

Dr. 8 - BK. 156

OFFICE OF COUNTY ENGINEER
RAMSEY CO. MINN.

PLAN.....Survey

PORTLAND AVE (W.B.C.)

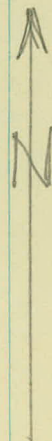
From Lake Ave..... To Sixth St......

Road Acc't. No.

Date Filed 12-29-38.....

File.....

SURVEY BY LINDAHL
NOV. 19, 1945



NORTHWEST
AVE

PORTLAND AVE.

W.S. 924.81

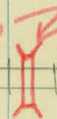
W.S. 926.63

S.T.H. #96

W.S. 926.01

N.P.R.R.

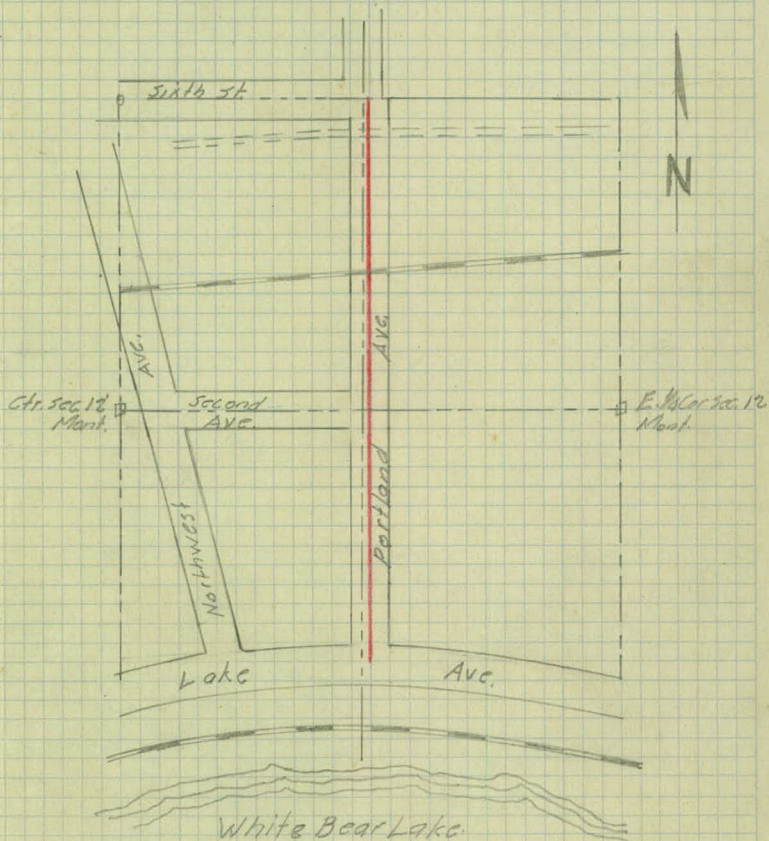
NEW CULVERT BEING PLACED



W.S. 924.90

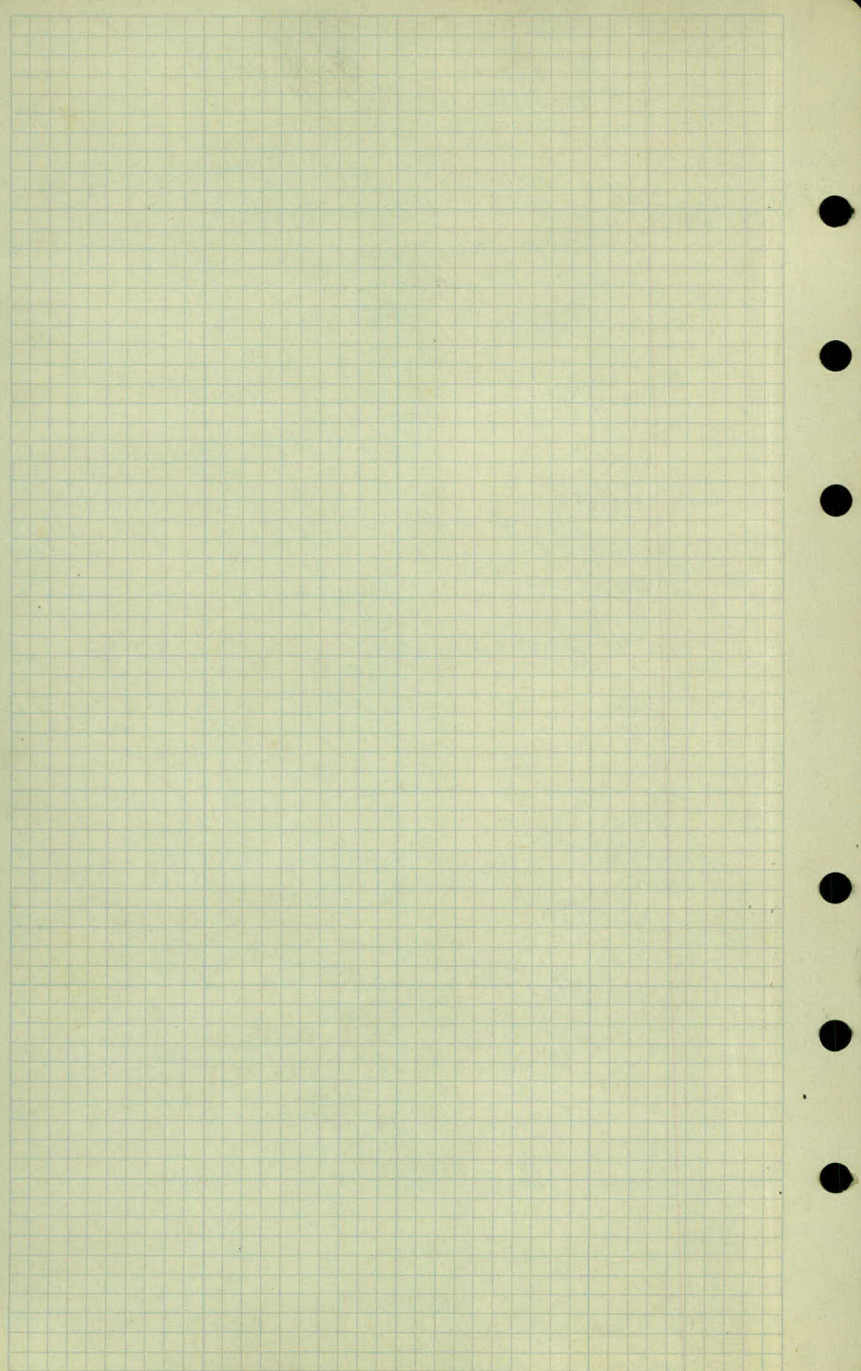
WHITE BEAR LAKE

PLAN SURVEY
PORTLAND AVE.
Lake Ave to Sixth St.



