Book # 82 - Dr # 8

LAKE JOHANNA

LAKE VALENTINE WATERWAY

1-31-30

Locations of Shore line

on

No. End Lake Johanna

and

So. End Lake Valentine.

+50

3

+50

2

+50

1

+50

0+00

+50

1

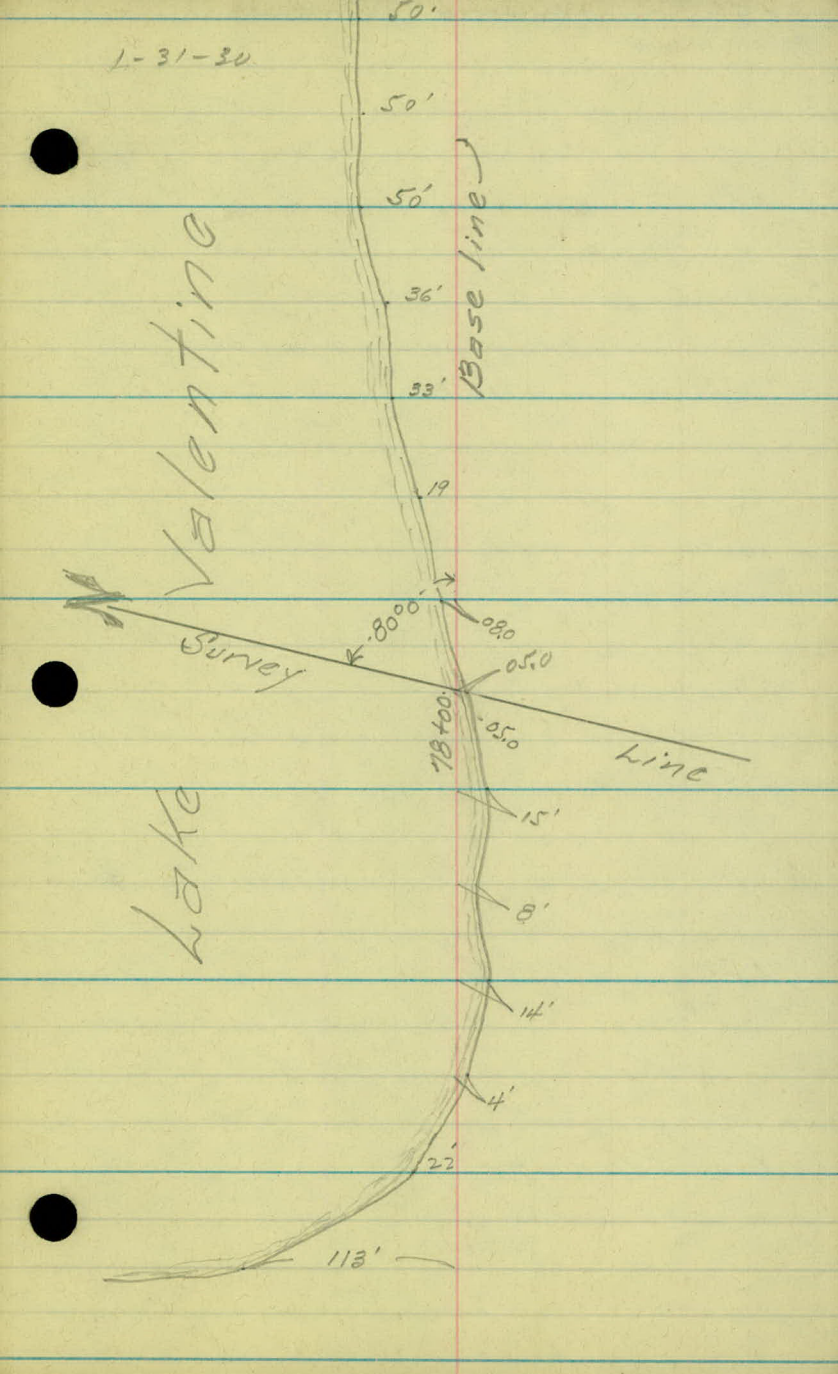
1

+50

2

+50

3


1-31-30
50'
50'
50'
36'
33'
19
Base line
Valentine
Lake
Survey
Line
.8000'
078
050
050
78+00
15'
8'
14'
4'
22'
113'

+50

3

+50

2

+50

1

+50

0400

+50

1

+50

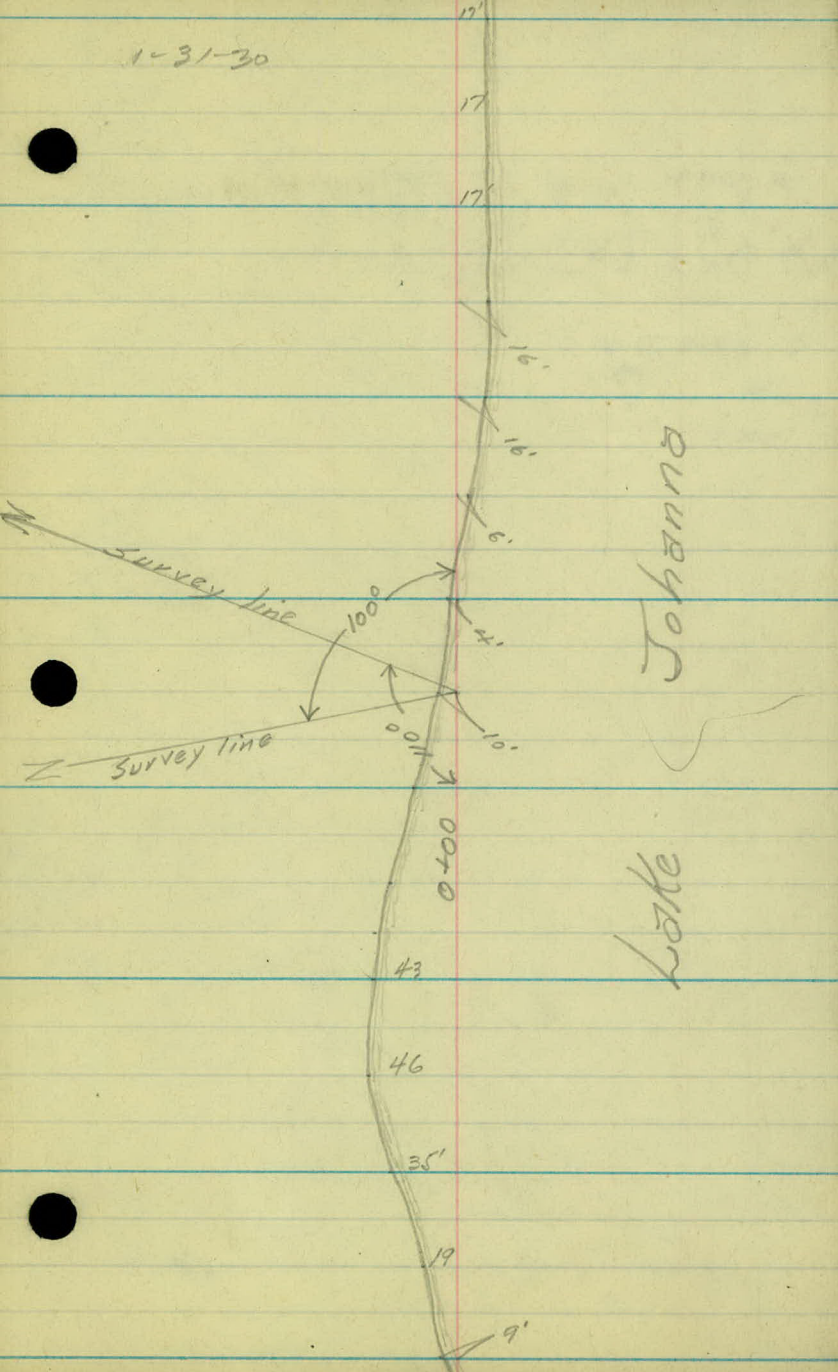
2

+50

3

+50

1-31-30


17'
17
17'
16'
16'
6'
4'
10'
Survey line
100°
Survey line
00½
0+00
43
46
35'
19
9'
Lake Johanna

1-31-30

℄ of Bridges = 17+05.0
Δ To Tracks = 89°17' from
Fwd. Tan.

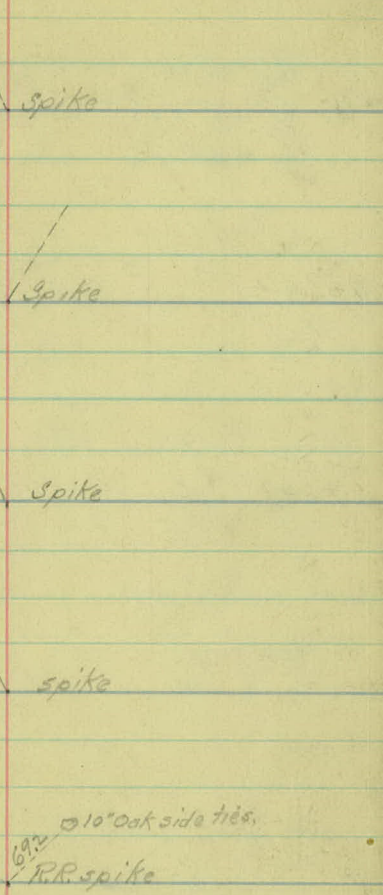
Clear + Cold.
1-20-30

K Weber
Beaton
Skoogland
Bell

Location
Transit Survey
Lake Johanna To Lake Valentine.

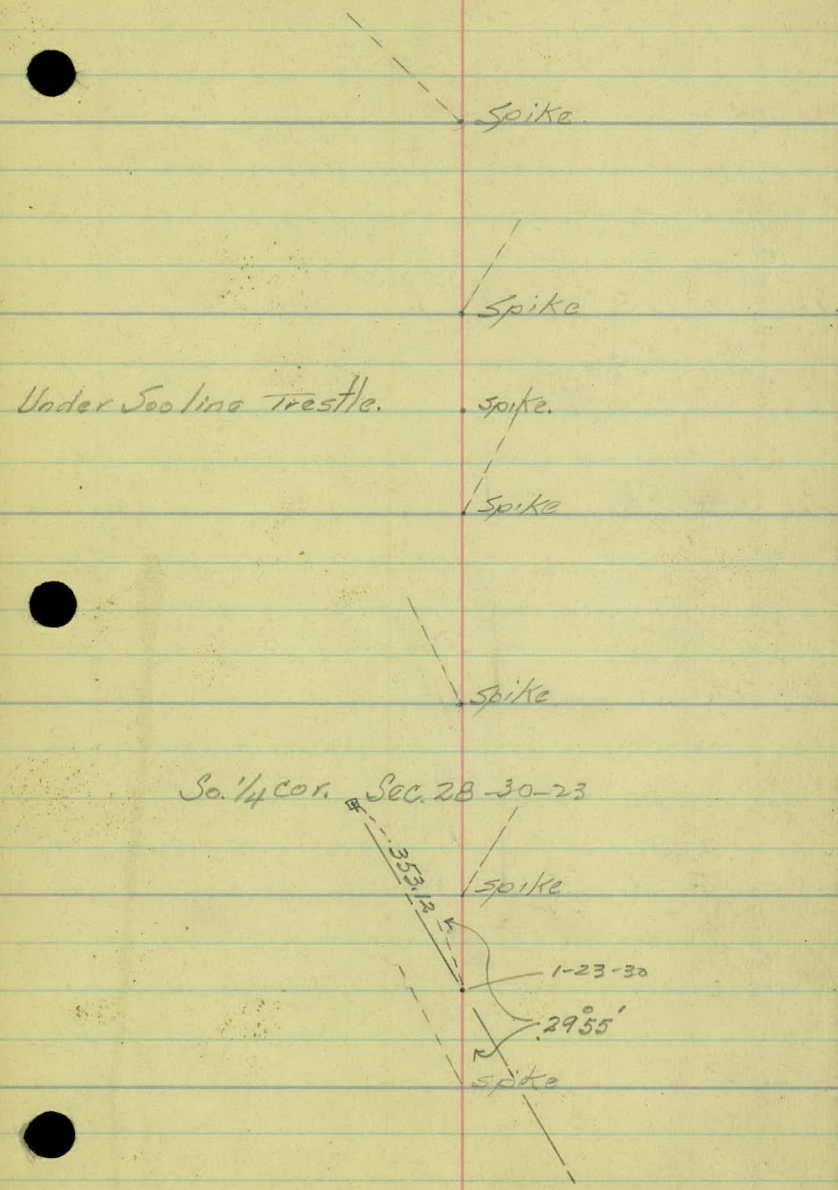
Sta.	Point	Δ Lt.	Δ Rt.
9+06.64 9+07.0	#4	16°14'	
139.54			
7+67.1 7+67+	#3		52°30'
177.63			
5+89.47 5+89.7	#2	15°30'	
198.83			
3+90.64 3+90.8	#1	53°30'	
283.68			
1+06.96 1+07.0	P.O.T.		
0+00	#0		

1-20-30 Clear and Cold.



