

Bk. 18 - Dr. 16

O.

ENGINEER
MINN.

_____ Linage Survey

_____ HUGO RD AT OVERLAKE AVE.

From _____ To _____

Road Acc't. No. _____

Date Filed 10-26-31

File _____

✓

DRAINAGE SURVEY

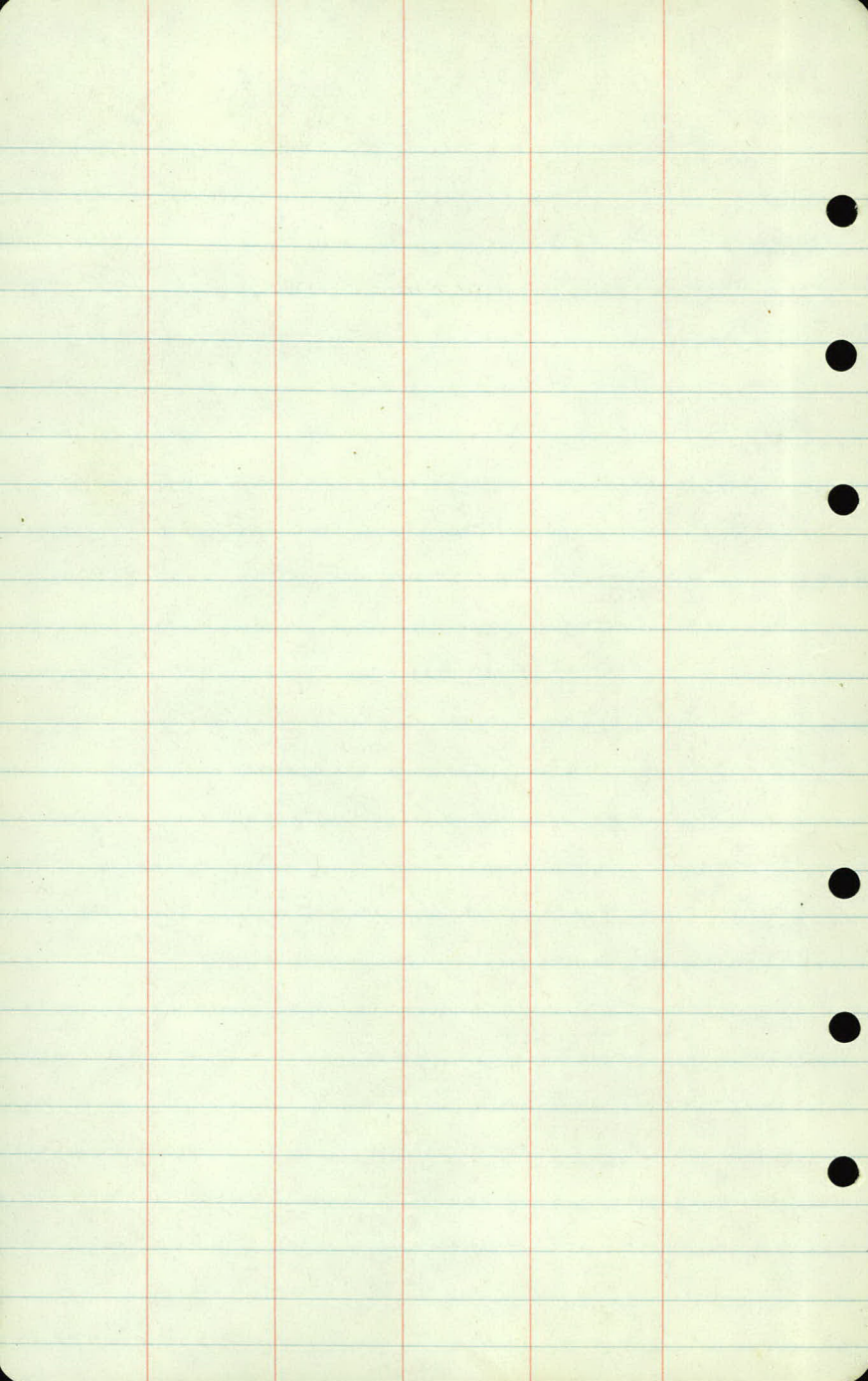
Hugob. of Overlake Rd.

INDEX

Align - 1-2

Topog. - 3-5

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Alignment

Sta.	Point	ΔL	ΔP
------	-------	------------	------------

14	100	P.O.T	End
----	-----	-------	-----

10	100	P.O.T	Approx. & Overlake Rd.
----	-----	-------	------------------------

12.82	P.T.	3°57.5'
179.86	P.T.	3°21.7' Δ 7°55'
150		2°21.7' D. 4°00'
3		7°55' T. - 99.15'
2	181.1	1°21.7' L. - 197.91'
150		0°21.7' R. - 12.05'
2		0°00'
1	181.95	P.G.