INDEX.

Align - P. 1-4
Tops - 5-9
Levels - 10-11
X Sections - 12-19

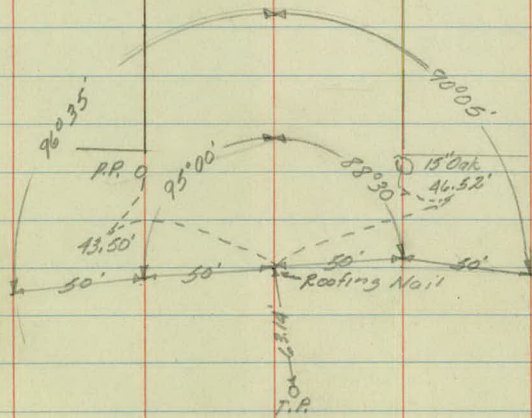
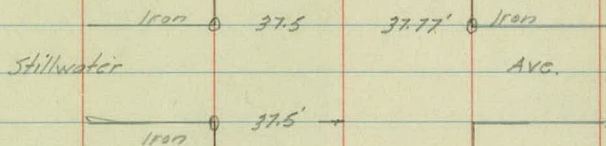
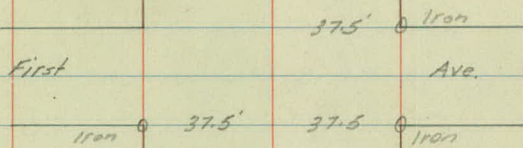


Alignment

Sta	Point	ΔLt	ΔRt
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0 + 00	= Lake Ave		
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6/30/38 2
K.A.
L.C.
R.P.



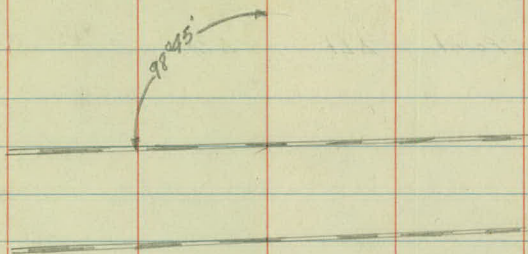
Sta	Point	Alt	ARL
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16 + 00.80	P.O.T.	= Main Track	
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15 + 85.53	P.O.T.	= Siding Track	Removed
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10 + 47.86	to 1/4 Line		
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10 + 39.88	P.I.	0° 01' 30"	= Second Ave.
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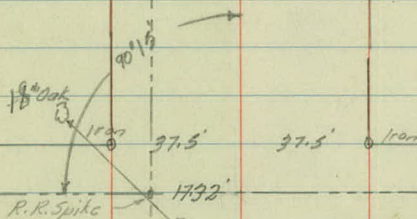
R.R. - R.O.W. Mont. $37.58'$

$37.67'$ Iron

Third

Ave.

