

BLACK HAWK #7

1074

Book III

LEVEL BOOK

370

Prelim. Levels

KEUFFEL & ESSER CO.

DRAWING MATERIALS

AND

SURVEYING INSTRUMENTS.

NEW YORK.

CHICAGO. ST. LOUIS. SAN FRANCISCO. MONTREAL.

Tables for Excavations and Embankments.

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

ROADWAY 18 FEET WIDE. SIDE SLOPES 1 TO 1.

FOR SINGLE TRACK EXCAVATION.

"Copyright, 1895, by Keuffel & Esser Co."

	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	
0	9.0	9.1	9.2	9.3	9.4	9.5	9.6	9.7	9.8	9.9	0
1	10.0	10.1	10.2	10.3	10.4	10.5	10.6	10.7	10.8	10.9	1
2	11.0	11.1	11.2	11.3	11.4	11.5	11.6	11.7	11.8	11.9	2
3	12.0	12.1	12.2	12.3	12.4	12.5	12.6	12.7	12.8	12.9	3
4	13.0	13.1	13.2	13.3	13.4	13.5	13.6	13.7	13.8	13.9	4
5	14.0	14.1	14.2	14.3	14.4	14.5	14.6	14.7	14.8	14.9	5
6	15.0	15.1	15.2	15.3	15.4	15.5	15.6	15.7	15.8	15.9	6
7	16.0	16.1	16.2	16.3	16.4	16.5	16.6	16.7	16.8	16.9	7
8	17.0	17.1	17.2	17.3	17.4	17.5	17.6	17.7	17.8	17.9	8
9	18.0	18.1	18.2	18.3	18.4	18.5	18.6	18.7	18.8	18.9	9
10	19.0	19.1	19.2	19.3	19.4	19.5	19.6	19.7	19.8	19.9	10
11	20.0	20.1	20.2	20.3	20.4	20.5	20.6	20.7	20.8	20.9	11
12	21.0	21.1	21.2	21.3	21.4	21.5	21.6	21.7	21.8	21.9	12
13	22.0	22.1	22.2	22.3	22.4	22.5	22.6	22.7	22.8	22.9	13
14	23.0	23.1	23.2	23.3	23.4	23.5	23.6	23.7	23.8	23.9	14
15	24.0	24.1	24.2	24.3	24.4	24.5	24.6	24.7	24.8	24.9	15
16	25.0	25.1	25.2	25.3	25.4	25.5	25.6	25.7	25.8	25.9	16
17	26.0	26.1	26.2	26.3	26.4	26.5	26.6	26.7	26.8	26.9	17
18	27.0	27.1	27.2	27.3	27.4	27.5	27.6	27.7	27.8	27.9	18
19	28.0	28.1	28.2	28.3	28.4	28.5	28.6	28.7	28.8	28.9	19
20	29.0	29.1	29.2	29.3	29.4	29.5	29.6	29.7	29.8	29.9	20
21	30.0	30.1	30.2	30.3	30.4	30.5	30.6	30.7	30.8	30.9	21
22	31.0	31.1	31.2	31.3	31.4	31.5	31.6	31.7	31.8	31.9	22
23	32.0	32.1	32.2	32.3	32.4	32.5	32.6	32.7	32.8	32.9	23
24	33.0	33.1	33.2	33.3	33.4	33.5	33.6	33.7	33.8	33.9	24
25	34.0	34.1	34.2	34.3	34.4	34.5	34.6	34.7	34.8	34.9	25
26	35.0	35.1	35.2	35.3	35.4	35.5	35.6	35.7	35.8	35.9	26
27	36.0	36.1	36.2	36.3	36.4	36.5	36.6	36.7	36.8	36.9	27
28	37.0	37.1	37.2	37.3	37.4	37.5	37.6	37.7	37.8	37.9	28
29	38.0	38.1	38.2	38.3	38.4	38.5	38.6	38.7	38.8	38.9	29
30	39.0	39.1	39.2	39.3	39.4	39.5	39.6	39.7	39.8	39.9	30
31	40.0	40.1	40.2	40.3	40.4	40.5	40.6	40.7	40.8	40.9	31
32	41.0	41.1	41.2	41.3	41.4	41.5	41.6	41.7	41.8	41.9	32
33	42.0	42.1	42.2	42.3	42.4	42.5	42.6	42.7	42.8	42.9	33
34	43.0	43.1	43.2	43.3	43.4	43.5	43.6	43.7	43.8	43.9	34
35	44.0	44.1	44.2	44.3	44.4	44.5	44.6	44.7	44.8	44.9	35
36	45.0	45.1	45.2	45.3	45.4	45.5	45.6	45.7	45.8	45.9	36

Calculated by Julien A. Hall, M. Am. Soc. C. E.

Keuffel & Esser Co.
COUNTY AUDITOR

FEB 10 '20

FILED

Prelim.Index

<u>Lat.</u>	<u>Page</u>	<u>Lat.</u>	<u>Page</u>
1	2	8-A	126
1-A	144	8-B	118+124
1-B	66	8-C	122
1-C	136		
1-D	134		144
1-E	66	Diff levels	116
1-F	70	pond off Lat #16-110	
1-G	72		
1-H	74	New Lat #2 E	
1-I	78		148-154
2-A	80	Lat E 2 69-159	
2-B	84+106		-
2-C	88		
2-D	112		
2-E	96		
2-F	100		
8	22		

BM 564 61.47 55.83 — — —

BM 640 55.07 — — —

31=0 830 53.17 46.70 6.47

1 890 52.57 46.98 5.59

2 820 53.27 47.20 6.01

3 810 53.37 47.54 5.83

4 640 55.07 47.82 7.25

5 755 53.92 48.10 5.82

6 690 54.57 48.38 6.19

7 660 54.87 48.66 6.21

8 450 56.97 48.94 8.03

X 427 57.20 — — —

TP 679 445 63.81 57.02 — — —

X 660 57.21 — — —

9 565 58.16 49.30 8.86

10 520 58.61 49.64 8.95

11 510 58.71 50.02 8.69

H. H.

Spike in 5th Willow N of line
in fence line

Spike in first fence post
S of above willow

off Main

2 large willows + hard part of the hill
Noted on map

1 + 61 N.S. fence

36

12	570	63.81	58.11	50.38	7.73	
13	600		57.81	50.74	7.07	
14	530		58.51	51.10	7.41	
15	475		59.06	51.46	7.60	15 + 27 = NS fence
16	450		59.31	51.82	7.49	
17	430		59.51	52.18	7.33	
X	390		59.71	—	—	
TP	631	42.2	65.90	59.59	—	—
X	597		59.99	—	—	
18	440		59.50	52.54	6.96	
19	6.10		59.75	52.90	6.85	
20	6.10		59.80	53.26	6.54	
21	570		60.20	53.62	6.58	
22	5.35		60.55	53.98	6.57	
23	480		61.10	54.34	6.76	
24	470		61.20	54.70	6.50	
25	440		61.50	55.06	6.44	
			H.	H.	H.	