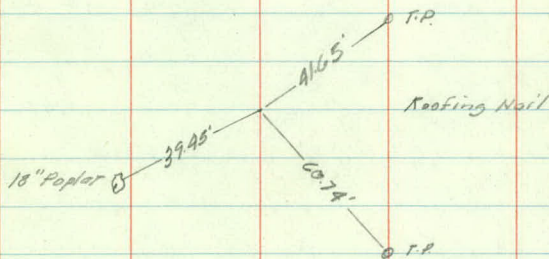
7-29-39

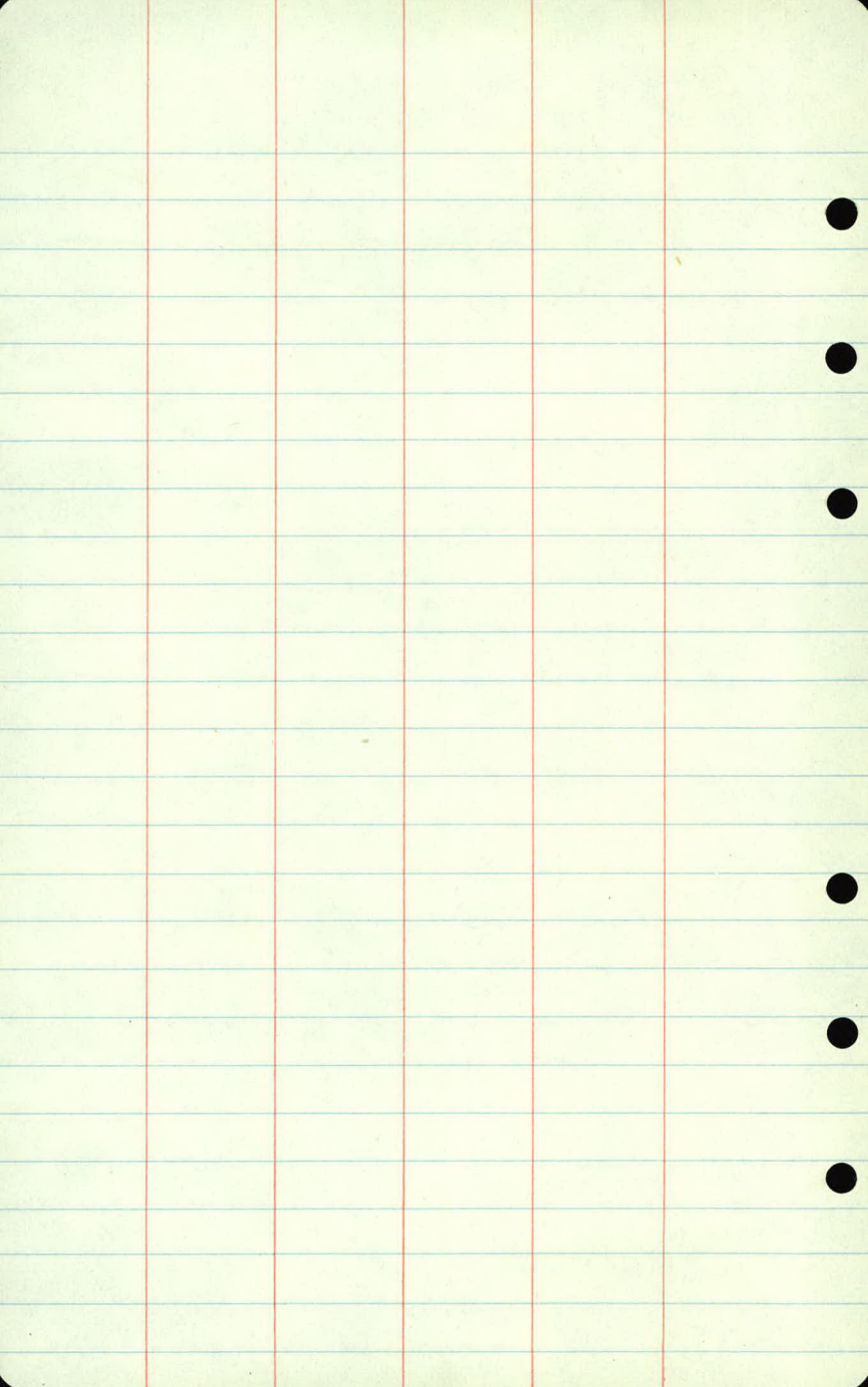
K.H.

L.B.H.

A.B.

2





Topography

+67-14" Willow - 17
+60-PP-22

+60-G.P.-80'

+23-6" Trip Willow - 30'

+96-T.P.-24'

6 Bog Swamp 11' 9'

+37-T.P.-24'

5 12' 9'

+81-PP-25'

+65-End Entk

+25-T.P.-24'

4 Ent - 43' 11' 11'
+96-Cor Ho - 49'

+79.86-L.R. Track - 77.9

+60-COR Ho - 42'

3 Lake - 71' 110' 12' +14-T.P.-23'

+25-End Entk

+85-PP-22

+65-24" Pop - 40"

+50-Lake - 57'

+25-5 Swamp - 21'

+25-End 12" Vit Cult - 24' 12" x 40' cult.