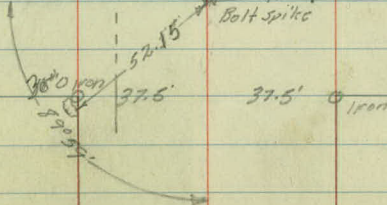
Iron $37.62'$ $37.62'$ Iron



$37.5'$ Iron

Second

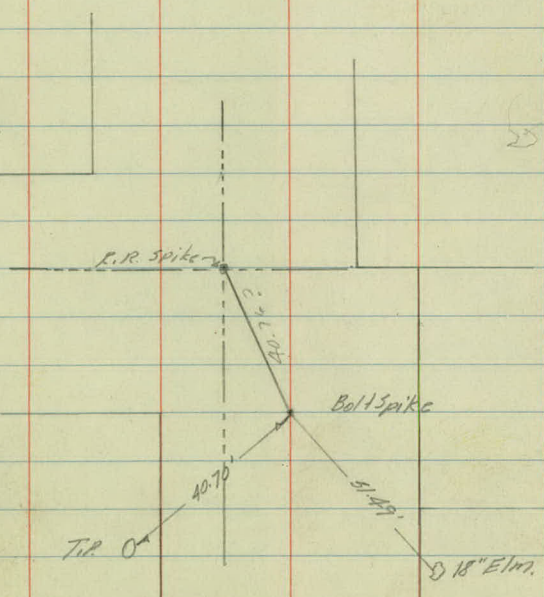
$41.59'$ $12''$ Oak Ave
Bolt Spike

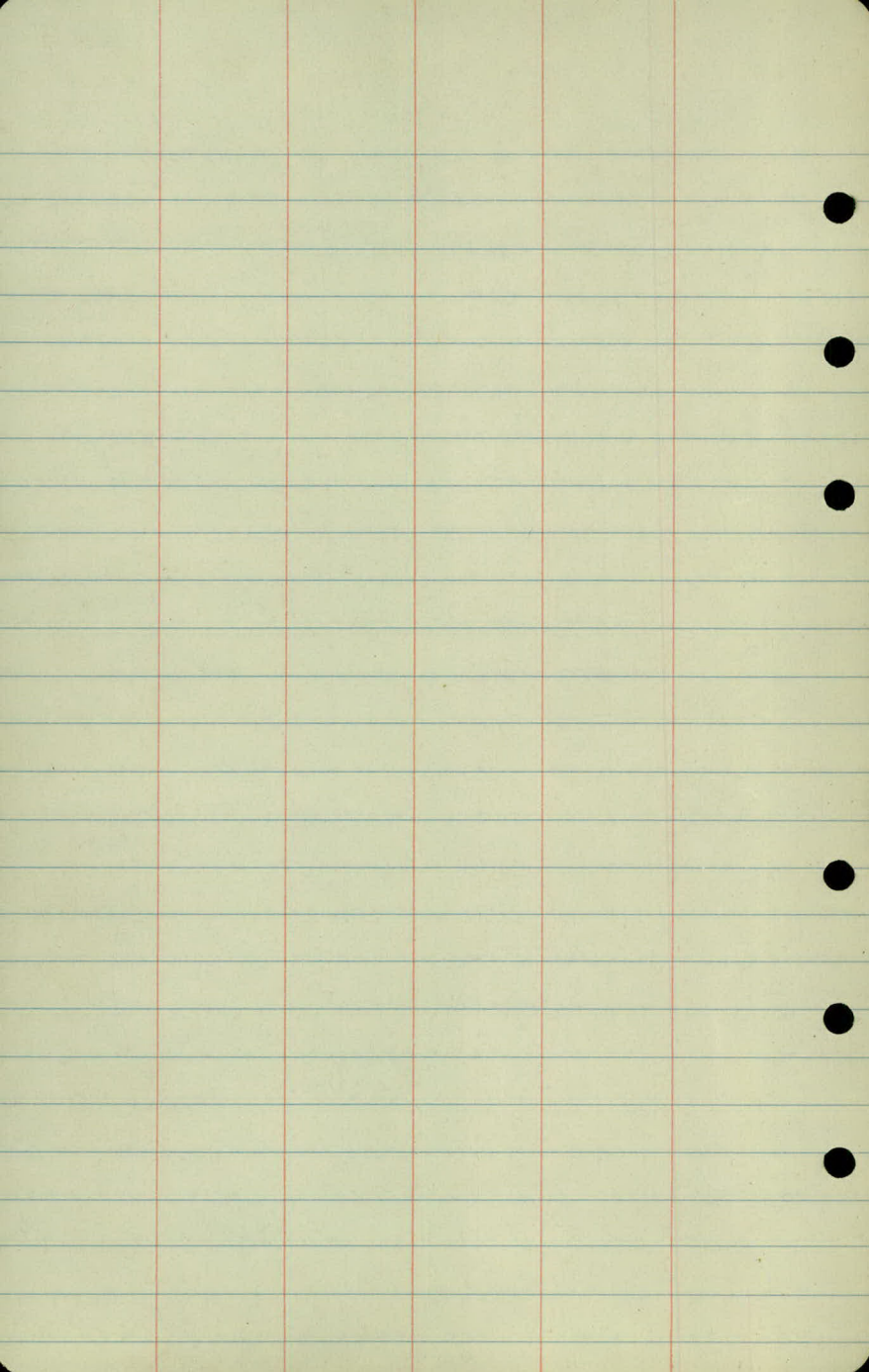


Sta.	Point	Δ Lt.	Δ Rt.
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24+22.2 = 1/4 Cor - 6 sixth st.

23+81.2 P.I. 12°12'





6/30/58 5
K.H.
L.S.
R.P.

Topography

+90-6" Oak-43'
+83-42" Oak-43'
+56-T.P.-25'

+99-M.W. Cor. Ho.-59'
+99-10" Trip. Oak-17'
+99-15" Trip. Oak-17'
+120-15" Oak-49'
+R.S. Tw. Oak-21'
+118-12" Oak-16'

5

+97-Alky. 12" x 60' G.M.-20'
+87-End Cor. 39'
+79-P.P.-27'
+52-End Hedge Bog. FG-38'

+62-12" Trip. Willow-32'

+1872" x 30' G.M. 14'

14'

+14-12" Oak-36'

+13-T.P.-26'

+99-6" Oak-35'
+92-G.P.-34'

+90-8" Willow Hedge-36'

+35-T.P.-45'

+10-T.P.-45'

+127-B.I. Top
+13-B.I. Top

3

+94-P.P.-27'-Cor. Hedge-31'

+98-P.P.-26'

+96-5" V. Cor. Ho.-53'

+97-End 15" x 60' G.M.-17'
+99-End Hedge-34'

2

+75-Bog. Hedge-32'
+80-N.E. Cor. Ho.-47' End Hedge-38'
+90-S.E. Cor. Ho.-47'
+16-Cor. Hedge-38'
+28-Fut. 12" x 14" ~~14"~~ 16"-10' Old Bakers.
+22-30" Oak-45'
+103-End Hedge-38'
+01-6" Spruce-42'

+95-Bog. Hedge-34'
+80-End 12" x 60' G.M.-18'
+80-End Hedge-39'

+58-10" Oak-40'

+06-12" Oak-37'

+92-P.P.-25'

+80-6" Spruce-42'
+65-6" Spruce-42'
+92-Cor. Hedge-36'
+92-P.P.-32'

+90-Bog. Hedge-36'
+95-End H.C. 14" Culv. 22'
+97-3" x 13" P. V. 42'
+99-3" x 13" P. V. 48'
+23-12" Oak-39'

0 to 20

+97-T.P.-26' - 18" Elder - 40'
+85-6' 9" Walk - 35'
+72-S.E. Cor. Ho. - 68'
+79-18" Elder - 39'
+53-E. Cor. - 37'
+77-End Woods - 36'

+50-Swamp - 90'-100'

12

Swamp - 17'-120'

+87-P.R. - 27'

+53-T.P. - 24'

+50-Swamp - 20'-100'

11

Reg Swamp - 25'-50'

+62-Cor. Wood - 33'

+40-2 1/4' Rd - 12" X 30' C.M. - 21'

+15-T.P. - 39'

10 +04-15" Oak - 41' - End Hedge - 28'

+46-12" Oak - 41'

+27-24" Oak - 45'

+18-8" Oak - 44'

