

Higgins Ditch  
Mason Trap  
1940

190

Oscar Higgins Drain  
Headley Road W.P.A.

# 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.

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Broadstreet Ground  
WPA. Project 3-20756-E

10'-6" - at Goldie's Soyd. Fence

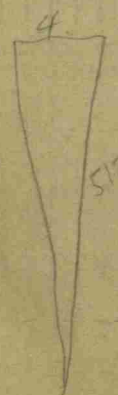
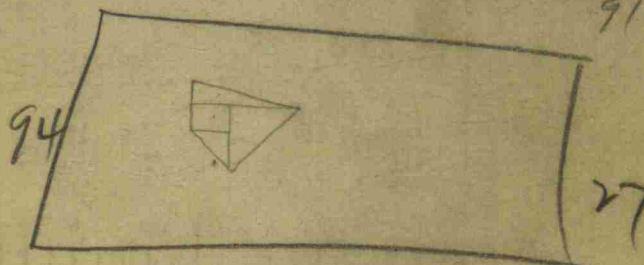
10'-0" - " " No. Yd "

11'-0" - " No. End of Ditch

Leo Walsh

1896  
1912  
3000  
512

111	111
20	140
140	251
1	161
	91



128  
512  
4  
32

6x12x16 66  
4" Oak S3 1/4 E 9  
5.94

Transit line on Higgins Ditch  
May 8, 1940

Cook  
Newman  
Wells.

Road Bridge Sta. 0+0  
3' span 27" rise.

0+00 to 565° W Mag.

0+01 - E. edge bridge

0+19 - W. " "

2+63 - Def. R. 12°38'

3+94 - Def. L. 56°31'

6+60 - Def. L. 18°04' Headwall.

7+72 - Shell Pipeline

8+34 - Def E. 32°49'

10+92 N+S Fence

11+63 - Def R. 1°10'

11+66 E+W Fence

16+43 - Def. R. 74°30'

16+45 Smith E. Line

16+45 Joseph W. Line

23+94 - Def R. 10°33' 10 3'

23+95 - N+S Fence

27+14 - Def. R. 16°10' 16 1'

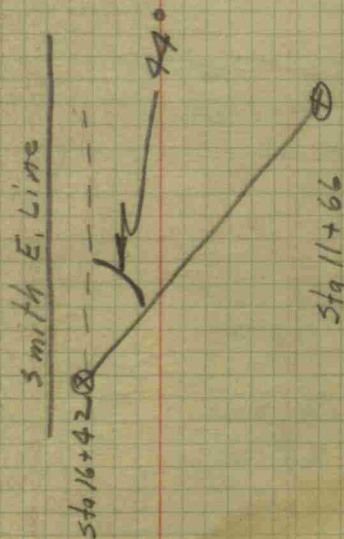
34+59 - Def. L. 53°39'

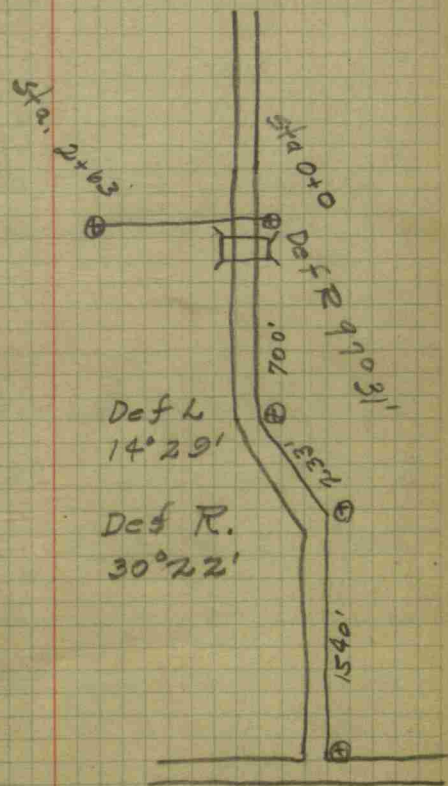
46+0 END

188' W to 1/4 sec line

217' N. to censec 30

294' <sup>N</sup> to Vannice S. Line along Higgins E. Line





—	∩	+	BM	No 1
			100.0	BM on N. END OF EAST HAND RAIL BR. STA 0+01
102.05		2.05		

112

100.93	BM on top LONG POST 4040 No. BM#1
--------	--

3.85

107.63 9.43

98.20

sta. STK G.D. 3' 6' 9' 12'

0+00	12.30	DITCH BOT			
	89.75				
0+00	8.12	Flow Line of culvert			
	93.93				
-0+50	10.65				
-1+0	11.30				
-1+50	11.50				
0+19	7.90	Flow Line of culvert			
1+0	4.53	5.05	5.05	5.80	8.00
2+0	4.16	4.55	4.92	4.62	4.65
2+63	1.55	2.05	2.85	4.95	5.95
3+0	3.70	4.22	3.90	4.62	5.65
3+94	5.85	6.35	6.65	7.00	6.90
5+0	5.40	5.72	6.13	6.26	6.42

-  $\pi$  + BM

107.63

4.82

109.21 6.40

102.81

STK 60 34 6 3'E 6

6+0 6.46<sup>60</sup> 6.93 7.20 8.58<sup>60</sup> 6.68 6.30  
6+60 6.23 6.65 6.90 8.70<sup>4</sup> 6.75 6.22  
7+0 5.80 6.05 8.79<sup>6</sup> 6.55 6.18  
7+72 9.20<sup>50</sup> 6.20<sup>60</sup>  
8+0 3.65<sup>103.28</sup> 4.35 8.55<sup>12'E</sup> 5.40 6.00

8+34 6.40 6.82 6.70<sup>0</sup> 7.03<sup>6</sup> 10.20<sup>9E</sup>  
9+0 6.70 7.30 7.22<sup>3</sup> 10.0<sup>6E</sup>  
10+0 6.27 6.72 6.70<sup>3</sup> 7.08<sup>6</sup> 9.58<sup>7E</sup>  
11+0 6.08 6.60 7.00<sup>3</sup> 7.38<sup>0</sup> 7.90<sup>9</sup> 8.30<sup>14</sup>  
11+23 6.10 6.53 6.68<sup>3</sup> 6.70<sup>6</sup> 6.70<sup>9</sup> 6.65<sup>12</sup>  
12+0 5.43 5.85 5.80 5.90 5.90 6.00  
13+0 5.95 6.35 6.45 6.45 6.45 6.52  
14+0 5.98 6.33 6.40 6.40 6.50 6.60  
15+0 6.00 6.40 6.40 6.42 6.40 6.40

-      7      +      BM

109.21

3.30

110.63

4.72

105.91

3.36

3.05

6.45

5.90

111.78

106.88

4.20

1.55

107.27

107.58

105.33

98

BM on  
rocket  
well sta  
23+70

5

	stk	60	3	2	1	1
16+0	5.38	5.80	5.90	5.90	5.95	6.05
16+3	5.58	6.00	6.18	6.00	5.95	
17+0	5.25	5.50	5.60	5.65	5.65	5.65
18+0	4.65	5.00	5.00	5.15	5.15	5.20
19+0	4.10	4.40	4.40	4.50	4.50	4.55
20+0	3.60	3.85	3.90	3.90	3.90	4.00
21+0	<sup>105.91</sup> 3.30	3.70	3.70	3.60	3.60	3.70

22+0	<sup>106.58</sup> 4.05	4.40	4.45	4.45	4.57	4.72
23+0	<sup>107.53</sup> 3.10	3.50	3.50	3.50	3.50	3.45
23+94	1.97	2.64	2.63	2.60	2.60	2.60

-      π      +      BM      Sta 23+94  
111.89    5.62    106.27

9.90

107.23

5.24

10 1.99

6

	stk	6'	3'	6'	9'	12'
<del>23+94</del>	<del>420</del>	<del>494</del>	<del>490</del>	<del>505</del>	<del>500</del>	
<del>23+0</del>	<del>535</del>	<del>572</del>	<del>578</del>	<del>575</del>	<del>575</del>	<del>580</del>
<del>22+0</del>	<del>630</del>	<del>670</del>	<del>675</del>	<del>675</del>	<del>670</del>	<del>665</del>
<del>21+0</del>	<del>698</del>	<del>737</del>	<del>732</del>	<del>740</del>	<del>740</del>	<del>745</del>
<del>20+0</del>	<del>728</del>	<del>765</del>	<del>770</del>	<del>760</del>	<del>770</del>	<del>770</del>
<del>19+0</del>	<del>790</del>	<del>815</del>	<del>810</del>	<del>815</del>	<del>810</del>	<del>815</del>
<del>18+0</del>	<del>830</del>	<del>860</del>	<del>868</del>	<del>865</del>	<del>865</del>	<del>870</del>
<del>17+0</del>	<del>890</del>	<del>910</del>	<del>930</del>	<del>925</del>	<del>930</del>	<del>925</del>
<del>16+60</del>	<del>11.50</del>	<del>Flowline Tile on Smith farm.</del>				
<del>16+42</del>	<del>920</del>	<del>965</del>	<del>975</del>	<del>965</del>	<del>955</del>	<del>960</del>
<del>16+0</del>	<del>900</del>	<del>940</del>	<del>950</del>	<del>950</del>	<del>955</del>	<del>960</del>
<del>14+0</del>	<del>970</del>	<del>1005</del>	<del>1015</del>	<del>1020</del>	<del>1010</del>	<del>1015</del> <del>1030</del>
<del>13+0</del>	<del>970</del>	<del>1010</del>	<del>1015</del>	<del>1010</del>	<del>1015</del>	<del>1015</del>