+22-12" Willow - 27' 12" Tw. - 39'

+29-End 12" Cult - 16'

+23-T.P.-17'

2 +02-18" Willow - 26' 10' 10'

Lake - 50'

+80

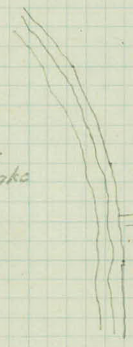
10 10

Scattered
Willow

Swamp

12'
15 ft
20'

Bald
Eagle
Lake



13

103-T.P.-31'
 10' 10' R.R. Tract - 89'

+21-P.P.-26'

12

10' 10'
 +98-T.P.-27'

11

10' 10'
 +80-T.P.-27'

+42-N End 12" C.M.-30'
 +30-P.P.-20'
 +29-N End 10" C.M.-31'

+156-P.-25'

10

+94-S End 10" C.M.-31'
 +95-S End 12" C.M.-31'
 (10" Culv. on Top)

+67-T.P.-26'

+37-15" Willow Stump - 15'

9

9' 10'

+84-18" Willow - 15'

+64-T.P.-25'

+52-20" Willow - 15'
 +47-P.P.-22'

8

9' 10'

+90-15" Stump - 17'

+55-12" x 32" C.M.-

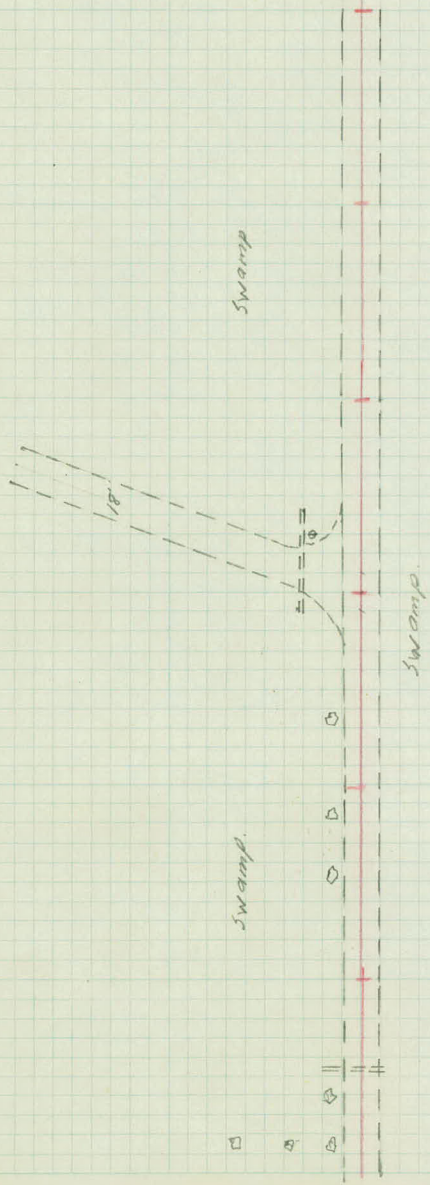
20' 12'

+94-T.P.-24'

+90-18" Willow - 17'
 +15-15" Willow - 16'

7

9' 10'





X Sections

Sta	+	π	-	Elev
B.M.	9.30	920.38		911.08
B.M.			6.51	913.87

2	+00			76.2
---	-----	--	--	------

	+24			15.9
--	-----	--	--	------

	+25	End Culv. Lt		11.20
--	-----	--------------	--	-------

	+29	End Culv. Rt.		16.0
--	-----	---------------	--	------

	+50			15.8
--	-----	--	--	------

3				15.4
---	--	--	--	------

	+50			15.4
--	-----	--	--	------

4				15.3
---	--	--	--	------

	+50			15.3
--	-----	--	--	------

5				15.4
---	--	--	--	------

Lt.

Q.

Rt.

Bald Eagle Lake 4/20/39

Spk. in 24" Poplar. 41' Lt. 2165

$\frac{9.2}{50}$ $\frac{8.7}{49}$ $\frac{4.9}{28}$ $\frac{5.1}{19}$ $\frac{4.6}{9}$ $\frac{4.2}{9}$ $\frac{4.6}{13}$ $\frac{4.4}{15}$ $\frac{3.9}{28}$ $\frac{5.1}{28}$ $\frac{4.5}{29}$ Too.

$\frac{7.3}{50}$ $\frac{9.1}{38}$ $\frac{7.2}{25}$ $\frac{7.2}{23}$ $\frac{5.0}{18}$ $\frac{4.6}{9}$ $\frac{4.5}{9}$ $\frac{4.7}{20}$ $\frac{5.5}{40}$ Too.

11.18

9.20

(64M) 12.18

$\frac{9.0}{50}$ $\frac{7.6}{28}$ $\frac{4.6}{17}$ $\frac{4.6}{9}$ $\frac{4.4}{9}$ $\frac{4.8}{13}$ $\frac{5.0}{16}$ $\frac{8.2}{18}$ $\frac{8.0}{21}$ $\frac{5.3}{32}$ $\frac{6.2}{41}$ $\frac{5.9}{41}$ Too.

$\frac{8.8}{50}$ $\frac{4.9}{25}$ $\frac{5.1}{15}$ $\frac{4.8}{11}$ $\frac{4.6}{9}$ $\frac{5.0}{15}$ $\frac{5.1}{18}$ $\frac{7.7}{17}$ $\frac{7.7}{21}$ $\frac{5.9}{33}$ $\frac{6.1}{45}$ $\frac{5.9}{45}$ Too.