+13-15" Oak - 41'

+86-M.P. - 27'

+66-N.E. Cor. Brch - 63'

+50-18" Oak - 40'

+57-6' 9" Steps

+40-12" Oak - 41'

9 +06-Cor. Hedge - 27'

+70-N.E. Cor. Porch - 64'

+65-T.P. - 25'

+75-15" Maple - 39'

+61-15" B. Elder - 38'

+59-18" R. Elder - 38'

+45-6" Trunk Ash - 41'

+23-18" Maple - 38'

+19-End

+03-8" Elm - 35'

8 +06-Hedge 24'

+82-12" Oak - 39'

+68-12" Oak - 41'

+57-15" Oak - 39'

+07-P.R. - 28'

+88-N.E. Cor. Ho. - 73'

+86-20" Maple - 39'

+79-4 1/2' Steps - 20'

+55-30" Oak - 41'

+54-3" Ring - 38'

+38-T.P. - 25'

7 +01-HG - 24'

+53-2 1/4' X Rd.

+67-T.P. - 24'

+55-24" Oak - 41'

+67-P.R. - 28'

+16-24" Oak - 43'

6

+89-6" B. Elder - 37'
+80-6" Cor. H. 44 - 38'
+75-809. H. 44 - 34'
+71-3E Cor. Ho - 56'
+60-Ent
+55-8" B. Elder - 38'
+36-T.P. - 28'

19

+60-Rothole - 85'

18

+96-T.P. - 26'

+63-6 1/2' Rd. - 12" X 36' C.M. - 26'
+30-36" P. 44 - 37'
+27-36" P. 44 - 37'

17

+75-T.P. - 26'

+30-R.T.P. - 40'

16

+45-T.P. 26'
+44-Fc Cor. 38'

15

+43-8 1/2" X 30' C.M. 17'
+30-T.P. - 25'
+26-Fc Cor. - 37'

17'

13'

14 6 1/2' Rd. - 12" X 32' C.M. 26'

+70-Fc Cor. - 37'
+68-Hodge -
+52-9" Ap. 16. Two - 47'
+40-12" B. Elder - 40'

+75-#R. - 26'

+15-15" B. Elder - 40'
+07-Ent.

13

+06-12" Oak - 32'

+97-12" B. Elder - 37'
+85-8" B. Elder - 57'
+68-R.P. - 24'
+66-Hodge - Reg. Fc. - 30'
+59-Ent
+52-#Hodge - 31'
+38-15" Oak - 39'
+18-5" W. 44. Ho. - 89'

+97-24" Oak - 42'
+88-Ent.
+72-Hodge - 33'

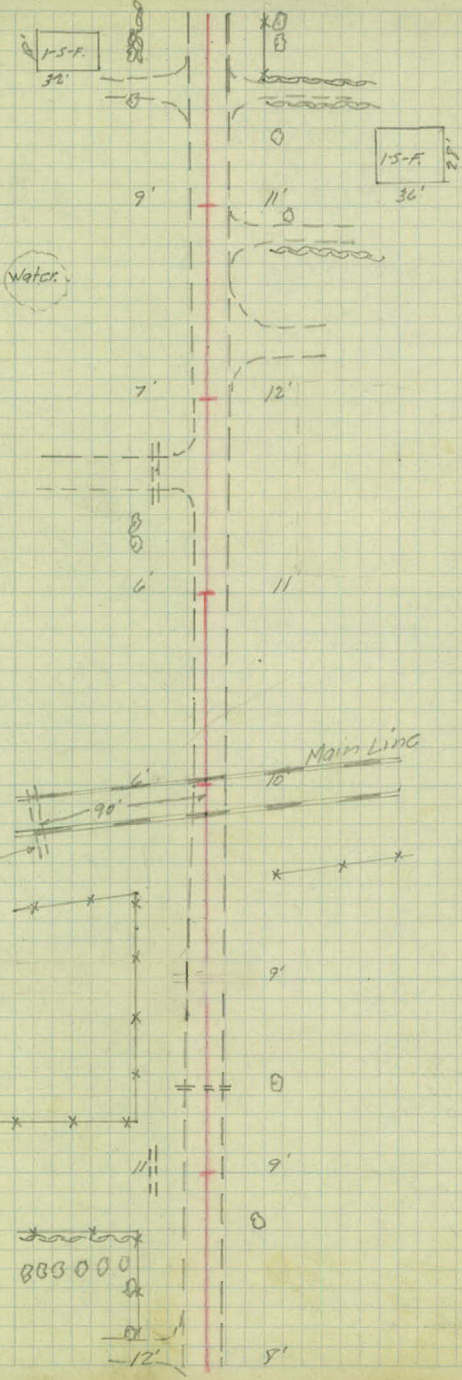
+29-Ent

+83-P.P. - 24'

+65-809. C. 14 - 25'
+53-P.P. - 25'

+59-T.P. - 39'
+53-P.P. - 37'
+53-P.P. - 28'

+49-12" Oak - 35'



Bart Tang Produced

+12-End G.R.-27'
24' G.R.-29'

+95-Kangaroo to Pitch

+90-G.R.-20'

+89-Bo Mana Culvert

6' Wide - 2' Depth - 30' Long

5' Wing Walk 10' wide of Mouth

20' Lt.

10' Rt.

