PLATE 3-FULL CROSS SECTION-FULL LINE
MAINLINE PERMANENT
PRINTED IN U.S.A.
HIGHWAY LEGEND NO SHEET

FINAL SURVEY
NO.
NOTE BOOK
PAGE
VARIOUS
VARIES CHECKED
VARIOUS
INITIALED
INITIALED
VA.
DATE
STAD

FINAL SURVEY
NO.
NOTE BOOK
PAGE
VARIOUS
VARIES CHECKED
VARIOUS
INITIALED
INITIALED
VA.
DATE
STAD

ORIGINAL

✓ Template
✓ Existing

TE = Outlet = [(2.0+0.5)/2] × [(2.0+0.5)/2] × 4 × 4.5 = 8.1 cy = 0.3 cy
JPD 10-24-11
11/30/11

121+65
Adjusted 83.50 Lt
Top of Grade 121.74

Unclassified Chan.
0+0 — 66.3 — 2233.3
+23 — 127.9 — 3023.2
Equals = 1134.3 cy
WEF 12-08-11
JPD 12-08-11

Outlet

121+00 Lt - 121+40 Rt
NEW 18" x 74' PCCSP .064
PRCCB w/ Type E Grate
121+40
19' Rt
1116.25 45

121+00
44' Lt
1115.25 9

121+40
44' Rt
1116.25 18

Over 5' Negligible & HDWL
HDWL - T.E. = [(5.1+6.8/2) × 1.5) + (6.8 × 0.5) + (4.8 + 5.9/2 × 0.5) + (5.9/2 × 3.5) + (3.0 × 1)] × 8 = 260.8 ft³
Over 5' & 150% = (0.0 + 1.5 × 5) + (1.5 + 2.2/2 × 3.5) + (2.2 + 3.0/2 × 5) × 7 × 1.5 = 72.8 ft³

121+65
Adjusted 83.50 Lt
NEW 48" x 84' PCCSP .109
Grade Headwalls @ Inlet
Stone Fill Pad - Type IV 6.0 x 4.0 L @ Outlet / Type III @ Inlet, 2.1 x 10 L

HDWL T.E. = 100% = (5 × 7 × 5) = 280 ft³
T.E. = 150% = [(2.0+0.5/2) × 2) + (2.0+0.5/2 × 5)] × 8 × 1.5 = 154.8 ft³
Stone Fill @ Outlet = [(22+18/2 × 5) + (18+14/2 × 5)] × 6 = 418.5 ft³
*Over 5' Negligible
Total T.E. = 260.8 + 72.8 + 154.8 + 418.8 = 907.2 cy × 1/27 = 33.6 cy
2295.0
+2290 = 4182.2
4182.2 × 1/27 = 154.90
SAY 155 cy
WEF 11-29-11
JPD 12-02-11

121+60 Rt - 3'
1103.16

Grade Parallel
Headwall: From HDWL Bottom to Base
5' Deep × 7' Wide = [(5.0 × (1.4)) + (1 × 3)] + [(1.5 × 4)] = 35 + 12 + 22 × 8 = 176 ft³ × 1/27 = 6.52 cy × 2 = 13.0 cy
Pipe - 32' Long × 7' Wide × 1' Deep × 1/27 = 8.4 cy
Total = 37.1 cy
WEF 9-29-11
10/20/11

Grade Parallel
(2.0+0.5/2 × 3) (50 × 3.5) (2.0+0.5/2 × 1) = 481.0 × 7' Wide = 3371.2 - Wide 48" CMP
3371.2 × (1/27 × 1.5) = 125.1 ft³ = 2.00 cy × 1/27 = 74 cy
774 × 1.15 = 89 cy
WEF 9-29-11
10/20/11

121+00
44' Lt
1115.25

Grade Under Pedestal
3' Type III

TE Bot 11-14-11 Wide 48" Culvert 20 LF
HDWL 1 EA
Headwall 0-61: 5' × 7' × 11 (L) = 385 ft³
Over 5' [(3.8+5.8/2 × 3.5) + (3.2+2.0/2 × 4)] × 11 × 1.5 = 344.8 ft³
Pipe = [(4.0+3.9/2 × 3.5) + (3.9+2.8/2 × 5) + (2.8+2.1/2 × 8)] × 7 = 296.1 ft³
1029.9 ft³ × 1/27 = 38.1 cy WEF 11-7-11