$\frac{7.8}{50}$ $\frac{7.3}{41}$ $\frac{5.9}{20}$ $\frac{5.0}{11}$ $\frac{5.0}{9}$ $\frac{5.5}{14}$ $\frac{5.7}{20}$ $\frac{6.4}{21}$ $\frac{7.4}{22}$ $\frac{7.4}{29}$ $\frac{6.4}{39}$ $\frac{4.6}{49}$ $\frac{6.3}{49}$ Too.

$\frac{5.2}{50}$ $\frac{5.3}{31}$ $\frac{5.2}{16}$ $\frac{5.0}{11}$ $\frac{5.7}{14}$ $\frac{6.2}{16}$ $\frac{6.9}{20}$ $\frac{7.1}{22}$ $\frac{9.0}{25}$ $\frac{8.7}{35}$ $\frac{8.1}{49}$ $\frac{8.3}{49}$ $\frac{6.6}{49}$ Too.

$\frac{4.8}{50}$ $\frac{5.1}{16}$ $\frac{5.1}{8}$ $\frac{5.5}{14}$ $\frac{6.1}{17}$ $\frac{6.9}{23}$ $\frac{8.2}{26}$ $\frac{7.4}{27}$ $\frac{6.9}{50}$

$\frac{4.8}{50}$ $\frac{5.2}{20}$ $\frac{5.1}{7}$ $\frac{5.9}{12}$ $\frac{6.9}{15}$ $\frac{7.0}{24}$ $\frac{6.9}{25}$ $\frac{8.2}{27}$ $\frac{8.2}{28}$ $\frac{7.0}{42}$ $\frac{7.0}{50}$ $\frac{6.7}{50}$

$\frac{5.2}{50}$ $\frac{5.2}{20}$ $\frac{5.1}{13}$ $\frac{5.0}{8}$ $\frac{5.5}{15}$ $\frac{6.3}{16}$ $\frac{7.0}{25}$ $\frac{7.0}{25}$ $\frac{8.3}{27}$ $\frac{8.3}{29}$ $\frac{7.2}{37}$ $\frac{7.1}{50}$ $\frac{6.7}{50}$

Sta.	+	T	-	Elev.
		92038		
5	+50			15.3
6				14.90
T.P.	4.62	919.481	5.52	914.86.
	+50			14.4
7				14.0
	+50			14.0
	+55	Flow Line of Culvert		
8				14.2
	+50			14.7
9				15.1
	+50			15.3
	+93	pt. on S side Overhead.		
				15.6

lt.

4

rt.

$\begin{array}{r} 59 \\ 12 \\ 61 \end{array} \begin{array}{r} 55 \\ 9 \\ 63 \end{array} \begin{array}{r} 57 \\ 20 \\ 50 \end{array} \begin{array}{r} 43 \\ 13 \\ 29 \end{array} \begin{array}{r} 51 \\ 8 \\ 50 \end{array} \begin{array}{r} 58 \\ 13 \\ 50 \end{array} \begin{array}{r} 59 \\ 16 \\ 50 \end{array} \begin{array}{r} 72 \\ 25 \\ 50 \end{array} \begin{array}{r} 70 \\ 27 \\ 50 \end{array} \begin{array}{r} 79 \\ 28 \\ 50 \end{array} \begin{array}{r} 79 \\ 29 \\ 50 \end{array} \begin{array}{r} 70 \\ 40 \\ 50 \end{array} \begin{array}{r} 70 \\ 50 \\ 50 \end{array}$

$\begin{array}{r} 69 \\ 50 \end{array} \begin{array}{r} 68 \\ 53 \end{array} \begin{array}{r} 69 \\ 19 \end{array} \begin{array}{r} 58 \\ 13 \end{array} \begin{array}{r} 56 \\ 9 \end{array} \begin{array}{r} 55 \\ 7 \end{array} \begin{array}{r} 57 \\ 12 \end{array} \begin{array}{r} 61 \\ 15 \end{array} \begin{array}{r} 74 \\ 18 \end{array} \begin{array}{r} 71 \\ 24 \end{array} \begin{array}{r} 71 \\ 26 \end{array} \begin{array}{r} 72 \\ 27 \end{array} \begin{array}{r} 79 \\ 28 \end{array} \begin{array}{r} 70 \\ 39 \end{array} \begin{array}{r} 70 \\ 50 \end{array} \begin{array}{r} 71 \\ 50 \end{array}$

$\begin{array}{r} 63 \\ 80 \end{array} \begin{array}{r} 67 \\ 50 \end{array} \begin{array}{r} 67 \\ 31 \end{array} \begin{array}{r} 67 \\ 19 \end{array} \begin{array}{r} 56 \\ 15 \end{array} \begin{array}{r} 53 \\ 9 \end{array} \begin{array}{r} 51 \\ 8 \end{array} \begin{array}{r} 59 \\ 13 \end{array} \begin{array}{r} 58 \\ 16 \end{array} \begin{array}{r} 60 \\ 20 \end{array} \begin{array}{r} 69 \\ 25 \end{array} \begin{array}{r} 59 \\ 27 \end{array} \begin{array}{r} 71 \\ 28 \end{array} \begin{array}{r} 71 \\ 29 \end{array} \begin{array}{r} 60 \\ 41 \end{array} \begin{array}{r} 60 \\ 50 \end{array} \begin{array}{r} 65 \\ 50 \end{array}$