+65-Peg G.R.-19'

+58-T.P.-38'

+12-End G.R.-10'

+70-36" Pop-39'

+95-18" Ash-59'

+87-24" Elm-59'

23

+15-T.P.-31'

22

+91-Hedge-38'

+82-Ent

+77-End Hedge-36'

+79-6" B. Elder-36'

+41-I.E. Cor. Ho.-72'

+38-6" Triple B. Elder-38'

+28-6" Tw B. Elder-36'

+16-6" Tw B. Elder-36'

+05-Ent

21

+84-6" B. Elder-41'

+71-T.P.-29'

+74-30" Pop-32'

+70-P.P.-21'

+53-30" Pop-

+31-18" Ash Elder-59'

+26-R.R. Signs-22'

+14-30" Pop

+01-30" Pop

+57-30" Pop-

+80-Ent

+73-30" Pop-

+58-24" Pop-

+40-30" Pop-

+27-24" Pop-

+14-24" Pop-36'

+11-P.P.-22' Fa. Cor.-84'

N.E. Cor. Ho.-65'

+29-6" B. Elder-38'

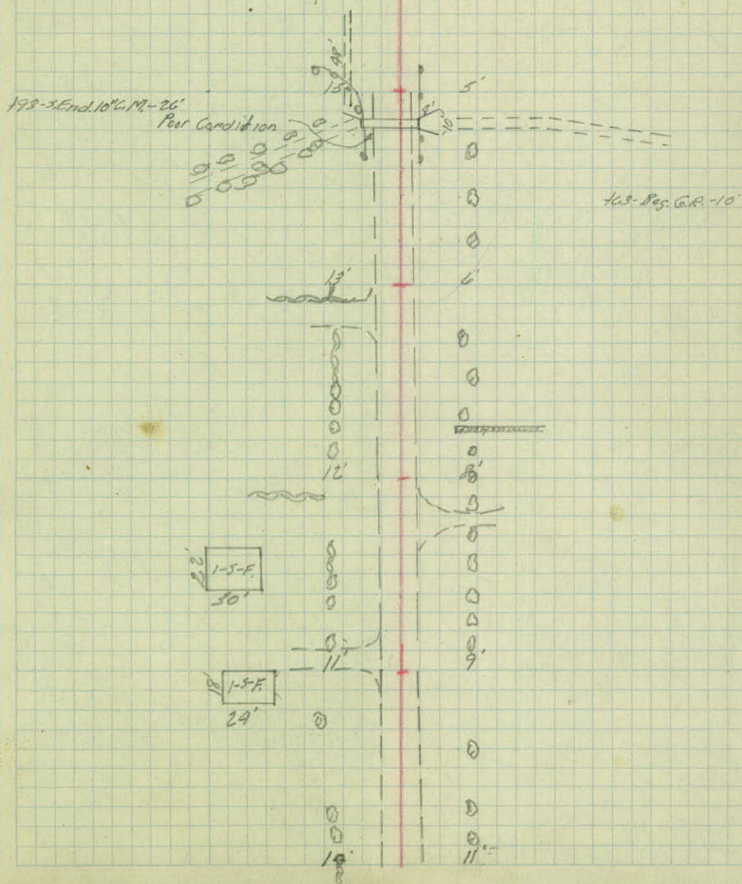
+14-6" B. Elder-37'

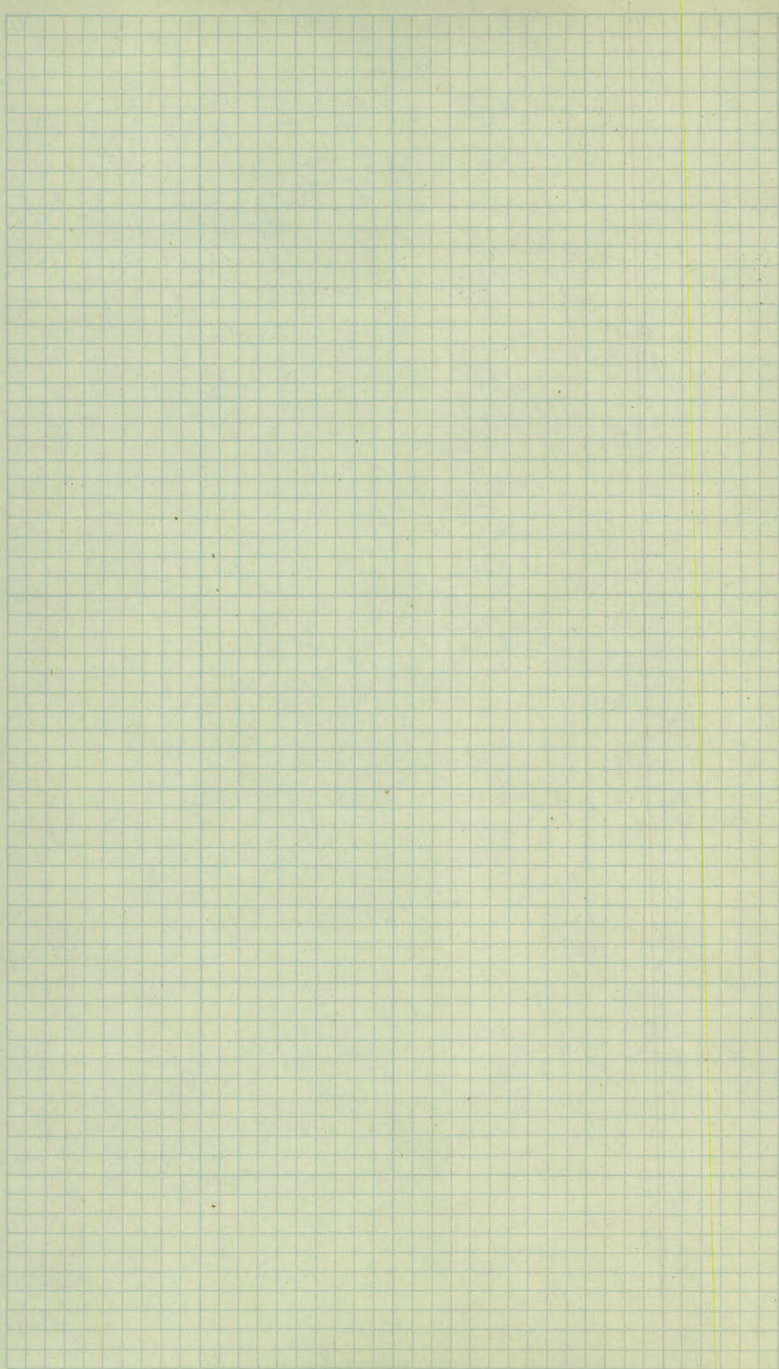
20 +03-End Hedge-33'

+60-30" Pop-35'

+30-24" Elm-35'

+13-15" B. Elder-37'





Bench Levels

Sta	+	Σ	-	Elev.
B.M.	8.66	930.24 ✓		921.58 ✓
T.P.	7.11	936.74 ✓	0.61	929.63 ✓
T.P.	8.32	942.51 ✓	2.55	939.19 ✓
B.M.			4.78	937.73 ✓
T.P.	2.07	942.31 ✓	2.27	940.24 ✓
T.P.	2.29	937.43 ✓	7.17	938.19 ✓
B.M.			4.88	932.55 ✓

7/1/58
K.R.
L.C.
R.P.

