

3-A

K & E  
FIELD BOOK  
360

173-A

Cut = + } in cross section  
 Fill = - } notes

# 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.

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	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.

For Keith's Railroad Curve Tables see end of book.



CAR 22 - Bet. sec 23+24 T134 R31 W - No. May Two

Level Notes for Profile + Cross section (Fill)

Sta	+	H.I	-	Elev	
BM 1	4.96	104.96		100.00	
0+00 ✓			2.6	102.4	
0+50 ✓			5.4	99.6	
1+00 ✓			7.2	97.8	
2+00 ✓			8.8	96.2	
2+50 ✓			9.1	95.9	
3+00 ✓			9.5	95.5	Si. Edge of water
3+50 ✓			10.1	94.9	
Surf. H <sub>2</sub> O			9.5	95.5	
4+00 ✓			10.4	94.6	
4+50 ✓			9.3	95.7	W. edge of water
5+00			8.0	97.0	
5+50 ✓			6.6	98.4	
6+00			4.5	100.5	
6+50 ✓			2.3	102.7	
7+00 ✓			0.0	105.0	
7+50 ✓				106.6	crest of hill
T.P	7.57	112.05	0.48	104.48	
BM 2			0.87	111.18	

Oct. 22, 1941

Partly Cloudy, Warm

J.R. Tetlie  
Rod Roy Farber 2  
Chain Irwin Brush

L.	E	Rt.				
Nail in 4" Jack Pine 50' W. from A 0+00						
$\frac{29}{4.8}$	$\frac{17}{4.4}$	$\frac{12}{3.0}$	$\frac{00}{2.6}$	$\frac{12}{2.6}$	$\frac{18}{4.6}$	$\frac{25}{3.8}$
A 0+00 about $\frac{1}{4}$ mi. N. from C.A.R. No. 22						
$\frac{29}{7.3}$	$\frac{17}{7.3}$	$\frac{11}{5.9}$	$\frac{00}{5.4}$	$\frac{12}{5.8}$	$\frac{18}{6.8}$	$\frac{25}{6.2}$
$\frac{30}{8.8}$	$\frac{18}{8.6}$	$\frac{11}{7.6}$	$\frac{00}{7.2}$	$\frac{14}{7.3}$	$\frac{19}{7.9}$	$\frac{25}{8.0}$
$\frac{21}{12.1}$	$\frac{15}{10.7}$	$\frac{11}{9.4}$	$\frac{00}{8.8}$	$\frac{14}{9.0}$	$\frac{16}{10.6}$	$\frac{24}{9.3}$
$\frac{20}{12.2}$	$\frac{15}{10.8}$	$\frac{12}{9.5}$	$\frac{00}{9.1}$	$\frac{14}{9.8}$	$\frac{21}{10.2}$	$\frac{28}{9.2}$
$\frac{20}{12.2}$	$\frac{15}{11.2}$	$\frac{11}{9.7}$	$\frac{0}{9.5}$	$\frac{12}{9.8}$	$\frac{16}{11.2}$	$\frac{25}{11.3}$
$\frac{22}{12.6}$	$\frac{17}{11.7}$	$\frac{12}{9.9}$	$\frac{0}{10.1}$	$\frac{12}{9.9}$	$\frac{16}{11.5}$	$\frac{20}{11.8}$
$\frac{22}{12.7}$	$\frac{16}{11.5}$	$\frac{12}{10.0}$	$\frac{00}{10.4}$	$\frac{10}{10.0}$	$\frac{14}{11.3}$	$\frac{20}{12.2}$
$\frac{25}{11.2}$	$\frac{15}{11.0}$	$\frac{11}{9.5}$	$\frac{00}{9.3}$	$\frac{10}{9.6}$	$\frac{14}{11.2}$	$\frac{20}{12.2}$
$\frac{25}{9.2}$	$\frac{15}{9.0}$	$\frac{11}{7.5}$	$\frac{0}{8.0}$	$\frac{10}{7.6}$	$\frac{14}{9.2}$	$\frac{20}{10.4}$
$\frac{28}{5.8}$	$\frac{18}{7.7}$	$\frac{12}{6.7}$	$\frac{00}{6.6}$	$\frac{11}{7.2}$	$\frac{14}{7.9}$	$\frac{19}{6.9}$
$\frac{25}{3.7}$	$\frac{18}{6.8}$	$\frac{12}{4.9}$	$\frac{0}{4.5}$	$\frac{11}{4.9}$	$\frac{18}{6.3}$	$\frac{26}{6.5}$
$\frac{25}{1.5}$	$\frac{18}{4.6}$	$\frac{12}{2.7}$	$\frac{00}{2.3}$	$\frac{11}{2.7}$	$\frac{18}{4.1}$	$\frac{26}{4.3}$
$\frac{25}{0.5}$	$\frac{17}{1.1}$	$\frac{12}{0.0}$	$\frac{00}{0.0}$	$\frac{10}{0.5}$	$\frac{18}{2.3}$	$\frac{25}{2.3}$

crest of hill is 1.6' higher  
Stakes offset 25' East except in swamp  
Nail in post W. side of road - N.E. cor. of SE  $\frac{1}{4}$  sec 23  
Platted Oct 30, 1941.

CAR No. 33 E. Gull Lake Top., R 29-T 133  
 Level Notes for Profile + Cross section (Fill)

Sta.	+	H.I.	-	Elev.	
B.M. 1	0.96	100.96		100.00	
0+00			2.4	98.6	crest of N. Hill
0+50			4.4	96.6	
1+00			7.0	94.0	
1+50			10.7	90.3	
2+00					
T.P.	0.15	88.61	12.5	88.46	
2+00			2.0	86.6	
2+50			5.6	83.0	
3+00			9.0	79.6	N. Edge of swamp
T.P.	3.65	80.86	11.4	77.21	
3+70			4.4	76.5	
4+00			5.0	75.9	
5+00			4.8	76.1	
5+50			5.0	75.9	
6+00			5.1	75.8	
6+50			4.8	76.1	
7+00			3.3	77.6	
surface of water			5.2	75.7	
7+40			1.2	79.7	S. Edge of swamp
T.P.	12.1	92.67	0.29	80.57	
8+00			8.1	84.6	

Oct. 23, 1941

Clear, Frosty to Warm.

J. R. Tettie  
 Rod Roy Farber  
 Chain Irwin Brush

3

All Fills

L  $\frac{\$}{\text{about}}$  RT  
 Nail in S. side 14" Jack Pine 58' S.W. from Sta. 0+00

1052' S. from intersection T.H. 210 + CAR No 33  
 Road level to North

33	15	0	12	17	33
+ 2.0	+ 3.0	+ 2.4	+ 2.9	+ 3.3	+ 1.4
33	20	17	14	14	33
+ 1.8	2.2	4.2	4.4	4.8	3.4
33	23	18	13	19	33
3.2	3.3	7.6	7.0	8.0	3.4
33	26	18	14	24	33
6.6	6.4	10.9	10.7	11.1	4.6
33	27			25	33
(EL. 29.2) 11.8	(29.7) 11.3			(93.7) 7.3	(EL. 93.8) 7.2

13  
2.5

33	21	0	13	18	33
6.7	6.3	5.6	5.9	7.0	3.3
33	17	11	13	21	33
12.4	12.2	9.2	7.5	12.0	12.6

Deep water	LO	19	14	10	0	11	16	21	LO
	7.7	7.0	4.7	4.4	4.8	7.7	9.1	LO	
	7.8	7.6	5.2	5.0	5.2	7.6	7.8	LO	
	7.3	7.8	5.6	4.8	5.7	8.2	8.2	LO	
	8.1	7.4	5.6	5.0	5.4	7.8	7.9	LO	
	7.9	7.8	5.8	5.1	5.7	7.5	8.0	LO	
	7.9	7.4	5.3	4.8	5.3	7.9	7.9	LO	
	7.6	6.8	5.7	5.3	5.7	7.5	7.6	LO	