Sta.	Point	Δ Lt	Rt Δ
19+19.84 ~~19+20.6~~	#10	80°52'	
164.34 ✓			
17+55.50 ~~17+56.2~~	#9		42°00'
49.98 ✓			
17+05.52 ~~17+06.2~~	P.O.T.		
81.72 ✓			
16+23.80 ~~16+24.45~~	#8		29°14'
167.18 ✓			
14+56.62 ~~14+57.2~~	#7	25°05'	
222.51 ✓			
12+34.11 ~~12+34.6~~	#6		45°40'
188.13 ✓			
11+97.31	Int. of So. line Sec 28-30-23		
10+45.98 ~~10+46.4~~	#5	33°30'	
139.34 ✓			

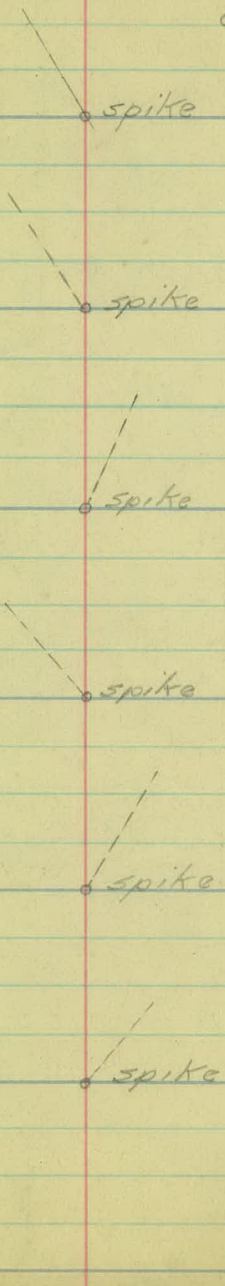
1-20-30 Clear & Cold.



Sta.	Number	Δ Lt	Δ Rt.
35+85.37	#16	50°00'	
323.18			
32+62.19	#15	41°50'	
283.75			
29+78.44	#14		55°00'
141.13			
28+37.11			
~~28+38.75~~	#13	54°30'	
181.52			
26+55.59			
~~26+56.65~~	#12		55°00'
363.80			
22+91.79			
~~22+92.1~~	#11		25°00'
371.95			

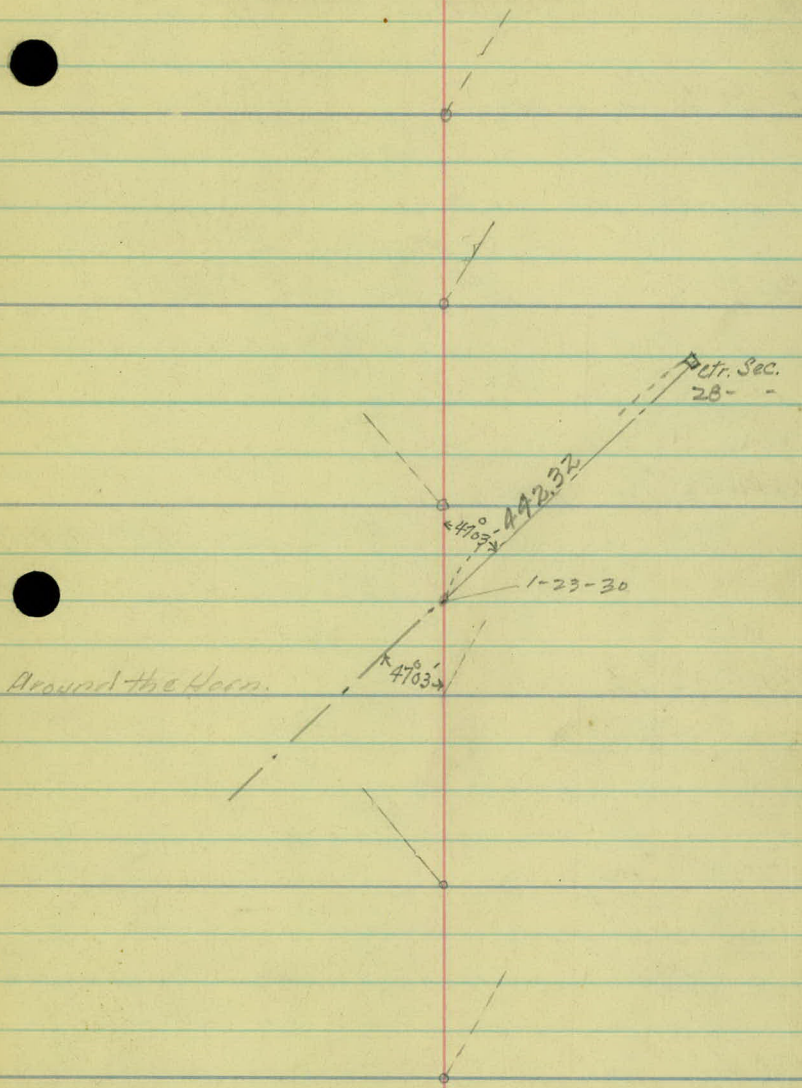
Clear & Cold. 1-20-30

o = spike



Sta.		Δ Lt.	Δ Rt.	
47+95.31	#22		56°34'	
100.72				
46+94.59	#21		53°12'	Draw To Valentine.
143.39				
45+51.2	#20	33°36'		
43+42.90	Int. of E and W¼ line Sec. 28-30-23			
43+02.16	#19		80°54'	
40.1.16				
39+01.0	#18	22°56'		
167.0				
37+34.0	#17		45°22'	
148.63				

1-21-30 Cold & Clear

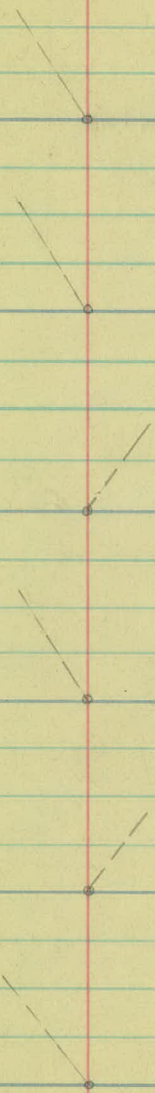


Sta.		Δ Lt	Δ Rt.
65+27.94	#28	56°48'	
138.17			
63+89.77	#27	12°54'	
279.85			
61+11.92	#26		66°44'
217.04			
58+94.88	#25	9°40'	
308.68			
55+86.2	#24		23°14'
500.7			
50+85.5	#23	40°10'	
290.19			

Cold + Clear

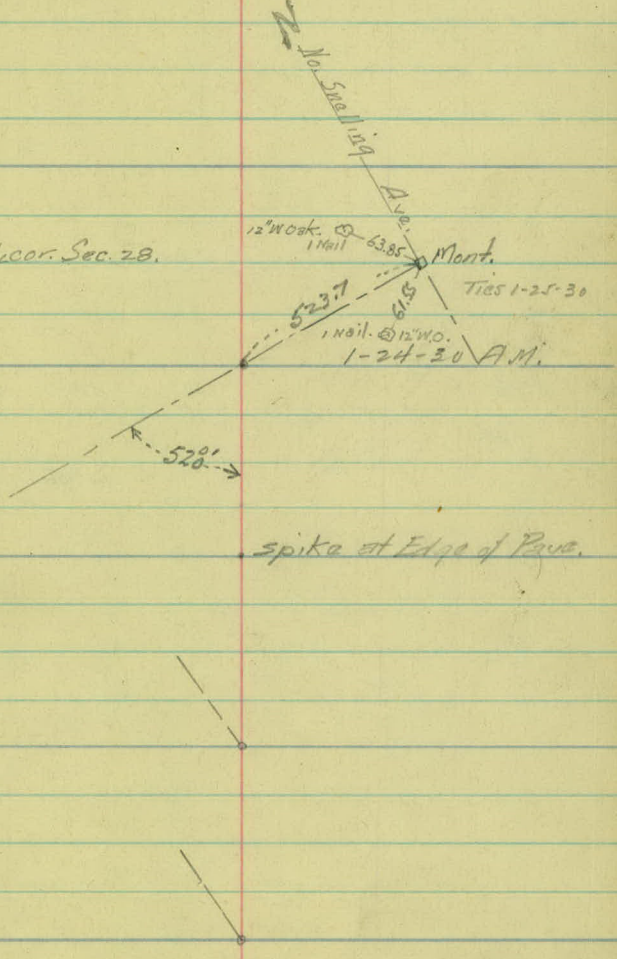
1-21-30

o = spike.



Sta.	Δ Lt	Δ Rt.
77+95.0	Edge of Ice So. Shore Lake Valentine.	
74+42.32	Int. E+W ¼ line Sec. 28-30-23	
74+08.70	So. Edge of Pave. Anoka Cutoff.	
74+08 60	P.O.T.	
73+31.0	# 30	44° 10'
468.1		
68+62.70	# 29	7° 26'
334.96		

1-22-30
Clear + Cold.



X Weber
Beaton
Stooglan
Bell.

Cross Section.
Sta. 0+00 To Sta. 77+95
Jan. 1930

Lake Johanna To
Lake Valentine.

Sta.	+	H.I.	−	Elev
				888.78
	0.69	889.47 ✓	10.74	78.73 ✓
	3.64	882.31		
0+00	= Water Guage No. End Lake Johanna.			
+10	Shore line			
+50				
+68	Toe of Slope.			
T.P.	10.73	889.46 ✓	3.64	878.73 ✓
+72				
+86	Toe of Shoulder.			
+94	Top of Shoulder.			
1+07	℄ Road (Johanna Blvd.)			
+21	Top of Shoulder.			
+25	Toe of Shoulder.			
+52				

Lt. & Rt

Cold + Snow 1-24-30 P.M.

spike in 20" Oak S.E. cor Refrectory No. End Lake Johanna.

7.7	7.8	7.8	7.8	7.8
50	25		25	50
74.7	74.6	74.6	74.6	74.9

7.3	7.6	7.5	7.4	7.1
50	25		25	50
75.1	74.8	74.9	75.0	75.2

5.9	5.9	5.9	5.8	5.5
50	25		25	50
76.5	76.5	76.5	76.6	76.9

3.8	4.5	4.5	4.5	4.0	1.0	0.5
50	35	17		25	35	50
85.7	84.0	85.0	85.0	85.5	88.5	89.0

9.4	10.2	11.0	8.5	8.4	8.8	9.8	8.0	7.4
50	34	14	7		4	10	22	50
80.1	79.3	78.5	81.0	81.1	80.7	79.7	81.5	82.1

8.0	7.6	7.6	7.6	6.4	3.7	3.2
50	33	17		20	37	50
81.5	81.0	81.9	81.9	83.1	85.8	86.3

7.4	7.0	5.7	4.4	3.4	2.6
50	25	7		27	50
82.1	82.5	84.3	85.1	86.1	86.9

4.6	4.1	3.6	3.2	2.9	
50	25		25	50	
84.9	85.4	85.9	86.3	86.6	

4.6	4.3	4.2	4.8	4.2	4.0
50	24		19	38	50
84.9	85.2	85.3	84.7	85.3	85.5

4.8	4.7	4.8	5.6	5.1	4.0	
50	33	14		21	50	
84.7	84.8	84.7	83.9	84.5	85.5	

7.2	7.2	7.1	7.6	7.0	6.3	4.7	4.5
50	38	15		21	31	42	50
82.3	82.3	82.4	81.9	82.5	83.2	84.8	85.0

		H.I.	Elev.
		889.46	
1+80			
2			
+50			
T.P.	2.79	883.18 ✓	9.07 880.39 ✓
3			
+33	So. side of Ditch		
+42	℄ Ditch		
+49	No. side of Ditch		
+56			
	3.49	883.88 ✓	2.79 880.39 ✓
+90	△1		
4			
+50	=Note= All elev. on Rt of ℄ from Sta. 4+50 to Sta. 18+50 (inc) were taken		
5	with Hand level.		
+50			
	2.34	880.28 ✓	5.94 877.94 ✓

1-24-30 Lt ℄ Rt.
Cold-Snow.