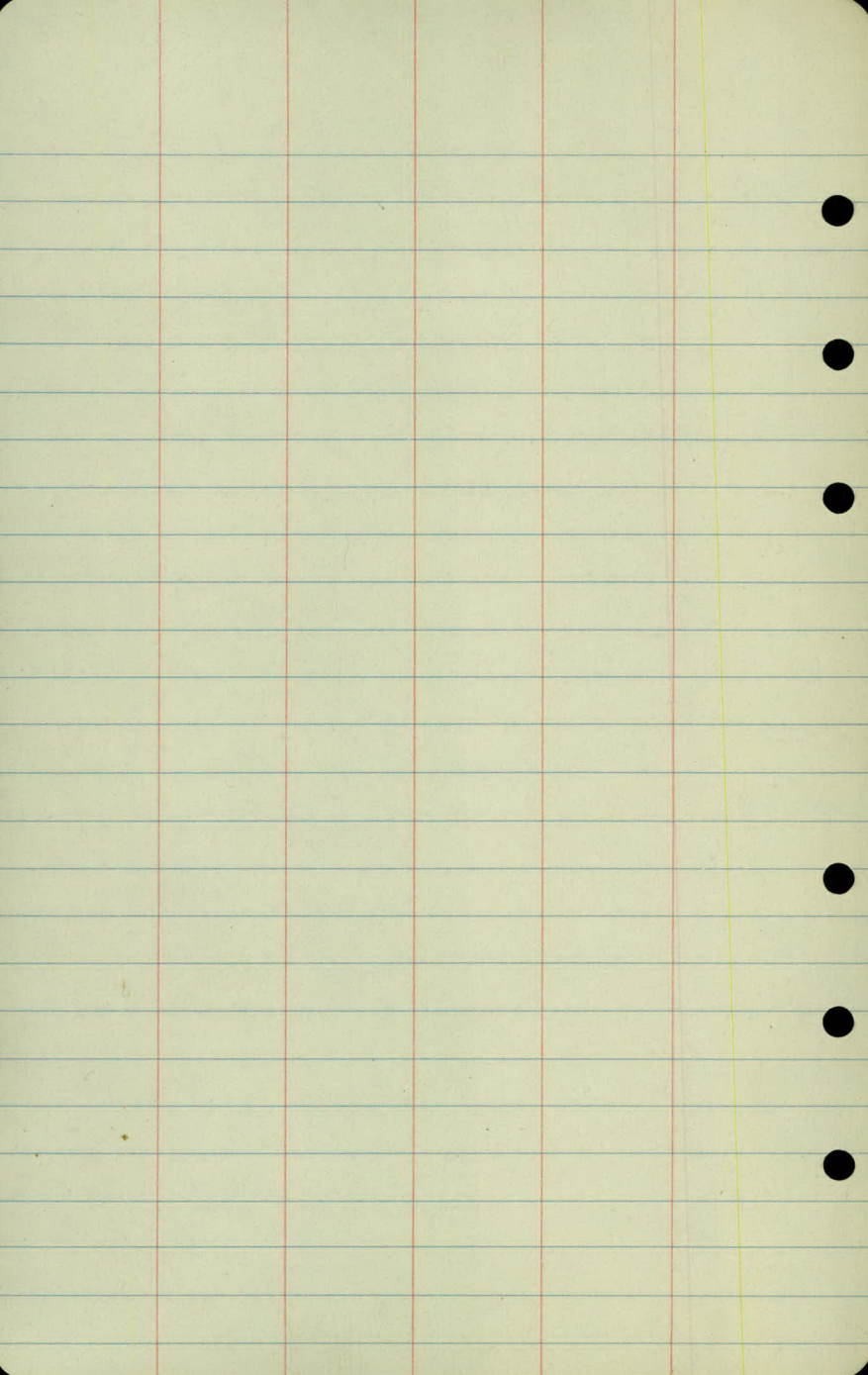
11

Description

Top S.F. Cor. E. Headwall Mono. Culv. Cf. 23+P4

Spl. in T.P. 29' Lt. 10 + 15

Spl. in R.P. 32' Lt. 0 + 32



x sections

Sta	+	π	-	Elev.
B.M.	5.78	938.53 ✓		932.55

0	+00			31.38
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	+11			931.27
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	+31			31.4
--	-----	--	--	------

	+35		2.95	28.6
--	-----	--	------	------

	+45			31.4
--	-----	--	--	------

1				32.0
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	+50			33.1
--	-----	--	--	------

2				33.9
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	+50			34.6
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T.P.	6.65	942.35 ✓	2.83	935.70
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3				35.7
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	+05			35.9
--	-----	--	--	------

Lt

L

Jct.

Spk. 1/5 P.R. 32' Lt. 0192

7.15

$\frac{7.15}{50}$	$\frac{7.26}{50}$	$\frac{7.37}{29}$	$\frac{7.40}{50}$
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$\frac{8.5}{100}$	$\frac{8.6}{50}$	$\frac{9.0}{30}$	$\frac{7.7}{27}$	$\frac{7.1}{18}$	$\frac{7.7}{22}$	$\frac{8.5}{28}$	$\frac{7.9}{40}$	$\frac{6.5}{40}$	$\frac{6.0}{50}$
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No. End. 15°C. 19.

