

JOB 2001. FAP 142  
BRAINERD

MOTLEY  
TRANSIT

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FIELD BOOK

361

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V  
110

# 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, 1896, 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.

FOR KEITH'S RAILROAD CURVE TABLES SEE END OF BOOK.

Construction Book  
Containing Notes of  
Alignment &  
Revision S.  
and Similar  
Information

FAP 142  
Job 2001  
R. E. Krueger  
Engt. 1970.

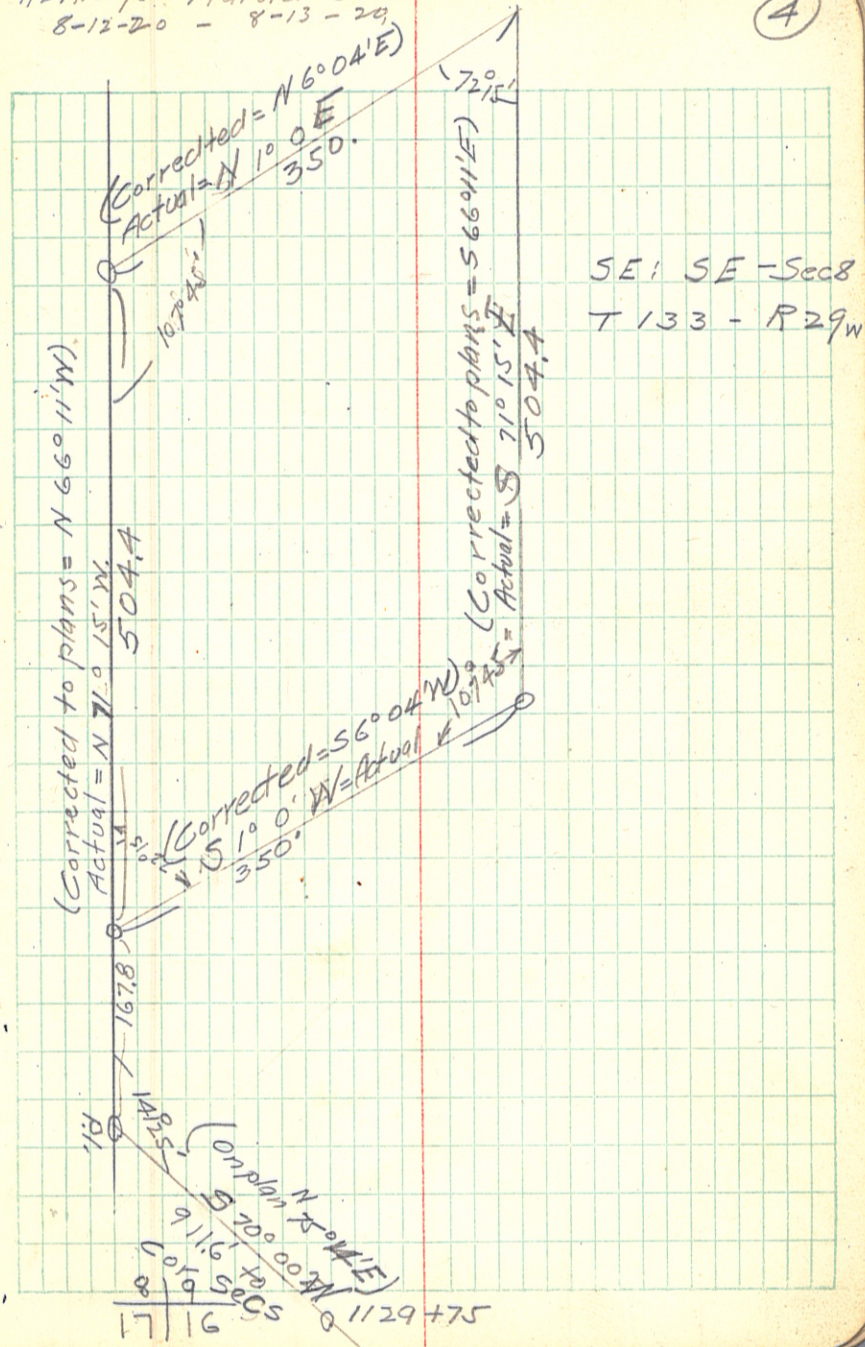
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RE Krueger + Harold Jensen.  
 8-12-20 - 8-13-20

(4)



R.E. Krueger Aug-13-20 (5)  
Harold Jensen.  
P.M. Staked out R/W from  
begin of Job 2001 to Sta 785.