$\begin{array}{r} 63 \\ 100 \end{array} \begin{array}{r} 70 \\ 80 \end{array} \begin{array}{r} 72 \\ 50 \end{array} \begin{array}{r} 70 \\ 18 \end{array} \begin{array}{r} 59 \\ 15 \end{array} \begin{array}{r} 57 \\ 9 \end{array} \begin{array}{r} 55 \\ 8 \end{array} \begin{array}{r} 58 \\ 12 \end{array} \begin{array}{r} 60 \\ 15 \end{array} \begin{array}{r} 69 \\ 19 \end{array} \begin{array}{r} 73 \\ 26 \end{array} \begin{array}{r} 62 \\ 27 \end{array} \begin{array}{r} 61 \\ 28 \end{array} \begin{array}{r} 70 \\ 29 \end{array} \begin{array}{r} 70 \\ 43 \end{array} \begin{array}{r} 61 \\ 50 \end{array} \begin{array}{r} 62 \\ 50 \end{array}$

$\begin{array}{r} 67 \\ 100 \end{array} \begin{array}{r} 69 \\ 75 \end{array} \begin{array}{r} 70 \\ 50 \end{array} \begin{array}{r} 71 \\ 18 \end{array} \begin{array}{r} 61 \\ 15 \end{array} \begin{array}{r} 59 \\ 9 \end{array} \begin{array}{r} 55 \\ 10 \end{array} \begin{array}{r} 59 \\ 12 \end{array} \begin{array}{r} 60 \\ 15 \end{array} \begin{array}{r} 65 \\ 19 \end{array} \begin{array}{r} 59 \\ 26 \end{array} \begin{array}{r} 63 \\ 27 \end{array} \begin{array}{r} 69 \\ 28 \end{array} \begin{array}{r} 68 \\ 30 \end{array} \begin{array}{r} 60 \\ 45 \end{array} \begin{array}{r} 65 \\ 50 \end{array}$

El. Water

$\begin{array}{r} 11.5 \\ - 800 \\ \hline \text{CUM.} \end{array}$

$\begin{array}{r} 11.67 \\ 1.53 \\ \hline \text{CUM.} \end{array}$

$\begin{array}{r} 67 \\ 100 \end{array} \begin{array}{r} 70 \\ 75 \end{array} \begin{array}{r} 68 \\ 50 \end{array} \begin{array}{r} 70 \\ 18 \end{array} \begin{array}{r} 55 \\ 14 \end{array} \begin{array}{r} 55 \\ 9 \end{array} \begin{array}{r} 53 \\ 9 \end{array} \begin{array}{r} 58 \\ 13 \end{array} \begin{array}{r} 59 \\ 16 \end{array} \begin{array}{r} 65 \\ 20 \end{array} \begin{array}{r} 64 \\ 23 \end{array} \begin{array}{r} 58 \\ 27 \end{array} \begin{array}{r} 69 \\ 28 \end{array} \begin{array}{r} 68 \\ 29 \end{array} \begin{array}{r} 59 \\ 43 \end{array} \begin{array}{r} 59 \\ 53 \end{array} \begin{array}{r} 72 \\ 53 \end{array}$

$\begin{array}{r} 66 \\ 100 \end{array} \begin{array}{r} 68 \\ 75 \end{array} \begin{array}{r} 65 \\ 50 \end{array} \begin{array}{r} 71 \\ 31 \end{array} \begin{array}{r} 69 \\ 18 \end{array} \begin{array}{r} 51 \\ 14 \end{array} \begin{array}{r} 50 \\ 9 \end{array} \begin{array}{r} 48 \\ 11 \end{array} \begin{array}{r} 53 \\ 13 \end{array} \begin{array}{r} 54 \\ 15 \end{array} \begin{array}{r} 64 \\ 20 \end{array} \begin{array}{r} 62 \\ 21 \end{array} \begin{array}{r} 59 \\ 26 \end{array} \begin{array}{r} 57 \\ 28 \end{array} \begin{array}{r} 70 \\ 29 \end{array} \begin{array}{r} 70 \\ 43 \end{array} \begin{array}{r} 62 \\ 51 \end{array} \begin{array}{r} 61 \\ 51 \end{array}$

$\begin{array}{r} 69 \\ 100 \end{array} \begin{array}{r} 64 \\ 75 \end{array} \begin{array}{r} 67 \\ 50 \end{array} \begin{array}{r} 63 \\ 31 \end{array} \begin{array}{r} 70 \\ 27 \end{array} \begin{array}{r} 62 \\ 18 \end{array} \begin{array}{r} 70 \\ 14 \end{array} \begin{array}{r} 51 \\ 8 \end{array} \begin{array}{r} 45 \\ 11 \end{array} \begin{array}{r} 44 \\ 15 \end{array} \begin{array}{r} 50 \\ 17 \end{array} \begin{array}{r} 51 \\ 25 \end{array} \begin{array}{r} 62 \\ 28 \end{array} \begin{array}{r} 57 \\ 29 \end{array} \begin{array}{r} 68 \\ 32 \end{array} \begin{array}{r} 68 \\ 42 \end{array} \begin{array}{r} 60 \\ 50 \end{array}$