$\frac{6.3}{100}$	$\frac{5.8}{50}$	$\frac{6.8}{28}$	$\frac{8.8}{21}$	$\frac{7.6}{17}$	$\frac{7.1}{14}$	$\frac{7.3}{14}$	$\frac{8.4}{17}$	$\frac{8.6}{25}$	$\frac{7.6}{30}$	$\frac{6.0}{39}$	$\frac{5.7}{50}$
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$\frac{5.0}{90}$	$\frac{5.4}{50}$	$\frac{5.3}{35}$	$\frac{5.7}{23}$	$\frac{7.3}{15}$	$\frac{6.9}{11}$	$\frac{6.5}{10}$	$\frac{6.7}{14}$	$\frac{6.9}{18}$	$\frac{7.8}{26}$	$\frac{5.6}{36}$	$\frac{4.6}{42}$	$\frac{3.7}{42}$	$\frac{3.0}{50}$
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$\frac{3.1}{13}$	$\frac{3.6}{35}$	$\frac{6.6}{18}$	$\frac{5.8}{9}$	$\frac{5.4}{11}$	$\frac{5.6}{11}$	$\frac{5.8}{19}$	$\frac{6.5}{17}$	$\frac{5.0}{24}$	$\frac{4.1}{32}$	$\frac{3.6}{47}$	$\frac{2.2}{41}$	$\frac{1.7}{50}$
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$\frac{2.7}{100}$	$\frac{2.0}{50}$	$\frac{2.6}{28}$	$\frac{3.7}{15}$	$\frac{5.0}{10}$	$\frac{4.6}{11}$	$\frac{4.8}{15}$	$\frac{5.3}{18}$	$\frac{5.8}{21}$	$\frac{5.0}{21}$	$\frac{3.7}{32}$	$\frac{3.3}{38}$	$\frac{1.5}{43}$	$\frac{1.9}{50}$
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$\frac{1.6}{50}$	$\frac{1.7}{37}$	$\frac{4.8}{14}$	$\frac{4.2}{10}$	$\frac{3.9}{10}$	$\frac{3.9}{10}$	$\frac{4.0}{13}$	$\frac{4.8}{17}$	$\frac{4.0}{20}$	$\frac{4.0}{34}$	$\frac{3.5}{50}$
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$\frac{6.2}{100}$	$\frac{5.5}{50}$	$\frac{4.7}{33}$	$\frac{5.7}{21}$	$\frac{7.0}{15}$	$\frac{6.9}{10}$	$\frac{6.7}{10}$	$\frac{6.7}{22}$	$\frac{7.0}{26}$	$\frac{5.4}{30}$	$\frac{5.9}{30}$
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$\frac{6.5}{100}$	$\frac{6.3}{30}$	$\frac{6.8}{21}$	$\frac{6.7}{10}$	$\frac{6.5}{10}$	$\frac{6.6}{13}$	$\frac{6.9}{29}$	$\frac{6.5}{50}$
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Sta.		✓	-	Elev.
		942.35		
3	+35			936.3
	+54			36.4
4				36.7
	+18			
	+50			37.1
5				37.4
	+50			38.5
6				39.2
T.P.	3.55	946.26 ✓	2.64	939.71 ✓
	+50			39.7
	+90			40.2
7				40.2

Lt

R

Rt

$\frac{64}{100}$	$\frac{61}{50}$	$\frac{60}{27}$	$\frac{62}{10}$	$\frac{61}{}$	$\frac{68}{17}$	$\frac{64}{34}$	$\frac{63}{50}$
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$\frac{49}{100}$	$\frac{49}{50}$	$\frac{63}{39}$	$\frac{69}{37}$	$\frac{71}{30}$	$\frac{65}{22}$	$\frac{64}{4}$	$\frac{60}{}$	$\frac{62}{9}$	$\frac{63}{23}$	$\frac{70}{27}$	$\frac{68}{31}$	$\frac{59}{34}$	$\frac{60}{50}$
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$\frac{46}{70}$	$\frac{58}{50}$	$\frac{67}{40}$	$\frac{81}{32}$	$\frac{74}{18}$	$\frac{61}{4}$	$\frac{57}{}$	$\frac{60}{8}$	$\frac{63}{13}$	$\frac{73}{18}$	$\frac{75}{33}$	$\frac{68}{36}$	$\frac{67}{50}$
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34.10

34.42

A. Culv.

8.25
Flow Line7.93
Flow Line

$\frac{80}{100}$	$\frac{82}{50}$	$\frac{81}{33}$	$\frac{78}{19}$	$\frac{61}{13}$	$\frac{58}{11}$	$\frac{53}{}$	$\frac{53}{8}$	$\frac{56}{12}$	$\frac{70}{16}$	$\frac{73}{33}$	$\frac{63}{36}$	$\frac{61}{50}$
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$\frac{92}{100}$	$\frac{76}{50}$	$\frac{76}{35}$	$\frac{82}{32}$	$\frac{78}{24}$	$\frac{53}{13}$	$\frac{48}{}$	$\frac{48}{7}$	$\frac{59}{19}$	$\frac{54}{23}$	$\frac{48}{50}$
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$\frac{89}{100}$	$\frac{86}{100}$	$\frac{72}{50}$	$\frac{69}{32}$	$\frac{67}{25}$	$\frac{48}{16}$	$\frac{43}{18}$	$\frac{39}{}$	$\frac{40}{6}$	$\frac{48}{19}$	$\frac{49}{24}$	$\frac{37}{34}$	$\frac{32}{50}$
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$\frac{72}{100}$	$\frac{56}{50}$	$\frac{50}{27}$	$\frac{39}{17}$	$\frac{35}{14}$	$\frac{32}{}$	$\frac{33}{6}$	$\frac{35}{9}$	$\frac{41}{19}$	$\frac{46}{29}$	$\frac{29}{50}$
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$\frac{87}{100}$	$\frac{74}{50}$	$\frac{74}{31}$	$\frac{62}{17}$	$\frac{59}{15}$	$\frac{56}{6}$	$\frac{56}{}$	$\frac{56}{6}$	$\frac{57}{16}$	$\frac{59}{27}$	$\frac{60}{33}$	$\frac{58}{50}$
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$\frac{80}{100}$	$\frac{75}{50}$	$\frac{64}{26}$	$\frac{55}{14}$	$\frac{51}{}$	$\frac{52}{29}$	$\frac{47}{50}$
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$\frac{70}{100}$	$\frac{66}{50}$	$\frac{58}{25}$	$\frac{63}{23}$	$\frac{55}{15}$	$\frac{51}{}$	$\frac{51}{6}$	$\frac{54}{15}$	$\frac{45}{29}$	$\frac{41}{50}$
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Sta.