Aug 14 20 AM. same.

Aug 16 - all day  
staked R/W. 2 1/2 miles east end  
F.A.P. -

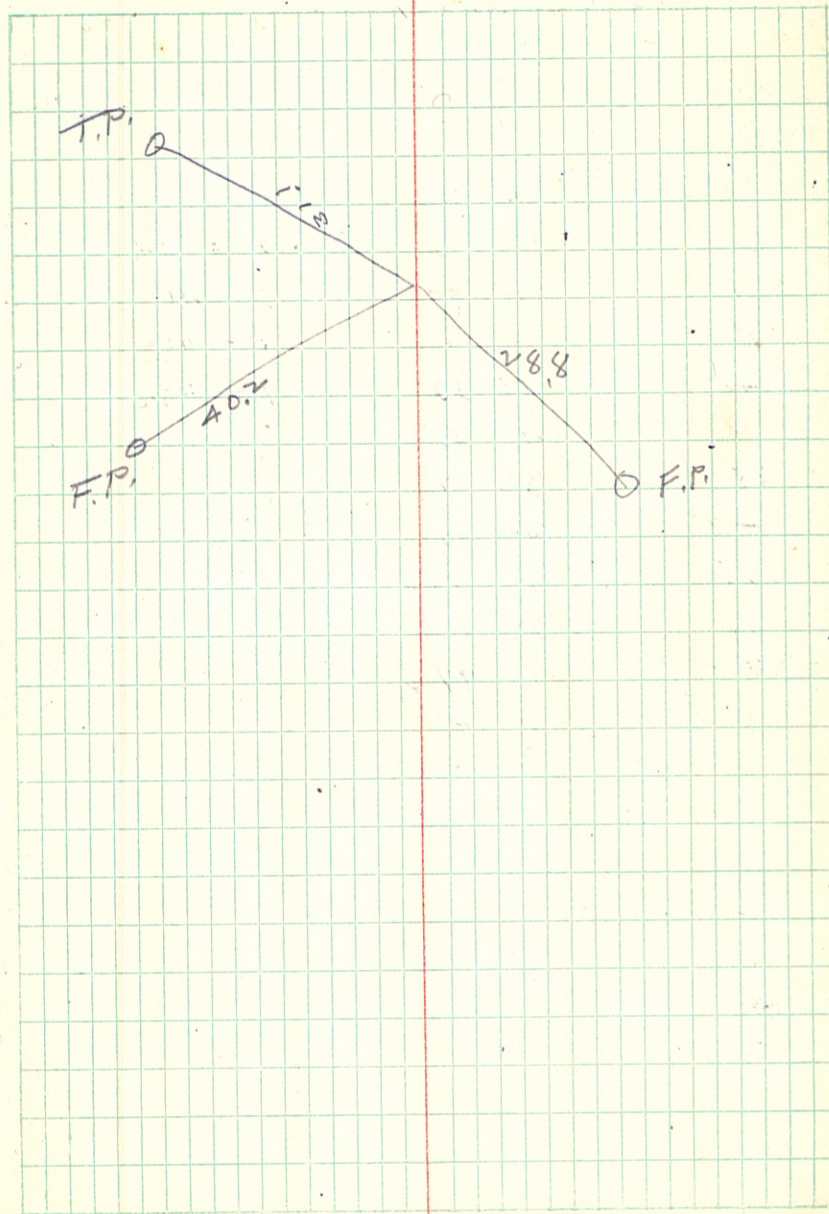
Aug 17 - all day  
staked R/W to within one mile of  
Mottley. Mr Leet up in evening.

Aug 18 all day.  
Staked R/W Pillager to one mile  
of Sylvan. Two of Nilkins  
clearing men were here.

Aug 19 am.  
Staked ditches sta 763 - 769  
Rain in pm.

