STATE OF VERMONT
AGENCY OF TRANSPORTATION

# EARTHWORKS

VAOT Metric

| STATION km + m | DIST m | TOTAL EXCAVATION EARTH AND ROCK AREA $m^2$ | TOTAL EXCAVATION EARTH AND ROCK VOLUME $m^3$ | *ROCK EXCAVATION AREA $m^2$ | *ROCK EXCAVATION VOLUME $m^3$ | EMBANKMENT AREA $m^2$ | EMBANKMENT VOLUME $m^3$ | AREA $m^2$ | VOLUME $m^3$ |
|---|---|---|---|---|---|---|---|---|---|
| MONUMENT AVE. | | | | | | | | | |
| 1+040 | | 1 | | 0 | | 0 | | | |
| | 8 | | 12 | | 0 | | 0 | | |
| 1+048 | | 2 | | 0 | | 0 | | | |
| | 12 | | 54 | | 0 | | 0 | C | 1046 |
| 1+060 | | 7 | | 0 | | 0 | | FAC | 1.00 |
| | 20 | | 140 | | 0 | | 0 | R | 0 |
| 1+080 | | 7 | | 0 | | 0 | | FAC | 1.00 |
| | 20 | | 140 | | 0 | | 0 | EXC | 1046 |
| 1+100 | | 7 | | 0 | | 0 | | | |
| | 20 | | 140 | | 0 | | 0 | | |
| 1+120 | | 7 | | 0 | | 0 | | | |
| | 20 | | 140 | | 0 | | 0 | | |
| 1+140 | | 7 | | 0 | | 0 | | | |
| | 20 | | 140 | | 0 | | 0 | | |
| 1+160 | | 7 | | 0 | | 0 | | | |
| | 20 | | 140 | | 0 | | 0 | | |
| 1+180 | | 7 | | 0 | | 0 | | | |
| | 20 | | 140 | | 0 | | 0 | | |
| 1+200 | | 7 | | 0 | | 0 | | | |
| | 20 | | 140 | | 0 | | 0 | | |
| 1+220 | | 7 | | 0 | | 0 | | | |
| | 20 | | 130 | | 0 | | 0 | | |
| 1+240 | | 6 | | 0 | | 0 | | C | 1215 |
| | 20 | | 120 | | 0 | | 0 | FAC | 1.00 |
| 1+260 | | 6 | | 0 | | 0 | | R | 0 |
| | 20 | | 120 | | 0 | | 0 | FAC | 1.00 |
| 1+280 | | 7 | | 0 | | 0 | | EXC | 1215 |
| | 20 | | 130 | | 0 | | 0 | | |
| 1+300 | | 6 | | 0 | | 0 | | | |
| | 20 | | 120 | | 0 | | 0 | | |
| 1+320 | | 6 | | 0 | | 0 | | | |
| | 20 | | 130 | | 0 | | 0 | | |
| 1+340 | | 7 | | 0 | | 0 | | | |
| | 20 | | 140 | | 0 | | 0 | | |
| 1+360 | | 7 | | 0 | | 0 | | | |
| | 20 | | 150 | | 0 | | 0 | | |
| 1+380 | | 8 | | 0 | | 0 | | | |
| | 5 | | 25 | | 0 | | 0 | | |
| 1+385 | | 2 | | 0 | | 0 | | | |
| | 5 | | 10 | | 0 | | 0 | | |
| 1+390 | | 2 | | 0 | | 0 | | | |
| ROADSIDE DRAINAGE | | | | | | | | | |
| | | | 603 | | 41 | | 0 | C | 603 |
| | | | | | | | | FAC | 1.00 |
| | | | | | | | | R | 41 |
| | | | | | | | | FAC | 1.00 |
| | | | | | | | | EXC | 603 |
| UNDERDRAIN | | | | | | | | | |
| | | | 457 | | 0 | | 0 | C | 457 |
| | | | | | | | | FAC | 1.00 |
| | | | | | | | | EXC | 457 |
| COLUMN FOOTING | | | 3321 | | 41 | | 0 | | |

| STATION km + m | DIST m | TOTAL EXCAVATION EARTH AND ROCK AREA $m^2$ | TOTAL EXCAVATION EARTH AND ROCK VOLUME $m^3$ | *ROCK EXCAVATION AREA $m^2$ | *ROCK EXCAVATION VOLUME $m^3$ | EMBANKMENT AREA $m^2$ | EMBANKMENT VOLUME $m^3$ | AREA $m^2$ | VOLUME $m^3$ |
|---|---|---|---|---|---|---|---|---|---|
| STREET LIGHTING | | | | | | | | | |
| | | | | | | | | C | 70 |
| | | | 70 | | 0 | | 0 | FAC | 1.00 |
| | | | | | | | | EXC | 70 |
| COLUMN FOOTING | | | 70 | | 0 | | 0 | | |