36

26	370	65.70	62.20	55.42	6.78
X	200		63.90	—	—
TP	553	358	67.85	62.32	—
X	394		63.91	—	—
27	545		62.40	55.78	6.62
28	540		62.45	56.14	6.31 28 + 58 = N.3 fence
29	525		62.60	56.50	6.10
30	520		62.65	56.86	5.79 3000' - 26" A.V.D. = 6.89
31	470		63.15	57.22	5.93
32	425		63.60	57.58	6.02
33	385		64.00	57.94	6.06
34	345		64.40	58.30	^{6.10} 5.10
35	340		64.45	58.66	5.79
X	122		66.63	—	—
TP	677	326	71.36	64.59	—
X	473		66.63	—	—
36	665		64.71	59.02	5.69 H

36

37	6.10	71.36	6526	59.38	5.88	
38	5.00		66.36	59.74	6.62	800'-24" A.D. = 6.00
39	5.20		66.19	60.42	5.74	70. - 24" 5.54
40	4.90		66.46	61.10	5.36	
41=0	4.20		67.16	61.78	5.38	Lat. 9 page 66
42	3.10		68.26	62.46	5.80	42+37 = N5 fence
43	2.25		69.11	63.14	5.97	willow to be removed
BM	1.98		69.88	—	—	Spike in Willow tree in N5 fence 100' S of line
BM	1.24		70.12	—	—	Spike in 2nd post N of Willow
44=0	1.10		70.26	63.82	6.44	600'-22" A.D. = 5.90
X	1.00		70.36	—	—	
TP	7.40	1.15	77.61	70.21	—	
X	7.23		70.38	—	—	
45	7.40		70.21	64.50	5.71	
46	6.60		71.01	65.18	5.83	
47	5.70		71.91	65.86	6.05	
48	5.03		72.56	66.54	6.02	
			H.	H	H	

49	415	77.61	73.46	67.22	6.24	
50	330		74.31	67.90	6.41	
51	240		75.21	68.58	6.63	
52	190		75.71	69.26	6.45	800'-20" — Av.D. = 620
X	0.74		76.87	—	—	52+82 = 1/4 E W
TP	903	179	84.85	75.82	—	—
X	800		76.85	—	—	
53	900		75.85	69.94	5.91	
54	820		76.65	70.62	6.03	
55	690		77.95	71.30	6.65	
56	475		80.10	71.98	8.12	
57	510		79.75	72.66	7.09	
58	585		79.00	73.34	5.66	58+16 W road fence
E Grade	330		81.55	—	—	
BM	146		83.39	—	—	END of W headwall on culvert N of school
BM	109		83.76	—	—	NW cor E headwall same Culvert
59	570		79.10	74.02	5.08	E road fence
			H.	H	H	

68

60	4.70	84.85	80.10	74.70	5.40	
61	3.85		81.00	75.38	5.62	
X	2.90		81.95	—	—	
TP	7.15	3.75	88.25	81.10	—	
X	4.30		81.95	—	—	
62	6.50		81.75	76.06	5.69	
63	6.00		82.25	76.74	5.51	
64	5.50		82.75	77.42	5.33	
65	5.20		83.05	78.10	4.95	1300'-18" A.D. = 5.96
66	4.10		84.15	78.85	5.30	
67	3.30		84.95	79.60	5.35	
68	2.50		85.75	80.35	5.40	
69	1.80		86.45	81.10	5.35	
X	0.81		87.44	—	—	
TP	10.76	1.75	97.28	86.50	—	
X	9.90		87.46	—	—	
70	10.20		87.06	81.85	5.21	
			H	H	H	

75

71	965	97.26	87.61	82.60	5.01	
72	835		88.91	83.35	5.56	
73	770		89.56	84.10	5.46	73+74 EW fence
74	715		90.11	84.85	5.26	74+75 EW fence
75	670		90.56	85.60	4.96	75+59 NS fence
76	610		91.16	86.35	4.81	
77=0	550		91.76	87.40	4.66	1200' 16" Av.D. = 5.18
BM	0.70		96.50			H i point on 2nd boulder E of cor
BM	1.48		95.78			1st E of fence line
BM	7.40	103.96	96.56			H i point on 1st boulder E of cor
BM	8.20		95.76			Same location
78	11.10		92.86	87.85	5.01	2nd Boulder E of cor
79	10.00		93.96	88.60	5.36	1st " " "
80	9.20		94.76	89.35	5.41	
81	8.65		95.31	90.10	5.21	
82	8.15		95.81	90.85	4.96	
83	6.60		97.36	90.90	5.46	

H.

H

H

105

84=0 560 103.96 98.36 92955.41 700'-15" A.V.D. = 5.19

85 490 99.06 9400 5.06

86 460 99.36 95.05 4.31 86+10 N.S. stone fence

87 270 101.26 96.10 5.16

X 177 102.19 ———

TP 10.71 261 112.06 101.35 ———

X 988 102.18 ———

88 975 102.11 97.15 4.96

89 970 102.31 98.20 4.11

90 720 104.86 99.55 5.31

91 590 106.16 100.90 5.26

92 460 107.46 102.25 5.21

93 360 108.46 103.60 4.86

94 255 109.51 104.95 4.56

95=0 130 110.76 106.30 4.46 1100'-12 A.V.D. = 4.89

X 173 110.33 ———

TP 115 110.91 ———

X H H H

X	BS=11.20	113.39 43.40	102.19 102.20	_____	_____
TP	BS=12.03		101.36 101.37	_____	_____
X	205		111.34 111.35	_____	_____
TP	1147 245	12241	110.94 110.95	_____	_____
X	11.07		111.34	_____	_____
96	295		112.46	107.65	4.81
97	8.30		114.11	109.00	5.11
98	6.90		115.51	110.85	5.16
99	5.85		116.56	111.70	4.86
100	4.50		117.91	113.05	4.86
101	3.20		119.21	114.40	4.81
102	2.50		119.91	115.75	4.16
X	209	32120 32	_____	_____	_____
TP	1108 241	131.08	120 00	_____	_____
X	10.76		120.39	_____	_____
103	9.80		121.28	117.10	4.18
104=0	8.20		122.88	118.45	4.43

check T.P.

T.P. = one on middle of Page 16

Lat #143 Page 74

900'-10" A.D. = 4.68

1.70

19297
1.70

105:	630	131.08	124.78	120.15	4.63	Lat 14 page 78
106=0	445		126.63	121.85	4.78	200'-8" Av.D = 4.61
107	240		128.68	124.15	4.53	
X	155		129.53	—	—	
TP 1320	192	142.34	129.16	—	—	
X	12.83 ³⁷		129.53	—	—	
108	11.70		130.66	126.45	4.21	Gr = 2.80
109	8.46		133.96	129.25	4.71	
110	5.25		137.11	132.05	5.06	
111	2.95		139.41	134.85	4.56	111 + A = 5 road fence
Grade	0.40		141.96	—	—	575-6" Av.D. = 4.62
111+75	0.90		141.46	136.98	4.48	N road fence
BM	1.59		140.77	—	—	H Spike in first tel. pole E of culvert S side of road
			H			

Main Line Cut Off
Lat # 8

793

3'23"

16'93"

Top of SW cor of SE
Abatement Bridge at Elk Run

BM 819 74.85 66.66

H₂O 16.73 58.12

BM 8.30 66.55

Top NW cor of NE abatement
Same bridge

0 12.35 62.50 58.85 3.65

1 12.05 62.80 59.15 3.65

2 10.80 64.03 59.45 4.58

Trees begin at sta. 2

Tile 13.02 61.83

Top of 16" tile at outlet N side road

H₂O 13.67 61.18

Water level at tile outlet

3 7.70 67.18 59.75 7.43

Note:

4 3.50 71.38 59.90 11.48

5 3.30 71.58 60.05 11.53

This line is located on
550'-21" SR A.R. = 7.05
N side of road 6 willows
between sta 3 & creek
to be removed

6 3.70 71.18 60.20 10.98

Trees begin

7 4.05 70.83 60.35 10.48

at sta. 3 and end at sta

8 4.25 70.63 60.50 10.13

6 5 scattered ones to

X 2.91 71.94

remove beyond this sta.