Curve Sta 722+744 - 725+786

725+786 P.T.	44° 07'	
+75	43° 39 1/2'	
+50	40° 02 1/2'	
+25	36° 25'	A 88° 14'
725+00	32° 47 1/2'	D = 29
+75	29° 10'	R = 199.7
+50	25° 32 1/2'	T = 193.6
+25	21° 55'	L = 304.2
724+00	18° 17 1/2'	P.I. =
+75	14° 40'	
+50	11° 02 1/2'	
+25	7° 25'	
723+00	3° 47 1/2'	
+744 P.C.	0° 0'	



# Revision

3+16 <sup>4</sup>	P.T.	45° 53'	
2+00		43 30	
+75		39 52 <sup>1/2</sup>	
+50		36 15	$\Delta 91' 46''$
+25		32 37 <sup>1/2</sup>	$D = 29^\circ$
2+00		29 00	T. 205.9
+75		21 42 <sup>1/2</sup>	L 316.4
+50		21 45	R 199.7
+25		18 07 <sup>1/2</sup>	P. 1.724 + 680
1+00		14° 30'	
+75		10 52 <sup>1/2</sup>	
+50		7 15	
+25		3 37 <sup>1/2</sup>	
0+00 =	P.C.	0° 00'	
422+62 <sup>1</sup>		= 0+00	

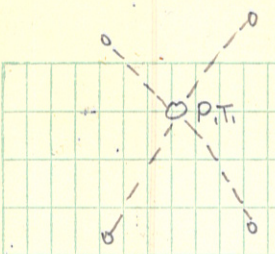
9/10/20

(7)



~~420 + 45 E 15'~~  
420 + 152 W P.T.

Revision		
	28° 45'	
420	27 11	57° 30' Δ
+75	24 41	D = 20°
+50	22 11	<del>PI 419 + 082</del>
+25	19 41	<del>PI 418 + 86'</del>
419	17 11	R = 287.93
+75	14 41	L = 287.5
+50	12 11	T = 157.9
+25	9 41	
418	7 11	
+75	4 41	
+50	2 11	
417 + 282 P.C.	0° 00'	



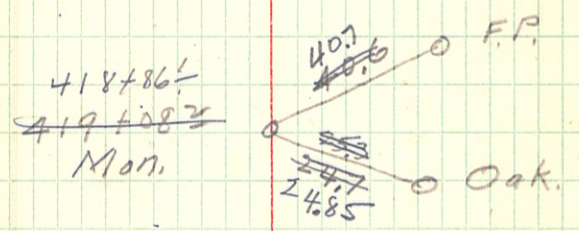
Log R = 2.459300  
 Log Tan 1/2 Δ = 9.739271  
 Log T = 2.198571  
 T = 157.9  
 L = 287.5

~~420 + 125 P.T. 28° 45'~~  
420

	27° 10'	
+75	24 02' W	
+50	20 55	
+25	17 47' W	Δ 57° 30'
419	14° 40'	D 25°
+75	11° 32' W	419 + 082 P.I.
+50	8° 25'	R = 231.01
+25	5° 17' W	T = 125.7
418	2° 11'	L = 230'
417 + 825 P.C.		