9.4	9.0	10.0	9.8	9.0	7.2	2.5
50	31	18	—	11	25	50
80.1	80.5	79.5	79.7	80.5	82.3	87.0

10.2	10.7	9.7	8.0	5.8	2.7
50	21	—	18	33	50
79.3	78.8	77.8	81.5	83.7	86.8

11.8	11.8	11.5	10.7	8.6	6.2
50	26	—	21	35	50
77.7	77.7	78.0	79.3	80.9	83.3

6.8	7.0	7.0	6.6	5.6	4.8
50	25	—	22	45	50
76.4	76.2	76.2	76.6	77.6	78.4

7.7	7.2	6.6	7.0	7.0	8.0	8.0	6.6
50	25	—	21	32	38	45	50
75.5	76.0	76.6	76.2	76.2	76.2	75.2	76.6

10.0	10.0	10.0	10.0	9.7	9.0	8.2
50	42	21	—	20	40	50
73.2	73.2	73.2	73.2	73.5	74.2	75.0

8.0	8.0	7.0	7.0	7.5	8.0	7.6
50	28	13	—	11	18	50
75.2	75.2	76.2	76.2	75.7	75.2	76.6

8.6	8.2	7.2	6.8	6.4	5.4	5.4	7.4
50	31	17	—	14	30	46	50
75.3	75.7	76.7	77.1	77.5	78.5	78.5	76.5

1-25-30
very Cold
-20

9.2	9.0	8.5	8.0	6.5	5.9	5.1	3.5	3.1	3.1
100	75	50	36	9	—	10	27	45	50
74.7	74.9	75.4	75.9	77.4	78.0	78.8	80.4	80.8	80.8

Ditch

9.0	8.8	10.5	10.5	9.0	9.0	7.8	5.8	4.7	3.5	2.0
100	77	72	65	61	50	25	—	15	25	50
74.9	75.1	73.4	73.4	74.9	74.9	76.1	78.1	79.2	80.4	81.9

Ditch

Plus from ℄ Elev.

9.5	9.5	11.4	11.2	9.4	9.2	9.0	7.8	6.6	+0.7	+3.4	+7.0
110	103	100	98	95	50	42	12	—	6	25	50
74.4	74.4	73.1	72.7	74.5	74.7	74.9	76.1	77.3	78.0	80.7	84.3

9.4	9.8	9.5	10.0	9.1	7.2	+5.4	+9.8
100	82	68	50	22	—	31	50
74.1	74.1	74.4	73.9	74.8	76.7	82.1	86.0

10.6	10.0	9.6	9.5	9.0	7.5	+3.0	+5.4	+12.0
100	75	50	29	14	—	18	28	50
73.5	73.9	74.3	74.4	74.9	76.4	79.4	81.8	88.4

Spike in 16" W.O. 3' Rt. Sta. 5+15

		880.28			
6					
+50					
7					
+50					
8					
T.P.	3.97	878.29 ✓	6.00	874.28 ✓	874.32
+50					
9					
+50					
10					
+80					
11					
+50					
12					
T.P.	4.85	879.17 ✓	3.97	874.32 ✓	

1-27-30 AM. Lt & Rt

Snowing

7.0	6.7	6.2	6.4	5.2	3.6	+3.0	+5.4	+15.5		
100	70	50	40	16	—	15	21	50		
73.3	73.6	74.1	73.9	75.1	76.7	79.7	82.1	92.2		

7.7	7.2	6.6	6.8	6.1	5.4	3.7	+2.8	+5.4	+18.0	
100	77	65	50	32	18	—	14	22	50	
72.1	73.1	73.7	73.5	74.2	74.9	76.6	79.4	82.0	94.6	

Ditch

7.2	7.2	8.6	8.5	7.2	7.2	7.3	6.6	5.3	3.6	+1.2	+5.4	+16.4
110	103	100	95	92	70	50	38	15	—	17	22	50
73.1	73.1	71.8	71.8	73.1	73.1	73.0	73.7	75.0	76.7	77.9	82.1	93.1

Ditch

7.0	7.5	8.7	8.8	7.5	7.7	7.0	6.0	3.5	+2.9	+5.4	+11.2	
100	82	80	77	75	50	29	76	—	20	30	50	
73.3	71.8	71.1	71.5	72.8	72.6	73.2	74.3	76.8	78.7	82.2	88.0	

Ditch

8.0	8.2	9.2	9.0	8.0	8.2	7.4	6.8	5.6	3.7	+2.0	+5.4	+11.6
100	96	84	82	80	68	50	34	15	—	15	29	50
72.3	72.1	71.1	71.2	72.3	72.1	72.4	73.5	74.7	76.6	78.6	47.0	48.7

B.C. T. PP

6.5	6.9	6.2	5.7	4.6	3.7	1.8	2.0	+5.4	+17.0	
100	88	69	50	34	18	—	11	20	50	
71.8	71.4	72.1	72.6	73.7	74.6	76.5	78.5	81.9	93.5	

7.0	6.5	5.8	5.3	3.6	2.2	0.2	+5.4	+10.8	+16.2	+23.3
100	75	50	44	24	9	—	17	28	37	50
71.3	71.8	72.5	73.0	74.7	76.1	78.1	83.5	88.9	94.3	101.4

6.8	6.6	6.2	5.3	3.8	1.4	+1.8	+5.4	+12.4	+17.8	+22.8
100	72	50	33	21	—	8	17	30	40	50
71.5	71.7	72.1	73.0	74.5	76.9	78.7	82.3	89.3	94.7	99.7

6.8	6.7	5.6	5.0	4.0	1.0	+1.6	+5.4	+12.5	+17.9	+22.5
100	75	50	34	22	—	7	17	31	41	50
71.5	71.6	72.7	73.2	74.2	77.3	78.9	82.7	89.8	95.2	99.8

6.8	6.5	5.8	5.2	3.8	+0.2	+5.4	+12.5	+17.9	+20.9
100	75	50	40	26	—	15	30	43	50
71.5	71.8	72.7	73.1	74.1	78.5	83.9	91.0	96.4	99.4

7.0	6.8	6.0	5.4	4.4	1.8	+2.0	+5.4	+13.6
100	70	50	33	16	—	12	25	50
71.3	71.5	72.3	72.9	73.9	76.5	78.5	81.9	90.1

7.1	7.0	6.0	5.6	4.8	2.1	+2.4	+5.4	+12.0	+15.4
100	73	50	39	24	—	12	19	36	50
71.2	71.3	72.3	72.7	73.5	76.2	78.5	81.6	88.2	91.6

Ditch

6.0	6.6	8.0	7.8	6.6	6.0	5.0	3.6	1.4	+2.4	+5.4	12.5	17.9
110	100	96	93	92	70	50	24	—	11	19	43	60
72.3	71.7	70.3	70.5	71.2	72.3	73.3	74.7	76.9	79.3	82.3	89.4	94.8

12 879.17

+34.6 Δ Pt. (Back Tan)

+50

13

+50

T.P. 5.73 878.77 ✓ 6.13 873.04 ✓

14

+57 Δ Pt. (Back Tan)

+57 Δ Pt (Fwd. Tan)

15

+50

16

+24 Δ Pt (Back Tan.)

+24 Δ Pt. (Fwd. Tan)

T.P. 8.70 881.75 ✓ 5.72 873.05 ✓

+50 Toe at 50. side of Fill Pt.

1-27-50 A.M.

Snowing   Lt   ℄   Rt = all plus readings

(71.6) (72.1) (91.3)

Ditch

7.6 7.1 7.8 8.7 8.7 7.7 7.0 6.5 5.8 4.5 3.3 +2.4 +5.4 +12.4 +15.2
100 87 85 84 81 79 71 50 36 15 — 14 24 50 60
70.5 71.5 72.2 72.7 73.6 74.7 75.9 78.3 81.3 88.3 91.1

Ditch

7.5 8.0 8.8 8.8 7.5 7.5 6.6 5.8 5.2 4.4 2.8 +5.4 +10.0 +12.4 +17.8
100 85 84 82 81 70 50 34 20 13 — 17 31 43 64
71.7 71.2 70.4 70.4 71.7 71.7 72.6 73.4 74.0 74.8 76.4 81.8 86.4 88.8 94.2

7.4 7.7 6.8 6.2 5.4 3.1 +5.4 +12.5 +17.9 +21.9
100 75 50 33 18 — 14 30 45 60
71.8 71.5 72.4 73.0 73.8 76.1 81.5 88.6 94.0 98.0

8.2 7.8 6.8 6.2 5.0 3.0 +3.4 +5.4 +12.5 +17.9
100 75 50 33 16 — 11 15 32 50
71.0 71.4 72.4 73.0 74.2 76.2 79.6 81.6 88.7 94.1

7.2 7.0 6.5 5.8 4.8 2.9 +3.2 +5.4 +8.4 +12.5 +16.9
100 70 50 35 16 — 9 14 22 36 50
71.6 71.8 72.3 73.0 74.0 75.9 80.1 82.3 85.3 89.4 93.6

7.3 7.5 6.7 5.8 3.0 +3.0 +5.4 +12.5 +17.5
100 77 50 23 — 11 16 33 50
71.5 71.3 72.1 73.0 75.8 78.8 81.2 88.3 93.3

7.2 7.0 6.5 6.0 5.2 3.0 +3.0 +5.4 +12.5 +14.7
100 72 50 34 16 — 14 21 40 50
71.6 71.8 72.3 72.8 73.6 75.8 78.8 81.2 88.3 90.5

7.8 7.0 7.0 6.4 5.9 +2.9 +4.0 +12.5 +17.9
100 75 50 23 — 29 37 58 82
71.0 71.8 71.8 72.4 72.9 75.8 76.9 85.4 90.8

9.4 8.7 7.2 7.2 6.8 6.5 6.2 +0.6 +3.2 +5.4 +12.5
100 76 50 47 38 22 — 25 58 72 97
69.4 70.1 71.6 71.6 72.0 72.3 72.6 73.2 75.8 78.0 85.1

9.5 9.4 8.7 7.4 6.6 +1.6 +2.9 +5.4 +7.0 +12.5
100 75 50 22 — 37 50 81 93 120
69.3 69.5 70.1 71.4 72.2 73.8 75.1 77.6 79.2 84.7 91.3

Toe of Slope

Edge Ice. → 9.6 9.5 9.2 8.2 7.5 7.1 +2.2 +5.4 +12.4 +17.9 +25.0 +33.4
88 72 50 37 15 — 31 44 65 79 96 115
69.2 69.3 69.6 70.6 71.3 71.1 73.3 76.5 83.5 89.0 96.1 104.5

" " → 9.5 9.4 8.2 7.4 7.4 7.7 +1.6 +4.5 +12.5
70 47 37 34 15 — 35 85 108
69.3 69.4 70.6 71.4 71.4 71.1 72.7 75.6 83.6

12.5 12.4 11.6 9.8 10.4 10.4 1.8 4.4 5.4 7.4 9.5
Ice. 60 44 38 29 22 — 12 26 33 53 93
69.3 69.4 70.2 72.0 71.4 71.1 74.2 75.8 76.8 78.8 80.9

88.75

16+80 So. shoulder of R.R. Fill on Rt.

17 ℄ of Fill under Trestle on Rt.

+25 No. Shoulder of R.R. Fill on Rt.

+56 ΔRt. Toe at No. side of Fill Rt.

18

+50

T.P. 9.49 887.26 13.98 877.77

19

+20 ΔFt (Back Tan.)

+20 ΔFt (Fwd Tan.)