TD 4.28 32.5 75.88 71.60

X 3.94 75.88 71.94

A

H

H

75.88

7	500	70.88	6065	10.23
10	550	70.38	6080	9.58
11	530	70.58	6095	9.63
12	645	69.43	6110	8.33
13	705	68.83	6125	7.58
14	700	68.88	6140	7.48
BM	392	75.88	71.96	—
BM	371	72.17	—	—
15	890	66.98	6155	5.43
16	905	66.83	6170	5.13
17	790	67.98	6185	6.13
X	454	71.34	—	—
TP	582	68.9	74.81	68.99
X	397	71.34	61.91	6.91
18	590	68.91	62.20	6.71
19	622	68.52	62.65	5.94
20	560	69.21	63.10	6.11

13+94. 3 end of trees S side

See page 117+118 for B.M.

NW cor of S wall of
CONE CulvertNW cor of N wall same
Culvert.~~1500'-21" S.F. Av. D. = 8.26~~

15+25 locate large intake

~~900'-22" Av. D. = 5.90~~

1250'-22" Av. D. = 8.54

18+74 N road fence

43

21	5.40	74.81	69.41	63.55	8.6
22	5.15		69.66	64.00	5.66
23	4.60		70.21	64.95	5.76
24	3.80		71.01	64.90	6.11
25	3.60		71.21	65.35	5.86
X	2.79		72.02	—	—
TP	7.81	3.43	79.19	71.39	—
X	7.18		72.01	—	—
26	7.90		71.29	65.80	5.49
27	7.80		71.39	66.20	5.14
28	7.30		71.89	66.70	5.19
29	6.80		72.39	67.10	5.24
30	5.70		73.49	67.60	5.89
31	4.95		74.24	68.05	5.19
32	5.15		74.04	68.50	5.54
X	4.50		74.69	—	—
TP	6.88	7.91	81.16	74.28	—
X	6.49		74.67	H	H

29+ 84 W road fence
 30+ 38 E " "
 3 trees to remove

33	6.55	81.16	74.61	68.95	5.66	
34	6.50		74.66	69.40	5.26	
35	6.30		74.86	69.85	5.01	
36	6.20		74.96	70.30	4.66	
37	5.05		76.11	^{6r=65} 70.75	5.36	1900'-16" Av.D.=5.63
38	4.80		76.36	71.40	4.96	
39	4.50		76.66	72.05	4.61	
40	3.70		77.46	72.70	4.76	
41	2.70		78.46	73.35	5.11	
42	2.55		78.61	74.00	4.61	
X	12.3		79.93	—	—	
TP	663	140	86.39	79.76	—	
X	648		79.91	—	—	
43	5.75		80.64	74.65	5.99	
44	5.15		81.24	75.30	5.94	77+63 = N S fence
45	5.10		81.29	75.95	5.34	
46	4.70		81.69	76.60	5.09	
			H.	H.	H.	

47	400	86.39	82.39	77.23	5.14
48	355		82.84	77.90	4.94
49	220		84.19	78.55	5.64
BM	134		85.05	—	—
BM	190		84.49	—	—
50	150		84.89	79.20	5.69
X	130		85.89	—	—
TP	941	147	74.33	84.92	—
X	725		85.08	—	—
51	840		85.93	79.85	6.08
52	730		87.03	80.50	6.53
53	760		86.73	81.15	5.58
54=0	715		87.18	81.80	5.38
55	690		87.43	82.45	4.98
56	705		87.28	83.10	4.18
57	530		89.03	84.65	4.38
58	270		91.43	86.20	5.23
		H.	H	H	

Spike in corner post 100' S of
Sta. 49 & Willow tree

Spike in Willow tree near
Sta. 49.

Lat 22 page 118

1700'-14" $\Delta D = 5.78$

59 1.90 9483 9243 8775 4.68 59+93 = N.S. fence

X 10.3 93.30

TP 12.62 171 105.24 92.62

X 11.93 73.31

Gr=230

60 11.50 93.74 89.30 4.44

61 9.55 95.69 91.60 4.09

700' - 10" Av.D. = 4.67

62 6.60 98.64 93.90 4.74

63 4.40 100.84 96.20 4.64

64 2.70 102.54 98.50 4.04

X 0.93 104.31

TP 11.65 119 115.78 104.65

X 11.40 104.30

65 10.65 105.05 100.80 4.25

66 8.20 107.50 103.10 4.40

67 5.90 109.80 105.40 4.40

68=0 3.90 111.80 107.70 4.10

69=0 1.65 114.05 110.00 4.05

H.

H

H

Lot 23 Page 122

800' - 8" Av.D. = 4.30

115.70

X	0.77	114.73	—	—	
TP	12.27	148	126.99	114.22	—
X	11.78	114.71	—	—	
70	10.05	116.44	112.30	4.14	
71	7.60	118.89	114.60	4.29	
BM	4.91	122.08	46	—	Hi point on W end of large boulder 200' W road.
			6+3.00		
72	5.30	121.19	116.90	4.29	
73	2.25	124.24	119.90	4.34	73+21 W road fence
X	1.74	124.75	—	—	73+85 E " "
TP	10.77	218	135.08	124.31	—
X	10.39	124.74	—	—	
BM	5.72	129.36	—	—	Sharp pointed rock. 15' W of Culvert
Grade	5.30	129.78	122.50	—	
BM	4.99	130.60	—	—	SE cor End Wall of concrete Culvert E end
+85	8.00	127.08	122.43	4.63	485'-6" — A.V.D. = 4.29
		H.	H	H	

Test borings
District #7

Sta. — 6 Lat. E2

Sta 6
New
line {

1.5	Black loam
2.0	Yellow Clay
2.0 - 8.3	Sand

This sand fine + runs
on account water

Sta 40
Main {

Sta 40 Main	
0 - 4.0	black <u>Sandy loam</u>
4.0 - 5.5	Sandy loam
5.5 - 8.0	Gravel Coarse.

May - 1 - 1920
Briggs
Hoff
Whelan

/

Lat No 1-B

See page 8 for H.L.
of Lat 8

41=0	420	71.36	67.16	^{Gr=50} 62.80	4.36
1	355		67.81	63.30	4.51
2	3.10		68.26	63.80	4.46
+45	2.80		68.56	64.03	4.53
			_H	_H	_H

245' - 6" A.V.D. = 4.47
E.W. fence

5 willows at end to remove

Lat No -1-E

~~of Lat 8~~

77=0	556	97.26	91.76	^{Gr=1.00} 87.70	4.06
1	455		92.71	^{Gr=1.90} 88.70	4.01
2	225		95.01	90.60	4.41
X	190		95.36	—	—
TP	1060	207	105.79	95.19	—
X	10.45		95.34	—	—
3	880		96.99	92.50	4.49
4	680		98.99	94.40	4.59
5	445		101.34	96.30	5.04
6	290		102.89	98.20	4.69
7	155		104.24	100.10	4.14
			_H	_H	_H

105.79

X	131	104.48	_____	_____	
TP	1245	143	116.81	104.36	_____
X	1233	104.46	_____	_____	
8	1040	106.41	102.00	4.41	
9	855	108.26	103.90	4.36	900'-8" Av.D. = 4.42
10	620	110.61	106.30	4.31	
11	340	113.41	108.70	4.71	
12	120	115.61	111.10	4.51	
X	0.90	115.86	_____	_____	
TP	12.76	0.97	128.54	115.84	_____
X	12.68	115.86	_____	_____	
13	10.86	117.74	113.50	4.24	
14	830	120.24	115.90	4.34	
15	565	122.89	118.50	4.39	15+67 3 road fence
16	065	127.89	121.10	6.79	735'-6" Av.D. = 4.68.
+35	205	126.49	122.01	4.48	N road fence
B.M.	103	127.51	_____	_____	Spike in 1st Elec. pole E of culvert N side road
		H.	H.	H.	