33	16	11	0	12	25	33
4.2	3.9	1.5	1.2	1.8	6.1	8.3
33	14	11	0	12	25	33
4.1	6.0	8.4	8.7	8.5		8.8

$\frac{\$}{\text{stakes}}$  offset 25' E. except in swamp

CAR No. 33 cont'd

Sta.	+	H.I.	-	Elev
T.P.	6.2	98.42	0.45	92.22 ✓
8+50 ✓			10.1	88.3
9+00 ✓			7.4	91.0
10+00			3.1	95.3 ✓ crest of S. Hill
BM 2			1.03	97.39 ✓

OCT. 23, 1941

Clear - Warm

J.R. Tetlic  
Rod Ray Farber  
Chain Irwin Brush

4

L		±	R	
$\frac{33}{3.7}$	$\frac{19}{3.8}$	$\frac{11}{10.5}$	$\frac{0}{10.7}$	$\frac{12}{10.8}$
$\frac{33}{11.4}$	$\frac{18}{2.0}$	$\frac{11}{7.7}$	$\frac{0}{7.4}$	$\frac{18}{7.9}$
Road level to south		$\frac{33}{2.6}$	$\frac{15}{3.9}$	$\frac{0}{3.1}$
			$\frac{18}{3.2}$	$\frac{33}{2.3}$

Nail in 12" Red Oak 45.5' W from Δ 10+00.

± stakes offset 25' E. except in swamp

CAR No 11, T134N-R31W. Bet. sec <sup>Mar</sup> 4<sub>N</sub> + sec 33, Meadow Brk. and bet. secs 4+5, 8+9 No. May Twp.

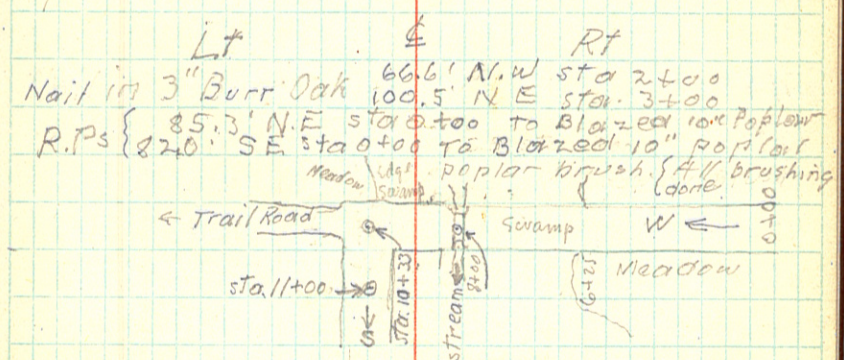
Nov. 7+8, 1941  
Cloudy

T. J. Rettie. 5  
Red. Henry E. Dilley  
Chain Anton O. Hanson

Level notes for Profile and X-sections

Sta	+	HI	-	Elev	
BM	0.48	100.48		100.00	
0+00			-0.2	100.3	
1+00			0.9	99.6	
2+00			4.1	96.4	
3+00			2.8	91.7	
T.P.	0.25	88.38	12.35	88.13	
4+00			1.7	86.7	00 sec
4+50			5.4	83.0	
5+00			8.8	79.6	
6+00			11.5	76.9	6+25 Edge swa
T.P.	3.35	80.17	11.56	76.82	
7+00			3.7	76.5	
7+96			3.9	76.3	E. edge of stream
8+00			3.96	76.2	Top of bridge 16' x 12'
			5.5	74.7	surt. of water in creek
8+0'			7.3	72.9	Bed of stream w. edge of stream
8+6'			4.2	76.0	
9+00			4.1	76.1	
10+00			4.3	75.9	
10+33			3.6	76.6	peat surface
BM			1.08	79.09	
Surface of Water in Swamp			5.3	74.9	

Stakes offset 23' Rt. (Sta. 10+33 on E. of Sta. 0+00 to 10+33 E. to south, both roads)



33	20	16	13	0	16	20	27	33
7.1	6.8	8.4	6.2	5.4	5.1	6.5	6.8	7.1
33	20	16	13	0	12	20	3	33
10.2	9.8	11.3	10.0	8.8	8.7	10.4	8.9	6.7
33	19	15	10	0	12	20		33
13.0	12.5	13.0	12.0	11.5	11.6	11.9		16.2

33	16	10	0	12	16	33
5.8	5.6	4.0	3.7	4.0	5.2	5.3
33	20	8	0	11	14	23
5.2	5.2	3.6	3.9	3.7	5.8	5.0

Stream Bed-El. 72.6 7.6 3.96 7.0 stream Bed-El. 73.2

3.2' Bed of stream to present grade; 5.1' to new grade

20	8	0	11	15	23
5.5	3.9	4.2	4.0	6.1	5.3
33	15	11	0	11	15
5.5	5.3	4.3	4.1	4.3	5.5
33	16	11	0	12	13
5.4	5.5	3.9	4.3	4.5	5.9

Intersection of E-S 25 of E-W + N-S Roads 5.4 3.6 4.2 4.5 2.5 4.5 1.0

110' N. Sta. 10+33 - Nail in 14" Poplar

	+	H1	-	Elev.	
		80.17			
✓ 11+00			3.8	76.4	peat surface
✓ 12+00			3.3	76.9	"
✓ 13+00			3.8	76.4	"
✓ 14+00			4.3	75.9	"
✓ 15+00			4.2	76.0	"
✓ 16+00			4.6	75.6	"
✓ 17+00			4.6	75.6	"
✓ 18+00			4.4	75.8	"
✓ 19+00			4.6	75.6	"
T.P.	5.84	81.41	4.6	75.57	"
✓ 20+00			5.4	76.0	"
✓ 21+00			5.0	76.4	good surface
✓ 22+00			4.7	76.7	"
✓ 23+00			5.0	76.4	"
✓ 24+00			5.9	75.5	"
✓ 25+00			6.4	75.0	peat
✓ 26+00			7.1	74.3	Peat
✓ 27+00			7.3	74.1	"
✓ 28+00			7.5	73.9	"
✓ 29+00			7.5	73.9	"
✓ 30+00			7.1	74.3	good surf
✓ 31+00			6.1	75.3	"
✓ 32+00			4.6	76.8	good surf

stakes offset 23° Rt

	LT	±	Rt	
✓ LD	$\frac{20}{5.1}$	$\frac{16}{6.9}$	$\frac{17}{4.7}$	$\frac{0}{3.8}$
✓ LD	$\frac{22}{4.6}$	$\frac{16}{6.2}$	$\frac{10}{3.8}$	$\frac{0}{3.3}$
LD	$\frac{21}{5.4}$	$\frac{16}{6.6}$	$\frac{12}{4.8}$	$\frac{0}{4.3}$
				$\frac{11}{4.0}$
				$\frac{15}{5.3}$
				$\frac{20}{4.0}$
				$\frac{15}{5.3}$
				$\frac{19}{3.2}$
				$\frac{14}{6.3}$
				$\frac{18}{4.6}$
				LD