Sta    Stk    6d    3'    6'    9'    12'

16+0   51.5   5.50   560   565   550   560

12+0

—      π      +      BM  
 107.92   165   106.27   BM at  
    23-94

stk	stk	gd.	2'	6'	9'	11'
23+94	.25 107.67	.95 106.97	.92 107.0	1.05 106.87	.95 106.97	1.00 106.97
23+0	1.40 106.57	1.80 106.17	1.75 106.17	1.80 106.17	1.80 106.17	1.85 106.07
22+0	2.33 105.89	2.70 105.27	2.74 105.18	2.70 105.27	2.70 105.27	2.65 105.27
21+0	3.00 104.97	3.43 104.49	3.40 104.57	3.36 104.56	3.42 104.50	3.43 104.49
20+0	3.30 104.67	3.65 104.27	3.65 104.27	3.68 104.24	3.68 104.24	3.75 104.17
19+0	3.85 104.07	4.18 103.77	4.14 103.78	4.22 103.70	4.20 103.77	4.18 103.74
18+0	4.40 103.57	4.75 103.17	4.78 103.14	4.80 103.12	4.82 103.10	4.87 103.05
17+0	5.00 102.92	5.22 102.77	5.40 102.57	5.42 102.50	5.45 102.47	5.40 102.52
16+60	7.65 100.27	FL Tite	8" Tite			
16+43	5.35 102.57	5.80 102.17	5.95 101.97	5.85 102.07	5.70 102.12	5.65 102.27
16+0	5.18 102.74	5.58 102.34	5.67 102.25	5.65 102.27	5.70 102.22	5.75 102.17
15+0	5.78 102.14	6.15 101.77	6.20 101.77	6.15 101.77	6.10 101.82	6.05 101.87
14+0	5.74 102.18	6.08 101.84	6.15 101.77	6.20 101.72	6.18 101.74	6.20 101.77
13+0	5.80 102.12	6.15 101.77	6.20 101.77	6.20 101.77	6.25 101.67	6.30 101.67
12+0	5.20 102.77	5.60 102.37	5.60 102.37	5.68 102.24	5.65 102.27	5.75 102.17

4.15

106.64

287

103.77

106.64

6.26

105.88 5.50

100.38

590

9

	5L	6L	3	6	9	12
11+63	460 102.24	498 101.62	470 101.24	478 101.86	495 101.69	490 101.74
11+0	456 102.88	495 101.69	555 101.09	590 100.74	595 100.69	640 100.24
10+0	478 101.86	520 101.44	525 101.39	525 101.39	595 100.69	800 98.64
9+0	522 101.42	582 100.92	580 100.84	650 100.14	815 98.49	
8+34	492 101.72	535 101.29	525 101.29	570 100.94	638 100.26	860 98.04
8+0	370 102.94	441 102.23	473 101.91	550 101.14	612 100.52	833 98.31
7+72	980 96.84	Top 8" Shell Pipe Line (Dutton)				
7+0	585 100.79	625 100.39	660 100.04	618 100.46	638 100.26	890 97.74
6+60	626 100.38	678 99.86	647 100.17	690 99.74	860 98.04	
6+0	575 100.13	622 99.66	605 99.83	580 100.08	632 99.56	780 98.08
5+0	468 101.20	503 100.85	540 100.49	550 100.38	572 100.16	562 100.26
3+94	514 100.74	562 100.26	580 100.08	602 99.86	632 99.56	615 99.73
3+0	757 98.31	803 97.95	763 98.25	787 98.01	785 98.03	945 96.43
2+63	540 100.48	593 99.75	650 99.38	795 97.93	855 98.23	985 96.03
2+0	803 97.85	845 97.43	864 97.24	872 97.16	860 97.22	858 97.20
1+0	842 97.46	890 96.98	910 96.78	916 96.72	910 96.78	965 94.23
0+0	960 96.28	10.00 95.88				

114.05 7.78

106.27 BM at  
23+99

3.80

110.25 BM on  
rock 90'  
N. of sta  
34+59

10

Sta	Stk	Gd	S's
25+0	7.10 106.95	7.55 106.50	7.35 106.70
26+0	6.70 107.35	7.18 106.87	7.15 106.90
27+0	5.82 108.23	6.70 107.75	6.28 107.77
27+14	5.80 108.20	6.25 107.20	6.30 107.70
28+0	5.54 108.51	6.00 108.05	5.94 108.11
29+0	5.22 108.83	5.70 108.35	5.58 108.47
30+0	4.72 109.33	5.25 108.80	5.22 108.83
31+0	4.23 109.82	4.72 109.33	4.83 109.22
32+0	3.92 110.13	4.45 109.60	4.40 109.65
33+0	4.05 110.00	4.52 109.53	4.55 109.50
34+0	4.33 109.72	4.95 109.10	5.05 109.00
34+59	3.95 110.10	4.80 109.25	4.80 109.25

4.35 reading 50' into Yannice Woods  
109.70

-	x	+	BM
			110.25 34+5
	117010	6.85	

2.95			114.15 BM on tree 21
6.85	112.50	2.25	110.25 No 44
6.23			106.27 23+92

Stg	Stk	Gd	51.50
35+0	7.78 109.32	8.30 108.80	8.35 108.75
36+0	8.20 108.90	8.80 108.30	8.90 108.20
37+0	7.85 109.25	8.35 108.75	8.35 108.75
38+0	7.46 109.64	8.05 109.05	8.00 109.10
39+0	7.67 109.43	8.20 108.90	8.27 108.83
40+0	7.33 109.77	7.90 109.20	7.92 109.18
41+0	6.90 110.20	7.46 109.64	7.44 109.66
42+0	6.30 110.80	6.95 110.15	6.90 110.20
43+0	5.30 111.80	5.85 111.25	5.88 111.22
44+0	4.40 112.70	4.85 112.25	4.88 112.22
45+0	3.40 113.70	3.90 113.20	3.85 113.25
46+0	2.18 114.92	2.80 114.30	2.60 114.50

1195  
101.08

TopSHELL P.L. 2000

Sta	EL.	
0+0	89.75	Ditch Bottom
0+0	93.93	Flowline Culvert.
50'E.	91.40	
100'E	90.75	
150'E.	90.55	
0+19	94.15	Flowline Culvert

-     $\pi$     +    BM  
100.00

103.38    3.38

3.38

100.00

Crosssection at 3+94

13

sta	stk	gd.	3'	6'	9'
3+94	2.65	3.15	2.90	2.40	2.20
	100.73	100.23	100.48	100.98	101.18

-	π	+	BM	0+0
	102.15	2.15	100.0	

7.60			94.55
100.79	6.24		

4.00			96.79
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Grade check  
Sept. 26<sup>th</sup> 14

Newman  
Fisher

Sta.	Read	Grade	
1+0 -	8.52 93.63	94.13	.50
2+0 -	8.12 94.03	94.33	.30
3+0 -	8.30 93.85	94.53	.68
4+0 -	7.80 94.35	94.72	.37
5+0 -	7.65 94.50	94.93	.43
6+0 -	6.38 94.41	95.13	.72
7+0 -	6.30 94.49	95.53	7.04



-      π      +      BM

96.79  
BM ON  
SHELL  
PIPELINE

105.53      8.74

3.48

106.38      4.33

102.05

4.20

104.80      2.62

8.00

102.18

96.80

15

sta	Read	Grade	cut
8+34	3.35 102.18	96.69 1.19	5.49
9+0	4.05 101.48	96.82	4.66
10+0	3.35 102.18	97.02	5.16
11+0	3.36 102.17	97.22	4.95
11+63	3.48 102.05	97.35	4.75
12+0	3.42 102.96	97.42	5.54
13+0	3.98 102.40	97.62	4.78
14+0	3.94 102.44	97.82	4.62
15+0	3.86 102.52	98.02	4.50
16+0	4.00 102.38	98.22	4.16
16+43	3.85 102.53	98.31	4.22