$\begin{array}{r} 69 \\ 100 \end{array} \begin{array}{r} 64 \\ 75 \end{array} \begin{array}{r} 66 \\ 50 \end{array} \begin{array}{r} 70 \\ 31 \end{array} \begin{array}{r} 62 \\ 30 \end{array} \begin{array}{r} 64 \\ 20 \end{array} \begin{array}{r} 49 \\ 15 \end{array} \begin{array}{r} 45 \\ 9 \end{array} \begin{array}{r} 42 \\ 10 \end{array} \begin{array}{r} 47 \\ 14 \end{array} \begin{array}{r} 48 \\ 18 \end{array} \begin{array}{r} 60 \\ 26 \end{array} \begin{array}{r} 56 \\ 27 \end{array} \begin{array}{r} 68 \\ 30 \end{array} \begin{array}{r} 68 \\ 32 \end{array} \begin{array}{r} 56 \\ 50 \end{array} \begin{array}{r} 58 \\ 50 \end{array}$

CUM. 12.4

$\begin{array}{r} 13 \\ 300 \end{array} \begin{array}{r} 68 \\ 250 \end{array} \begin{array}{r} 65 \\ 200 \end{array} \begin{array}{r} 67 \\ 150 \end{array} \begin{array}{r} 73 \\ 100 \end{array} \begin{array}{r} 70 \\ 50 \end{array} \begin{array}{r} 70.8 \\ 51 \end{array} \begin{array}{r} 55.43 \\ 24 \end{array} \begin{array}{r} 37 \\ 11 \end{array}$

$\begin{array}{r} 76 \\ 350 \end{array} \begin{array}{r} 82 \\ 400 \end{array} \begin{array}{r} 88 \\ 450 \end{array} \begin{array}{r} 92 \\ 500 \end{array}$

Sta + X - Elev

717.98

10 +00 Q. Overlake Rd. 15.6

+13 N. Shoulder 15.6

+42 12" C.M. Lt. 15.7

11 15.7

+50 15.8

B.M. 5.59 713.89.