✓

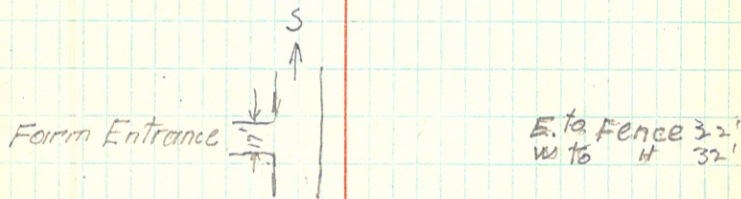


CAR Nail cont

	+	HI	-	Elev
TP	7.15	86.51	2.05	79.36
33+00			5.9	80.6
34+00			1.6	84.9
TP	8.45	94.68	0.28	86.23 <sup>04</sup>
35+00			6.9	87.8
36+00			3.7	91.0
37+00			3.5	91.2
38+00			6.2	88.5
39+00			11.0	83.7
B.M.			6.70	87.98
TP	0.15	82.61	12.22	82.46
40+00			2.1	80.5
41+00			4.0	78.6
42+00			6.1	76.5
43+00			7.9	74.7
44+00			9.4	73.2
45+00			10.3	72.3
46+00			10.7	71.9 clay soil
47+00			11.0	71.6
48+00			11.3	71.3
TP	1.26	72.72	11.15	71.46 <sup>04</sup>
49+00			1.7	71.0
50+00			2.4	70.3

stakes offset 28' RT

34+37' Fence on both sides W to fence 32'  
E " " 34'



Nail in Top of Mail Box post 17' N.E. side 39+00

sta 48+44' end of Fence E side 27' To fence 30'

33/1.8    21/2.1    17/4.4    12/2.5    0/2.4    14/3.2    18/4.5    21/3.5    L6

	+	H1	-	Elev	
✓ 51+00		72.72	4.5	68.2	clay soft
✓ 52+00			5.9	66.8	"
✓ 53+00			6.5	66.2	"
✓ 53+37			6.9	65.8	N. edge of creek
✓ 53+42			11.1	61.6	Bed of creek
			11.3	61.4	s. edge of creek
✓ 53+48			6.7	66.0	
✓ sur. of water			9.3	63.4	
Top of Bridge			6.7	66.0	
B.M			6.15	66.57	
✓ 54+00			5.5	67.2	
✓ 55+00			3.4	69.3	
✓ 56+00			-0.2	72.9	

Nov. 8, 1941

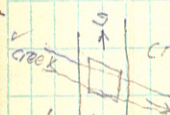
	Lt		+	Rt	
✓	$\frac{33}{6.3}$	$\frac{19}{6.1}$	$\frac{14}{4.7}$	$\frac{12}{4.9}$	$\frac{18}{6.3}$
✓ LO	$\frac{19}{6.2}$	$\frac{16}{7.7}$	$\frac{12}{6.1}$	$\frac{11}{6.1}$	$\frac{18}{8.2}$
✓ LO	$\frac{20}{7.4}$	$\frac{17}{8.3}$	$\frac{12}{6.7}$	$\frac{11}{6.8}$	$\frac{18}{8.2}$
✓	LO	$\frac{18}{8.7}$	$\frac{12}{7.1}$	$\frac{12}{7.2}$	$\frac{22}{8.5}$
✓			$\frac{10}{11.1}$	$\frac{10}{11.3}$	$\frac{30}{11.4}$
			$\frac{30}{11.0}$	$\frac{18}{8.5}$	$\frac{12}{6.9}$
			$\frac{0}{6.7}$	$\frac{12}{7.0}$	$\frac{22}{8.3}$

18'x12' wood bridge  
 (4.4' creek bed to present grade)

25" Lt. from sta 53+48 Nail 12"

✓ LO	$\frac{18}{7.6}$	$\frac{11}{5.8}$	$\frac{0}{5.5}$	$\frac{11}{5.6}$	$\frac{20}{5.0}$
✓ LO	$\frac{18}{5.5}$	$\frac{11}{3.7}$	$\frac{0}{3.4}$	$\frac{11}{3.5}$	$\frac{20}{5.3}$
LO	$\frac{18}{2.0}$	$\frac{11}{0.0}$	$\frac{0}{-0.2}$	$\frac{11}{-0.1}$	$\frac{20}{-2.1}$

Stakes offset 23' N7.



C.A.R. No. 13 Lake Shore Twp. T135N-R29W  
 Bet. sec. 19+20 + sec 19+30 - Lake Shore T.  
 Level notes for Profile to cross sections

Sta.	+	HI	-	Elev
B.M.	1.77	101.77		100.00
0+00			0.6	101.2 ✓ <small>10. N. from Sta 0+00</small>
1+00			9.4	92.4 ✓
TP	4.56	96.38 ✓	9.95	91.82 ✓
2+00			7.8	88.6 ✓
3+00			9.4	87.0 ✓
4+00			8.7	87.7 ✓
5+00			4.6	91.8 ✓
6+00			0.4	96.0 ✓ <small>31.5' to Power line</small>
7+00			4.3	92.1 ✓
8+00			5.4	91.0 ✓ <small>17' Fm Entr. E</small>
9+00			8.7	87.7 ✓
10+00			10.5	85.9 ✓
11+00			9.6	86.8 ✓
TP	7.15	97.15 ✓	6.38	90.00 ✓
12+00			7.4	89.8 ✓
13+00			4.6	92.6 ✓ <small>cut</small>
14+00			9.2	88.0 ✓
15+00			12.2	85.0 ✓
TP	1.50	87.75 ✓	10.9	86.25 ✓
16+00			4.8	83.0 ✓
17+00			5.8	82.0 ✓

Nov. 12, 1941  
 Clear - warm

J. R. Tettie  
 Rod Henry E. Dille  
 Chain Antona Hanson

	LT	±	RT	
				H. Larson Fm Entrance 0+18' Rt side 22' wide
				Nail in Bot. of Power pole at Fm. Entr. 50' s.w. sta. 0+00
✓ LO	$\frac{22}{0.1}$	$\frac{18}{1.3}$	$\frac{13}{0.8}$	$\frac{0}{0.6}$ $\frac{13}{1.1}$ $\frac{18}{3.0}$ $\frac{23}{1.1}$ LO
✓ LO	$\frac{23}{9.9}$	$\frac{20}{12.0}$	$\frac{14}{9.8}$	$\frac{0}{9.4}$ $\frac{10}{9.3}$ $\frac{18}{11.6}$ $\frac{23}{9.5}$ LO
				No Fences - Brushing has been done
✓ LO	$\frac{22}{11.2}$	$\frac{18}{12.1}$	$\frac{13}{10.0}$	$\frac{0}{9.4}$ $\frac{11}{9.9}$ $\frac{17}{12.7}$ $\frac{20}{11.3}$ LO
✓ LO	$\frac{23}{10.4}$	$\frac{18}{11.4}$	$\frac{14}{9.3}$	$\frac{0}{8.7}$ $\frac{12}{9.2}$ $\frac{18}{12.0}$ $\frac{21}{10.6}$ LO
✓ LO	$\frac{24}{-0.9}$	$\frac{19}{2.1}$	$\frac{14}{0.4}$	$\frac{0}{0.4}$ $\frac{14}{1.1}$ $\frac{19}{3.5}$ $\frac{24}{1.9}$ LO
✓ LO	$\frac{26}{6.1}$	$\frac{23}{7.3}$	$\frac{15}{5.6}$	$\frac{0}{5.4}$ $\frac{13}{5.7}$ $\frac{19}{7.7}$ $\frac{24}{5.3}$ LO
✓ LO	$\frac{16}{11.8}$	$\frac{14}{13.0}$	$\frac{10}{10.2}$	$\frac{0}{10.5}$ $\frac{12}{10.3}$ $\frac{15}{12.6}$ $\frac{18}{10.9}$ LO
✓ LO	$\frac{17}{10.9}$	$\frac{14}{12.1}$	$\frac{10}{9.9}$	$\frac{0}{9.6}$ $\frac{12}{9.4}$ $\frac{15}{11.7}$ $\frac{18}{10.0}$ LO
✓	$\frac{33}{-1.0}$	$\frac{27}{0.1}$	$\frac{17}{6.6}$	$\frac{13}{4.8}$ $\frac{0}{4.6}$ $\frac{12}{4.7}$ $\frac{18}{6.7}$ $\frac{25}{3.9}$ LO
✓ LO	$\frac{24}{10.6}$	$\frac{18}{13.8}$	$\frac{14}{12.1}$	$\frac{0}{12.2}$ $\frac{12}{12.5}$ $\frac{18}{15.3}$ $\frac{20}{13.2}$ LO
✓	$\frac{33}{5.1}$	$\frac{20}{5.6}$	$\frac{15}{7.9}$	$\frac{11}{5.9}$ $\frac{0}{5.8}$ $\frac{11}{5.9}$ $\frac{16}{8.4}$ $\frac{20}{7.4}$ LO

All stakes offset 30' Rt.