-	π	+	BM
	105.79	9.00	96.79

3.42			102.37
	107.88	5.51	

Tile check Sept 28<sup>th</sup> 16

Newman

8+34	- 9.20	9659	
9+00	- 8.05	9774	- 97.99 + .15
10+00	- 7.68	9811	- 98.19 + .08
11+00	- 7.55	9824	- 98.39 + .15
12+00	- 7.08	9871	- 98.59 - .12
13+00	- 6.93	9886	- 98.79 - .07
14+00	- 6.90	9889	- 98.89 - .04
15+00			
16+00			

15+0	- 8.85	9903	99.19 + 16
16+0	- 8.68	9920	99.39 + 19

-  $\pi$  + BM

107.88

17

Sta	Read	Ele.	Grade	Cut
17+0	4.76	103.12	98.42	4.70
18+0	4.10	103.78	98.62	5.16
19+0	3.60	104.28	98.82	5.46
20+0	3.15	104.73	99.02	5.71
21+0	2.75	105.13	99.22	5.91
22+0	2.05	105.83	100.02	5.81
23+0	1.25	106.63	100.82	5.81

-	π	+	BM
			110.25 34+50
	114.10	3.85	
4.60			109.50
	113.00	3.50	

5.40			107.60
	109.18	1.58	

CHECK TILE

Oct. 1<sup>st</sup> 1940 18

NEWMAN  
FISHER

STK	-	Read	-	El.	-	Grade	-	Cut
30+0	-	3.32	-	109.68	-	104.42	-	5.26
29+0	-	3.92	-	109.08	-	104.12	-	4.96
28+0	-	4.32	-	108.68	-	103.82	-	4.86
27+0	-	4.75	-	108.25	-	103.52	-	4.73
26+0	-	5.28	-	107.72	-	103.22	-	4.50
25+0	-	5.60	-	107.40	-	102.42	-	4.98
23+94	-	5.40	-	107.60	-	101.57	-	6.03
22+0	-	8.12	-	101.06	-	100.92	-	14
21+0	-	8.85	-	100.33	-	100.12	-	21
20+0	-	9.05	-	100.13	-	99.92	-	21
19+0	-	9.34	-	99.84	-	99.72	-	12

-       $\pi$       +      BM  
109.18

18+0 - 9.65 - 99.53 - 99.52 - 01

17+0 - 9.85 - 99.33 - 99.32 - 01

16+43 - 9.92 - 99.26 - 99.21 - 05

-       $\pi$       +      BM  
114.03   3.78   110.25   34+57

3.78

110.25

### CUT CHECK

Oct. 2, 1940<sup>20</sup>

Newman  
Fisher

STATION	READ	ELEV	GRADE	CUT
34+59 <sup>2</sup>	3.93	- 11010	- 10570	- 4.40
34+0	- 4.03	- 11000	- 10562	- 4.38
33+0	- 3.50	- 11053	- 10532	- 5.21
32+0	- 3.42	- 11061	- 10502	- 5.59
31+0	- 3.92	- 11011	- 10472	- 5.39

-	π	+	BM	
			110.25	34+59

114.05	3.80
--------	------

9.55
------

111.68	7.18
--------	------

104.50
--------

Tile check Oct 4<sup>th</sup>

21

Newman  
Fisher

Station	Read	Elev.	Grade
34+0	7.73	106.32	106.37
33+0	8.00	106.05	106.07
32+0	8.30	105.75	105.77
31+0	8.57	105.48	105.47
30+0	8.85	105.20	105.17
29+0	9.12	104.93	104.87
28+0	9.55	104.55	104.57
27+0	7.44	104.24	104.27
26+0	7.76	103.92	103.97
25+0	8.68	103.00	103.09

-	π	+	BM
			110.25
	114.20	3.95	

Cuts Oct 4<sup>th</sup>

22  
Newman  
Fisher

Station	Read	Elev	Grade	Cut
35+0	4.67	10953	10577	3.76
36+0	5.11	10909	10590	3.19
37+0	4.80	10940	10605	3.35
38+0	4.45	10975	10620	3.55
39+0	4.55	10965	10635	3.30
40+0	4.38	10982	10650	3.32
41+0	3.85	11035	10665	3.70
42+0	3.25	11095	10680	4.15



-	π	+	BM
	114.60	.45	114.15



Station	Read	Elev	Grade	
43+0	6.92	107.68	107.70	
34+0	8.30	106.30	106.37	
35+0	8.18	106.42	106.52	
36+0	8.05	106.55	106.65	
37+0	7.85	106.75	106.80	
38+0	7.70	106.90	106.95	
39+0	7.55	107.05	107.10	
40+0	7.40	107.20	107.25	
41+0	7.20	107.40	107.40	
42+0	7.15	107.45	107.55	
44+0	3.75	110.85	107.10	CUT 3.75
45+0	3.44	111.16	107.25	3.91
46+0	3.10	111.50	107.40	4.10

Hoodley Road  
November 25, 1940

New MA

Curve at B-

$D = 43^\circ$   
 $E_x = 3'$   
 $T = 28'$   
 $L = 55'$

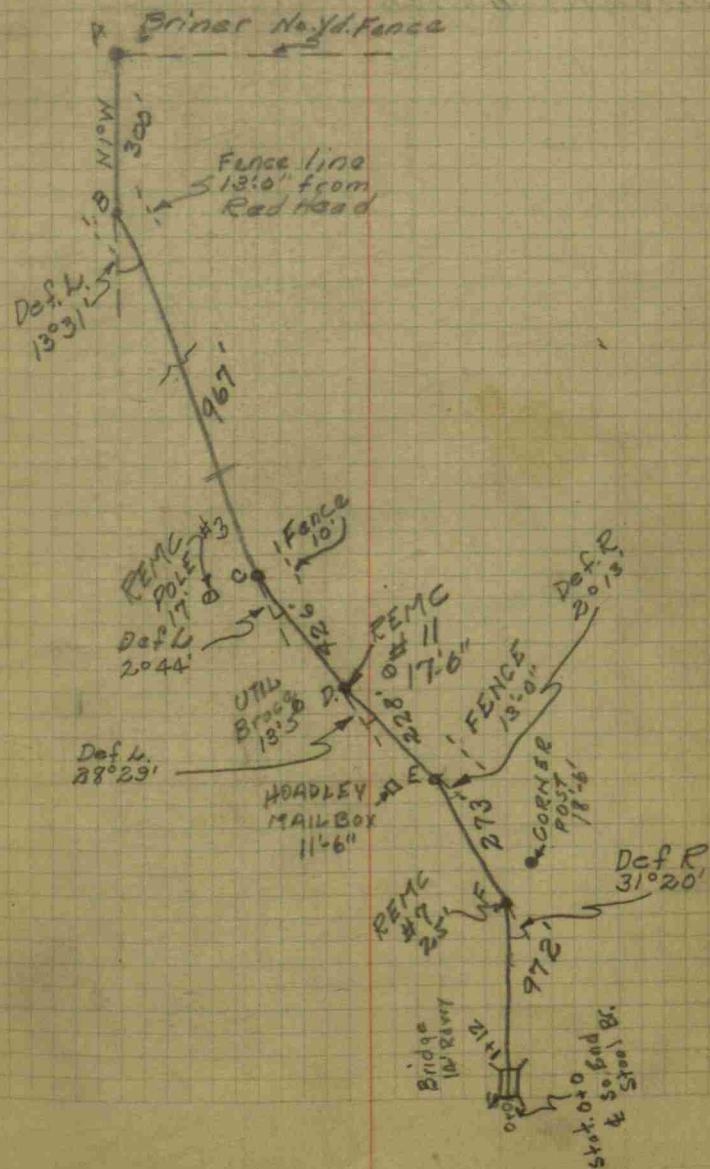
Curve at D-

$D = 20^\circ$   
 $E_x = 10'$   
 $T = 77'$   
 $L = 151'$

Curve at F-

$D = 8^\circ$   
 $E_x = 25'$   
 $T = 186'$   
 $L = 364'$

$D = 9^\circ$   
 $E_x = 20'$   
 $T = 165'$   
 $L = 323'$

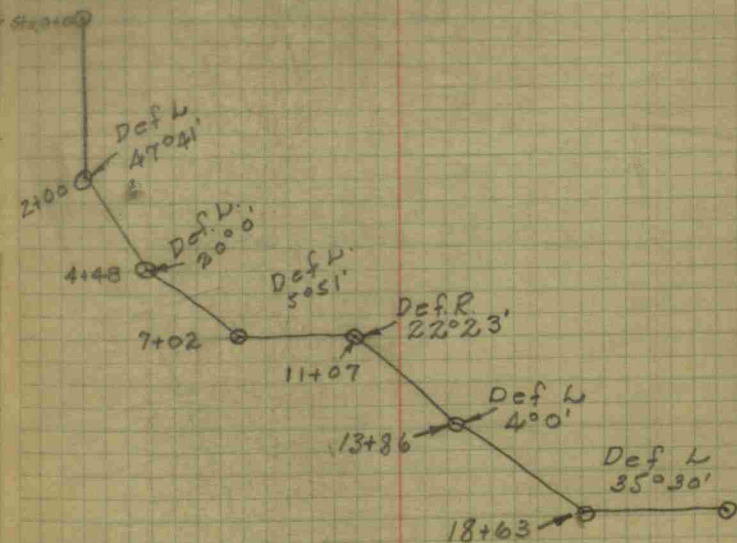


Hoadley Road Cont.