20

+50

21

+50

Top. = slope

Ice +12.5 11.0 9.2 7.2 6.2 +12.5 +19.6 +23.5 +24.4

66 50 18 5 19 31 40 55

69.3 70.8 71.6 74.6 75.6 88.1 95.2 99.1 100.91 Readings

Ice +12.5 10.5 8.8 — 2.6 +12.5 +19.6 +20.6 +20.6 +24.6

65 50 28 — 22 37 41 55 55

69.2 71.3 73.0 79.2 91.7 98.8 99.8 99.8 103.8

Ice +12.5 11.3 9.7 7.6 4.0 +12.5 +17.9 +20.7 +22.5

65 50 28 13 — 24 32 40 57

69.2 70.5 72.1 74.2 77.8 90.2 95.7 98.5 100.3

(Back Tan.) Ice. 12.5 12.0 11.5 10.5 9.2 +2.0 +5.4 +9.6 +12.5

73 50 41 22 — 19 38 88 103

69.2 69.8 70.2 71.3 72.6 74.6 78.0 82.2 85.1

Top 84.7

11.2 10.2 9.6 9.0 8.2 +2.4 +5.4 +6.7 +12.5 31.4 31.4

100 70 50 26 — 27 43 50 64 109 13.5

70.6 71.6 72.2 73.8 75.6 76.0 79.0 80.3 84.1 90.50 0.50

9.1 8.8 8.5 8.2 7.6 6.9 +1.4 +5.4 +9.8

100 75 50 30 11 12 20 50

72.7 73.0 73.3 73.6 74.2 75.9 77.2 81.2 85.6

Wye level

12.5 11.8 10.5 9.4 8.6 8.0 7.2

50 39 20 21 40 50

74.8 75.5 76.8 77.9 78.7 78.9 80.1

10.0 9.2 9.0 9.0 9.0

50 24 21 50

77.3 78.1 78.3 78.3 78.2

9.0 8.0 7.2

26 40

78.3 79.3 80.1

14.5 14.0 13.8 12.8 9.9 7.4 4.2

100 75 46 27 20 50

72.8 73.3 73.5 74.5 77.5 79.9 82.1

15.6 14.8 14.2 14.0 12.8 9.9 3.4 2.0

100 75 50 34 18 34 50

71.7 72.5 73.1 73.3 74.5 77.4 83.9 85.3

16.3 15.2 14.7 14.0 13.5 10.0 2.8 2.5

100 75 50 33 17 35 50

71.0 72.1 72.6 73.3 73.6 77.3 84.5 85.8

16.2 15.4 14.5 13.3 12.5 10.3 4.7 4.5

100 75 50 18 8 29 50

71.1 71.9 72.8 74.0 74.8 77.0 82.6 82.8

Sections on Rt. from Sta. 1960 to Sta. 22+50 (inc.) were taken with Wye level

887.26

22

+50

3.25 880.20 0.31 876.95

+91.79 Δ Pt. (Back Tan.)

23 {Note—Readings on Pt. from Sta. 22+91.79 to Sta. 50+00 were take with — Hand level}

+50

24

+50

25

+50

26

+58 Δ Pt. (Back Tan.)

+56 " " (Fwd. Tan)

27

1-28-30 L+ L L+

16.4 15.5 14.6 12.8 10.2 4.7 4.3 4.5 5.5
100 75 41 16 — 28 41 50 70
70.9 71.8 72.7 74.5 77.1 82.6 83.0 82.8 81.8

16.0 15.4 14.7 13.2 10.1 6.3 4.7 4.2 3.4
100 75 34 20 — 40 41 50 70
71.3 71.4 72.4 74.1 77.2 81.8 82.4 83.1 83.7

Top spike Δ Pt. 71.4-57=2.2+91.79 Hand Level.

9.0 8.6 7.7 6.4 3.2 +5.4 +7.7
100 80 50 27 — 42 65
71.2 71.6 72.5 73.8 77.0 82.4 84.7

9.0 8.0 7.3 6.8 5.2 3.0 +5.4 +6.2 ← Fence
100 75 50 39 20 — 40 67
71.2 71.2 72.9 73.5 75.0 77.2 82.6 83.4

8.8 7.8 6.0 4.7 2.8 +5.4 +7.4 +8.4 ← Fence
100 77 50 27 — 40 60 75
71.4 72.4 74.2 75.5 77.4 82.8 84.8 85.8

8.8 7.7 7.0 6.7 4.0 +5.4 +9.4
100 79 50 33 — 33 59
71.4 72.5 73.2 73.5 76.2 82.1 86.1

9.2 8.7 8.2 7.6 6.6 4.1 +5.4 +12.5
100 75 50 35 14 — 24 50
71.0 71.5 72.0 72.6 73.6 76.1 81.5 88.6

9.2 9.0 8.5 8.0 6.6 4.2 +5.4 +16.4
100 75 50 36 18 — 19 50
71.0 71.2 71.7 72.2 73.6 76.0 81.4 92.4

9.0 8.8 8.7 7.4 3.3 +5.4 +12.5 +14.5
100 75 50 30 — 17 41 50
71.2 71.4 71.5 72.8 76.8 82.3 89.4 91.4

Ditch
9.0 11.0 11.0 9.0 8.5 8.0 6.5 3.0 +5.4 +8.4 +10.7
104 102 100 78 75 50 27 — 17 31 50
71.2 69.2 69.2 71.2 71.7 72.7 73.7 77.2 82.6 85.6 87.9

9.2 9.2 10.8 10.8 8.5 8.4 7.7 6.2 4.2 +4.2 +5.4 +7.4
100 78 95 92 87 75 50 26 — 50 61 75
71.0 71.0 69.4 69.4 71.7 71.8 72.5 74.0 76.0 80.2 81.4 83.4

8.6 7.5 6.6 5.3 1.8 +3.4 +5.4 +11.4
100 75 50 25 — 35 45 79
71.6 72.7 73.6 74.9 78.4 81.8 83.8 89.8

8.6 8.0 6.2 4.6 3.0 +2.6 +5.4 +12.5
100 78 50 27 — 25 40 78
71.6 72.2 74.0 75.6 77.7 79.8 82.6 89.7

880.20

+50

T.P. 5.43 881.38 ✓ 4.25 875.95 ✓

28

+37 ℄ Pt (Back Tan.)

29

+78 ℄ Pt. (Back Tan)

+78 ℄ " (Fwd. Tan.)

30

+50

+77

T.P. 9.50 885.56 ✓ 5.32 876.06 ✓

31

+39 Top Hump

32

+62 ℄ Pt. (Back Tan.)

1-28-30 Lt E Rt.

9.0 7.8 6.2 4.6 1.1 +5.4 +12.5
100 77.5 50 38 79.1 37 79
71.2 71.2 75.6 29.2

Top of Stake

10.3 9.4 8.1 6.0 2.2 +6.4 +11.6
100 77 50 31 34 75
71.1 72.0 73.3 75.4 79.2 84.6 90.8

10.2 9.5 8.0 5.5 2.6 +5.4 +11.4
100 80 50 29 30 65 90.6
74.2 71.9 73.4 75.9 78.8 84.2

+7.4 +5.4 +9.4 Final Tons

10.7 10.2 9.5 8.6 6.6 +3.7 +5.4 +9.4
100 78 50 23 35 44 70
70.7 71.2 72.9 73.8 74.8 78.5 79.2 41.8

11.0 11.0 10.0 9.4 8.4 +5.4 +7.8
100 77 50 29 49 75
70.4 70.4 71.4 72.0 73.0 78.4 80.8

9.5 9.4 9.1 8.9 8.4 +3.2 +5.0
100 75 50 29 42 67
71.9 72.0 72.2 72.5 73.0 76.2 76.0

8.0 8.4 8.0 7.7 6.6 +3.0 +4.4 +7.6
100 77 50 26 36 50 75
73.4 73.0 73.4 73.7 74.8 77.8 79.2 82.4

4.1 4.5 5.0 4.4 3.7 1.8 +3.2 +6.0
100 76 50 25 37 50 75
77.3 76.9 76.4 77.0 77.7 79.5 82.7 85.0

0.4 1.0 2.5 3.2 2.3 +0.6 +2.4 +4.7
100 78 50 25 28 50 75
81.0 80.4 78.9 78.2 79.1 79.7 81.5 83.8

2.4 3.0 4.2 4.8 4.3 +1.4 +1.9 +3.5
100 75 50 25 28 50 75
83.2 82.6 81.4 80.8 81.3 82.7 83.2 84.8

0.8 2.0 3.8 3.3 2.4 0.7 +2.0 +3.4 +3.4
100 75 50 40 21 30 50 75
84.8 83.6 82.8 82.3 83.2 84.9 86.9 88.3 88.3

7.5 8.5 9.3 9.2 8.6 6.7 +5.4 +11.0
100 76 50 32 14 22 45
78.1 77.1 76.3 76.4 76.8 78.9 84.3 89.9

12.5 12.4 11.8 10.7 8.5 +2.4 +4.1 +5.4 +7.6
100 77 50 29 11 27 31 52
73.1 73.2 73.8 74.9 77.1 79.5 81.2 82.5 89.6

885.56

+62 △ Pt. (Fwd. Tan.)

33

+50

34

+50

35

+50

+85 △ Pt (Back Tan)

+85 " " (Fwd. Tan.)

36+50

37

+34 (Back Tan.)

+34 (Fwd. Tan)

T.P. 5.60 880.72 10.44 875.12

1-28-30

	Lt				℄	Rt			
7.7	9.7	11.7	10.7	8.5	+2.0	+3.8	+5.4	+12.5	
100	77	50	26		8	30	37	60	
77.9	75.9	73.9	74.9	77.1	79.1	80.9	82.5	89.6	
9.2	10.7	12.1	12.1	11.7	9.0	+1.4	+2.6	+4.0	+12.5
100	80	64	50	35		11	17	40	72
76.4	74.9	73.5	73.5	73.9	76.6	78.0	79.2	81.0	89.1
12.5	12.5	12.7	11.5	8.8	+2.4	+4.1	+4.7	+12.5	
100	81	50	25		18	24	32	67	
73.1	73.1	72.9	74.1	76.8	79.2	80.9	81.5	89.3	
14.0	13.3	12.5	11.1	7.4	+3.9	+4.7	+8.4	+10.0	12.5
100	75	50	27		15	26	31	41	50
71.6	72.3	73.1	74.5	78.2	82.1	82.9	81.3	88.2	90.7
15.0	14.4	13.5	12.5	9.1	+5.4	+8.6	+15.2	+16.2	+17.8
100	75	50	31		18	31	48	44	54
70.6	71.2	72.1	73.1	76.5	81.9	85.1	91.7	92.7	94.3
15.4	15.0	14.2	12.5	9.5	2.4	+5.4	+10.0	+14.9	+17.5
100	75	50	27		15	25	42	47	60
70.2	70.6	71.4	73.1	76.1	78.5	81.5	86.1	91.0	93.6
15.0	14.5	13.8	12.0	9.1	+4.9	+12.5	+12.6		
100	75	50	22		23	41	50		
70.6	71.1	71.8	73.6	76.5	81.4	89.0	89.1		
14.0	13.0	11.8	10.6	7.2	+5.4	+12.5	+15.9		
100	75	50	35		20	39	51		
71.6	72.6	73.8	75.0	78.4	83.8	90.9	94.3		
14.7	14.2	12.8	10.6	7.2	+5.4	+12.5	+16.9		
100	75	50	28		18	40	58		
70.9	71.4	72.8	75.0	78.4	83.8	90.9	95.3		
15.4	14.8	13.2	11.2	7.6	+5.4	+12.5	+16.9		
100	80	50	25		18	40	59		
70.2	70.8	72.4	74.2	78.0	83.4	90.5	94.9		
15.2	14.8	13.8	12.2	8.7	+5.4	+12.5	+17.5		
100	75	50	25		19	38	52		
70.4	70.8	71.8	73.4	77.9	83.3	89.4	94.4		
15.2	15.2	14.5	14.2	10.7	+5.4	+12.5	+16.3		
100	80	50	23		29	51	61		
70.9	70.4	71.1	71.6	74.9	80.3	87.4	91.2		
14.7	15.2	14.6	13.8	12.8	10.7	+5.4	+12.5	+16.2	
100	75	50	44	16		26	47	59	
Top of spike Sta. 37+34.00				74.9	80.3	87.4	91.1		
70.9	70.4	71.0	71.8	72.8	74.9				

880.72

38

+50

39+01 Δ Pt. (Back Tan. only)

+50

40 "

+50

41

+50

42

+50

43+02.16 Δ Pt (Back Tan)

" " " " (Fwd. Tan)

T.P. 8.04 883.05 ✓ 5.71 875.01 ✓

+50 E + W ¼ line Sec 16.