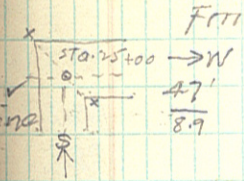
C&R No. 13 Bet sec 19+20 Cont.

Sta	+	HI	-	Elev	LT	Z	RT
18+00		87.75	3.3	84.5			
19+00			1.9	86.0	✓ LO	$\frac{21}{0.2}$	$\frac{19}{3.9}$ $\frac{14}{1.8}$ $\frac{0}{1.8}$ $\frac{12}{2.4}$ $\frac{18}{4.8}$ $\frac{24}{1.1}$ LO
20+00			5.3	82.5			
21+00			3.8	84.0			
22+00			5.4	82.4			
23+00			4.6	83.2	✓ LO	$\frac{25}{5.2}$	$\frac{20}{7.7}$ $\frac{14}{5.1}$ $\frac{0}{4.6}$ $\frac{10}{5.0}$ $\frac{19}{7.5}$ $\frac{22}{4.0}$ LO
24+00			6.7	81.1			
25+00			8.2	79.6			
T.P	1.55	83.64	5.66	82.09			
26+00			5.7	77.9	✓ LO	$\frac{17}{6.2}$	$\frac{13}{5.1}$ $\frac{0}{5.7}$ $\frac{6}{4.9}$ $\frac{9}{6.0}$ LO
Swamp of water So. side			5.6	78.0			
Swamp of water N. side			5.4	78.2			
27+00			5.0	79.6	✓ LO	$\frac{15}{5.7}$	$\frac{10}{4.9}$ $\frac{0}{5.0}$ $\frac{9}{5.0}$ $\frac{11}{6.3}$ $\frac{25}{7.3}$ LO
28+00			4.8	78.8	✓ LO	$\frac{10}{6.0}$	$\frac{8}{4.8}$ $\frac{0}{4.8}$ $\frac{9}{4.6}$ $\frac{11}{6.0}$ $\frac{18}{6.3}$ LO
29+00			4.9	78.7	✓		
30+00			3.5	80.1	✓		
31+00			-0.8	84.4	✓		
BM			4.30	79.34			

N. Edge swamp

W side

From Entr. at sta. 24+00 LT.



going west

South side

swamp on N & S sides

78.1

35' Lt

W. edge of swamp

section

= sta. 25+00

Top of 1 1/4" iron pipe SE cor. sec. 19, T 135-R 29W  
49 1/2' SW to REA Power Pole

at sta 25+00 31.0' W to Power line  
stakes offset 30' RT.



CAR No 13 Bet sec. 19 + 30 T135-R29  
 + Bet sec 30, T135-R29 + sec 25 T135-R30W

Nov. 13, 1941

Cloudy, Warm

J. R. Tetlie 12  
 Rod. Henry E. Dilley  
 Chain Antonio Hanson

Level notes for Profile & X-sections

Sta + HI - Elev

B M 0.95 100.95 100.00

0+00 0.9 100.1

1+00 4.6 96.4

2+00 5.0 96.0

3+00 8.3 92.7

4+00 9.1 91.9

5+00 7.1 93.9

6+00 5.5 95.5

7+00 5.7 95.3

8+00 8.2 92.8

T.P. 7.7 99.00' 9.65 91.30

9+00 7.9 91.1

9+15.5 11.1 87.9

surf of water 11.2 87.8

10+00 10.6 89.4

11+00 9.4 89.6

12+00 8.7 90.6

13+00 7.1 91.9

13+39 6.2 92.8

14+00 5.2 93.8

14+13.5 4.8 94.2

Nail in Power Pole No 307285' SE Sta 0+00

LO 22 17 12 0 13 19 25 25

LO 17 5.6 6.3 0.9 1.3 3.6 0.5 LO

LO 21 8.4 4.9 4.6 12 18 22 22

LO 22 18 15 0 12 22 24 24

LO 6.0 7.9 5.5 5.0 5.4 8.3 5.2 LO

LO 18 15 10 0 10 16 20 20

LO 8.6 10.0 8.5 8.3 8.4 10.9 9.0 LO

LO 18 12 7 0 13 19 23 23

LO 10.1 11.1 9.2 9.1 9.1 11.5 10.2 CO

LO 23 18 13 0 14 26 26 26

LO 7.1 9.7 7.7 7.1 7.7 9.5 7.8 LO

Rt. Sta 6+17 E. Farm Entr 10' wide Farm Rd

LO 27 23 18 13 0 13 20 28 28

LO 7.7 10.4 10.2 8.3 8.2 8.6 11.0 8.6 LO

LO 24 17 6 2 0 13 15 24 24

LO 9.2 10.2 10.3 8.2 7.9 8.0 9.5 9.2

36" x 34" CM culvert to S. end = 13.9' Flow = N.

29' to N Fence

LO 21 20 5 0 13 18 22 22

LO 10.3 11.7 10.2 9.4 9.3 12.1 10.1 LO

LO 24 19 6 0 12 18 21 21

LO 10.3 11.2 9.6 9.4 9.3 11.3 10.0 LO

LO 22 19 15 0 13 19 24 24

LO 9.6 9.5 8.9 8.4 8.5 10.8 9.1 LO

LO 23 17 12 0 12 18 23 23

LO 7.7 10.1 7.6 7.1 7.4 9.3 7.8 LO

LO 25 19 24 0 13 18 22 22

LO 6.3 9.1 7.0 6.2 6.4 8.6 7.5 LO

To E of N S Road Sta 14+13 S to Sta 20+00

Sta. 13 to N. fence 31'

" 13 to S " 30.5'

94 CAR 13 cont'd from P. 12

13

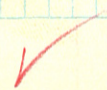
Sta	+	HI	-	Elev		Lt	+	Rt					
15+00		99.00	7.1	91.9	26' Fence	$\frac{25}{6.5}$	$\frac{19}{9.5}$	$\frac{14}{7.5}$	$\frac{0}{7.1}$	$\frac{12}{7.7}$	$\frac{18}{10.4}$	$\frac{23}{8.5}$	$\frac{36}{32.6}$
BM			5.35	93.65	PT	Nail in post to Power Pole No. 356							
16+00			8.7	90.3	Feat	$\frac{23}{9.3}$	$\frac{18}{11.4}$	$\frac{13}{9.1}$	$\frac{0}{8.7}$	$\frac{13}{9.5}$	$\frac{19}{11.8}$	$\frac{22}{10.1}$	
17+00			10.0	89.0	11'	$\frac{23}{10.6}$	$\frac{18}{12.6}$	$\frac{13}{10.2}$	$\frac{0}{10.0}$	$\frac{13}{10.5}$	$\frac{19}{13.0}$	$\frac{24}{11.1}$	
18+00			10.7	88.3	Feat	$\frac{18}{15.1}$	$\frac{8}{11.3}$	$\frac{0}{10.7}$	$\frac{13}{10.9}$	$\frac{18}{13.1}$	$\frac{23}{11.5}$	LO	
sum of water bed of creek			12.6	86.4									
			13.0	86.0									
18+29						Drains West C.M. culvert 24" x 18"							
19+00			9.7	89.3	5' corr	$\frac{23}{9.3}$	$\frac{18}{12.2}$	$\frac{13}{10.0}$	$\frac{0}{9.7}$	$\frac{13}{10.0}$	$\frac{18}{12.2}$	$\frac{22}{10.1}$	LO
20+00			8.2	90.8	LO south	$\frac{24}{7.9}$	$\frac{19}{10.7}$	$\frac{13}{8.5}$	$\frac{0}{8.2}$	$\frac{13}{9.0}$	$\frac{19}{11.4}$	$\frac{24}{9.1}$	LO

