

**GENERAL NOTE**

- Reinforcement bars designated (E) shall be epoxy coated.

**DESIGN STRESSES**

**FIELD UNITS**

$f'c = 3,500$  psi  
 $f_y = 60,000$  psi (Reinforcement)  
 $f_y = 50,000$  psi (M270 Grade 50, Soldier Piles)

**DESIGN SPECIFICATIONS**

2002 AASHTO Standard Specification for Highway Bridges, 17th Ed.

**CURVE DATA**

(IL Route 31)  
 $\Delta = 34^\circ 33' 54.51''$  (Rt.)  
 $D = 3^\circ 20' 10.35''$   
 $T = 534.34'$   
 $L = 1,036.06'$   
 $E = 81.20'$   
 $R = 1,717.39'$   
P.C. = Sta. 86+51.78  
P.T. = Sta. 96+87.84  
P.I. = Sta. 91+86.12  
 $e = 2.32\%$

**SOLDIER PILE LOCATION AND ELEVATIONS**

Pile No.	☉ Pile Station	☉ Pile Offset	Top of Pile Elevation	Stud Shear Connectors
1	89+71.95	-44.50	745.40	4
2	89+79.76	-44.50	746.00	5
3	89+87.56	-44.50	746.50	5
4	89+95.37	-44.50	747.10	6
5	90+03.18	-44.50	747.70	5
6	90+10.98	-44.50	748.20	5
7	90+18.79	-44.50	748.80	6
8	90+26.60	-44.50	749.30	6
9	90+34.40	-44.50	749.90	7
10	90+42.21	-44.50	750.40	7
11	90+50.02	-44.50	751.00	8
12	90+57.82	-44.50	751.80	8
13	90+65.63	-44.50	752.70	9
14	90+73.44	-44.50	753.70	10
15	90+81.24	-44.50	754.60	11
16	90+89.05	-44.65	755.60	11
17	90+96.86	-44.65	756.50	12
18	91+04.66	-44.65	757.50	13
19	91+12.47	-44.65	758.30	13
20	91+20.28	-44.65	758.30	13
21	91+28.08	-44.65	758.90	14
22	91+35.89	-44.65	758.90	14
23	91+43.70	-44.65	759.40	14
24	91+51.50	-44.65	759.40	14
25	91+59.31	-44.65	759.80	14
26	91+67.12	-44.65	759.80	14
27	91+74.92	-44.65	759.80	14
28	91+82.73	-44.65	760.45	14
29	91+90.53	-44.65	760.45	14
30	91+98.34	-44.65	760.45	14
31	92+03.34	-44.61	760.45	14
32	92+11.13	-43.57	760.45	14
33	92+18.87	-42.54	760.45	14
34	92+26.62	-41.55	759.80	12
35	92+34.37	-40.60	759.80	12
36	92+42.14	-39.68	759.80	12
37	92+49.91	-38.79	759.80	12
38	92+57.69	-37.94	759.80	12
39	92+65.48	-37.17	759.10	11
40	92+73.28	-36.36	759.10	11
41	92+81.08	-35.62	759.10	11
42	92+88.89	-34.91	759.10	11
43	92+96.70	-34.25	759.10	11
44	93+04.51	-33.47	758.50	11
45	93+11.77	-32.93	758.50	9
46	93+19.58	-32.68	758.50	9
47	93+27.43	-32.48	758.50	9
48	93+35.28	-32.32	758.50	9
49	93+43.13	-32.19	758.00	8
50	93+50.98	-32.10	758.00	8
51	93+58.84	-32.04	758.00	8
52	93+66.69	-32.02	757.40	8
53	93+74.54	-32.04	757.40	8
54	93+82.40	-32.10	757.40	8
55	93+90.25	-32.19	756.90	7
56	93+98.10	-32.32	756.90	7
57	94+05.95	-32.48	756.30	7
58	94+13.80	-32.68	756.30	7
59	94+20.86	-32.93	756.30	7
60	94+25.89	-38.02	757.00	5
61	94+31.39	-43.70	757.90	6

Offsets are measured from ☉ of IL Route 31 to the ☉ of the soldier pile.

**INDEX OF SHEETS**

- WA1 General Plan and Elevation
- WA2 General Data
- WA3 Retaining Wall I
- WA4 Retaining Wall II
- WA5 Retaining Wall III
- WA6 Retaining Wall Details I
- WA7 Retaining Wall Details II
- WA8 Boring Logs I
- WA9 Boring Logs II

**TOTAL BILL OF MATERIALS**

ITEM	UNIT	TOTAL QUANTITY
Structure Excavation	Cu. Yd.	458
Concrete Structures	Cu. Yd.	213.6
Form Liner Textured Surface	Sq. Ft.	4,515
Stud Shear Connectors	Each	602
Reinforcement Bars, Epoxy Coated	Pound	16,860
Geocomposite Wall Drain	Sq. Yd.	317
Drilling and Setting Soldier Piles (In Soil)	Cu. Ft.	4,621
Untreated Timber Lagging	Sq. Ft.	3,868
Furnishing Soldier Piles (W Section)	Foot	1,455
Pipe Underdrains for Structures 4"	Foot	575
Staining Concrete Structures	Sq. Yd.	502

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DRAWN	-	M. LANGE
DESIGNED	-	M. LANGE
CHECKED	-	G. HATLESTAD
DATE	-	5/3/2012

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**GENERAL DATA  
 WALL A: IL RTE 31  
 STRUCTURE NO. 056-2507**

SHEET NO. WA2 OF WA9 SHEETS

O.R. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0003	18A-2	MCHENRY	825	586
CONTRACT NO. 60F72				
ILLINOIS FED. AID PROJECT				