1-29-30

Lt C Rt

10.0	10.0	9.0	7.4	4.5	+5.4	+12.5	+17.9	
100	75	50	25		20	37	52	
70.7	70.7	71.7	73.3	76.2	81.6	88.7	94.1	
10.1	9.9	9.0	6.5	3.5	+5.4	+12.5	+17.9	
100	70	50	20		17	32	50	
70.6	70.8	71.1	74.2	77.2	82.6	89.7	93.1	
10.0	9.5	8.3	7.8	5.5	1.8	+5.4	+12.5	+17.9
100	78	50	41	21		15	30	48
70.7	71.2	72.4	72.9	75.2	78.9	84.3	91.4	96.8
10.3	9.5	8.5	7.2	3.2	+5.4	+12.5	+17.9	+20.2
100	75	50	30		18	31	42	52
70.4	71.2	72.2	73.5	77.5	82.9	90.0	95.4	97.7
10.6	9.2	8.6	7.0	3.8	+5.4	+12.5	+17.9	
100	75	50	25		18	32	48	
70.1	71.5	72.1	73.7	76.9	82.3	89.4	94.8	
10.8	9.5	8.6	7.2	3.7	+5.4	+12.5	+17.9	
100	75	50	25		17	31	47	
69.9	71.2	72.1	73.5	77.0	82.4	89.5	94.9	
10.5	9.2	8.6	7.0	4.0	+5.4	+12.5	+17.9	+20.3
100	79	50	35		17	30	43	50
70.2	71.5	72.1	73.7	76.7	82.1	89.2	94.6	97.0
10.9	9.6	8.7	8.2	6.5	3.2	+5.4	+12.5	+17.9	+23.1
100	76	50	36	22		19	34	45	60
70.0	71.1	72.0	72.5	74.2	77.5	82.9	85.0	95.4	100.6
			10.2	8.4	4.0	+5.4	+12.5	+17.9	
			100	50		22	43	60	
			70.5	72.3	76.7	82.1	89.2	94.6	
			10.2	8.2	4.4	+4.0	+5.4	+9.6	+11.6
			100	50		26	30	50	65
			70.5	72.5	76.3	80.3	81.7	85.9	87.9
			10.0	8.5	5.8				
			100	50					
			70.7	72.2	74.4				
			10.8	8.0	5.8				
			69.9	100	50	72.2	74.9		

Top Spike Sta. 43+02.16

12.9	10.6	8.8	5.5	+5.4	8.0	11.2		
100	50	36	17.6	36	50	68		
70.4	64.5	71.3		83.0	85.6	88.8		

883.05

44

+50

45

+51.2 ΔPt. (Back Tan.)

46

+50

+94 ΔPt. (Back Tan.)

+94 ΔPt. (Fwd Tan)

47+21 ΔPt in Ditch

BM. 1.21 68.44 1.97 881.53 (881.29)

+50

+60 Elev of Bottom of Ditch on ℄ = 871.6

+80

48

48+50 { Hand level used on Lt and Rt. From Sta. 47+50 To 50+00 (inc) }

1-30-30 Lt ℄ Rt.

12.2 10.2 5.8 +5.4 +10.0 +12.5 +14.7
100 50 24 41 51 63
70.9 72.9 77.3 82.7 87.3 89.8 92.0

11.6 9.2 6.0 +5.4 +12.0
100 50 23 50
71.5 73.9 77.1 82.5 89.1

9.7 9.0 5.2 +5.4 +10.2
100 50 23 50
73.4 74.1 77.9 83.3 88.1

8.5 8.5 6.8 4.4 +5.4 +12.5
100 50 20 20 50
74.6 74.6 76.3 78.7 84.1 91.2

8.3 8.3 8.3 6.2 +2.0 +5.4 +12.5 +17.9
100 50 32 15 26 46 59
74.8 75.8 74.8 76.9 78.9 82.3 89.4 94.8

Ditch

10.4 10.4 13.4 13.4 9.7 8.1 8.0 6.7 5.7 +1.7 +5.4 +11.8 +16.2
100 75 72 68 64 58 50 15 15 31 50 70
72.7 72.7 69.7 69.7 73.4 75.0 75.1 76.5 77.4 79.1 82.8 89.2 95.6

Ditch

9.0 7.5 10.2 11.7 11.7 10.2 7.2 6.1
100 85 72 50 40 38 14
74.1 75.6 72.9 71.4 71.4 72.9 75.9 77.0

Ditch

4.7 6.0 6.8 9.6 12.2 12.2 9.2 6.1
84 64 50 27 19 17 14
78.4 77.1 76.3 73.5 70.9 70.9 77.9 77.0

Ditch

3.0 3.0 7.5 8.0 11.5 11.5 8.2 5.8 +5.4 +9.7 +12.5
73 80.1 59 75.6 46 75.1 37 71.6 32 71.6 14 74.98 77.3 18 38 58
80.1 82.7 87.2 89.8

Spike in 24" Oak 70' Lt 548.47+25

Ditch

+16.0 +5.0 +0.7 0.0 -3.6 -1.8 6.7 +2.0 +5.4 +9.8 +12.5
58 47 37 21 80.4 13 78.5 9 80. 75.3 14 77.3 24 80.7 45 85.1 53 87.6
88.4 87.4 83.1 10.8 49.4 +5.4 +3.8 4.4 +5.4 8.2
60 42 33 14 24 36 68

Ditch

+8.0 +5.4 +1.0 6.6 +0.4 -1.6 -3.8 -1.2
54 24 8 21 41 47 52
90.4 87.8 83.1 75.8

Ditch

+9.0 +2.0 1.6 -4.6 -5.0 -6.6 9.0 -5.0 +3.9
46 12 8 21 30 35 14 60
91.4 84.4 90.8 76.2 75.8 74.2 71.8 75.8 84.5

Ditch

+17.9 +12.5 +10.2 +5.4 4.8 -0.8 -3.6 -5.2 -3.0 +1.0 +5.4
52 30 16 7 12 26 30 34 50 63
90.3 94.9 92.6 87.8 77.6 76.8 74.0 72.4 74.6 78.6 83.0

882.41

49

+50

50

T.P. 7.56 886.59 ✓ 3.38 ✓ 879.03

+50

Δ 7+4. 4+

51

+50

52

+50

53

+50

54

+50

T.P. 6.24 884.45 ✓ 5.38 ✓ 878.21

55

Wye level used R+L sts from Sta. 50+50 to 54+0 Incl.

1-30-30 Lt E Rt

Ditch

+23.9 +17.4 +12.5 +5.4 +1.2 6.2 +0.4 −1.6 −3.6 −1.0 +1.4 +12.5
57 33 25 16 10 7 20 25 29 37 65
906.3 99.18 94.9 87.8 83.6 76.4 76.6 77.6 72.6 75.2 77.6 88.7

+17.1 +16.3 +12.5 +4.4 +3.0 5.7 −0.4 −4.0 −4.0 +0.9 +2.9 +10.0
60 53 37 21 10 21 27 33 36 50 68
99.5 98.3 94.9 86.8 85.4 76.7 76.3 72.7 72.7 77.6 79.6 86.7

Ditch Ditch

+12.5 +11.0 +5.4 +3.6 4.2 −1.8 −3.6 −5.6 −5.6 −3.6 −2.4 −0.5
51 30 27 7 23 26 30 32 50 76
94.9 93.4 87.8 78.2 76.4 75.6 72.6 72.6 74.6 76.1 77.7

F.P. 300 No. Off. 300 76. Mont 86.0

Ditch

1.4 3.8 6.5 8.5 9.8 11.4 10.4 13.7 10.4 9.0 8.5
50 37 79 8 36 54 64 68 80 100
85.5 82.8 80.1 78.1 76.8 75.5 76.5 73.9 76.5 77.6 78.1

Ditch

3.8 5.0 6.4 9.3 10.7 11.8 13.5 14.0 12.9 12.5
50 40 21 25 50 91 95 100 110
87.8 81.6 80.5 77.3 75.9 74.8 73.1 73.6 73.7 74.1

3.1 4.9 8.5 12.1 12.7 Dist 180 Ft.
50 21 50 100
83.5 81.7 78.1 74.5 73.9

3.3 5.1 6.6 7.6 8.9 10.5 11.9 12.8
50 42 22 13 25 50 100
83.3 81.5 80.0 79.0 77.7 76.1 74.7 73.8

2.5 5.3 6.7 8.8 10.6 11.6 12.7
50 38 23 25 50 100
84.1 81.3 79.9 77.8 76.0 75.0 73.9

2.5 5.7 7.0 8.6 10.3 11.6 12.6
50 36 18 25 50 100
84.1 80.7 79.6 78.0 76.3 75.0 74.0

5.2 6.3 7.7 9.2 10.4 11.6 12.9
50 40 19 25 50 100
81.4 80.3 78.9 77.5 76.5 75.0 73.7

5.5 7.4 8.0 9.7 11.0 11.6 13.0
50 31 19 25 50 100
81.1 79.5 78.6 76.9 75.6 75.0 73.6

5.5 7.1 8.1 9.6 11.0 11.7 13.2
50 32 18 25 50 100
81.1 79.5 78.5 77.0 75.6 74.9 73.4

Top Stake Sta. 55+00 E Top Stake

3.8 5.6 7.5 8.8 9.6 10.7 11.5
50 24 25 50 75 100
80.7 78.9 77.0 75.7 74.9 73.8 73.0

584.45

+50

56

+50

57

+50

58

50

59

+50

60

+50

61

61 +11.92 Find Tan

1-30-30 LH LL

3.9	5.8	7.3	8.4	9.2	11.3
50	25		25	50	100
80.6	78.7	77.4	76.1	75.3	73.2
3.2	5.5	7.1	8.5	9.3	11.2
50	25		25	50	100
81.3	79.0	77.4	76.0	75.4	73.3
4.0	6.0	7.4	8.5	8.9	11.4
50	25		25	50	100
80.5	78.5	77.1	76.0	75.6	73.1
3.7	5.4	6.7	8.2	9.2	11.0
50	25		25	50	100
80.8	79.1	77.8	76.3	75.2	73.5
2.9	4.1	5.0	7.0	8.0	9.2	10.6
50	38	25		25	50	100
81.6	80.5	79.5	77.5	76.5	75.2	73.9
3.7	5.6	7.3	8.5	9.4	9.7	10.6
50	25		25	50	75	100
80.8	78.9	77.4	76.0	75.1	74.8	73.9
3.7	5.0	6.6	7.5	8.8	9.7	10.4
74	50	25		25	50	100
80.8	79.5	77.9	77.0	76.7	74.8	74.1
2.9	4.8	6.3	7.4	8.8	9.8	10.4
74	50	25		25	50	100
81.6	79.7	78.4	77.1	75.7	74.7	74.1
2.7	4.2	6.6	7.5	9.0	10.0	10.4
62	50	25		25	50	100
81.8	80.3	77.9	77.0	75.5	73.5	74.1
3.5	4.4	5.9	7.6	9.0	10.1	10.0
62	50	25		25	50	100
81.0	80.1	78.6	76.9	75.5	74.4	73.5
3.2	4.3	6.3	7.7	8.9	9.8	10.0
62	50	25		25	50	100
81.3	80.2	78.4	76.8	75.6	74.7	73.5
3.7	4.5	5.9	7.6	8.6	9.3	9.7
62	50	25		25	50	100
80.8	80.0	78.6	76.9	75.9	75.4	74.8
5.8	6.1	7.0	7.5			
65	50	25				
78.7	78.4	77.4	77.0			

884+45

+50

62

+50

63

+50

64

+50

65

T.P. 8.30 885.47 7.28 877.17

+50

66

+50

67

+60 on ℄

1-30-30 Lt ℄ Rt.

6.1	6.5	8.0	8.6	9.5	9.6	9.8
62	50	25		25	50	100
78.4	78.0	76.6	75.9	75.0	74.9	74.7
	4.9	5.9	7.9	9.0	9.6	9.9
	50	25		25	50	100
	79.6	78.6	76.6	75.5	74.9	74.6
	4.0	5.4	6.9	8.5	9.7	9.9
	50	15		25	50	100
	80.5	79.1	77.6	76.0	74.8	74.6
	3.7	5.4	7.1	8.4	9.3	9.5
	50	17		25	50	100
	80.8	79.1	77.4	76.1	75.2	75.0
3.2	4.0	5.1	7.2	8.3	9.2	8.5
62	50	25		25	50	100
81.3	80.5	79.4	77.3	76.2	75.3	76.0
2.9	4.8	5.8	7.4	7.9	8.2	7.7
75	50	25		25	50	100
81.6	79.7	78.7	77.1	76.6	76.5	76.8
4.4	5.7	6.1	6.8	7.7	8.5	9.0	9.3
75	50	29		25	50	75	75
80.1	78.8	78.4	77.7	76.8	76.0	75.5	75.2
6.2	7.0	7.2	7.6	8.0	9.2	9.7	
78.2 75	50	20		25	50	100	74.8
Top of spike 57+ 63+89			77.2	76.9	76.5	75.3	

Ditch

1-31-30

7.2	8.0	8.8	9.6	10.2	10.8	12.0	9.6	9.7
75	50	25		25	50	52	58	100
78.3	77.5	76.7	75.9	75.3	74.8	73.5	75.9	75.8

Ditch

6.6	8.2	8.8	9.2	9.3	9.8	11.4	11.4	9.2	9.2
75	50	25		25	37	38	41	45	100
78.9	77.3	76.7	76.3	76.2	75.7	74.1	74.1	76.3	76.3

Ditch

5.4	7.2	8.2	8.5	8.5	10.7	10.7	9.0	8.2	8.0
75	50	25		21	25	28	33	50	100
80.1	78.3	77.3	77.0	77.0	74.8	74.8	76.5	77.3	77.5