Stakes offset 30' RT

Profile W sta 0 to 14+13. Then S to sta. 20+00

sta 20+00 32.5' Lt. to Power Line

" " 33' Lt. v Fence



Becker Tap (T134N-R32W)

Bet secs 26+27

Level notes for Profile & cross sections

Sta.	+	H.I.	-	Elev
BM	2.36	102.36		100.00
0+200			9.8	92.6
0+600			9.4	93.0
1+00			9.3	93.1
2+00			9.2	93.2
3+00			9.0	93.4
4+00			7.0	95.4
4+50			4.7	97.7
4+67				
5+00			0.7	101.7
T.P	11.84	113.76 ✓	0.44	101.92 ✓
5+00				
5+50			7.5	106.3
6+00			2.3	111.5
T.P	12.16	125.57 ✓	0.35	113.41 ✓
6+00				
6+50			8.8	116.8 ✓

Dec 4, 1941

cloudy - warm

JRTetlie  
Rod Ray Farber  
Cherin Howard Knox

14

Sta. 0+00 45.5' SE to nail in top of fence post.

R.P. Sta. 0+00 27.7' Lt to nail in cor. Post - Fence  
Fence so + w from car.

	Lt	+	Rt	
11" J Pine	Sta. 45+47		RT Nail in Pine	
LO	$\frac{19}{10.9}$	$\frac{17}{12.5}$	$\frac{12}{10.3}$	$\frac{0}{9.8}$ $\frac{11}{10.4}$ $\frac{16}{12.2}$ $\frac{19}{10.5}$ LO

Fences both sides So. of Sta. 0+00 47.3' apart.

LO	$\frac{18}{10.2}$	$\frac{16}{11.4}$	$\frac{10}{9.9}$	$\frac{0}{9.1}$ $\frac{10}{9.7}$ $\frac{14}{11.1}$ $\frac{21}{10.8}$ LO
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at Sta. 0+00 Road going East - sec. Line

LO	$\frac{19}{10.1}$	$\frac{15}{11.7}$	$\frac{11}{9.9}$	$\frac{0}{9.3}$ $\frac{12}{9.4}$ $\frac{19}{11.9}$ $\frac{22}{10.0}$ LO
LO	$\frac{18}{10.0}$	$\frac{15}{11.7}$	$\frac{12}{9.7}$	$\frac{0}{9.2}$ $\frac{10}{9.6}$ $\frac{18}{11.5}$ $\frac{22}{10.2}$ LO
LO	$\frac{19}{10.2}$	$\frac{15}{11.9}$	$\frac{9}{9.4}$	$\frac{0}{9.0}$ $\frac{11}{9.3}$ $\frac{17}{11.6}$ $\frac{22}{10.0}$ LO
LO		$\frac{12}{9.1}$	$\frac{7}{7.4}$	$\frac{0}{7.0}$ $\frac{12}{7.1}$ $\frac{16}{9.8}$ $\frac{23}{9.2}$ LO
LO		$\frac{12}{5.8}$	$\frac{7}{4.9}$	$\frac{0}{4.7}$ $\frac{12}{4.4}$ $\frac{19}{4.9}$ $\frac{33}{4.0}$

EM ENT Lt & RT

LO	$\frac{23}{3.5}$	$\frac{13}{1.8}$	$\frac{8}{1.4}$	$\frac{0}{0.7}$ $\frac{12}{0.4}$ $\frac{13}{0.7}$ $\frac{21}{-1.8}$
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LO	$\frac{33}{4.5}$	$\frac{11}{9.1}$	$\frac{8}{8.7}$	$\frac{7}{8.2}$ $\frac{0}{7.5}$ $\frac{12}{7.8}$ $\frac{20}{5.7}$ $\frac{33}{4.6}$
LO	$\frac{33}{4.4}$	$\frac{13}{2.0}$	$\frac{10}{3.4}$	$\frac{7}{2.8}$ $\frac{0}{2.3}$ $\frac{10}{2.0}$

LO	$\frac{30}{9.3}$	$\frac{15}{7.2}$	$\frac{10}{10.1}$	$\frac{9}{9.5}$ $\frac{0}{8.8}$ $\frac{10}{9.0}$ $\frac{21}{4.0}$ $\frac{33}{3.8}$
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Becker Twp Ret seeds 26+27 cor 178

Sta	+	HI	-	Elev
7400		125.57	4.2	121.4
T.P.	9.30	134.47	0.40	125.17
7450			10.4	124.1
8400			8.4	126.1
9400			6.4	128.1
10400			7.3	127.2
11400			5.3	129.2
11450			4.2	130.3
12400			4.5	130.0
13400			7.9	126.6
1400			5.3	129.2
15400			7.3	127.2
16400			6.1	128.4
17400			9.0	125.5
18400			11.6	122.9
T.P.	5.60	127.77	12.30	122.17
19400			4.6	123.2
22400			5.0	122.8
23400			5.3	122.5
24400			3.7	124.1
T.P.	10.48	137.34	0.91	126.86
26400			5.9	131.4

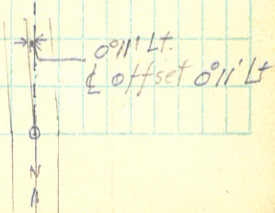
Dec 9, 1941

15

cloudy - 14 cold

LO	17	10	7	9	9	12	20	LO
	1.7	5.6	4.7	4.2	4.5	5.0	1.9	
nail in cor. Post N. side of Lewis' Entry								
LO	19	14	9	9	9	16	33	
	9.0	11.5	10.8	10.4	10.7	11.4	10.8	
LO	20	14	9	9	10	20	26	LO
	7.8	10.0	8.7	8.4	7.8	9.8	9.4	
LO	23	20	12	9	8	11	23	LO
	5.7	7.6	7.1	6.4	6.7	7.5	7.6	
33	21	17	11	8	8	12	24	LO
	5.8	6.6	7.9	7.9	7.3	8.4	8.4	
LO	16	14	9	9	9	11	23	LO
	5.5	6.4	5.5	5.0	5.7	6.0	6.4	
LO	18	13	10	8	8	12	24	LO
	3.7	5.2	4.4	4.2	4.1	5.0	5.2	
33	15	13	9	9	9	13	25	LO
	3.2	4.5	5.4	4.8	4.5	6.1	5.6	
LO	16	12	8	9	9	13	25	LO
	7.3	8.8	8.1	7.9	8.2	9.5	8.9	
33	16	12	10	9	10	15	23	LO
	3.0	4.2	5.0	5.4	5.3	7.1	7.6	
33	15	12	9	9	9	14	25	LO
	4.2	6.5	7.8	7.3	7.3	9.1	9.3	
LO	15	12	8	9	10	14	25	LO
	5.4	6.8	6.3	6.1	6.3	7.7	7.7	
LO	15	11	9	9	11	15	26	LO
	7.5	9.6	9.2	9.0	9.7	11.2	11.1	
LO	14	12	9	9	11	15	26	LO
	10.6	12.6	12.0	11.6	12.2	13.3		
LO	18	15	9	9	10	15	27	LO
	3.5	5.3	4.8	4.6	4.8	6.3	6.5	
33	19	15	10	9	10	16	26	LO
	4.7	5.9	5.5	5.0	5.5	7.0	6.5	
LO	17	13	10	9	11	16	26	LO
	4.8	6.4	5.7	5.3	5.7	6.4	6.7	
33	18	12	9	9	11	15	25	LO
	2.3	3.4	3.9	3.7	4.2	5.4	5.3	
33	16	12	10	9	12	18	27	LO
	3.7	5.2	6.7	6.0	5.9	6.4	7.9	