December 10, 1940

Newman

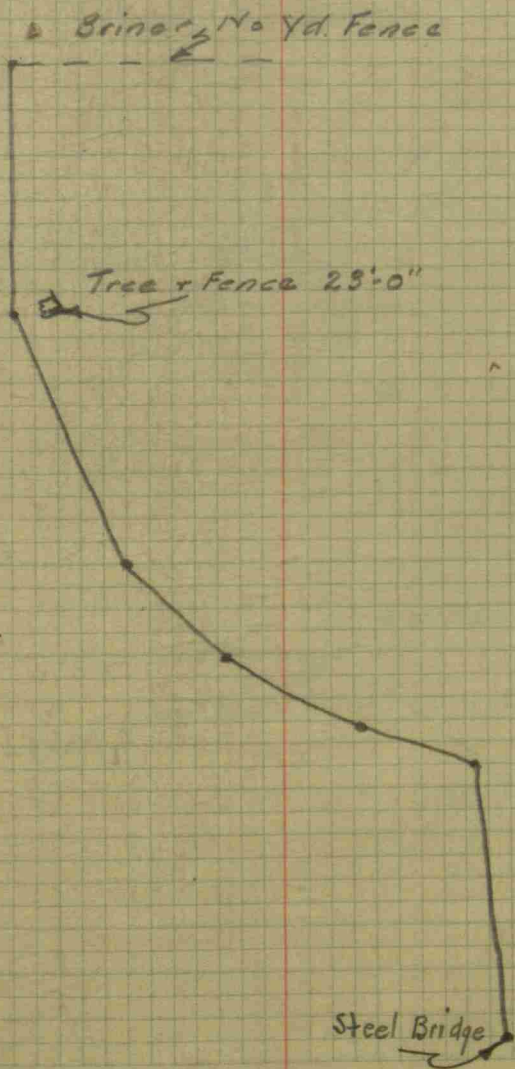
26



Hoadley Road  
Dec. 28, 1940

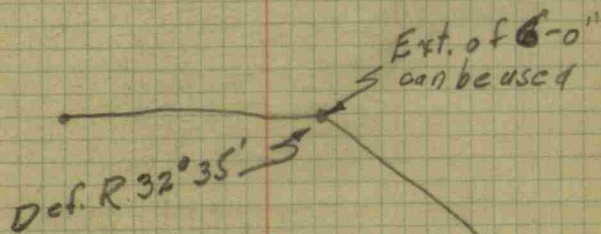
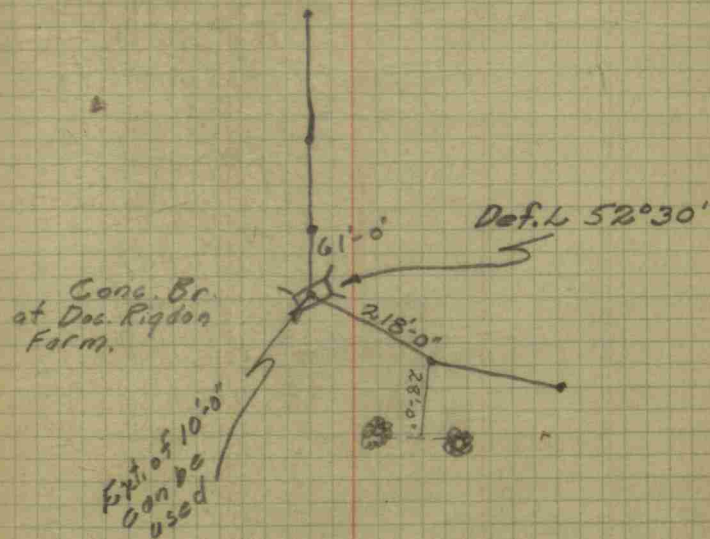
Newman

27

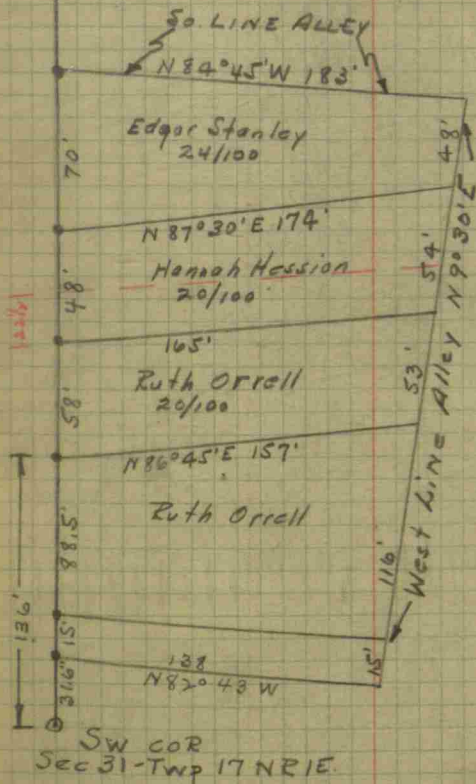


Hoodley Road Cont.  
Feb. 7, 1941 Newman

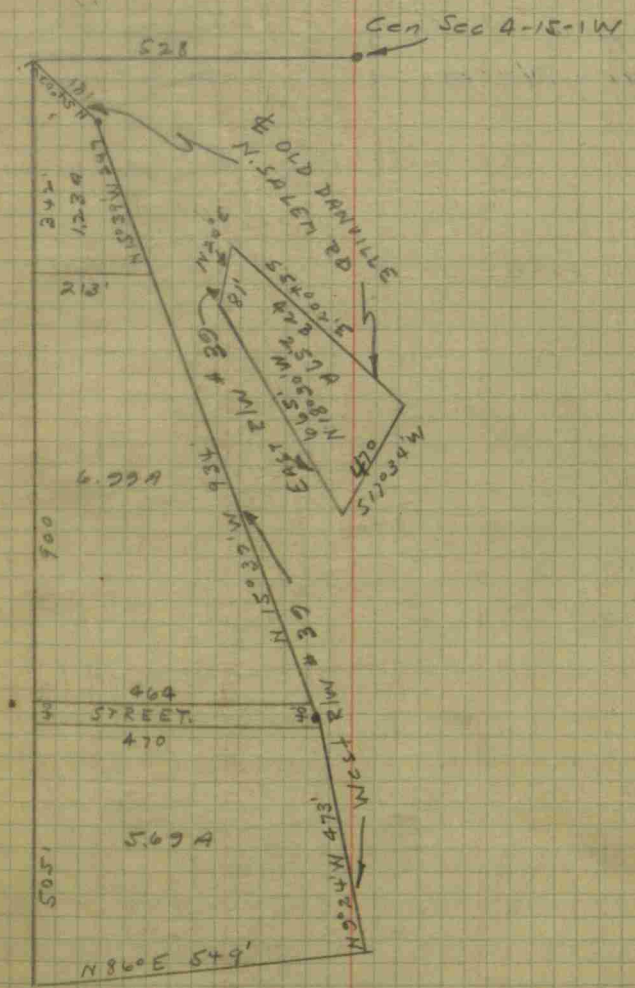
28



ORRELL - HESSION SURVEY  
 SW<sup>4</sup>SW<sup>6</sup> Sec 31-17-E  
 PITTSBORO IND MAY 23, 1941  
 Clear - Cool M. Newman  
 R. Franklin