Ditch

4.6	6.0	7.2	7.0	7.1	10.1	11.1	11.1	7.7	8.1	7.0
75	50	25		3	8	11	13	18	50	100
80.9	79.5	78.3	78.5	78.4	74.5	74.2	74.2	77.8	77.4	78.5

1.1

78.4

885.47

+18			Bottom Ditch on ℄		
			"		
+46			"	"	
+50					
68					
+23					
+63	△ Pt				(Back Tan)
69					
+50					
70					
+50					
T.P		7.02	884.82 ✓	7.67	877.80 ✓
71					
+50					
72					

1-31-30

Showing

11.1
74.4

11.0
74.5

Ditch

9.0	11.0	11.0	7.0	6.1	7.5	6.1					
	4	6	10	16	50	100					
76.5	74.5	74.5	78.5	79.4	78.0	79.4					

Ditch

6.2	6.7	10.5	10.5	7.4	5.2	5.3					
	14	21	23	27	40	100					
79.3	78.8	75.0	75.0	78.1	80.2	80.2					

Ditch

8.4	7.7	10.5	10.5	8.1	6.8	4.2	4.7				
	18	22	24	26	50	62	100				
77.1	77.8	75.2	75.3	77.0	78.7	81.3	80.8				

Ditch

8.2	8.7	10.1	10.1	8.7	8.0	5.0					
	23	26	28	31	50	100					
77.3	76.8	75.4	75.4	76.8	77.5	80.5					

Ditch

8.0	8.7	10.2	10.2	9.5	8.0						
	31	36	38	40	100						
77.5	76.8	75.3	75.3	76.0	77.5						

Ditch

7.7	8.7	8.8	10.0	10.0	9.1	9.2					
	35	44	46	49	50	100					
77.8	76.8	76.7	75.5	75.5	76.4	76.3					

Ditch

8.8	9.0	9.2	9.2	10.2	10.2	9.4	9.4				
	25	50	53	55	58	60	100				
76.7	76.5	76.3	76.3	75.3	75.3	76.1	76.1				

Ditch

9.2	9.0	9.0	10.1	10.1	9.6	9.7					
	50	63	66	68	70	100					
76.3	76.7	76.7	74.8	74.8	75.9	75.8					

Top Stake Station 0+00

Ditch

8.4	8.8	8.6	10.0	10.0	9.0	9.2					
	50	73	75	77	80	100					
76.4	76.0	76.2	74.8	74.8	75.8	75.6					

Ditch

8.6	8.6	8.6	9.8	9.8	9.0	8.7					
	50	85	87	89	93	100					
76.2	76.2	76.2	76.0	75.8	76.1	76.1					

Ditch

8.3	8.6	8.1	9.8	9.8	8.6	8.6					
	50	95	96	99	102	110					
76.5	76.2	76.7	75.0	75.0	76.2	76.2					

		884.87		
+50				
73				
+31	Δ P4			(Back Toe)
+76				Toe Slope.
			5.39	879.43 ✓
+81				
+90				Toe Shoulder
	8.8	887.71 ✓	5.39	879.43 ✓
74+03.0				Top Shoulder.
+08.8				So Edge pave
+22.3				℄ Pave:
+35.8				No. Edge Pave.
+42				Top Shoulder
+53				Toe Shoulder.
+62				Top Ditch Rt.

1-31-30

3.8	5.3	6.8	8.0	8.7	8.4
75	50	25		50	100
81.0	79.5	78.0	76.8	76.1	76.4
4.4	5.4	6.8	8.3	8.5	8.7
75	50	25		50	100
80.4	79.4	78.0	76.5	76.3	76.1
4.4	6.2	7.4	8.5	8.5	8.5
75	50	25		50	100
80.4	78.6	77.4	76.3	76.3	76.3

5.0	6.2	8.5	8.5	
50	25		50	
79.8	78.6	76.3	76.3	

4.4	5.8	Culvert	5.8
50	25		50
80.4	79.0		79.0

3.8	/ 4.2	; 5.6	5.3	.
50	81.0 25	80.6	50	

Top Culvert Sta. 73+80 79.1 79.5

1.3	1.3	1.9	2.7	2.9
100	50		50	100
86.4	86.4	85.8	85.0	80.8

1.55	1.97	2.7	
50		50	
86.16	85.74	85.0	

2.55	2.6	3.07	
50		50	
85.16	85.1		

3.47	3.15	3.2	
50		50	
84.24	84.52	84.5	

3.5	3.4	3.0	3.0	2.6	
100	50		50	100	
84.1	84.3	84.7	84.7	85.1	

5.2	6.4	6.8	8.0	6.5	6.5	5.8
100	84	50		21	50	100
82.5	81.3	80.9	79.1	81.1	81.1	81.9

7.2	7.2	8.0		7.5	6.7
100	50			50	100
80.5	80.5	79.7		80.7	81.0

887.71

+68 Bottom Ditch on Rt.

+71 Top Ditch on Rt.

7.28 886.71 ✓ 6.28 879.43 ✓

75

+50

76

+02.0

+50

77

+50

+95 Shore Valentine (876.71)

7.28 879.43 ✓

1-31-30 Lt ℄ Rt.

7.6	7.4	6.2	7.2	7.8	11.0	11.2	11.2	
100	75	50	30	5		50	100	
80.1	80.3	81.5	80.5	79.9	76.7	76.5	76.5	

7.0	5.0	7.7	7.0	10.7	11.0	10.8	8.0	8.7	8.7
100	60	25	6	2		4	7	50	100
Top Culvert 80.0	80.7	77.0	76.7	76.9	79.7	79.0	79.0		
80.7	82.7								

5.2	6.4	5.7	9.4	9.4	6.0	7.4	8.6
50	19	4		6	10	20	50
81.5	80.3	81.0	77.3	77.3	80.7	79.3	78.1

6.0	6.0	7.3	9.6	9.6	7.0	6.7	8.2	7.8
50	7	3		7	9	14	23	50
80.7	80.7	79.4	77.1	77.1	79.7	80.0	78.5	78.9

9.0	8.0	10.2	10.2	8.2	8.0	5.5
50	8	6		1	14	50
77.7	78.7	76.5	76.5	78.5	78.7	81.2

9.0	8.2	10.2	10.2	8.4	8.0	5.0
50	6	6		15	50	
77.7	78.5	76.5	76.4	78.3	78.7	81.7

← DITCH →

9.8	9.2	10.0	10.0	9.4	9.2	8.2	6.4
50	24	70	18	15		25	50
76.9	77.5	76.7	76.7	77.3	77.5	78.5	80.3

10.4	10.2	9.8	9.4	8.6
50	25		25	50
76.3	76.5	76.9	77.3	78.1

10.8	10.8	10.5	10.5	10.5
50	25		25	50
76.1	76.1	76.4	76.2	76.4

10.6	10.5	10.5	10.5	10.6
50	25		25	50
76.1	76.2	76.2	76.4	76.1

Culvert.

5

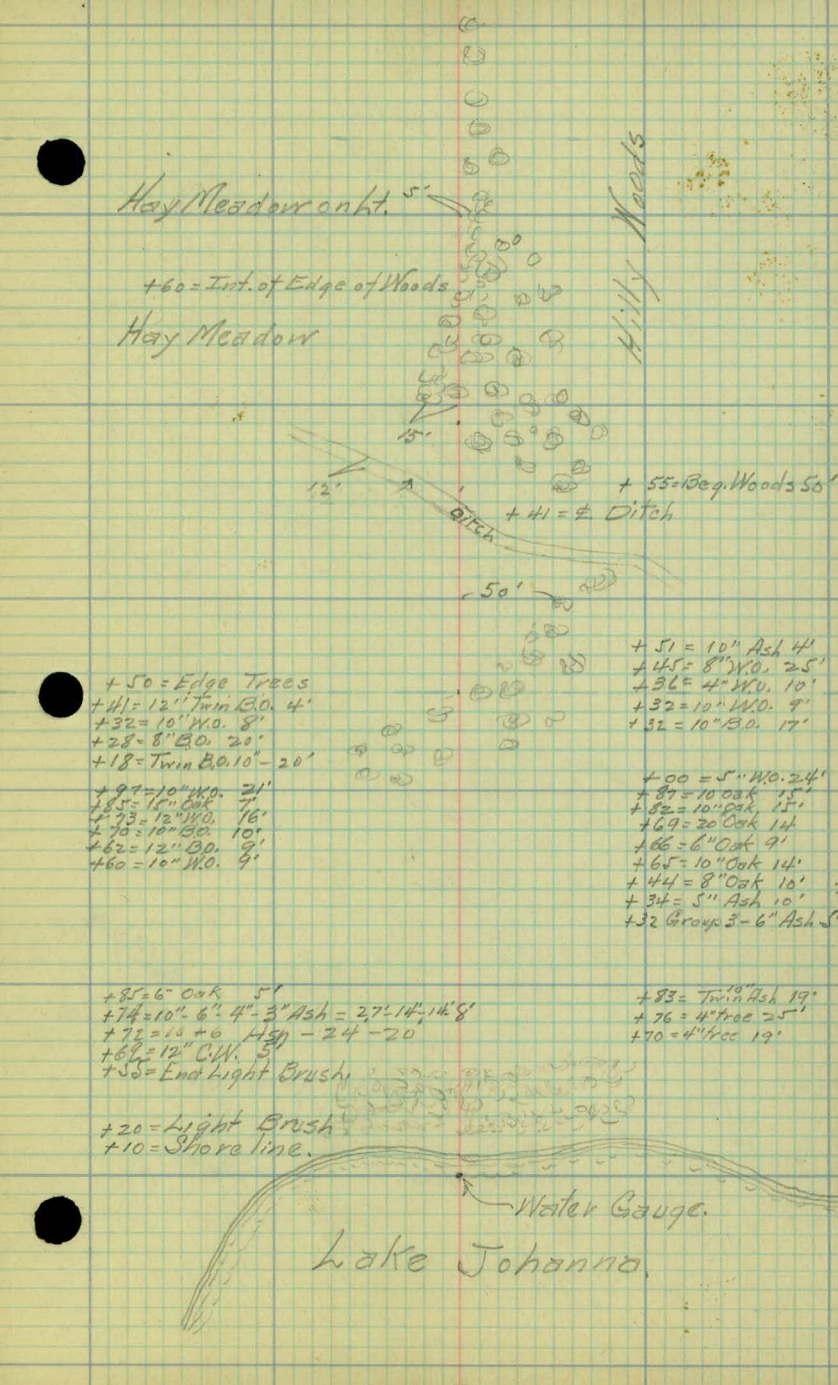
4

3

2

1

0 + 0 0


Hay Meadow on Rt.
5'
+60 = Int. of Edge of Woods
Hay Meadow
Hilly Woods
15'
12'
+55 = Beg. Woods 50'
+41 = ± Ditch
Ditch
50'
+50 = Edge Trees
+41 = 12" Twin B.O. 4'
+32 = 10" W.O. 8'
+28 = 8" B.O. 20'
+18 = Twin B.O. 10" - 20'
+97 = 10" W.O. 21'
+85 = 15" Oak 7'
+73 = 12" W.O. 16'
+70 = 10" B.O. 10'
+62 = 12" B.O. 9'
+60 = 10" W.O. 9'
+51 = 10" Ash 4'
+45 = 8" W.O. 25'
+36 = 4" W.O. 10'
+32 = 10" W.O. 9'
+32 = 10" B.O. 17'
+00 = 5" W.O. 24'
+87 = 10 Oak 15'
+82 = 10" Oak 15'
+69 = 20 Oak 14
+66 = 6" Oak 9'
+65 = 10" Oak 14'
+44 = 8" Oak 10'
+34 = 5" Ash 10'
+32 Group 3 - 6" Ash 5'
+85 = 6" Oak 5'
+74 = 10" 6" 4" - 3" Ash = 27 - 14' - 14' 8'
+72 = 10 + 6 H30 - 24 - 20
+62 = 12" C.W. 5'
+55 = End Light Brush
+20 = Light Brush
+10 = Shoreline.
+83 = Twin 10" Ash 19'
+76 = 4" Tree 25'
+70 = 4" Tree 19'
Water Gauge.
Lake Johanna.