128.54

BM

116

127.38

H

Top of reinf. Wire Southside
S head wall at west end

Lat No 1-F

84=0

566

103.96

98.36

Gr=30

93.20

5.16 of Lat 8

1

645

97.51

Gr=22.5

93.50

4.01 H 3 = EW fence

BM

303

100.93

H₁ point of large boulder 25' S of
EW fence between Stas 1 & 2

2

380

100.16

95.7

4.41

200'-10" AvD = 4.53

3

155

102.41

98.00

4.41

X

166

102.30

TP

844

179

116.66

102.17

X

837

102.29

4+48 = NS fence

4

610

104.56

100.25

1.31

8 willows to remove in

5

375

106.91

102.53

4.41

NS fence line. 5+00 = EW fence

H

H

H

300'-8" AvD. = 4.39

Lat. 1-G

Gr = 12

95-0 130 112.06 110.76 106.3 4.41

113.90

X 2.05 113.39 111.34

TP 278 245 120.72 110.94

X 938 111.34

1 910 111.62 107.60 4.02

2 750 113.22 108.85 4.37

Gr = 1.85

3 630 114.42 110.10 4.32

4 430 116.42 111.95 4.47

5 175 118.97 113.80 5.17

X 156 119.16

TP 1273 184 131.61 118.88

X 12.94 119.17

6 11.95 119.66 115.65 4.01

7 9.95 121.66 117.50 4.16

8 7.35 124.26 119.35 4.91

9 6.00 125.61 121.20 4.41

10 4.15 127.46 123.05 4.41

11 2.20 129.41 124.90 4.51

H.

H

H

See page 16 for H.I.
" " 18 " H.I.

of Lat. #8

8.4
9.6
1.8

131.61

125.90

X 1.76 129.85

TP 6.99 2.11 136.45 129.50

X 6.62 129.83

12 5.10 131.35 126.74 4.60

13 3.60 132.85 128.60 4.25

BM 2.22 134.23

1300'-8" A.V.D. = 4.43

EW fence 2 willows to remove

H₁ point on rock⁹¹ 11' 1/2" willow
front West

Lat. No 1-H

104.50 8.20 131.08 122.88 118.60 4.25

Gr = 60

of Lat +

1 7.70 123.88 119.20 4.18

Gr = 165

2 6.15 124.93 120.85 4.03

3 4.10 126.98 122.50 4.38

4 2.35 128.73 124.10 4.58

Gr = 195

400'-8" A.V.D. = 4.29

X 1.76 129.32

TP 12.31 2.07 141.32 129.61

X 12.00 129.32

5 11.00 130.32 126.10 4.22

H H H

				1.95		
6	920	141.32	132.12	128.05	4.07	
7	650		134.82	130.00	4.82	
8	430		137.02	131.95	5.07	
9	235		138.97	138.90	5.07	
X	109	52	139.63	—	—	
TP	835 483	221	147.46	139.11	—	
X	783 835		139.63	—	—	
10	695		140.51	135.84	4.67	
11	550		141.96	137.80	4.16	11 + 76 = W road fence
12	190		145.56	139.71	5.81	on Road grade
+45	170		145.76	140.62	5.13	FE Road fence 8.45-6" A.D. = 4.70

Lat. No. 1-I

Gr 2.3

106=0	4.45	131.08	126.63	122.04	6.3	of Lat #8
1	14.00	142.36	128.36	124.36	4.06	H.I. from page 20
2	11.55		130.81	126.60	4.21	
3	9.40		132.96	128.90	4.06	
4	6.70		135.66	131.20	4.46	4+79 = S. road fence
5	3.05		139.31	133.55	5.81	Road grade
50 + 52	2.55		139.81	134.65	5.16	550'-6" A.D. = 463
B.M.	0.60		141.76	H	H	SW. cor. of N head wall con. culvert
B.M.	0.93		141.43			NE cor. S. head wall same Culvert
B.M.	2.12		140.24			Spike in Elec. Line pole N of same culvert.

BM	607	61.14	55.07	Spike in fence post See page 2	
36=0	630	54.84	49.20	5.64	of Main
1	745	53.69	49.60	4.09	N-S $\frac{1}{2}$ 1+22 = E-W fence
2	700	54.14	50.00	4.14	Gr=.70
3	590	55.24	50.70	4.54	
4	545	55.69	51.40	4.29	
5	440	56.74	52.10	4.64	
6	435	56.79	52.80	3.99	
7	325	57.89	53.50	4.39	
X	318	56.79			
TP	9.11	3.33	66.92	57.81	
X	8.97	37.95			
8	775	59.17	54.20	4.97	
9	690	60.02	54.90	5.12	
10	655	60.37	55.60	4.77	Gr=.40
11	650	60.42	56.00	4.42	
12	635	60.57	56.40	4.17	
		H.	H	H	

13 600 66.92 60.92 56.80 4.12

14 560 61.32 57.20 4.12

15 430 62.62 57.60 5.02

16 3.50 63.42 58.00 5.42

+ 35 3.75 63.17 58.14 5.03 COR NS E-W fence

1635'-8" - A.V.D. = 460

Millions 100' N & S of front E-W

TP	707	64.07	57.00	————	————	TP at Sta. 8 of Lat. 1
X	621		57.86	————	————	
26=0	700		57.07	5100	6.07	of Lat No 1
1	665		57.42	51.15	6.27	
2	710		56.97	5130	5.67	
3	650		57.57	5145	6.12	
4	570		58.37	5160	6.77	
5=0	560		58.47	51.75	6.72	
6=0	605		58.62	51.90	6.12	
7	605		58.02	52.05	5.97	
X	464		60.03	————	————	
TP	874	556	67.25	58.51	————	
X	723		60.02	————	————	
Pond	10.05		57.20	————	————	Between 7 & 8
8	880		58.45	52.20	6.25	
9	880		58.45	52.35	6.10	
10	8.45		58.80	52.50	6.30	
			H.	H	H	

15

11	825	67.26	59.00	5265.35	
12	860		58.65	52805.85	12+23 road fence
Grade	400		63.25	—————	Top of S. hand rail most Westerly corner conc Culvert
B.M.	250		64.75	—————	
B.M.	206		65.19	—————	Top of N hand rail most W 5 for 14 cor conc Cul
13	760		59.65	52956.70	12+90 = N road fence
14	755		59.70	53106.60	1400'-21" SP Av.D. = 626
15	755		59.70	53256.45	15+80 = N.S. fence 5
X	7.13		60.12	—————	
TP	5.32	7.36	65.21	5989	—————
X	5.11		60.10	—————	
16	540		59.81	53406.41	
17	525		59.96	53556.41	
18	500		60.21	53706.51	
19	510		60.11	53856.26	
20-0	510		60.11	54006.11	
21-0	555		60.16	54156.01	700'-18" - Av.D. = 6.35
Cont. page 106 H H H					

Lat No 2-C

Q=0	6.05	64.07	58.02	Gr=34 52.505.52	of Lat.
1	6.00		58.07	52.855.22.	
2	6.00		58.07	53.204.87	
X	5.30		58.77	—	—
TP	629	5.50	64.86	58.57	—
X	6.09		58.77	—	—
3	6.40		58.46	53.554.91	
4	6.10		58.76	53.904.86	
460	6.30		58.56	54.11	445
			H.	H	H

460'-10" SP A.V.D.=497 N.W. 1/4

Lat.