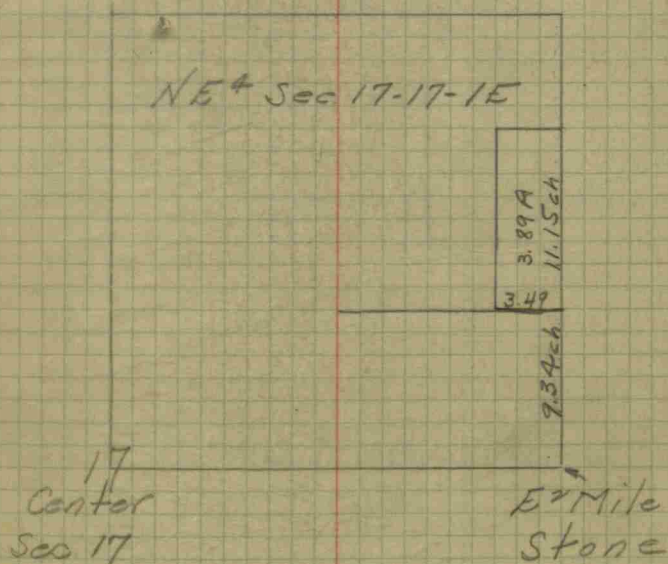
Rendall-Owens Survey  
 May 1941  
 Section 4-15-1W



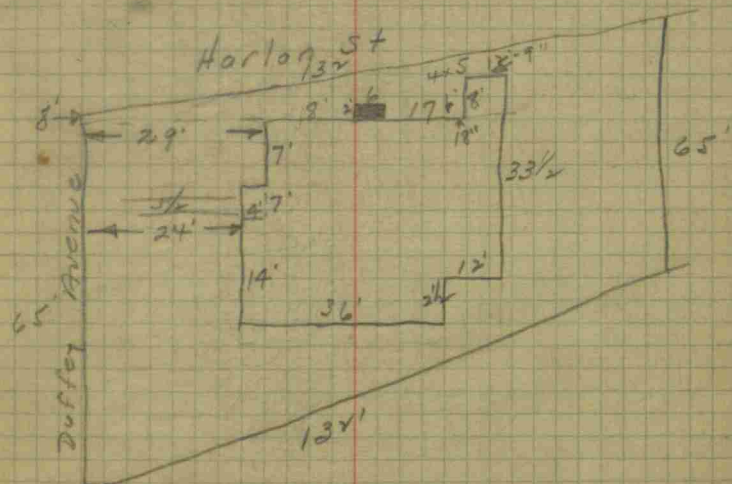
## Survey for Ernest Schend.

June 6, 1941  
Clear-Worm

Newman.  
Vone.







Kenneth Ireland House  
 Lot # 5 Block # 7  
 Duffey's Add

Sta.	B.S.	H.I.	F.S.	Elev.
B.M.	5.37	105.37		
0+00			3.24	102.13
1+00			4.16	101.21
2+00			4.60	100.77
3+00			4.96	100.41
4+00			4.64	100.73
5+00			6.52	98.85
6+00			4.21	101.16
7+00			6.80	98.57
8+00	3.98	103.64	5.71	99.66
9+00			4.13	99.51
10+00			5.39	98.25
11+00			4.64	99.00
12+00			5.82	97.82
13+00			5.51	98.13
14+00	6.70	104.04	6.30	97.34
15+00			7.02	97.02
16+00			12.00	92.04
16+50			12.25	91.79

Remarks.  
B.M. Bottom ditch 0+00 Elev. 100.00

Oct. 15, 1942.  
Misty.

} Bottom ditch already dug.

Sta.	B.S.	H.I.	Stake F.S.	Ditch F.S.	El. Stake	El. ditch.	
0	<u>    </u>	100.00	5.19	11.19	94.81	88.81	Merritt A. Gregory Ditch.
1			5.20	10.35	94.80	89.65	18 August 1944.
2			4.89	10.95	95.11	89.05	R.M. Franklin-chain
3			3.81	10.45	96.19	89.55	S.M. Shartle-level
4			3.64	10.30	96.36	89.70	M.A. Gregory-rod
5			3.80	10.30	96.20	89.70	J. Rogers-chain.
6			3.97	9.60	96.03	90.40	
7	4.52	101.91	2.61		97.39		
8			4.23	9.16	97.68	92.75	
9			4.02	8.40	97.89	93.51	
10			4.77	7.45	97.14	94.46	
11			5.23	7.00	96.68	94.91	
12	5.15	103.19	3.87	7.50	98.04	94.41	
13			5.07	7.60	98.12	95.59	
14			4.24	7.72	98.95	95.47	
15			3.48	7.62	99.71	95.57	
16	7.21	106.28	4.12	6.60	99.07	96.59	
17			6.11	9.35	100.17	96.93	
18			4.92	9.70	101.36	96.58	
19			4.15	9.00	102.13	97.28	
20			3.33	7.60	102.95	98.68	
21	5.31	108.42	3.17	7.70	103.11	98.58	
22			4.75	8.10	103.67	100.32	
23			4.42	9.10	104.00	99.32	

25-14-214

Sta.	B.S.	H.I.	Stake F.S.	Ditch F.S.	El. Stake	El. Ditch.
24			3.76	8.12	104.66	100.30
25			5.51	8.10	102.91	100.32
26	5.49	110.35	3.56	7.93	104.86	100.49
27			4.79	6.47	105.56	103.88
28			4.41	5.01	105.94	105.34
29			4.22	4.75	106.13	105.60
30			3.83	4.38	106.52	105.97
31			3.33	3.90	107.02	106.45
31+59.5				10.08		100.27

31+59.5 east edge bridge.

31+83.5 west edge bridge

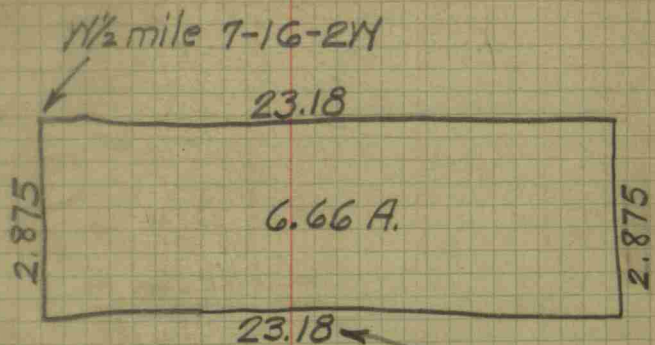
EUGENE LUTZ SURVEY  
Eel River Twp.

Eugene Lutz, grantor.  
R.R.#5, Box 89,  
Indianapolis, Ind.

James V. Merritt, grantee.

Stanley Shartle  
Aug. 1944.

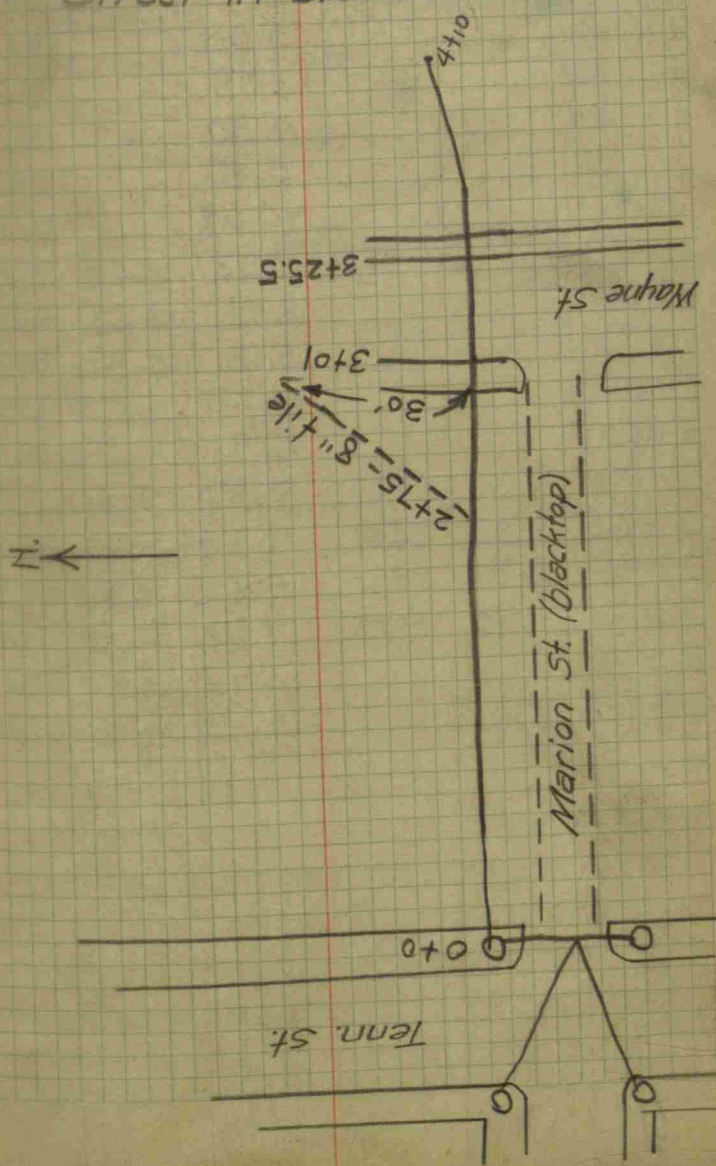
50



deed measurement inaccurate

Franklin - rodman.  
Shartle - levelman.  
V. Nichols - pt. recorder.