Sta. 32400 6" NW (Left)



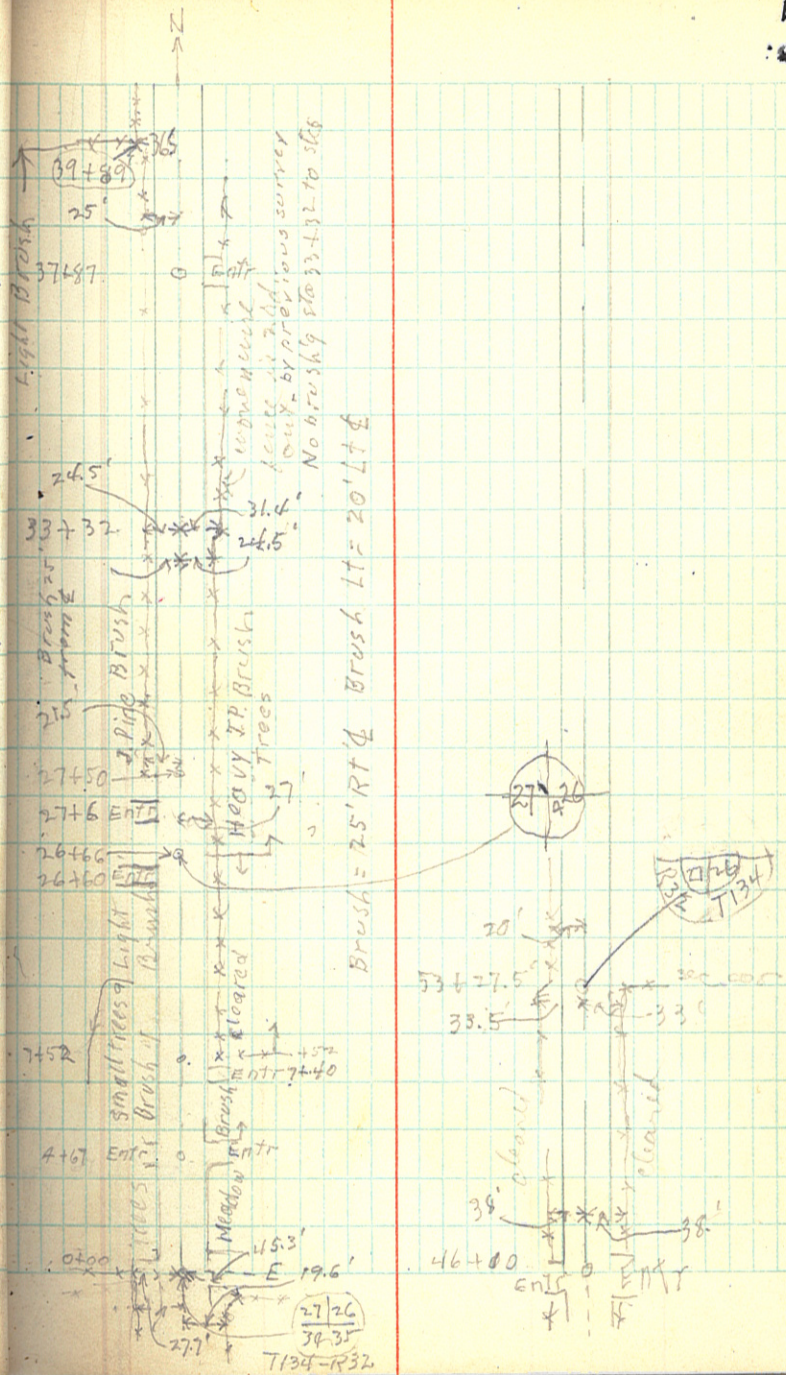


Becker Twp, sec 26+27 cont'd

sta  
26+66' = sec cor. marked by stake-eg

( $\frac{1}{4}$  cor stake) stovely 8' E from cor post  
is 33' E from  $\frac{1}{4}$  cor. surveyed in 1895  
our E is 2' further W.  $\begin{matrix} 27 \\ 26 \end{matrix}$

sta. 6+82 fm entr R.





Becker Twp, sec 26 & 27, cont'd

Dec 10, 1941  
Clear, Cold -10° to 0°

18

Sta	+	HI	-	Elev
47+00		113.22	5.7	107.5
47+82			12.0 LT 11.8 RT	101.2 101.4
Bot. creek			11.8 LT 11.3 RT	101.4 101.9

24" X 26"  
CM culv

LT	E	RT
$\frac{33}{8.7}$	$\frac{19}{7.9}$	$\frac{12}{6.1}$
$\frac{18.5}{12.0}$	$\frac{0}{5.7}$	$\frac{6}{6.1}$
		$\frac{10}{7.3}$
		$\frac{15}{6.6}$
		$\frac{2.9}{11.8}$
$\frac{33}{10.6}$	$\frac{22}{11.1}$	$\frac{14}{8.9}$
$\frac{33}{11.0}$	$\frac{6}{11.2}$	$\frac{13}{10.2}$
$\frac{20}{8.0}$	$\frac{19}{8.7}$	$\frac{14}{7.9}$
$\frac{27}{6.8}$	$\frac{16}{7.9}$	$\frac{12}{6.5}$
		$\frac{0}{6.0}$
		$\frac{2}{7.9}$
		$\frac{7}{11.5}$
		$\frac{3}{10.9}$
		$\frac{8}{7.4}$
		$\frac{12}{6.1}$
		$\frac{2.4}{6.2}$
		$\frac{33}{10.1}$
		$\frac{2.9}{9.5}$
		$\frac{2.4}{6.1}$
		$\frac{13}{7.9}$
		$\frac{17}{8.9}$
		$\frac{2.9}{7.4}$

Sta. 53+27.5 SAC COR.

33' RT Fence  
37' LT Fence

1 mi N from Lewis CO-V

B.V. 3.33 109.89 ✓

Nail 8" J. Pine 34" RT Sta 46+49'

stakes offset 25' E (a few set W.)

CM culv - ENTR. CM across Road

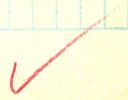
Sta. 46+00 - 12-15" ✓ Sta 23 1-18" X 32

✓ 37+87' 1-12" ✓

26+66 1-12" ✓  
27+6 1-12" ✓

✓ 6+82 1-12" ✓

✓ 4+20 2-15" ✓





Becker Twp. T134-R32, Betsec 34+35  
Swamp Fill

Level notes for Profile + X-secs

Sta	+ H1	- Elev
BM	2.36 102.36	100.00
0+00		3.2 99.2
1+00		3.9 98.5
2+00		4.3 98.1
2+50	begin swamp	
3+00		5.0 97.4 swamp
4+00		5.1 97.3 "
5+00		4.6 97.8 "
6+00		4.7 97.7 "
6+17	6.7 LT 96.3	5.9 RT 96.5
Ditch Bot	6.7 LT 95.7	6.9 RT 95.6
7+00		4.1 98.3

stakes offset 25' E. No stakes in swamp

RP. 40.5' NE to 13" J.P. blaze Nail-BM  
RP. 89.0' SE to 12" Red Oak Blazed

Dec 11, 1941  
Snowing

J.R. Tetlie  
Rod Ray Farber  
Howard Knox  
Chain John Smith

20

13" J. Pine 0#22' RT 33' nail

0+00 is 346' N from Percy Hemphill Entr. RT.