Lat. 2-E

				Gr=15		
46=0	525	6473	59.48	5400	5.48	of Lat.
1	595		59.28	5415	5.13	
2	535		59.38	5430	5.08	
3	495		59.78	5445	5.33	
4	300		61.73	5460	7.13	
5	340		61.33	5475	6.57	
X	244	57	62.09	—	—	
TP	521	321	66.73	61.52	—	
X	463	58	62.10	—	—	
6	450		60.23	5490	5.33	
7	450		60.23	55.05	5.18	7+61 NS fence
8	435		60.38	55.20	5.18	8+71 EW 1/8 S
B.M.	445		62.28	—	—	spike in cor. post. No. line between stas 768
9	560		61.13	55.35	5.76	
10	490		61.83	55.50	6.33	
11	445		62.28	55.65	6.43	
12	450		62.23	55.80	6.43	
			H. H. 10	H		

15

13	430	66.73	62.43	55.95	6.48
14	430		62.43	56.10	6.33
X	316	72	63.57	_____	_____
TP	713	3.88	69.98	62.85	_____
X	439	72	63.59	_____	_____
15	710		62.88	56.25	6.63
14=0	660		63.38	56.40	6.98
17	630		63.68	57.80	5.88
18	580		64.18	59.20	4.98
19	460		65.38	60.60	4.78
20	340		66.58	60.95	5.63
21	340		66.58	61.30	5.28
22	335		66.63	61.65	4.98
23	350		66.48	62.00	4.48
X	299	27	67.04	_____	_____
TP	8.90	3.21	75.67	66.77	_____
X	8.62	28	67.05	_____	_____

H.

Gr=140

Gr 35

Gr 100

15+76 N.S. fence

1600' 16" A.V.D. = 6.00

75.67

24	760	68.07	63.00	5.07
25	705	68.62	64.00	4.62
26	575	69.92	65.00	4.92
27	530	70.37	66.00	4.37
28	450	71.17	67.00	4.17
+15	370	71.97 _H	67.15	4.82

EW fence 12' 5" - 12" A.V.D. = 5.07

Lat N1 2F

off sta of Lat. 18

TP 5.61 68.46 62.85

See page 98 for T.P.

X 4.87 63.59

TP at sta 14

16 = 6 5.20 63.26 56.50 6.76

0+20 = N.S. fence

1 5.65 62.81 56.65 6.16

2 7.80 62.66 56.80 3.86

Raise 5.95 62.51

100' W. of sta 2

Pond 8.65 59.81

400' " " " Pond

Raise 6.75 61.71

can be taken out 5 by BM

3 6.20 62.26 57.85 4.41

300' - 10 A.V.D. = 5.30

1.05

4	525	68.94	63.21	58.90	4.31
5	410		64.36	59.95	4.41
6	330		65.16	61.00	4.16
X	236	57	66.10	—	—
TP	874	293	74.27	65.53	—
X	816	52	66.11	—	—
7	825		66.02	62.05	3.97
8	650		67.77	63.10	4.67
9	560		68.67	64.15	4.52
+ 15	555		68.72	64.31	4.41
10	410		70.17		
11	360		70.67	EN. END.	
12	325		71.02		
13	200		71.67		
X	168	68	72.59	—	—
TP	585	236	77.76	71.91	—
X	516	61	72.60	—	—

615' - 8" - A.D. = 4.36

 $\frac{1}{4}$ S
 E.W. fence possible end

Stas from here run // to

N 85 $\frac{1}{4}$ S 40' W of same

77.76

14	470	73.06
15	480	72.96
16	500	72.76
17	480	73.26
18	500	72.76
19	460	73.16
20	390	73.86
21	350	74.26
	480	72.96

H.

Ground 300' W sta 18

Lat. 2-B continued
from page 86

22	5.00	6521	60.21	54.30	5.91	444'
23	4.50		60.71	54.45	6.24	
X	4.11		61.10	—	—	
TP	5.60	4.59	66.22	60.62	—	—
X	5.11		61.11	—	—	
24	5.80		60.42	54.60	5.82	
25	5.50		60.72	54.75	5.97	
26	5.25		60.97	54.90	6.07	26+70 E W 1/2
27	5.45		60.77	55.05	5.72	
28	5.45		60.77	55.20	5.57	
29	4.80		61.42	55.35	6.07	
30	4.35		61.87	55.50	6.37	900'-16 AvD = 5.98
31	4.00		62.22	55.70	6.52	
32	3.65		62.57	55.90	6.67	
X	2.07		64.15	—	—	
TP	5.12	3.34	68.00	62.88	—	—
X	3.85		64.15	—	—	

20 1319

149

33	535	68.00	62.65	56.10	6.55	630
34	585		62.15	56.30	5.85	460
35	660		61.40	56.50	4.90	170
36	575		62.25	56.70	5.55	390
37	510		62.90	56.90	6.00	447
38	545		62.55	57.10	5.45	787
39	545		62.55	57.30	5.25	
40	540		_____	_____	_____	
90 + 27	550		62.50	57.48	5.02	
X	241		65.59	_____	_____	
TP	315		64.85	_____	_____	
BM	208		65.92	_____	_____	
			H.			

990'-14" A.V.D. = 583

= Sta 13+60 of Lat. 20

Same T.P. as at end of

Lat. 20

Spike in willow 75' W of E 1/4 cor
of Sec 22 T50'E of end of Lat 20

Ponds off Lat 16

6622

X	211	64.11
TP	566	317 68.70 63.05
X	460	64.10
Pond	665	62.05
Ridge	500	63.70
Pond	740	61.30
Ground	525	63.45
Pond	685	61.85

HA

See page 106 for H.I.

outlet into Lat 16 about

Sta 30

500' W of Sta 31

700' W " " "

1150' W " Sta 31

1400' W " " "

1750' " " " "