Lt

4

Rt

51	45	27	39	43	46	61	55	70	70	57	60
50	25	7	9	13	17	25	29	30	23	50	

53	50	41	39
52	31	16	

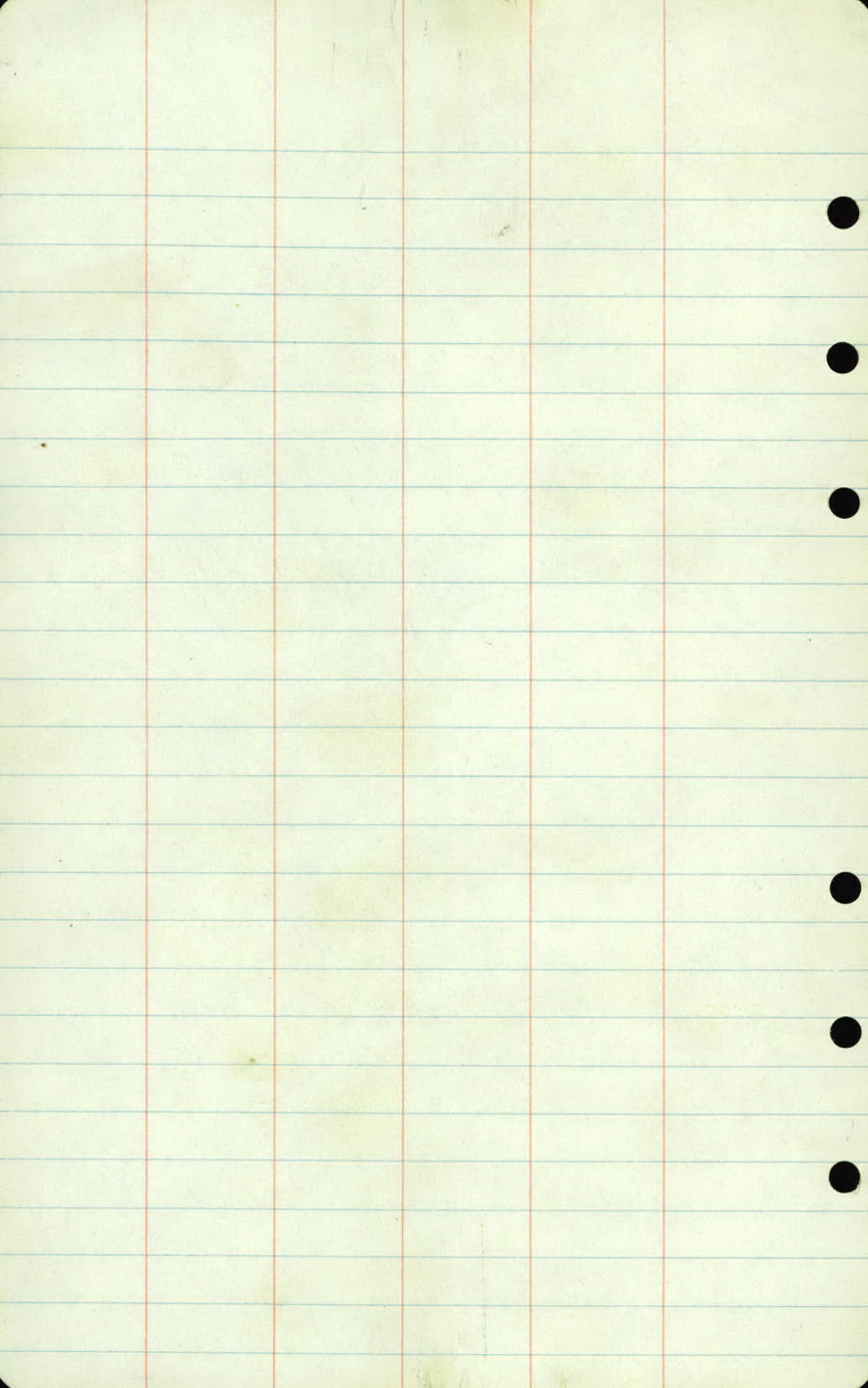
Calc. 11.89

62	58	761	53	46	41	38	41	45	57	55	65	65	58	56
50	33	30	18	15	8	8	14	18	26	30	31	33	50	

60	61	67	62	58	48	40	38	42	43	54	53	69	69	54	55
50	31	30	29	28	16	14	9	10	14	17	28	29	30	32	50

59	59	66	66	59	58	45	42	37	40	41	51	47	61	61	50	45
50	31	29	28	27	15	13	9	18	15	17	27	29	30	32	50	

Spk. in 24" Reptec 40 Lt 2165



Hugo Rd.
slope stakes.

	Sta	+	T	-	Grade	Gr. Rod.	D.K.B. Gr. Rt
B.M.		6.51	920.38			<u>915.87</u>	
2	127						11.2 Lt. 11.31 Rt.
	+50					9.0	11.34
3						9.0	11.40
	+50					8.9	11.47
4						8.9	11.54
I.P.		4.94	920.08	5.24	915.14		
	+50				915.3	8.8	11.60
5					15.33	8.4	11.67
	+50				15.36	8.4	11.73
6					15.39	8.3	11.80
	+50				15.42	8.2	11.86
I.P.		4.91	918.99	6.00	914.08		
7					15.45	7.1	11.92

8-19/39

Gr. Rod. Lt. R Rt

spike in 24" top 40 ft sta. 2465

9.18

9.07

4661
R23.0/34.0

9.01

9.04

4161
R29/33.95168
R21/30.85277
R12/28.853
-0.272
R16/28.6

5.1

50
-0.268
R16/29.4

4.8

54/29
-0.250
-0.370
R14/29.2

4.7

26.4

15.6/50
-0.350
-0.369
R15/29.4

4.7

26.2

19.2/6.8
-2.154
-0.769
R14/29.0

4.7

26.0

20.4/7.4
-2.758
-1.270
R12/28.4

3.5

26.0

21.2/6.6
-3.152
-1.753
R13/28.6

Sta.	T	X	-	Grade	Gr. Bed	Ditch Gr. Rt.
		918.99				
7	+50			15.48	7.0	11.99
	+55	L. Culv.			6.89	12.1 Lt.
					6.99	12.0 Rt.
8				15.51	6.8	12.23
	+50			15.54	6.5	12.48
9				15.57	6.3	12.73
I.P.	4.09	919.85	5.23	915.76		
	+50			15.60	6.87	12.98
	+93			15.63	6.7	13.19
10				15.63	6.6	13.23
	+13			15.64		13.29
	+42			15.66	6.4	13.44
11				15.69	6.1	13.72
I.P.	6.59	920.16	4.98	914.81		
			6.58	913.88		(913.87)

Gr. Rod.

Lt.

L

Rt.