43 Lt
1109.76

Inspected
11-20-11
Revel & IDR Fill Lane - TE - 84 cy
- Install 2' Outside Pipe & Hdwll
Grade Parallel - 280 cy
Grade Behind Headwall
48" Culvert Grade
Hdwll - TEA
119+00
86
41 Rt
1100.75
SF = 88 cy
Grade = 48 cy

Grade Parallel to Structures
Headwall - Under - 7 × 1 × 11 = 77.0
Pipe = [(60+72/2) × (46) + (3 × 11)] × 11 = 233.7
From [(5.3+3.9 × 11)] = 55.4
Pipe = [(4.9+5.8/2) × 3 × 11 + (3.9+2.0/2 × 11)] × 7 = 57.12
100.3 ft³ × 1/27 = 3.71 cy WEF 11-7-11
11/29/11

See 11/30/2011 EDR
For Type 3' Stone Fill, 6" Inlet
& Geotextile 78 sy

NEW 48" x 84' PCCSP .109
w/ Grade Headwalls @ Inlet, Stone Fill Pad
Type IV, 6.0 x 4.0 L @ Outlet

Unclass:
(2.0+0.5/2 × 4) (2.0+0.5/2 × 6) = 145.1 ft²

Unclass:
(2.0+0.5/2 × 4) (2.0+0.5/2 × 6) = 102.1 ft²

Unclass:
(2.0+5.3/2 × 4) + (5.3+5.5/2 × 6) + (5.5+5.8/2 × 4) + (5.8+5.9/2 × 8) = 442 ft²

40+00
30+00
20+00
10+00
0+00

Unclass:
(2.0+3.5/2 × 4) (3.5+3.8/2 × 6) (3.8+3.0/2 × 2) = 41.6 ft²

Common Excavation
Begin Unclass Chan @ Sta 0+01.5

Unclassified Channel & Inlet 119+08
0+01.5 — 41.6 — 448
+10 — 8.5 — 63.8 — 440
+20 — 10 — 64.2 — 532
+30 — 10 — 102.1 — 1236
+40 — 10 — 145.1 — 1451.0
+50 — 10 — 145.1
460 × 1/27 = 17.0 cy
WEF 12-08-11
JPD 12-08-11

End Unclass Chan @ Sta. 50+00 - Same Area as Sta. 46+00

Unclassified Channel
(2.0+0.5/2 × 4) (2.0+0.5/2 × 6) = 145.1 ft²
(2.0+0.5/2 × 4) (2.0+0.5/2 × 6) = 102.1 ft²
(2.0+5.3/2 × 4) + (5.3+5.5/2 × 6) + (5.5+5.8/2 × 4) + (5.8+5.9/2 × 8) = 442 ft²
(2.0+3.5/2 × 4) (3.5+3.8/2 × 6) (3.8+3.0/2 × 2) = 41.6 ft²
0+00 - End

Begin Unclass Chan @ Sta 0+01.5

Unclassified Channel
(2.0+3.5/2 × 4) (3.5+3.8/2 × 6) (3.8+3.0/2 × 2) = 41.6 ft²
SEE 11/30/2011 EDR FOR SECTION NOTES

Corrugated Exc.
Minus Areas

T.E. - Below Corrugated Exc. - Box is 5' x 5' Outside / 3' x 3' Inside / 39' Long
Est. by JPD 12-01-11
5' High × 5' Wide (5' - 1.5 + 1.5) × 39' Long = 1560 ft³
Minus Grade Box 5 × 5 × 39 = - 975 ft³
Minus T.E. @ Outlet (2.3) × 3 × 3 Wide = - 14 ft³
Minus T.E. @ Inlet (1.4 + 1/2 × 1.3) × 3 Wide = - 3 ft³
572 ft³ × 1/27 = 19.3 cy Say 20 cy
TEA Bot HDR 12-01-11 [(5 × 5) - (3 × 3)] × 39 × 1/27 = 23.1 cy
WEF 12-01-11
JPD 12-07-11

118+58 Lt
Exist. 3' x 2' Box Culvert (Remove)
- New Roadway Section for Reference -

CABOT DANVILLE
FEGC # 028-3(26) C/1
DRAINAGE SHEET # 3