Lat. 2-D

21=0 505 6521 60.16 ^{Gr=50} 55.80 4.36 off Lat. 16

1 490 60.31 56.30 4.01

2 425 60.96 ^{Gr=195} 56.80 4.16

3 230 62.91 58.75 4.16

X 195 63.26 — —

TP 875 221 71.78 63.00 — —

X 853 63.25 — —

4 705 64.73 ^{Gr=56} 60.70 4.03

5 450 65.28 61.26 4.02

6 550 66.28 61.82 4.46

7 485 66.93 62.38 4.55

8 450 67.28 62.94 4.34

9 425 67.53 ^{Gr=25} 63.50 4.03

10 330 68.48 63.75 4.73

X 260 69.18 — —

TP 615 300 74.93 68.78 — —

X 577 69.16 — —

H. H H

11	6.15	7493	68.78	64.00	4.78	
12	6.00		68.93	64.25	4.68	
13	5.85		69.08	64.50	4.58	13+00 N road fence
Grade	325		71.68	_____	_____	
14	4.60		70.33	64.75	5.58	1420'-8" Av.D. = 4.48'
+ 20	4.85		70.08	64.80	5.28	5 road fence
BM	4.11		70.82	_____	_____	Spike in first Elec pole E of line N side of road. Near stump
Pond	5.45		69.48	_____	_____	150' E of end of 11170
	5.75		69.18	_____	_____	50' S of above
	4.60		70.33	_____	_____	on ridge
			H.	H	H	

Differential Levels
to cut off

		6800	
X	416		63.84
TP	663	459	7004 63.41
X	621		63.83
Ground	710		<u>62.94</u>
	615		63.89
Pond	620		63.84
"	610		63.94
X	459		65.45
TP	704	491	7217 65.13
X	673		65.44
Ground	765		<u>64.52</u>
Pond	660		65.57
X	400		68.17
TP	741	472	7506 67.45
X	690		68.16
BM	289		72.17
			H.

440
326
314

Ht from page 108

T.P. is	{	628' from inst. &	}
	{	300' N of end Sta. Lat 16	}
		400' " " " " "	
		800' " " " " "	
		900' " " " " "	
		1200' " " " " "	NW of last shot
		1400' " " " " "	
		Ground reading	
		1600' N of end Sta of Lat 16	
		500' S of EW. road	16
		NW cor of N Wall of conc. Culvert.	

7506

NW cor of South Wall of
conc. culvert

BM 3.10 71.96

Lat No 8-B

Gr = 140

54=0 71.5 74.33 87.18 8.3 06 4.18 off Sta 64 of Lat #8

1 51.5 89.18 84.40 4.78

2 43.5 89.98 85.80 4.18

Gr = 175

3 29.0 91.43 87.20 4.23

300' - 10" ^{100'} ^{100'} A.V.D. = 4.34

4 10.0 93.33 88.95 4.38

X 08.9 93.44 — —

TP 1461 138 103.56 92.76 — —

X 14.13 93.43 — —

5 12.35 95.21 90.70 4.51

6 10.75 96.81 92.45 4.36 6+79 = NS fence

Gr = 28.5

7 9.25 98.31 94.20 4.11

8 6.50 101.06 97.05 4.01

Gr = 1.70

9 3.65 103.91 99.90 4.01

10 1.70 105.86 101.60 4.26

H

H

H

X 1.19 107.56 106.37 ~~_____~~

TP 11.52 154 117.54 106.02 ~~_____~~

X 11.17 106.37 ~~_____~~

170

11.75

11 980 107.74 103.30 4.44

4.01

12 780 109.74 105.00 4.74

13 625 111.29 106.70 4.59

14 505 112.49 108.40 4.09

Gr=200

15 3.10 114.44 110.10 4.34

16 105 116.49 112.10 4.39

X 0.75 116.77 ~~_____~~

TP 15.79 0.95 132.58 116.57 ~~_____~~

X 15.58 116.80 ~~_____~~

17 1730 118.58 114.10 4.48

Gr=270

14 11.85 120.53 116.10 4.43

1500'-8" Av.D.=4.34

19 7.90 122.98 118.80 4.18

20 635 126.03 121.50 4.53

21 390 128.48 124.20 4.28

Lat. 8-C

Gr = 1.10

69=0 105 115.70 114.05 110.00 4.05 off 69 at Lat 8
 1 11.05 126.49 115.44 111.10 4.34 See page 34 for H.I.
 2 8.40 118.09 114.00 4.09
 3 5.55 120.94 116.90 4.04
 4 2.55 123.94 119.80 4.14
 X 2.11 124.38 —————

TP 12.01 2.43 136.07 124.06 —————

X 11.70 124.37 —————

5 8.70 127.37 123.10 4.27 $\frac{6}{5} + 78$ W road fence
 Gr = 4.40

6 5.50 130.57 126.40 4.17

X 11.4 134.91 —————

TP 8.74 16.5 143.16 134.42 —————

X 8.26 134.90 —————

7 5.20 137.96 130.80 7.16 on grade

+55 5.35 137.81 133.38 4.43 7.55 - 6" Av.D. = 4.52
 BM 4.64 138.52 —————
 spike in phone pole at end of line E side of road

H.

H

H

Lat No 8-B

Continued from P-120

X	1.82	132.38	130.56	_____	_____	
TP 1159	195	142.02	130.43	_____	_____	
X	1147		130.55	_____	_____	
22	10.25	131.77	126.90	4.87	22 + 74	Wread fence
23	5.20	134.82	129.60	7.22	On grade	
+45	6.75	135.27	130.82	4.45	E Road fence	
1311	385	138.17	H	H	5.95-6" A.W.D. = 4.86	
		H.			SE cor of East wing wall	
					conc culvert	

TP	490	73 89 68 99	_____	
Y	254	71 35	^{71 35} _____	Off Main of Cut off
18=0	495	68.94	^{Gr=15} 63.24	5.70 at 44 = 5 road fence
1	485	69 04	63.39	5.65
2	505	68 84	63.54	5.30
3	550	68 39	63.69	4.70
4	380	70 09	63.84	6.25
5	330	70 59	63.99	6.60
6	280	71 09	64.14	6.95
7	200	71.89	64.29	7.60
8	200	71 89	64.44	7.45
X	151	72 38	_____	_____
TP	615	177	78 27	72 12 _____
X	590	72 37	_____	_____
9	675	71 52	64.59	6.93
10	740	70.87	64.74	6.13 10+62 = NS fence
11	790	70.37	64.89	5.48
		H.	H	H

				15		
12	755	7827	70.72	65.04	5.68	
13	815		70.12	65.19	4.93	
14	850		69.77	65.34	4.43	
15	770		70.51	65.49	5.08	
16	740		70.87	65.64	5.23	1600' - 14" Av.D. = 5.89
17	730		70.97	66.56	4.41	
18	625		72.02	67.48	4.54	
X	582		72.45	—	—	
TP	11.09	6.08	83.28	72.19	—	
X	1083		72.45	—	—	
19	970		73.58	68.40	5.18	
20	875		74.53	69.32	5.21	
21	820		75.08	70.24	4.84	
22	730		75.98	71.16	4.82	
23	665		76.53	72.08	4.45	
24	600		77.28	73.00	4.28	2.7 + 95 = NS fence
#45	570		77.58	73.46	4.12	2 willows to remove
		H.	H	H		

Ridge	365	83.28	79.63	—	—	100' 5	Sta 29+95
Draw	710		76.28	—	—	400' 5	" " "
End	740		73.88	—	—	250' 5E	" 15
25-	390		79.38	74.00	5.38		
26	330		79.98	75.00	4.98	1000'-10"	Av.D. = 4.85
27	260		80.68	76.00	4.68		
28	160		81.68	77.00	4.68		
X	0.99		82.29	—	—		
TP	1168	146	93.50	81.82	—		
X	1122		84.28	—	—		
29	1090		82.60	78.00	4.60		
30	785		83.65	79.00	4.65		
31	910		84.40	80.00	4.40		
32	715		86.35	81.00	5.35		
33	575		87.75	82.00	5.75		
34	490		89.10	83.00	6.10		
35	390		90.10	84.00	6.10		
			H.	H	H		

500

36 350 93.50 90.00 8500 500

Gr=2.60

37 335 90.15 86.00 4.15

38 0.60 92.90 88.60 4.30

+20 -1.50 94.00 89.12 4.88

H.