- DARIVILLE -  
Town Ditch - North side Marion<sup>53</sup>  
Street in block 22.



Sta.	B.S.	H.I.	F.S.	F.S.	Sta. El.	ground El.
B.M.#1	2.25	100.00			97.75	
Flowline 12" Tile NE			5.08		94.92	
" NW			3.75		96.25	
" SW			4.50		95.50	
" SE			5.40		94.60	
A.			-0.65		100.65	
0+50			2.53	3.42	97.47	96.58
1+00			3.88	4.23	96.12	95.77
1+50			5.13	5.50	94.87	94.50
2+00			6.38	6.48	93.62	93.52
2+50			6.91	7.36	93.09	92.64
3+00			7.80	7.80	92.20	92.20
3+35	2.35	94.41	7.94	8.22	92.06	91.78
B 3+45	0.92	85.71	9.62	9.90	84.79	84.51
3+55	1.72	79.75	7.68	8.09	78.03	77.62
3+70			10.75	11.80	69.00	67.95
4+10			12.70	14.4	67.05	65.35

30' N 3+00

54

A = Bottom joist Wm Walls house  
 B. 4.82' FL LINE 8" TILE 30'  
 N. ST. 3+00 =  $ED = 89.59'$

Elev. B.M.#1 = 97.75'

Elev. bottom Wm Walls house =  
 92.65'

Chadd & Porter Survey.

Pt. lot 6 Davis Add. Danville. 48' off W.

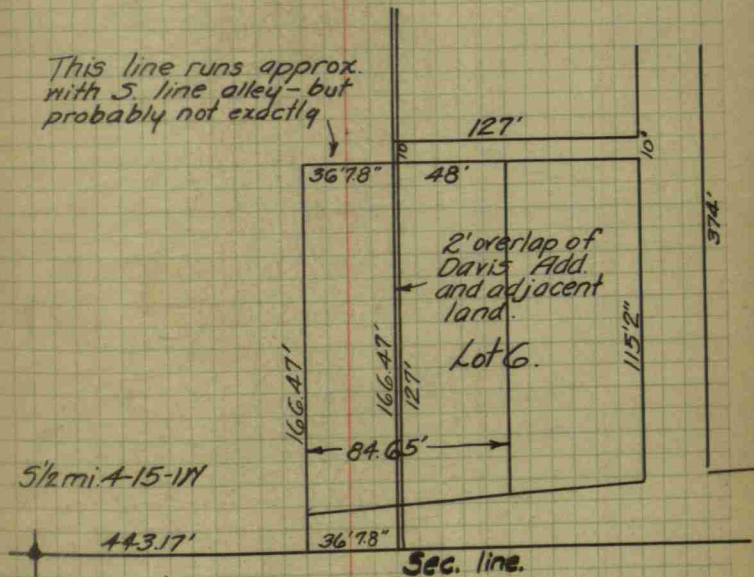
Pt. SW $\frac{1}{4}$  SE $\frac{1}{4}$  A-15-1W.

25 Aug<sup>st</sup> 1944.

M. FRANKLIN.

S. SHARTLE.

This line runs approx.  
with S. line alley - but  
probably not exdctly



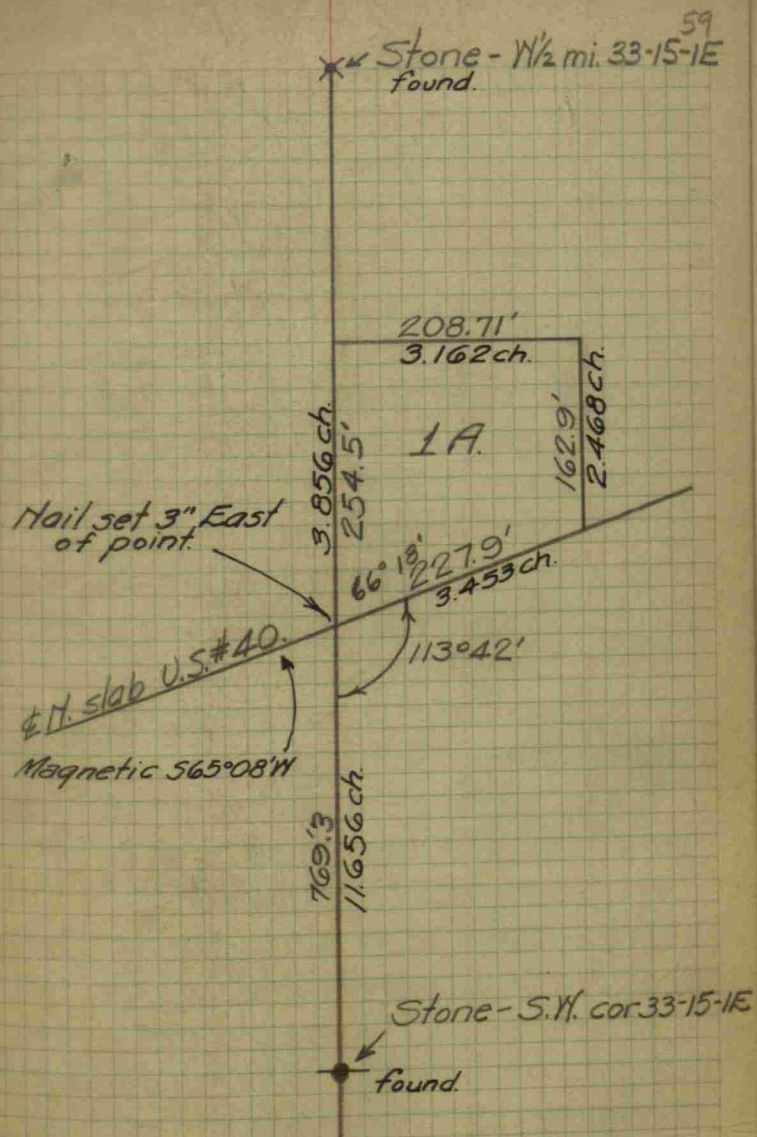


Judge Clinton H. Givan.  
Pt. SW<sup>4</sup> SW<sup>4</sup> 33-15-1E.

2nd Sept. 1944.

R. Major Franklin  
Stanley Shartle

See field bk. 195 p. 59.



E. M. Hardin Survey - Plainfield.  
-Pt. SW $\frac{1}{4}$  26-15-1E-

Aug. 1944.

Major Franklin

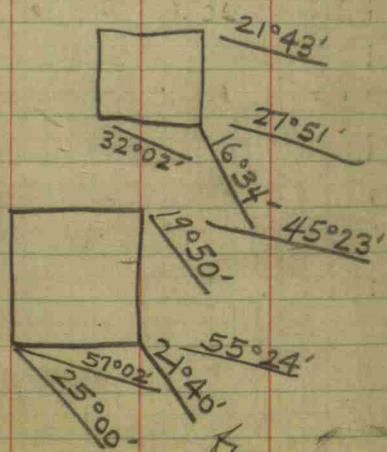
Sept. 1944.