| STATION km + m | DIST m | TOTAL EXCAVATION EARTH AND ROCK AREA $m^2$ | TOTAL EXCAVATION EARTH AND ROCK VOLUME $m^3$ | *ROCK EXCAVATION AREA $m^2$ | *ROCK EXCAVATION VOLUME $m^3$ | EMBANKMENT AREA $m^2$ | EMBANKMENT VOLUME $m^3$ | AREA $m^2$ | VOLUME $m^3$ |
|---|---|---|---|---|---|---|---|---|---|

## SUMMARY AND BALANCES

| STATION TO STATION km + m | km + m | TOTAL EXC. EARTH+ROCK $m^3$ | ROCK EXCAVATION $m^3$ | EMBANKMENT $m^3$ | EXCESSES CUT | EXCESSES FILL | ACCUMULATIVE EXCESSES CUT | ACCUMULATIVE EXCESSES FILL |
|---|---|---|---|---|---|---|---|---|
| 1+040 | 1+200 | 1046 | | | 1046 | | 1046 | |
| 1+200 | 1+390 | 1215 | | | 1215 | | 2261 | |
| ROADSIDE DRAINAGE | | | | | | | | |
| | | 603 | 41 | | 603 | | 2864 | |
| UNDERDRAIN | | | | | | | | |
| | | 457 | | | 457 | | 3321 | |
| STREET LIGHTING | | | | | | | | |
| | | 70 | | | 70 | | 3391 | |
| DRIVES | | 15 | | | 15 | | 3406 | |
| TOTAL | | 3406 | 41 | | | | | |

## REMARKS

| | |
|---|---|
| EARTH AND ROCK EXCAVATION | 3406 |
| SOLID ROCK EXCAVATION (SEE NOTES) | 458 |
| EARTH EXCAVATION | 2948 |
| | |
| PLANIMETERED FILL | 0 |
| LESS FACTORED ROCK | 0 |
| LESS DISPLACEMENT OF ANY LARGE STRUCTURES | 0 |
| NET PLANIMETERED FILL | 0 |
| FACTOR | 1.15 |
| PLANIMETERED FILL INCLUDING FACTOR | 0 |
| | |
| MATERIALS AVAILABLE FOR FILLS (SEE NOTES) | |
| ROADWAY/DRIVES (2276 - 417) | 1859 |
| ROADSIDE DRAINAGE | 562 |
| UNDERDRAIN EXCAVATION | 457 |
| STREET LIGHTING | 70 |
| TOTAL MATERIAL AVAILABLE FOR FILL | 2948 |
| | |
| TOTAL MATERIAL FOR FILL | 2948 |
| BORROW | 0 |
| EXCESS EXCAVATION | 2948 |

*NOTES

1. EXCAVATION OF THE EXISTING PCC PAVEMENT WAS CALCULATED BY MULTIPLYING ITS SURFACE AREA BY THE DEPTH OF THE PAVEMENT RESULTING IN A VOLUME OF 417 $m^3$. NO SEPARATE CALCULATIONS OF THE AREAS ASSOCIATED WITH THE ROCK EXCAVATION ON EACH CORRESPONDING CROSS SECTION HAVE BEEN MADE.

2. THE ROCK EXCAVATION CONSISTING OF THE REMOVAL OF PCC PAVEMENT AND REINFORCED CONCRETE PIPE & DRAINAGE STRUCTURES IS ASSUMED TO BE UNSUITABLE FOR FILL ON THIS PROJECT. A SWELL FACTOR OF 1.00 HAS BEEN ASSUMED FOR THE BALANCING OF EARTHWORKS.

**VERMONT AGENCY OF TRANSPORTATION**

CLOUGH, HARBOUR & ASSOCIATES
ENGINEERS, SURVEYORS, PLANNERS & LANDSCAPE ARCHITECTS
11 WINNERS CIRCLE ALBANY, NEW YORK, 12205

PROJECT NAME: OLD_BENNINGTON_____
PROJECT NUMBER: STP 1400(5)

FILE NAME: /pave/97d228/p97d228.dgn
PROJECT LEADER: _I.P.K._____
DESIGNED BY: _J.S.P._____
p97d228ews.i

PLOT DATE: 05-MAY-2008 14:
DRAWN BY: C.A.K.____
CHECKED BY: D.E.G.____
SHEET _7_ OF 48