3.5

260

$$21.4 / \begin{array}{r} 6.7 \\ -3.2 \end{array}$$

$$\begin{array}{r} 53 \\ -18 \end{array}$$

$$\begin{array}{r} 56 \\ 1519 / 28.8 \end{array}$$

3.5

264

$$21.0 / \begin{array}{r} 6.5 \\ -3.0 \end{array}$$

$$\begin{array}{r} 50 \\ -15 \end{array}$$

$$\begin{array}{r} 61 \\ 1507 / 26.8 \end{array}$$

3.5

250

$$20.6 / \begin{array}{r} 6.3 \\ -2.8 \end{array}$$

$$\begin{array}{r} 45 \\ -10 \end{array}$$

$$\begin{array}{r} 57 \\ 140.8 / 26.6 \end{array}$$

3.4

248

$$20.8 / \begin{array}{r} 6.9 \\ -2.9 \end{array}$$

$$\begin{array}{r} 41 \\ -07 \end{array}$$

$$\begin{array}{r} 56 \\ 140.7 / 26.2 \end{array}$$

4.3

242

$$20.9 / \begin{array}{r} 6.8 \\ -2.5 \end{array}$$

$$\begin{array}{r} 48 \\ -05 \end{array}$$

$$\begin{array}{r} 60 \\ 140.9 / 26.0 \end{array}$$

4.2

230

$$\begin{array}{r} 45 \\ -03 \end{array}$$

$$\begin{array}{r} 58 \\ 140.8 / 25.4 \end{array}$$

4.2

$$18.0 / \begin{array}{r} 57 \\ -15 \end{array}$$

$$\begin{array}{r} 48 \\ -01 \end{array}$$

$$\begin{array}{r} 60 \\ 140.9 / 24.2 \end{array}$$

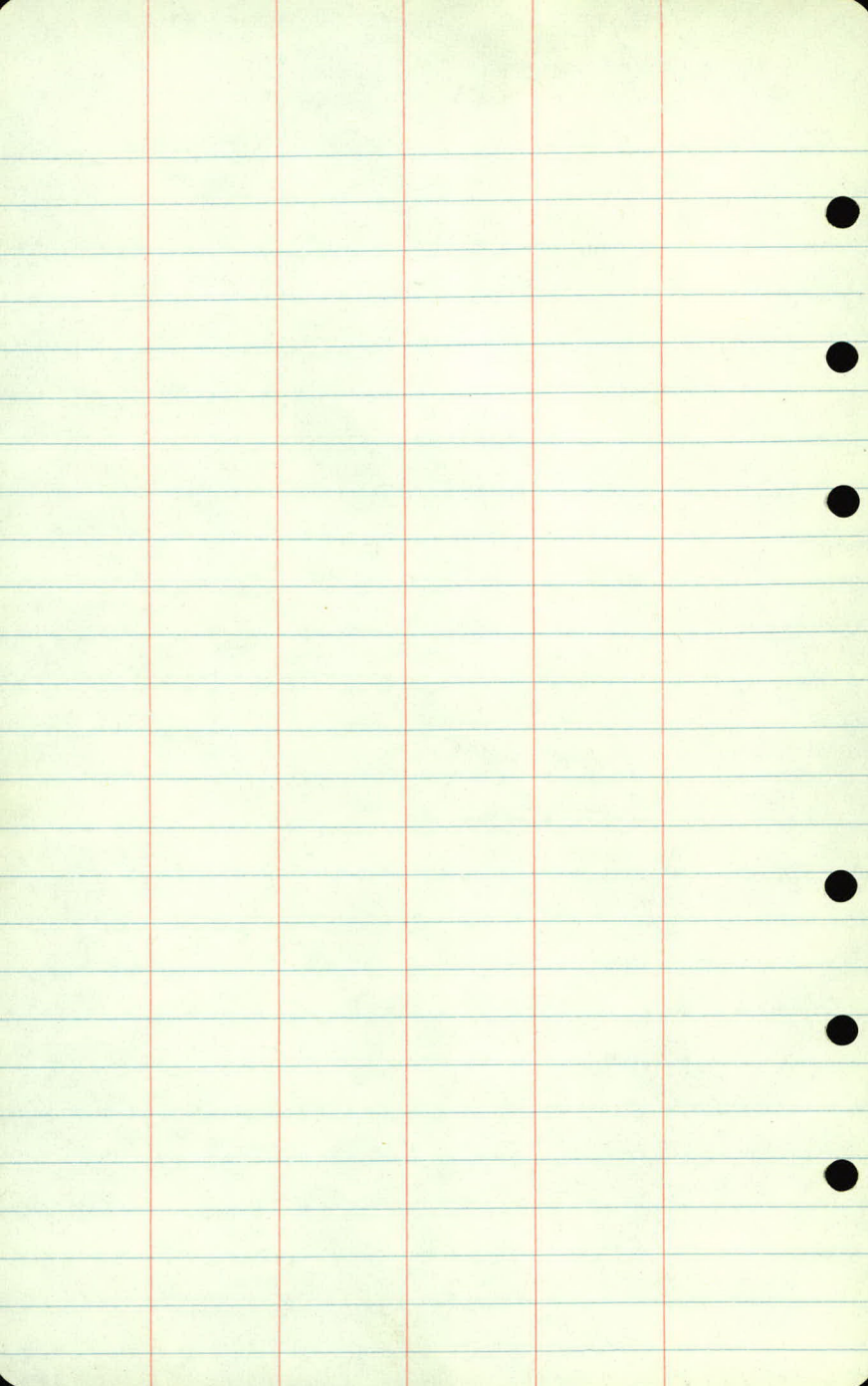
4.2

230

$$19.8 / \begin{array}{r} 66 \\ -29 \end{array}$$

$$\begin{array}{r} 43 \\ -01 \end{array}$$

$$\begin{array}{r} 61 \\ 140.0 / 25.0 \end{array}$$



Hugo Road.

Curve Align

20	+06.20	P.T.	5°41'
			5°35.4
	+50		4°50.4
19			4°05.4' Δ 11°22'
	+50		3°20.4' D. 3°00'
18	+17.40	P.I.	11°22' T. 19°09'
			2°35.4' L. 378.89'
	+50		1°50.4' R. 1910.08
17			1°05.4
	+50		0°20.4
16	+27.31	P.G.	0°00'

G.P.
0

15.51'

39.31'

O.T.P.