12

11

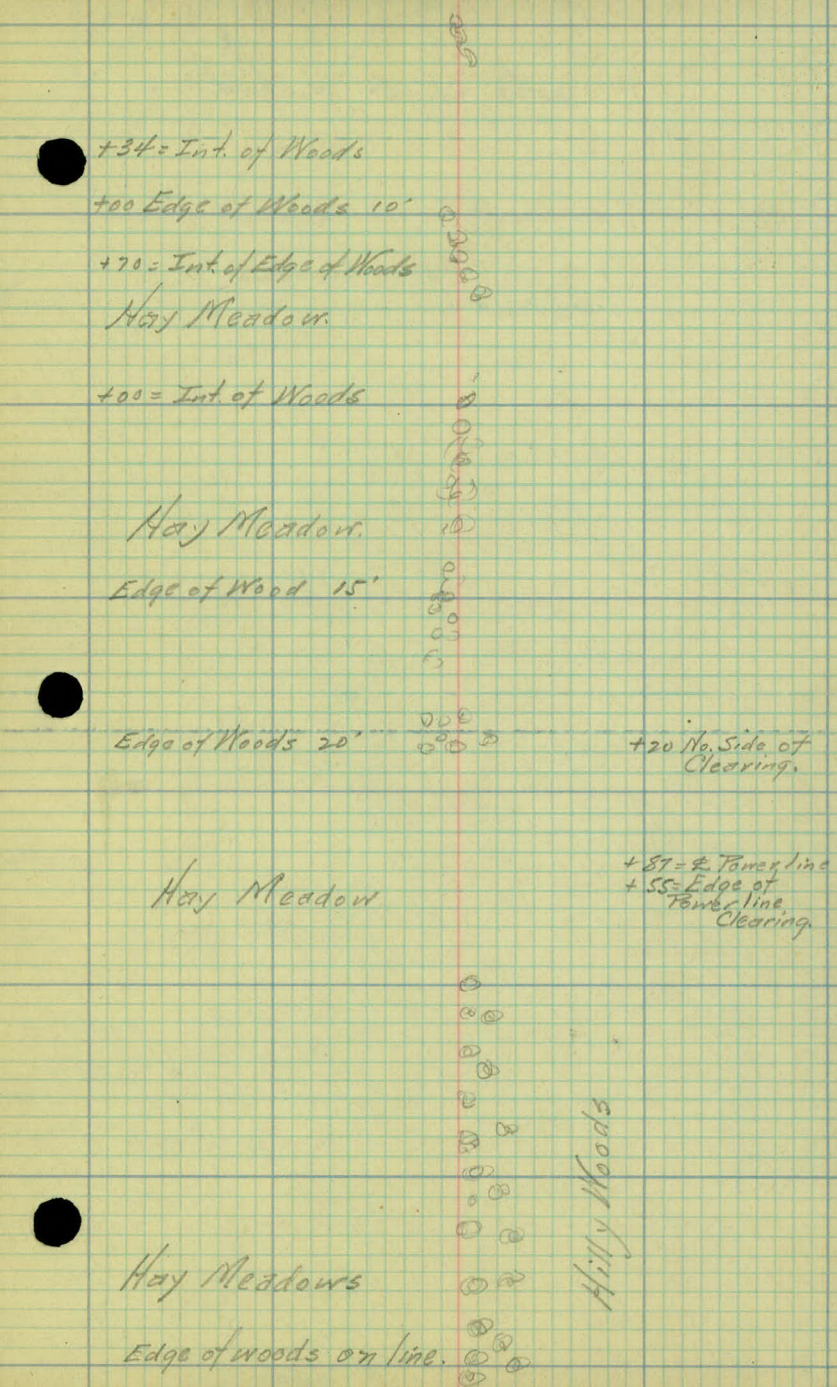
10

9

8

7

6


+34 = Int. of Woods
+00 Edge of Woods 10'
+70 = Int. of Edge of Woods
Hay Meadow.
+00 = Int. of Woods
Hay Meadow.
Edge of Wood 15'
Edge of Woods 20'
+20 No. Side of Clearing.
+57 = ℄ Power line
+55 = Edge of Power line Clearing.
Hay Meadow
Hilly Woods
Hay Meadows
Edge of woods on line.

19

18

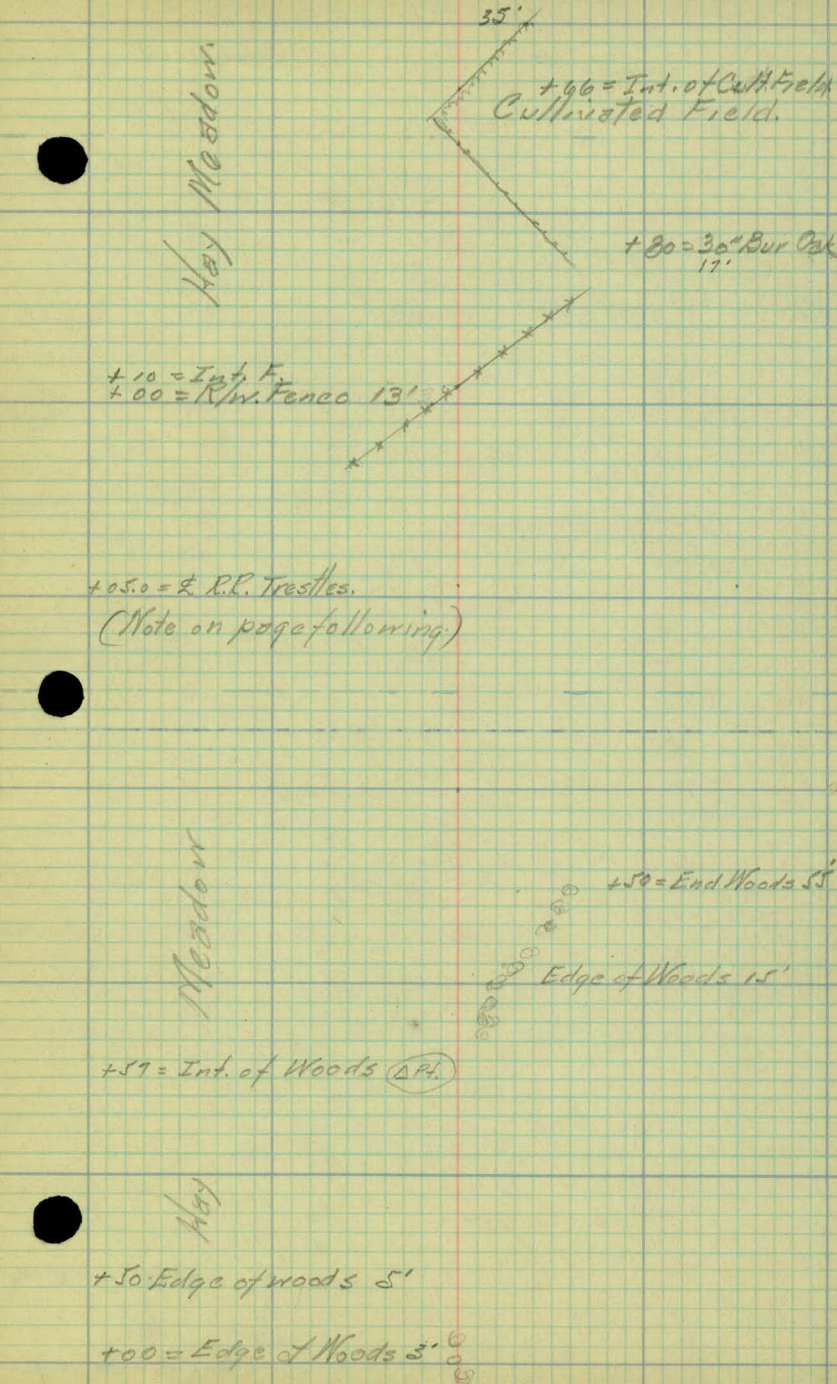
17

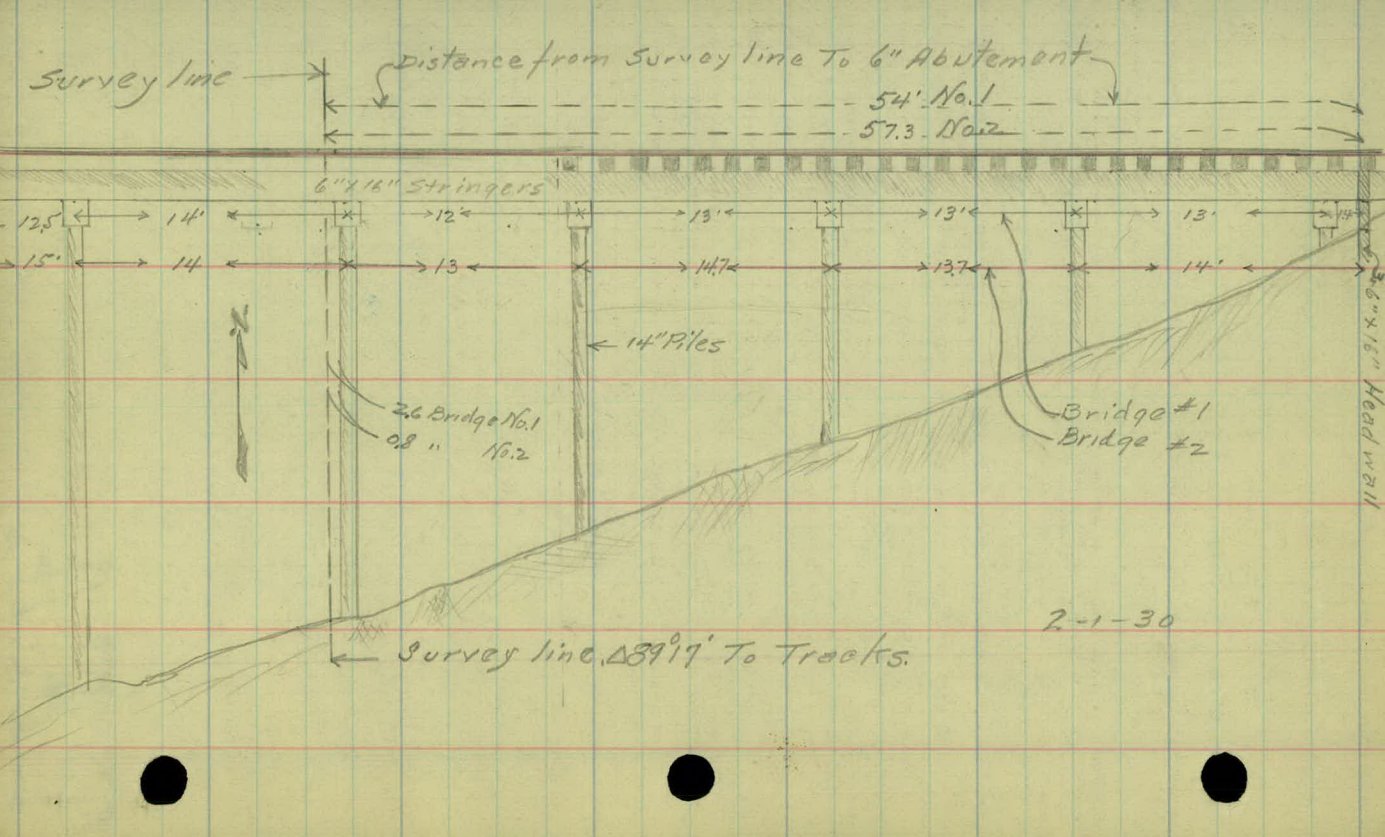
16

15

14

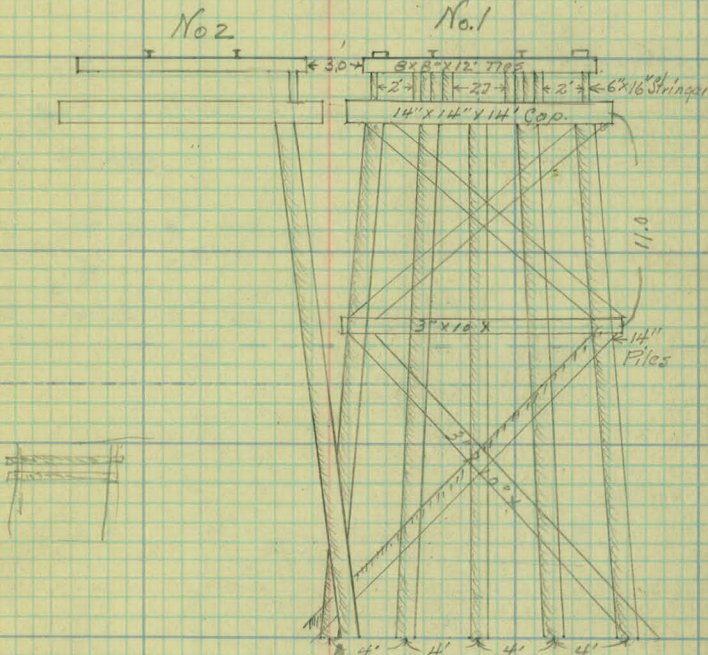
13

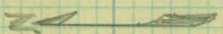

35'
+96 = Int. of Cult Field
Cultivated Field.
Hay Meadow
+80 = 30" Bur Oak
17'
+10 = Int. F.
+00 = R/w. Fence 13'
+05.0 = ℄ R.R. Trestles.
(Note on page following)
Meadow
+50 = End Woods 55'
Edge of Woods 15'
+57 = Int. of Woods (A.P.)
Hay
+50 Edge of woods 5'
+00 = Edge of Woods 3'


Survey line
Distance from Survey line To 6" Abutement
54' No.1
57.3 No.2
6"x16" Stringers
12.5
14'
12'
13'
13'
13'
15'
14
13
14.7
13.7
14'
14"Piles
2.6 Bridge No.1
0.8 " No.2
Bridge #1
Bridge #2
8"x18" Head Wall
2-1-30
Survey line. Δ 89°19' To Tracks.