Stanley Shurtle

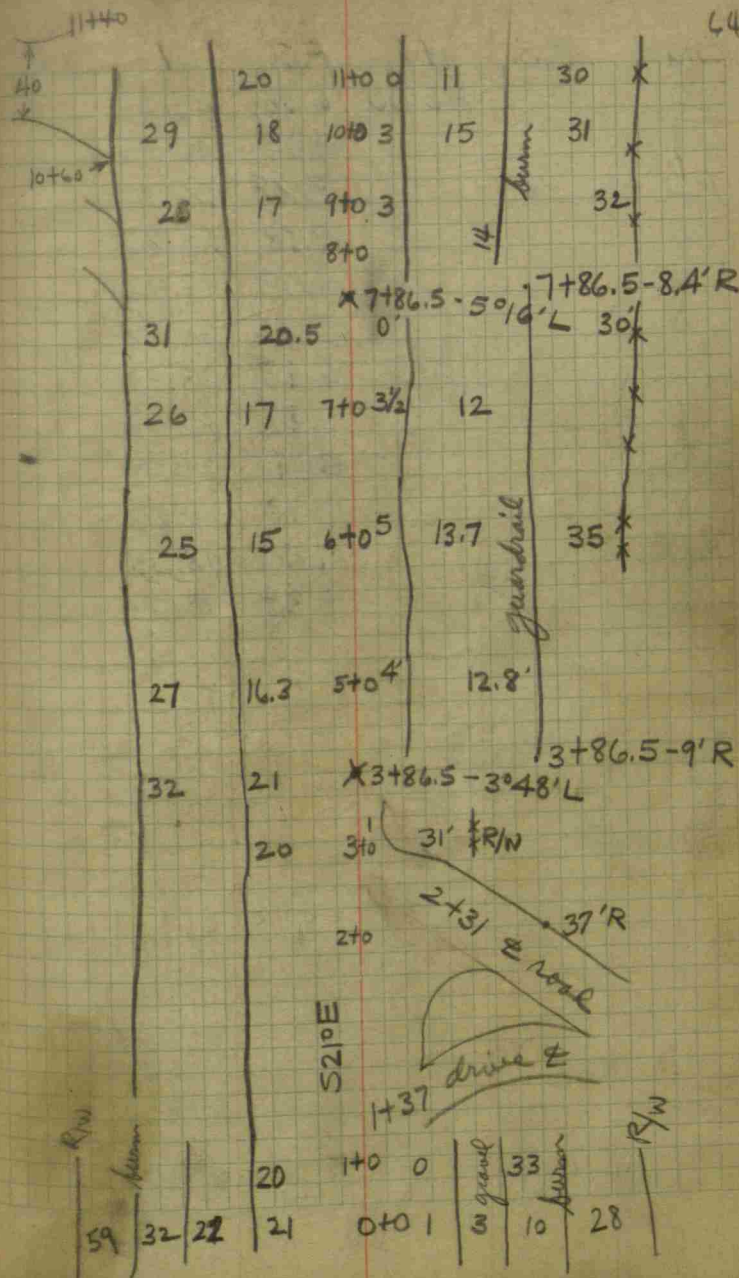
Bearing	Distance	N	S	E	W
S68°28'W	120		44.05		111.62
N	120	120.00			
S68°28'W	114		41.84		106.04
S1°45'W	121.5		121.44		3.71
S68°28'W	40.12		14.73		37.29
N1°10'E	92.6	92.58		1.89	
N20°35'E	142	132.93		49.92	
N68°28'E	13'	4.77		12.09	
N3°18'E	57.7	57.60		3.32	
N68°28'E	205.8	75.54		191.44	
S.	261.36		261.36		
	1288.08	483.42	483.42	258.66	258.66

Survey of State Road #39 in 4-15-1W  
for John Hume, attorney.

15 Sept. 1944. M. Franklin.  
S. Shartle.



3 1/2' Ash tree  
152' from N end guardrail



Sta.	B.S.	H.I.	F.S.	EL.	% grade
0		30.00	6.38	23.62	+1.91
1			4.47	25.53	+1.19
2			3.28	26.72	+0.10
3			3.18	26.82	-0.91
4			4.09	25.91	-1.27
5			5.36	24.64	-1.29
6			6.65	23.35	-1.17
7			7.82	22.18	-1.29
8			9.11	20.89	-1.07
9			10.18	19.82	-1.27
10			11.45	18.55	-1.85
11			13.3±	16.7±	

SURVEY OF COOPER LAND FOR  
TOWN OF DANVILLE.  
NE $\frac{1}{4}$  10-15-11N.

Sept. 1944. R. M. Franklin.  
Stanley Shartle.

Old stone 6x12x16 found 31.585 chains  
south of stone "A". Old stone was  
replaced by big stone 12x29x30. Old  
witnesses stump of B. Ash S3 $\frac{3}{4}$  $^{\circ}$ E  
9 links was found. New wit.  
NW corner plant fence N66 $\frac{1}{4}$  $^{\circ}$ E 25 $\frac{3}{4}$  lbs.

B = 8x12x16" block + 42" pin

C = " " " "  
wit SW cor plant S17 $^{\circ}$ E 46 lbs.

See Field Book 198 page 7 for  
additional notes.

A Stone found (See D.R. 25/137, 89/68)  
12.465  
E Road #36

OLD LINE GIVEN AS  
139 $\frac{1}{2}$  RDS. LONG  
= 34.875 chains.

12.465	12.465
15.780	15.860
3.180	3.180
3.450	3.450
<u>34.875</u>	<u>34.955</u>

15.86  
15.78

3.18  
3.18

D Stone 6x12x16 found.

3.45

Small stone

B C

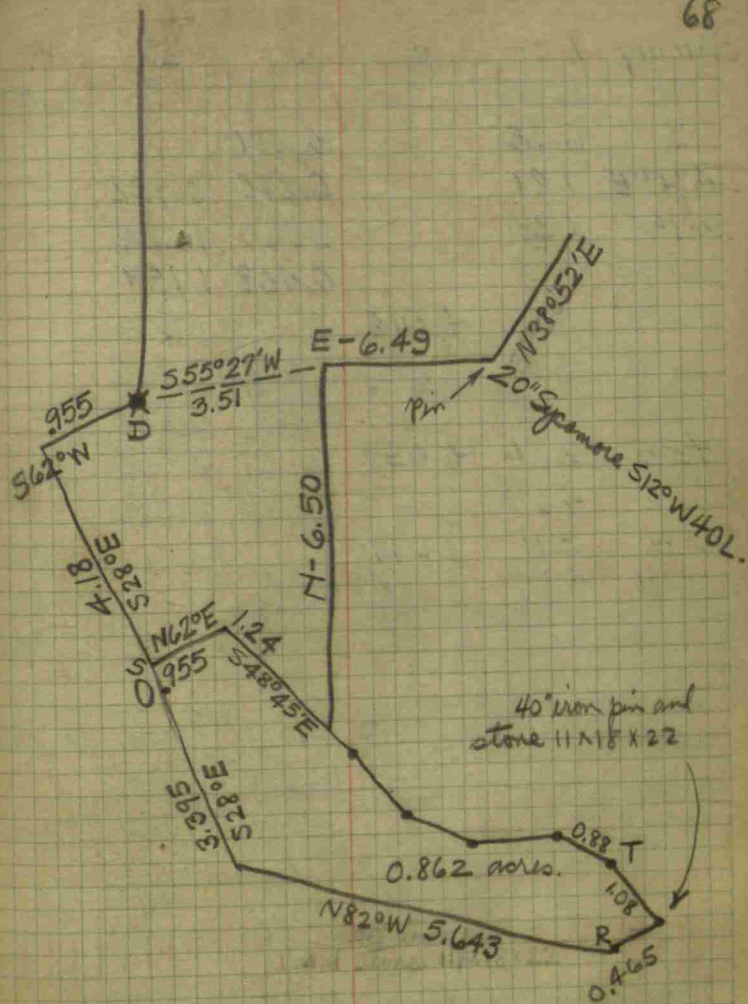
Bearing	Dist.	N.	S.	E.	W.
S28°E	4.18		3.691	1.962	
S48°45'E	1.24		0.818	0.932	
North	6.50	6.500			
		6.500	4.509	2.894	0.000
		<u>4.509</u>			
		1.991			

$$\tan x = \frac{2.894}{1.991} = 1.45203 \pm$$

$$\therefore x = 55^{\circ}27'$$

$$\sqrt{1.991^2 + 2.894^2} = 3.511$$

Magnetic Variation of this survey  
is  $0^{\circ}43'$  West. For example:  
The true astronomical bearing of a  
line of this survey bearing  $549^{\circ}30'E$  (mag.)  
is  $550^{\circ}13'E$  true.