H

H

1220' - 8" A.V.D. = 4.97

N.S. fence

TP 990 8 5.72 75.82 — —

X 8.88 76.85 — —

52=0 ~~190~~ ~~(77.1)~~ 75.72 ^{Gr. 80} 71.40 4.32

1 9.05 76.67 7220 4.47

2 8.60 77.12 7300 4.12

3 7.45 78.27 7380 4.47

4 6.40 79.32 7460 4.72

5 5.30 80.42 7540 5.02

Grade 2.90 82.82 — —

6 4.80 80.92 76.20 4.62

+ 5 4.80 80.92 76.24 4.68

13 M 158 84.14 — —

13 M 172 84.00 — —
H H H

See page 10 for H.I.

off Lat 8

5+53 = W Road fence

605'-12" A.V.D. = 4.55

E Road fence

NE cor E wall culvert

NW cor W wall culvert

See Page 8 for H.I.

T.P. at Sta 44 Lat 8

TP 777 77.98 70.21 — —

X 7.60 77.98 70.38 — —
25

44=0 70.24 64.65 5.61

of Lat #8

1 7.90 70.08 64.90 5.18

2 8.05 69.93 65.15 4.78

3 7.85 70.13 65.40 4.73

300'-14" Av.D. = 496

4 7.15 70.83 66.20 4.63

5 5.75 72.23 67.00 5.23

6 4.90 73.08 67.80 5.28

7 3.20 74.78 68.60 6.18

8 2.95 75.03 69.40 5.63

9 2.70 75.28 70.20 5.08

X 2.41 75.57 — —

TP 1073 2.68 76.03 75.30 — —

X 10.98 75.35 — —

10 10.10 75.93 71.00 4.93

700'-12 Av.D. = 521

11 8.70 77.33 72.30 5.03

H. H. H.

130

12	810	86.03	77.93	73.60	433	
13	410		79.93	74.90	503	
14	465		81.38	76.20	518	
15	335		82.68	77.50	518	
16	210		83.93	78.80	513	
X	179		84.24	—	—	
TP 1041	210	94.28	83.87	—	—	
X	10.05		84.23	—	—	
17	940		84.88	8010	4.78	
18	795		86.33	8140	4.93	
19	670		87.58	82.70	488	
20	465		89.63	8400	5.63	20 + 90 W road fence
21	465		90.23	8530	4.93	Line crosses slightly
Grade	185		92.43	—	—	N of Culvert
+			—	—	—	E road fence = 21 + 55
BM	172		92.56	—	—	E of W wall of culvert
BM	169		92.59	—	—	2 ft from S end
			H.	H	H	on E wall of culvert
						Wedge 2' from S end

138

22	300	94.28	91.28	86.60	4.68	1200'-10" A.D. = 4.97
23	220		92.08	87.90	4.18	
X	211		92.18	—	—	9.38
TP	12.09	22.9	104.08	91.99	—	
X	11.92		92.16	—	—	
24	1035		93.73	89.20	4.53	
25	915		94.93	90.50	4.43	
26	820		95.88	91.80	4.08	
27	635		97.73	93.10	4.63	
28	420		99.88	95.10	4.78	600'-8" A.D. = 4.47
29	270		101.38	97.10	4.28	
30	050		103.58	99.10	4.48	
X	022		103.86	—	—	
TP	13.39	0.43	117.09	103.65	—	
X	13.20		103.84	—	—	
31	11.70		105.34	101.10	4.24	
32	9.70		107.34	103.10	4.24	
			H.	H.	H.	

33	6.90	117.04	110.14	105.10	5.04	
34	5.60		111.44	107.10	4.34	34+41 N road fence
Grade	120		115.84	—	—	
35	3.05		113.99	109.10	4.89	725'-6" A.V.D. - 458
+25	2.50		114.54 H.	109.60 H	4.94 H	S road fence

TP	800	70.32	62.32	—	—
X.	640	63.92	—	—	—
		62.65	Gr = .60		
30-0	755	62.77	58.50	4.15	
1	680	63.52	59.10	4.42	
2	640	63.92	59.70	4.22	
3	525	65.07	60.30	4.77	
4	490	65.42	60.90	4.52	
5	350	66.82	61.50	5.32	
6	315	67.17	62.10	5.07	
7	270	67.62	62.70	4.92	
X	233	67.99	—	—	

TP 10.10 265 77.77 62.67 — —

X	977	68.00	—	—	
8	995	67.92	63.30	4.62	
9	965	68.12	63.90	4.22	
10	835	69.42	64.50	4.92	
		Gr = 1.15			
11	825	69.52	65.10	4.42	
		H	H	H	

TP at Sta 26 Lat 8

See page 6 for H.I.
of Lat. 8

Line hits ditch at Sta. 9.

				115	
12	675	72.77	71.02	66.25	4.77
13	435		73.42	67.40	6.02
14	270		75.07	68.55	6.52
15	250		75.27	69.70	5.57
X	247		75.30	_____	_____
TP	915	288	84.04	74.89	_____
X	875		75.29	_____	_____
16	765		76.39	70.85	5.54
17	690		77.14	72.00	5.14
18	615		77.89	73.15	4.74
19	500		79.04	74.30	4.74
20	385		80.19	75.45	4.74
pitch	510		78.94	_____	_____
			H.	H	H

2000'-12" A.V.D. = 4.92
 14 trees ^{distance} along line
 to be removed
 at end of line

10/35

New location

Lateral E[#]2 (F[#]2)=49
31 of E = 0 Lat. E2.

Bearing N 64° E From 31 "E"

New Lat #2-EB.M. 3.50 65.78. (62.28) —
49 of Lat #2 = 0 69.53 Gr. = 13
5.8 60.0 53.86 6.67

This book Pg. 96.

1 7.1 58.7 53.99 4.71

2 5.9 59.9 54.12 5.78

3 5.8 60.0 54.25 5.75

4 6.0 59.8 54.38 5.42

4+10 E+W. PL

5 5.4 60.4 54.51 5.89

Willow 20' S. line

5+40 L — — L NE.