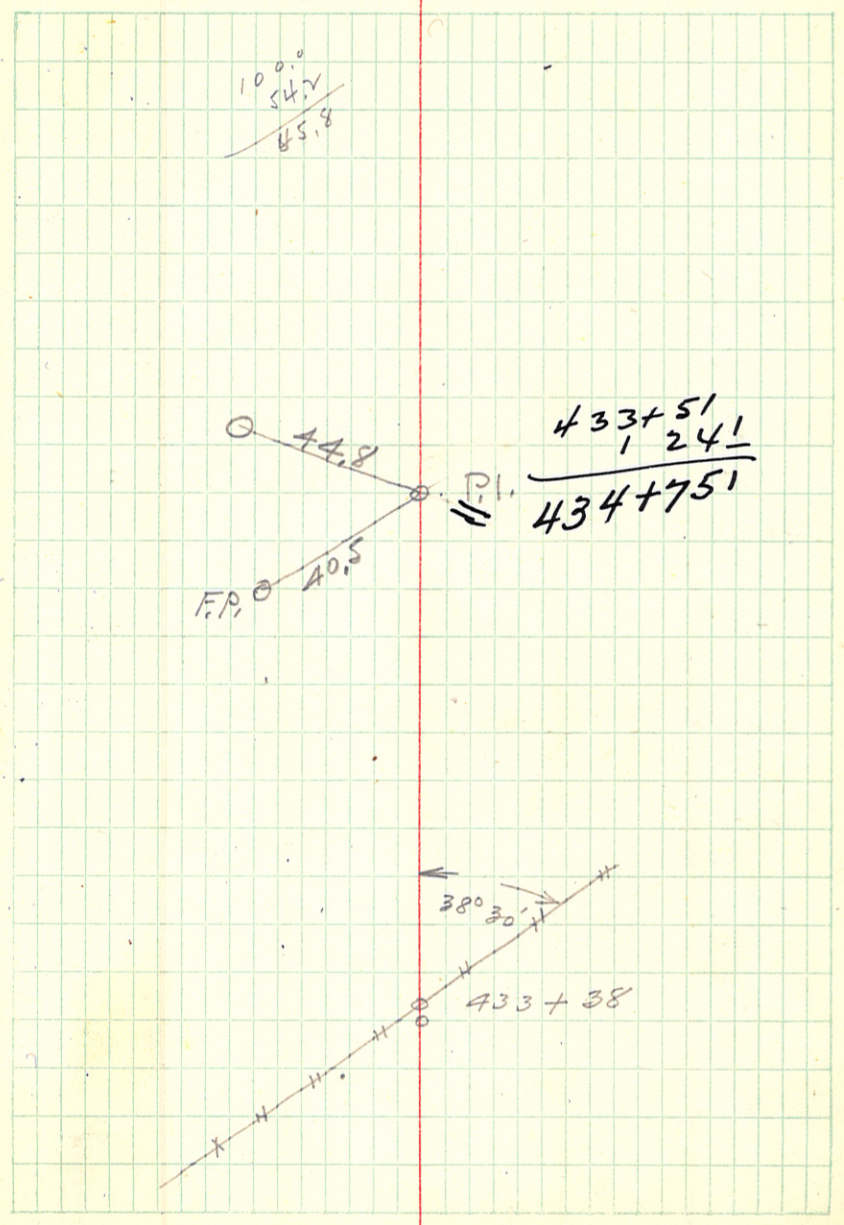
*Void. See Above.*

Make This 20° Curve.



<del>435+784 PT = 441+960 Location.</del>		Page 39 See $\Delta$ 56° 52' $D = 25'$ $R = 231.01$ $T = 124'$ $L = 227'$
<del>+75</del>	<del>24 00</del>	
<del>+50</del>	<del>24 52 1/2</del>	
<del>+25</del>	<del>21 45</del>	
<del>435</del>	<del>18 37 1/2</del>	
<del>+75</del>	<del>15 30</del>	
<del>+50</del>	<del>12 22 1/2</del>	
<del>+25</del>	<del>9 15</del>	
<del>434</del>	<del>6 07 1/2</del>	
<del>+75</del>	<del>3° 0'</del>	
433+510 P.C.		

Make this 20° C.



Level on Revision

	2.97	1127.25		1124.28
T.P.	9.42	1131.67	5.05	1122.20
T.P.	8.02	1139.05	0.59	1131.03
	9.50	1147.31	0.24	1138.81
			7.58	1140.73
417+87 P.C.			10.8	37.5
418+00			10.7	37.6
+50			11.1	37.7
419+00			10.1	38.7
+50			8.4	39.9
420			3.6	44.7
-	4.14	1152.26	0.19	1148.17
421			3.7	49.1
+22			3.7	49.1
+65			10.4	41.9
422			10.8	41.5
+28			10.5	41.8

B.M.

P.I. Mon 419+082

- same -

	$-\frac{0.7}{25}$	$-\frac{1.5}{15}$	$\frac{0.0}{10}$	$\frac{0.0}{2}$	$-\frac{2.4}{8}$	$-\frac{2.5}{25}$
	$+\frac{1.4}{25}$				$-\frac{1.8}{25}$	
	$+\frac{2.0}{25}$				$-\frac{1.6}{25}$	
	$+\frac{1.3}{25}$				$-\frac{1.0}{25}$	
	$+\frac{2.3}{25}$				$-\frac{3.5}{25}$	
ends	$+\frac{1.5}{25}$	$+\frac{2.2}{21}$			$-\frac{1.7}{17}$	$-\frac{2.4}{25}$
	$+\frac{1.1}{25}$				$-\frac{2.0}{25}$	
	$+\frac{0.8}{25}$				$-\frac{0.3}{25}$	
	$+\frac{1.0}{25}$				$-\frac{1.0}{25}$	24" pipe
	$+\frac{1.7}{25}$				$-\frac{1.2}{25}$	