✓ LO  $\frac{21}{4.3}$   $\frac{19}{5.0}$   $\frac{12}{3.9}$   $\frac{0}{3.2}$   $\frac{12}{3.5}$   $\frac{18}{4.7}$   $\frac{28}{2.2}$  LO

✓ LO  $\frac{19}{4.7}$   $\frac{16}{6.8}$   $\frac{11}{4.7}$   $\frac{0}{3.9}$   $\frac{12}{4.0}$   $\frac{18}{6.2}$   $\frac{20}{4.9}$  LO

✓ LO  $\frac{20}{5.3}$   $\frac{16}{7.6}$   $\frac{11}{5.2}$   $\frac{0}{4.3}$   $\frac{12}{4.6}$   $\frac{18}{7.5}$   $\frac{26}{4.6}$  LO

✓ LO  $\frac{17}{7.4}$   $\frac{9}{5.5}$   $\frac{0}{5.0}$   $\frac{12}{5.5}$   $\frac{17}{8.1}$  Swamp 6.0

✓ LO  $\frac{17}{5.5}$   $\frac{10}{5.7}$   $\frac{0}{5.1}$   $\frac{12}{5.4}$   $\frac{18}{8.3}$  11 LO

✓ LO  $\frac{17}{7.5}$   $\frac{11}{4.8}$   $\frac{0}{4.6}$   $\frac{12}{4.7}$   $\frac{18}{7.6}$   $\frac{23}{5.1}$  and Swamp

✓ LO  $\frac{18}{7.5}$   $\frac{10}{5.0}$   $\frac{0}{4.7}$   $\frac{12}{5.2}$   $\frac{18}{7.6}$  LO

14" x 20" C.M. Culv in place

End Swamp

✓ LO  $\frac{23}{5.6}$   $\frac{16}{6.4}$   $\frac{11}{4.7}$   $\frac{0}{4.1}$   $\frac{11}{4.2}$   $\frac{17}{6.1}$   $\frac{23}{4.3}$  LO

7+00

← 27' \* 23' \*

← 13" J. Pine B.M.

0+00

← 40.5'

← 36.0'

← 12" Red Oak ✓

CAR No. 13, T133-R29, secs 7+8  
E. Sylvan Twp. Fill + straighten Road

Level Notes for profile & X-sections.

Sta	+	HI	-	Elev
BM	2.81	102.81		100.00
0+00			0.9	101.9
1+00			3.1	99.7
2+00			4.7	98.1
3+00			9.4	93.4
T.P.	1.18	92.37	11.62	91.19
4+00			2.9	89.5
4+50			3.6	88.8
5+00			8.3	84.1
6+00			12.5	79.9
T.P.	4.76	86.59	10.54	81.83
7+00			6.9	79.7
8+00			7.0	79.6
9+00			6.4	80.2
10+00			6.3	80.3
10+36			4.7	81.9

Dec. 15, 1941  
Partly cloudy, mild

J.R. Tetlie 22  
Rod Ray Farber  
Chair-Howard Knox  
Christ Jacobson  
Helpers John Hendrickson

	LT	€	RT					
RP's	(start 0+00 54°09' R to € Tel. Pole No. 2 " 26°26' L " € 6" J. Pine " 288' S. to John T. Hendrickson's Entr Sta. 1+97, 30' Rt. (E) to Nail in Tel. Pole No. 3			38.3' 52.4'				
✓ L0	$\frac{18}{0.7}$	$\frac{15}{2.2}$	$\frac{13}{1.4}$	$\frac{0}{0.9}$	$\frac{15}{1.1}$	$\frac{17}{2.1}$	$\frac{21}{0.3}$	L0
✓ L0	$\frac{19}{3.0}$	$\frac{16}{5.1}$	$\frac{13}{3.7}$	$\frac{0}{3.1}$	$\frac{16}{3.7}$	$\frac{18}{4.6}$	$\frac{21}{3.6}$	L0
✓ L0	$\frac{20}{5.3}$	$\frac{17}{6.8}$	$\frac{14}{5.1}$	$\frac{0}{4.7}$	$\frac{16}{4.9}$	$\frac{18}{6.2}$	$\frac{22}{4.2}$	L0
✓ L0	$\frac{23}{8.0}$	$\frac{18}{10.3}$	$\frac{16}{9.8}$	$\frac{0}{9.4}$	$\frac{15}{9.6}$	$\frac{18}{11.5}$	$\frac{21}{10.5}$	L0
✓ L0		$\frac{28}{7.3}$	$\frac{22}{3.6}$	$\frac{0}{2.9}$	$\frac{10}{3.5}$	$\frac{17}{6.7}$	$\frac{29}{9.2}$	L0
✓ L0		$\frac{39}{1.7}$	$\frac{33}{4.8}$	$\frac{0}{3.6}$	$\frac{7}{3.8}$	$\frac{17}{8.9}$	$\frac{29}{10.3}$	
✓ L0	$\frac{33}{4.9}$	$\frac{19}{4.7}$	$\frac{7}{6.4}$	$\frac{0}{8.3}$	$\frac{33}{11.5}$			
✓	$\frac{33}{11.4}$	$\frac{15}{12.1}$	$\frac{0}{12.5}$	$\frac{0}{12.7}$	$\frac{15}{12.7}$	$\frac{33}{12.8}$		
✓		$\frac{33}{6.7}$	$\frac{15}{8.9}$	$\frac{0}{7.0}$	$\frac{15}{7.4}$	$\frac{33}{7.2}$		
✓		$\frac{33}{6.7}$	$\frac{15}{6.5}$	$\frac{0}{6.4}$	$\frac{15}{6.7}$	$\frac{33}{6.7}$		
✓		$\frac{33}{5.9}$	$\frac{15}{6.0}$	$\frac{0}{6.3}$	$\frac{15}{6.3}$	$\frac{33}{6.5}$		
✓ N. edge of swamp	$\frac{33}{6.2}$	$\frac{15}{5.8}$	$\frac{0}{4.7}$	$\frac{15}{6.3}$	$\frac{33}{6.5}$			

Note: sta 0+00 is about  $\frac{1}{2}$  mi. N. from  
Jct. CAR 13 and T.H. No. 210

CAR 13. T133-R29, sec 748 cont.  
E. Sylvan Twp.

23

sta	+	HI	-	Elev
		86.59		
T.P.	7.22	92.93	0.88	85.71
11+00			6.6	86.3
12+00			4.9	88.0
13+00			1.8	91.1
T.P.	8.85	101.52	0.26	92.67
14+00			6.4	95.1
15+00			2.8	98.7
16+00			0.7	100.8
B.M.			4.27	97.25

LN. LQ.