6 5.0 60.8 54.64 6.16

7 5.2 60.6 54.77 5.83

8 4.3 61.5 54.90 6.60

T.P. 7.05 68.65 4.18 61.60 — —

6.54 68.62 3.70 62.08 — —

A A A

				.13		
9	68.63	7.1	61.5	55.03	6.47	
10		8.0	60.6	55.16	5.44	
11		8.5	60.1	55.29	4.81	
<u>12</u>		7.0	<u>59.6</u>	—	—	Control Pt. lowest.
12		8.0	60.6	55.42	5.18	
12+50 L.		6.1	62.5	55.48	7.00	L. east.
13		5.4	63.2	Gr=1.00 55.55	7.65	1300' - 15' 5" P. Av. D. = 5.88
14		7.5	61.1	56.55	4.55	
15		5.6	62.0	57.55	5.45	15+28 N+5 P.L.
16		4.8	62.8	58.55	5.25	
T.P.	8.09	73.42	3.30	65.33	—	
	7.92	73.36	3.19	65.44	—	
17	73.39	8.0	65.4	Gr=.40 59.55	5.85	
18		8.2	65.2	59.95	5.25	
19		8.1	65.2	60.35	4.95	
19+41 L.		8.1	65.3	—	—	L. N.
20		7.9	65.5	60.75	4.75	
21		7.8	65.6	61.15	4.45	
			A		A	

22	72.39	7.3	66.1	Gr.=1.05 61.55	4.55	900'-12"	Av. D.=5.27
23		6.0	67.4	62.60	4.80		
24		5.0	68.4	63.65	4.75		
25		4.2	69.2	64.70	4.50		
26				—	—		
B.M.	1.69	75.08	0.00	(72.39)	—	Nail Cox Post 500' W. line	
26		5.0	70.1	65.75	4.35		
27		3.4	71.7	66.80	4.90		
28		2.4	72.7	67.85	4.85		
28+27 L		2.2	72.9	—	—	L. due North.	
29		0.9	74.2	68.90	5.30		
T.P.	9.44	82.27	2.25	72.83	—		
	8.95	82.25	1.78	73.30	—		
30		82.26	6.6	75.7	69.95	5.75	
31			6.3	76.0	71.00	5.00	
31+59 L			6.2	76.1	—	—	L. NE.
32			5.5	76.8	72.05	4.75	1000'-10" Av. D.=4.86
33			4.8	77.5	73.10	4.40	
			A		A		

34	82.26	2.9	78.4	74.15	4.25	
35		2.6	79.7	75.20	4.50	
36		0.7	81.6	77.50	4.10	416'-8" $Av. D = 4.57$
36+16	+ 1	83.3	77.87	5.43		40 Cor. End (E2)
		A	A	A		on E+W #
	Lateral F^2					

T.P.	4.04	69.37	65.33		(Pg. 150)
	3.89	69.33	65.44		
		69.25			

O = 12+50 (E2)		62.5	55.80	6.70	12+50 E2
----------------	--	------	-------	------	----------

1	8.1	61.2	55.95	5.17	
	9.1	(60.2)	56.00	4.30	Control pt.

1+89 L	8.7	60.6	56.14		L North
--------	-----	------	-------	--	---------

2	8.4	60.9	56.10	4.80	200'-10" $Av. D = 5.56$
---	-----	------	-------	------	-------------------------

3	6.6	62.7	57.40	5.30	
---	-----	------	-------	------	--

4	5.6	63.7	58.70	5.00	
---	-----	------	-------	------	--

5	4.6	64.7	60.00	4.70	
---	-----	------	-------	------	--

6	3.6	65.7	61.30	4.40	
---	-----	------	-------	------	--

7	2.2	67.1	62.60	4.50	
		A	A	A	

156

8

69.35 1.2 68.1 63.90

8+21

1.0 68.3 64.17

B.M.

3.91

(65.44)

A

A

May - 1 157
~~Apr - 20 - 20~~
 Briggs
 Hoff
 Whalen -

4.20

4.13

End F.2 E+W. P.L.

Nail oak F.P. with concrete on
 A base 34 F.P. N. Sta 15+28.
 621'-8" Av. D. = 4.63

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

ROADWAY 14 FEET WIDE. SIDE SLOPES $1\frac{1}{2}$ TO 1.

FOR SINGLE TRACK EMBANKMENT.

	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	
0	7.0	7.2	7.3	7.5	7.6	7.8	7.9	8.1	8.2	8.4	0
1	8.5	8.7	8.8	9.0	9.1	9.3	9.4	9.6	9.7	9.9	1
2	10.0	10.2	10.3	10.5	10.6	10.8	10.9	11.1	11.2	11.4	2
3	11.5	11.7	11.8	12.0	12.1	12.3	12.4	12.6	12.7	12.9	3
4	13.0	13.2	13.3	13.5	13.6	13.8	13.9	14.1	14.2	14.4	4
5	14.5	14.7	14.8	15.0	15.1	15.3	15.4	15.6	15.7	15.9	5
6	16.0	16.2	16.3	16.5	16.6	16.8	16.9	17.1	17.2	17.4	6
7	17.5	17.7	17.8	18.0	18.1	18.3	18.4	18.6	18.7	18.9	7
8	19.0	19.2	19.3	19.5	19.6	19.8	19.9	20.1	20.2	20.4	8
9	20.5	20.7	20.8	21.0	21.1	21.3	21.4	21.6	21.7	21.9	9
10	22.0	22.2	22.3	22.5	22.6	22.8	22.9	23.1	23.2	23.4	10
11	23.5	23.7	23.8	24.0	24.1	24.3	24.4	24.6	24.7	24.9	11
12	25.0	25.2	25.3	25.5	25.6	25.8	25.9	26.1	26.2	26.4	12
13	26.5	26.7	26.8	27.0	27.1	27.3	27.4	27.6	27.7	27.9	13
14	28.0	28.2	28.3	28.5	28.6	28.8	28.9	29.1	29.2	29.4	14
15	29.5	29.7	29.8	30.0	30.1	30.3	30.4	30.6	30.7	30.9	15
16	31.0	31.2	31.3	31.5	31.6	31.8	31.9	32.1	32.2	32.4	16
17	32.5	32.7	32.8	33.0	33.1	33.3	33.4	33.6	33.7	33.9	17
18	34.0	34.2	34.3	34.5	34.6	34.8	34.9	35.1	35.2	35.4	18
19	35.5	35.7	35.8	36.0	36.1	36.3	36.4	36.6	36.7	36.9	19
20	37.0	37.2	37.3	37.5	37.6	37.8	37.9	38.1	38.2	38.4	20
21	38.5	38.7	38.8	39.0	39.1	39.3	39.4	39.6	39.7	39.9	21
22	40.0	40.2	40.3	40.5	40.6	40.8	40.9	41.1	41.2	41.4	22
23	41.5	41.7	41.8	42.0	42.1	42.3	42.4	42.6	42.7	42.9	23
24	43.0	43.2	43.3	43.5	43.6	43.8	43.9	44.1	44.2	44.4	24
25	44.5	44.7	44.8	45.0	45.1	45.3	45.4	45.6	45.7	45.9	25
26	46.0	46.2	46.3	46.5	46.6	46.8	46.9	47.1	47.2	47.4	26
27	47.5	47.7	47.8	48.0	48.1	48.3	48.4	48.6	48.7	48.9	27
28	49.0	49.2	49.3	49.5	49.6	49.8	49.9	50.1	50.2	50.4	28
29	50.5	50.7	50.8	51.0	51.1	51.3	51.4	51.6	51.7	51.9	29
30	52.0	52.2	52.3	52.5	52.6	52.8	52.9	53.1	53.2	53.4	30
31	53.5	53.7	53.8	54.0	54.1	54.3	54.4	54.6	54.7	54.9	31
32	55.0	55.2	55.3	55.5	55.6	55.8	55.9	56.1	56.2	56.4	32
33	56.5	56.7	56.8	57.0	57.1	57.3	57.4	57.6	57.7	57.9	33
34	58.0	58.2	58.3	58.5	58.6	58.8	58.9	59.1	59.2	59.4	34
35	59.5	59.7	59.8	60.0	60.1	60.3	60.4	60.6	60.7	60.9	35
36	61.0	61.2	61.3	61.5	61.6	61.8	61.9	62.1	62.2	62.4	36

Calculated by Jullen A. Hall, M. Am. Soc. C. E.