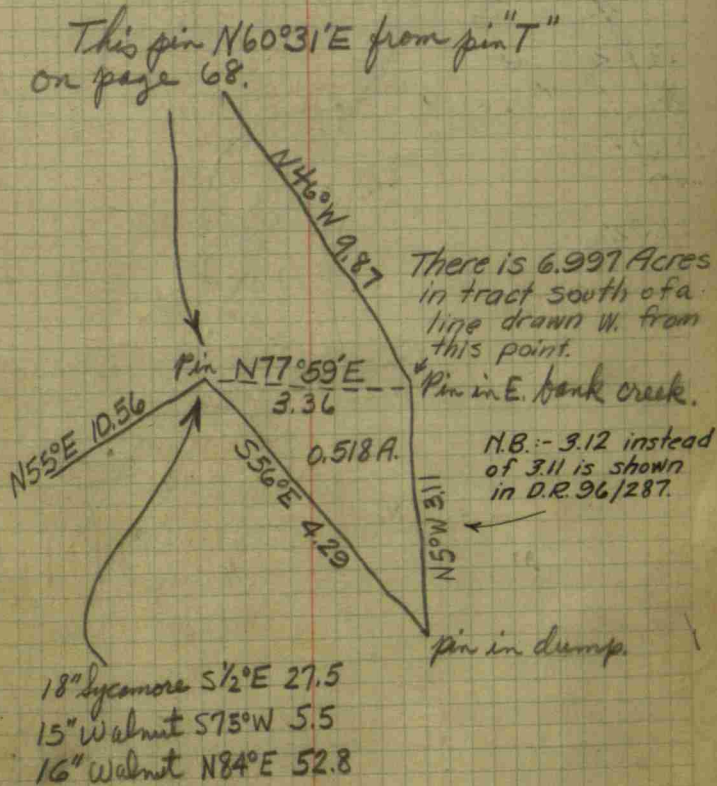


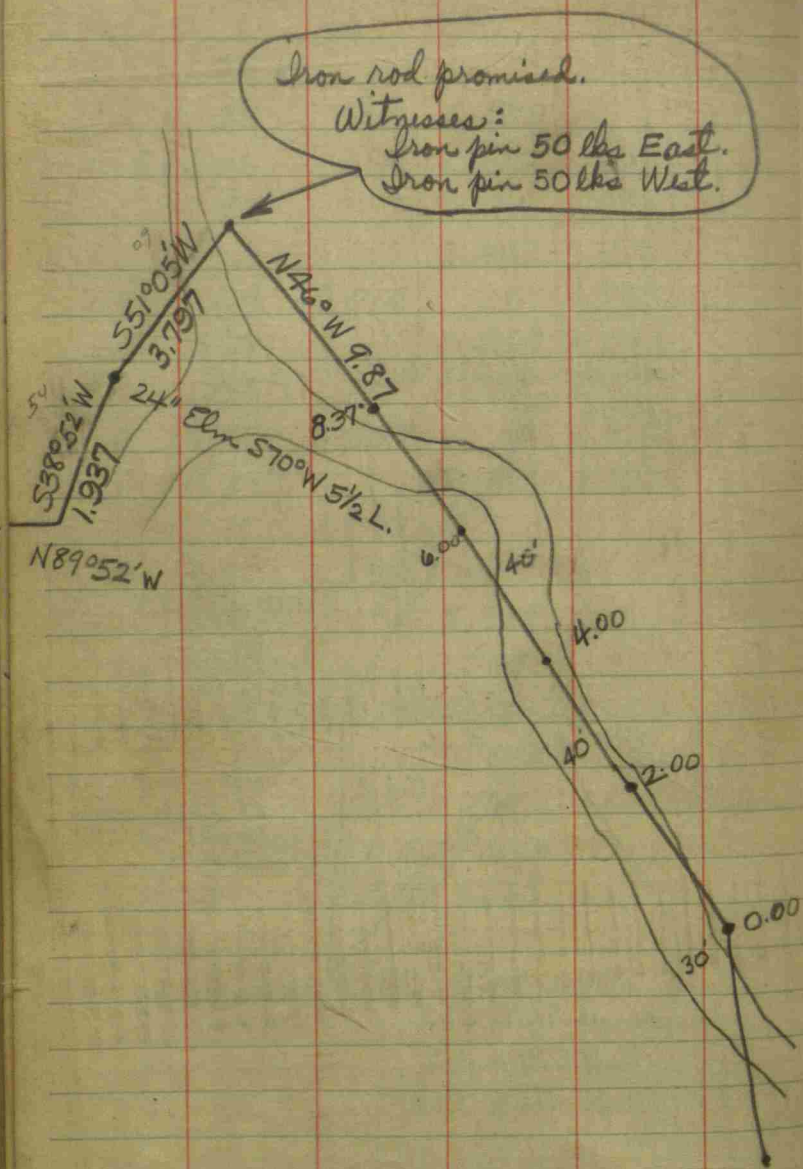
From S to R -  $562^{\circ}14'E$  8.122 ch.

Bearing	Dist.	N	S	E	W
W	6.49				6.490
S	6.50		6.500		
S48°45'E	0.41		0.270	0.308	
S42°E	1.83		1.360	1.224	
S68°E	1.25		0.468	1.159	
N89½°E	1.57	0.014		1.570	
S60°E	0.88		0.440	0.762	
S49½°E	1.08		0.701	0.821	
N55°E	10.56	6.057		8.650	
S56°E	4.29		2.399	3.556	
N5°W	3.11	3.098			0.271
N46°W	9.87	6.856			7.100
S51°05'W	3.797	16.017	2.385	18.050	2.954
S38°52'W	1.937		1.508		1.215
	53.574	16.025	16.031	18.050	18.030
			16.025	18.030	
			.006	.020	

Error of closure = 2.09 links  
or 1 part in 2563.

The above contains 13.48 acres.





References to deed record  
 numbers pertinent to these lands:

6/525, 8/440, 11/63, 3/199, 12/634  
 17/383, 11/14, 25/137, 96/287, 89/68,  
 109/332, 142/89, 143/343, 145/271, 138/163,  
 139/242-3, 142/203, 7/88,  
 County Home land: 32/198, 59/135, 79/203.

Misc. Record: 4/271,  
 Civil Order Book: 78/181, 78/290,



## Stephenson to Town Danville.

Bearing	Distance	Latitudes	Departure	D. M. D.	Areas
S28°E	3.395	-2.998	+1.594	1.594	-4.782
S82°E	5.643	-0.785	+5.588	8.776	-6.889
N65°45'E	0.465	+0.191	+0.433	14.797	+2.827
N49°30'W	1.08	+0.701	-0.821	14.409	+10.101
N60°W	0.88	+0.440	-0.762	12.826	+5.643
S89°30'N	1.57	-0.014	-1.570	10.494	-0.147
N68°W	1.25	+0.468	-1.159	7.765	+0.363
N42°W	1.83	+1.360	-1.224	5.382	+7.320
N48°45'N	1.65	+1.088	-1.240	2.918	+3.183
S62°W	0.955	-0.449	-0.843	0.835	-0.376
	18.718	+4.248	-7.619		+29.437
		-4.246	+7.615		-12.194
		.002	.004	2	17.243
					8.621

Area = 0.862 acres.

Error of closure = 0.45 link.

Error of survey =  $\frac{1}{4160}$ .

In ~~MS~~ 10-15-1W.

By Stanley Shurtle, Dep. S. & Co. 1941.

Mrs Lura Coopers tract

Bearing	Dist.	Latitude		Departure	
		+	-	+	-
S	15.42		15.42		
E	6.49			6.490	
N38°52'E	1.937	1.508		1.215	
N51°05'E	3.797	2.385		2.954	
N2°W	8.36	8.355			0.292
N84°W	4.11	0.429			4.087
N70°30'W	4.00	1.335			3.771
N59°30'W	3.12	1.584			2.688
		15.596	15.42	10.659	10.838
		15.420			10.659
		0.176			0.179

Acreage in original tract = 26.83 by deed.  
 Tract sold to town Kenville = 13.48 Survey.  
 Remaining for Mrs. Cooper = 13.35 acres.  
 by calculation = 13.26  
 error = 0.09 acres.

Computation to check remaining acreage. 72

Balanced		D.M.D	Double areas
Lat.	Dep.		
-15.51			
	+6.54	6.54	
+1.50	+1.23	14.31	21.4650
+2.37	+2.98	18.52	43.8924
+8.31	-0.29	21.21	176.2551
+0.43	-4.05	16.87	7.2541
+1.33	-3.74	9.08	12.0764
+1.57	-2.67	2.67	4.1919
		2	265.1349
			132.56745
			13.26 acres

The above error of closure is the result of mathematical investigation of bearing and distances on Mrs. Coopers deed and does not represent an example of land surveying by me or my associates.

Stanley Skittle

Oct. 1944.



520291

Bro sta 0+00

10237  
8.66  
3.71  
4.86

549  
356  
193  
842  
33

515  
387  
128

25  
1240  
12800  
60000

721  
412  
309  
10319  
28

581  
317  
264  
639  
42

Indy  
Marion Ward  
75668

12.70



28 1/4  
11500

8.66  
8.85  
9.00

731  
261

9739  
452  
191

5.51  
4.16  
1.35

1150237  
20866

3.71  
1.15  
4.86

135  
185  
.20

10722  
107  
1386

11189  
970  
10279

542  
412  
9.64

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.