	LT		RT
✓	$\frac{33}{8.7}$	$\frac{22}{9.6}$	$\frac{14}{6.7}$
✓	$\frac{33}{5.4}$	$\frac{12}{4.6}$	$\frac{0}{4.9}$
✓	LO	$\frac{23}{-1.5}$	$\frac{19}{2.8}$
✓	$\frac{33}{4.2}$	$\frac{24}{5.1}$	$\frac{19}{6.7}$
✓	LO	$\frac{22}{2.6}$	$\frac{19}{4.2}$
✓	LO	$\frac{22}{0.4}$	$\frac{19}{2.6}$

Nail in Teleph. Pole No 20 sta 14+24. - 31.5' Rt

At sta. 4: 26' Rt. to telephone line  
30' " " " " " Fence

At sta. 13: 25' Rt. to Telephone line  
30' " " " " "  
32' " " Fence

Transit Notes for Location of old road

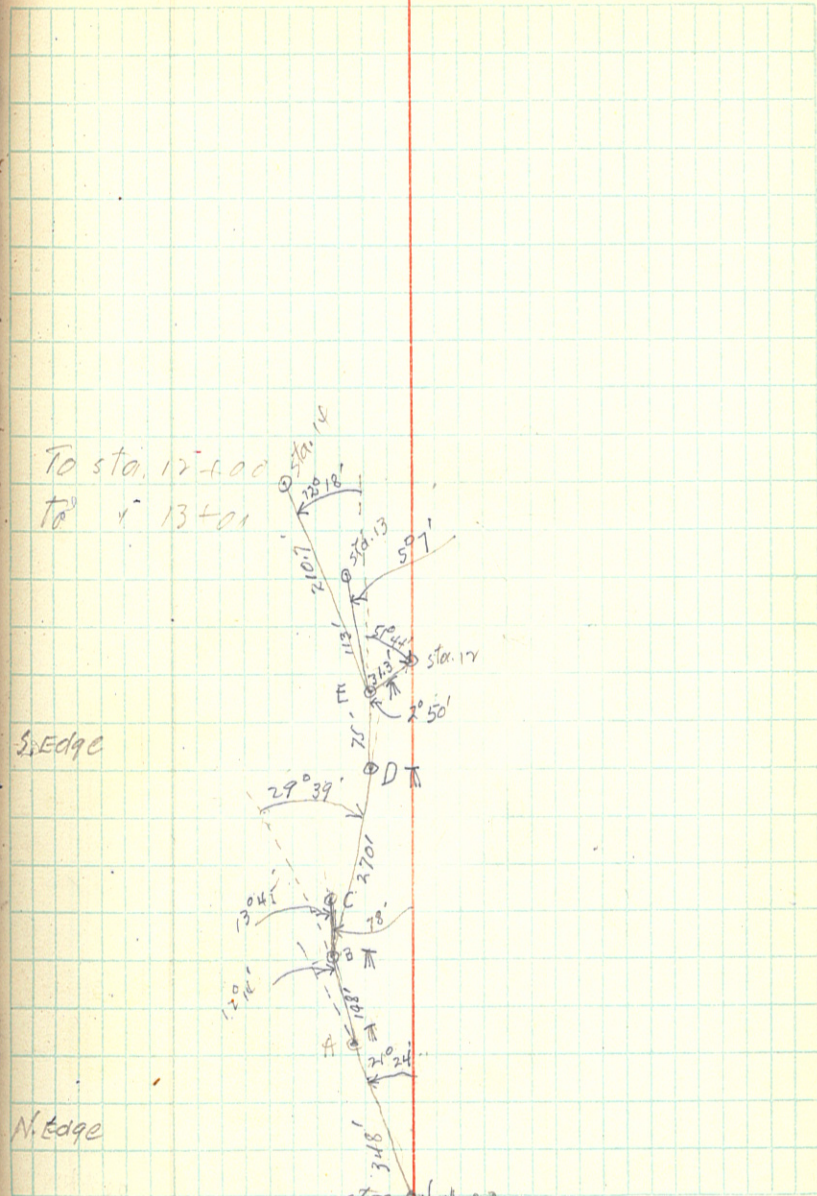
Sta	Defl $\angle$	Bearing	Dist	width of Road	
H to D		Dues		31'	
To A	21° 24' L		348'	27'	
B	12° 14' R		148'	29'	
C	13° 45' R		78'	28'	
D	29° 39' R		270'	29'	
E	2° 50' L	Bson B	75'	30'	ROAD
F	51° 44' R		31.3'		ROAD
G	5° 7' L	"	113.'		"
Sta. 14+00	12° 18' L	Bson B	210.7'		ROAD

Soundings in Swamp

Sta.	33' L	15' L	$\phi$	15' Rt.	33' Rt.
5+50	2.0'	2.5'	2.5	3.5	5.5
6+00	3.5	4	4	5	7
6+50	8	8	8	8	8
7+00	8	10	10	11	11
8+00	9	9	9	9	9
9+00	9	9	9	9	9
9+50	6	6	6	6	6
10+00	4	4	4	4	4
10+30	4	4	4	4	4

Measurements are in feet from surface of ice to hard bottom.

Dec 15, 1941. J. R. Rettie





# St. Paul Corrugating Co.



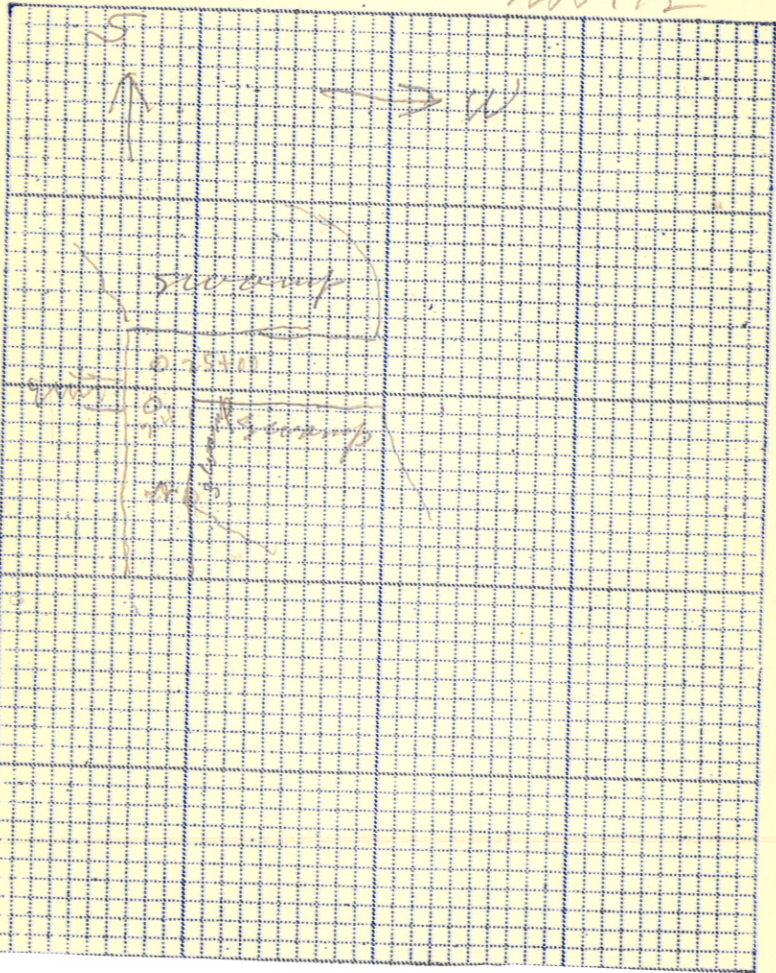
MANUFACTURERS  
**YELLOW END CULVERTS**

SHEET METAL PRODUCTS

SOUTH END WABASHA BRIDGE

SAINT PAUL, MINN.

*200112*



RAILROAD PROFILE

sta	BS	H.I	FS	Elev
374				
0 +00				
+50				
+75				
1 +00				

Date  
and. of weather

Tellie  
Rod

Location  
cross section R

Blomstrom - good pit

Albert Rohl Pelbger - room

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

ROADWAY 14 FEET WIDE SIDE SLOPES 1 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 Julien A. Hall, M. Am. Soc. C. E.

MADE IN GERMANY.

R.