Z-1-30

3" X 10" Sway Braces.





2 Bridges = 17+0.50

26

25

24

23

22

21

20

Hay Meadow

57'

Fenceline
N+S-1/4 Sec 28

+52 Cluster of 12-6" Willo 32'
+35 Cluster of 10-5" Willows 29'

+27 Fence. Int.
No. + So 1/4 Sec 28.

29'

Hay

33

32

31

30

29

28

27

+62 Fence 5' N. 5. ¼ line

Fence of N. 5. ¼ 45' Line

Hay Meadow

40

39

38

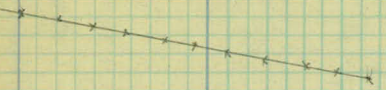
37

36

35

34

Hay Meadow



Cultivated

Hay Meadow.

N 85° E — 67.
N 45° W Line

47

46

45

44

43

42

41

Hay Meadow

Hay Meadow

+90 = Cluster 4 - 18"-32' Pop

+59 - 15" Bd. 3'
+52 Int F
E+W. ¼ line.

+59 = 8" W.O. 7'
+45 = Group of 6 - 4" Oaks 17'

+02.5 Δ Pt Fence 53' Lt End Tan.
E+W ¼ line

Hay Fld.

Hay Field

50

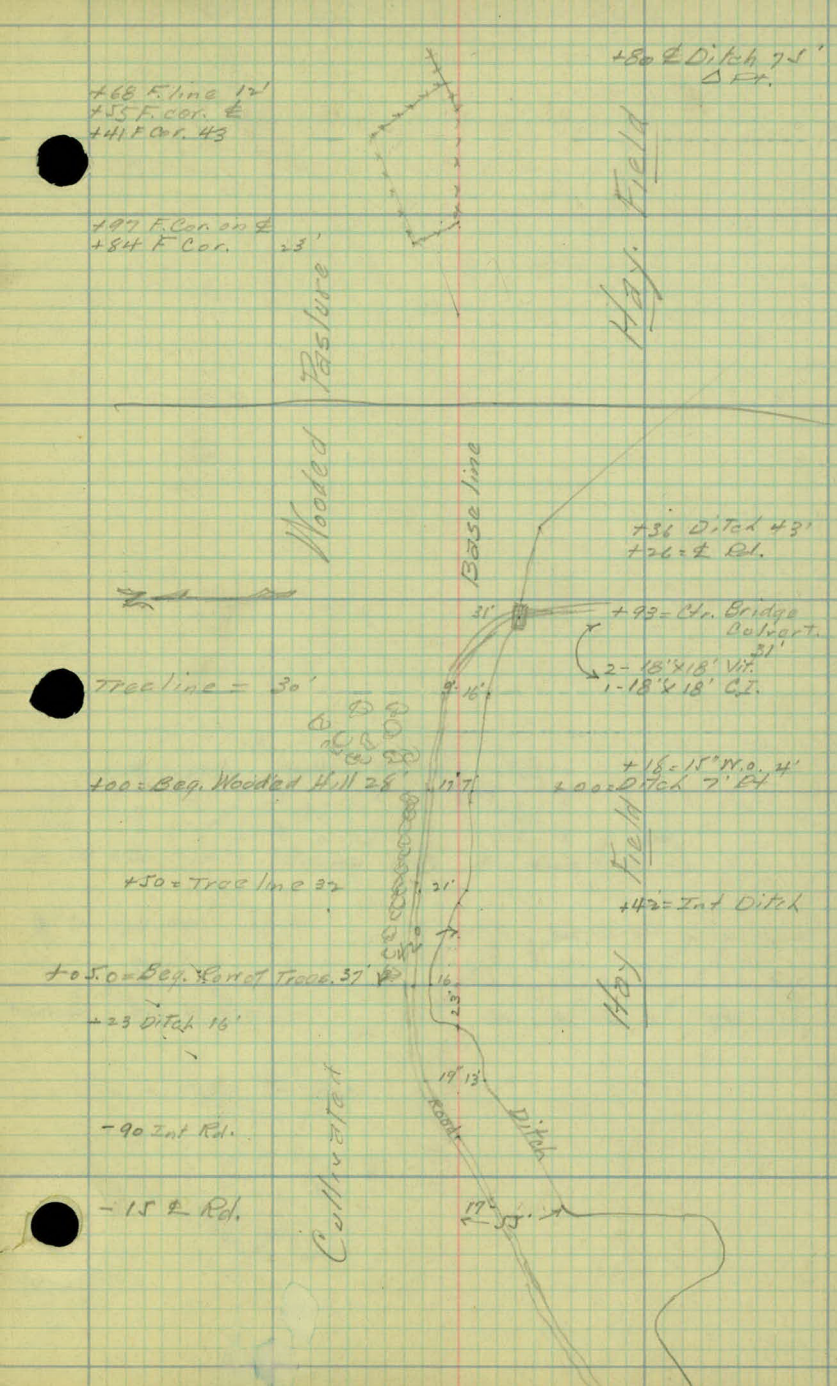
49

2

1

0+00 = 47+40 Δ 42° Rt. = Base line.

-1


+68 F. line 12'
+55 F. cor. ℄
+41 F. Cor. 43
+80 ℄ Ditch 7.5'
Δ Pk.
+97 F. Cor. on ℄
+84 F. Cor. 23'
Wooded Pasture
Hay Field
Base line
+36 Ditch 43'
+26 = ℄ Rd.
+93 = Cr. Bridge Culvert. 31'
2 - 48'x18' Vit.
1 - 18'x18' C.I.
31'
9'
16'
Tree line = 30'
+00 = Beg. Wooded Hill 28'
19'7"
+18 = 15" W.O. 4'
+00 = Ditch 7' Ø
Field
+50 = Tree line 32'
21'
+42 = Int Ditch
+0.50 = Beg. Corner Tree. 37'
16'
23'
+23 Ditch 16'
Hay
19°13'
Road
Ditch
-90 Int Rd.
-15 ℄ Rd.
Cultivated
19°
55'

57

56

55

54

53

52

51

Woods

+00 F = 14'

+34 Δ Rt. Fence 27'

Hay Meadow

+01 F = 24'
+00-15" B.O. - 24'

Woods

+48-8" Oak 23'

+72-Trim 8" Oak 23'
Fence 23

+95-2-12" B.O. 23'
+73-1 B.O. 23

Fence line 23'

64

63

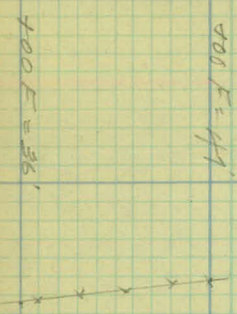
62

61

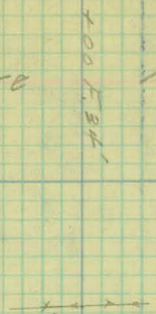
60

59

58



Wooded Pasture



No. of Fence.

Hay Meadow

Hay

71

70

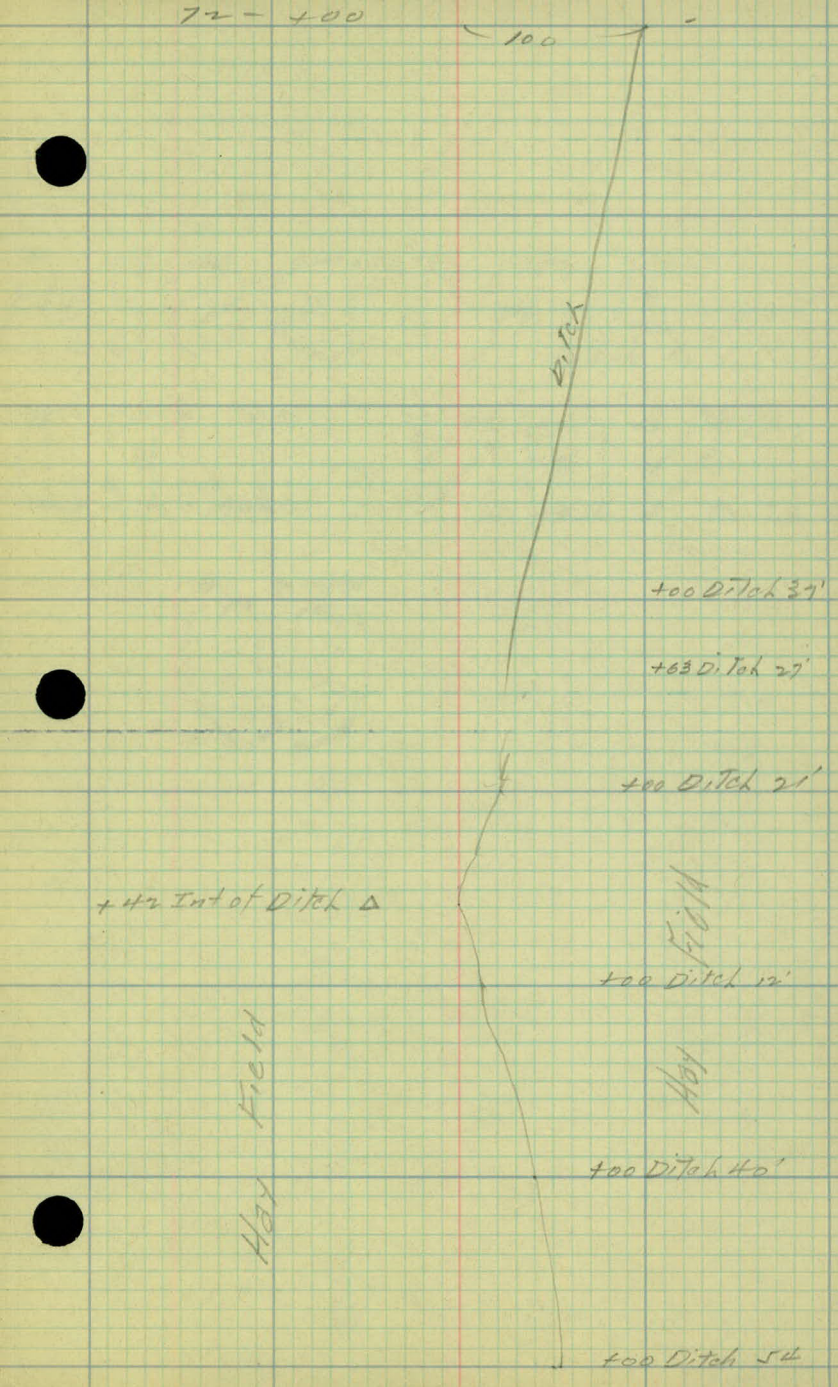
69

68

67

66

65


72 - 400
100
Ditch
+00 Ditch 37'
+63 Ditch 27'
+00 Ditch 21'
+42 Int of Ditch
Hay Field
+00 Ditch 12'
Hay Field
+00 Ditch 40'
Hay Field
+00 Ditch 54

77

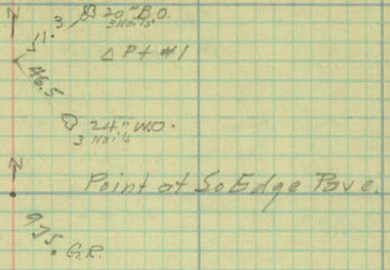
76

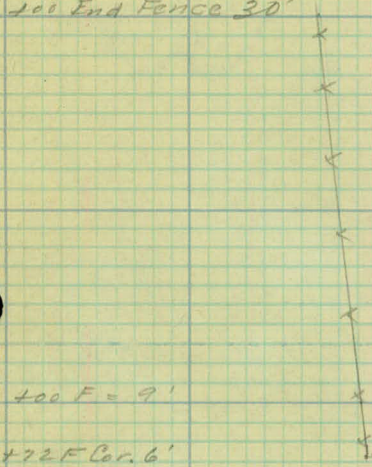
75

74

73

72





+80 = So. End of Culvert
= ℄ of 2 - 36" x 86' - P²