,500</b> |
| Rounded total:           | <b>\$3,390,000</b> |

|                  |
|------------------|
| 2. Alternative 2 |
|------------------|

|                          | Cost<br>(\$)     |
|--------------------------|------------------|
| Removal of Ties and Rail | \$76,500         |
| Rail Highway Crossing    | \$200,000        |
| Rail Crossing Signal     | \$200,000        |
| Relocate SLC/Bulk Goods  | \$0              |
| Relocate Salt Shed       | \$0              |
| Relocate CaCl Facility   | \$150,000        |
| Relocate Fuel Facility   | \$0              |
| Subtotal:                | <b>\$626,500</b> |
| Rounded total:           | <b>\$630,000</b> |

|                  |
|------------------|
| 3. Alternative 3 |
|------------------|

|                          | Cost<br>(\$)       |
|--------------------------|--------------------|
| New Horn Track           | \$212,500          |
| Removal of Ties and Rail | \$76,500           |
| Rail Highway Crossing    | \$200,000          |
| Rail Crossing Signal     | \$200,000          |
| Railroad Switch          | \$150,000          |
| Relocate SLC/Bulk Goods  | \$607,000          |
| Relocate Salt Shed       | \$1,100,000        |
| Relocate CaCl Facility   | \$150,000          |
| Relocate Fuel Facility   | \$650,000          |
| Subtotal:                | <b>\$3,346,000</b> |
| Rounded total:           | <b>\$3,350,000</b> |

# REP Parcel Data

| Property            | Owner                          | Address            | ID            | Total Acres | Area (SF) | Listed Real Value | Listed Value of Land | Listed Value of Improvement | With CLA           |              |                     |
|---------------------|--------------------------------|--------------------|---------------|-------------|-----------|-------------------|----------------------|-----------------------------|--------------------|--------------|---------------------|
|                     |                                |                    |               |             |           |                   |                      |                             | \$/SF - real value | \$/SF - land | \$/SF - improvement |
| 339 Pine            | City DPW                       | 339 Pine St        | 049-2-019-000 | 3.23        | 140,699   | \$ 1,353,500      | \$ 1,015,700         | \$ 337,800                  | \$ 11.67           | \$ 8.76      | \$ 2.91             |
| Curtis Lumber       | PARKVIEW AT TICONDEROGA LLC    | 315 Pine St        | 049-2-020-000 | 3.2         | 139,392   | \$ 1,575,000      | \$ 1,006,800         | \$ 568,200                  | \$ 13.71           | \$ 8.76      | \$ 4.95             |
| Independent Block   | INDEPENDENT BLOCK LLC          | 241 S Champlain St | 049-2-030-000 | 2.36        | 102,802   | \$ 4,958,700      | \$ 772,500           | \$ 4,186,200                | \$ 58.52           | \$ 9.12      | \$ 49.41            |
| MGD Inc Parking Lot | MGD INC                        | 47 Maple St        | 049-2-030-002 | 0.23        | 10,019    | \$ 199,700        | \$ 179,200           | \$ 20,500                   | \$ 24.18           | \$ 21.70     | \$ 2.48             |
| Dive Shop           | COMPLEX ENTERPRISES LLC        | 39 Maple St        | 049-2-034-000 | 0.13        | 5,663     | \$ 435,900        | \$ 152,000           | \$ 283,900                  | \$ 93.39           | \$ 32.57     | \$ 60.83            |
| Rambler Building    | COMPLEX ENTERPRISES LLC        | 216 Battery St     | 049-2-035-000 | 0.08        | 3,485     | \$ 245,500        | \$ 137,300           | \$ 108,200                  | \$ 85.48           | \$ 47.80     | \$ 37.67            |
| Railyard            | VERMONT STATE OF AOT RAIL UNIT | 101 LaValley Ln    | 049-2-039-000 | 19.5        | 849,420   | \$ 3,057,200      | \$ 1,387,900         | \$ 1,669,300                | \$ 4.37            | \$ 1.98      | \$ 2.38             |
| Citizen Cider/USPS  | Kilburn Gates                  | 7 Kilburn St       | 049-4-037-000 | 2.98        | 129,809   | \$ 5,859,100      | \$ 945,400           | \$ 4,913,700                | \$ 54.76           | \$ 8.84      | \$ 45.93            |

CLA: 0.8242

Values from Burlington VT 17-18 Tax Book, accessed 4/10/2018

CLA from: <http://tax.vermont.gov/property-owners/understanding-property-taxes/education-tax-rates>