+

X

-

Elev.

948.26

7 150

940.5

8

40.3

+50

(start plot)

39.9

9

39.3

+50

38.6

10 +05

37.7

B.M.

4.12

941.95

7.53

937.73

937.73

+27

37.4

+34

37.3

+25

5.85

+55

7.46

+49

37.1

Lt.

Lt.

Lt.

$$\frac{54}{100} \frac{46}{50} \frac{46}{25} \frac{57}{18} \frac{57}{15} \frac{49}{7} \frac{48}{4} \frac{49}{2} \frac{51}{9} \frac{57}{12} \frac{36}{17} \frac{28}{36} \frac{26}{50}$$

$$\frac{62}{100} \frac{45}{80} \frac{39}{50} \frac{39}{25} \frac{55}{11} \frac{53}{14} \frac{49}{5} \frac{50}{4} \frac{51}{6} \frac{57}{12} \frac{31}{17} \frac{34}{38} \frac{25}{50}$$

$$\frac{40}{20} \frac{38}{35} \frac{41}{25} \frac{59}{18} \frac{37}{14} \frac{54}{5} \frac{54}{4} \frac{55}{6} \frac{61}{12} \frac{40}{16} \frac{39}{22} \frac{27}{28} \frac{27}{50}$$

$$\frac{52}{100} \frac{40}{40} \frac{44}{27} \frac{64}{18} \frac{63}{13} \frac{60}{5} \frac{60}{4} \frac{61}{6} \frac{67}{13} \frac{47}{20} \frac{32}{27} \frac{41}{50}$$

$$\frac{40}{25} \frac{46}{28} \frac{74}{18} \frac{70}{13} \frac{67}{4} \frac{69}{6} \frac{75}{12} \frac{50}{25} \frac{60}{50}$$

$$\frac{69}{100} \frac{68}{75} \frac{57}{29} \frac{84}{22} \frac{78}{12} \frac{76}{4} \frac{77}{7} \frac{81}{10} \frac{90}{13} \frac{86}{16} \frac{88}{50}$$

$$\frac{50}{100} \frac{51}{50} \frac{56}{21} \frac{47}{11} \frac{45}{4} \frac{46}{7} \frac{49}{10} \frac{63}{12} \frac{60}{15} \frac{67}{35} \frac{71}{50}$$

$$\frac{40}{100} \frac{46}{50} \frac{47}{11} \frac{46}{4} \frac{47}{8} \frac{49}{10} \frac{74}{26} \frac{82}{50}$$

So. End Culv. Lt. 36.0

No End Culv. Lt. 34.39

$$\frac{42}{100} \frac{50}{50} \frac{51}{12} \frac{48}{4} \frac{47}{7} \frac{51}{10} \frac{68}{14} \frac{82}{22} \frac{92}{50}$$

Sta	+	π	-	Elev
		741.85 ✓		
10	+55			937.0
11				364
	+50			356
12				350
	+50			344
I.P.	3.92	737.62 ✓	8.15	93370
13				337
	+50			330
				33.4
	+83			32.4
	+92			32.5
14	+08			32.3
	+16		7.92	32.8
	+25			32.3
	+50			32.8

Lt

R

Rt

$$\frac{5.1}{100} \frac{6.4}{50} \frac{6.5}{27} \frac{7.5}{83} \frac{5.1}{12} \frac{4.9}{12} \quad \frac{5.0}{7} \frac{5.2}{10} \frac{7.0}{13} \frac{8.7}{23} \frac{9.4}{50}$$

$$\frac{6.1}{100} \frac{6.3}{50} \frac{8.0}{30} \frac{9.3}{28} \frac{9.3}{29} \frac{6.1}{14} \frac{5.7}{12} \frac{5.5}{8} \frac{5.7}{10} \frac{6.0}{15} \frac{8.1}{28} \frac{10.7}{50} \frac{11.4}{50}$$

$$\frac{2.8}{100} \frac{3.4}{75} \frac{5.5}{50} \frac{7.7}{30} \frac{9.4}{26} \frac{9.5}{22} \frac{6.6}{19} \frac{6.3}{12} \frac{6.3}{8} \frac{6.6}{10} \frac{7.0}{16} \frac{9.7}{22} \frac{10.7}{34} \frac{11.4}{50} \frac{12.0}{50} \frac{10.6}{\text{water}}$$

$$\frac{4.2}{100} \frac{3.7}{80} \frac{6.7}{50} \frac{8.9}{30} \frac{10.0}{28} \frac{10.4}{25} \frac{9.8}{20} \frac{7.3}{13} \frac{7.0}{11} \frac{6.9}{9} \frac{7.3}{11} \frac{7.5}{15} \frac{7.7}{23} \frac{11.2}{28} \frac{11.6}{50} \frac{12.1}{50}$$

$$\frac{5.5}{100} \frac{6.0}{50} \frac{8.6}{32} \frac{10.1}{28} \frac{10.3}{26} \frac{10.0}{22} \frac{8.1}{16} \frac{7.7}{12} \frac{7.5}{8} \frac{7.7}{11} \frac{7.9}{16} \frac{9.6}{23} \frac{10.5}{50} \frac{10.7}{50}$$

$$\frac{1.1}{100} \frac{2.0}{50} \frac{3.8}{37} \frac{4.6}{16} \frac{4.1}{11} \frac{3.9}{8} \frac{4.0}{10} \frac{4.3}{16} \frac{5.8}{29} \frac{6.4}{50}$$

$$\frac{1.8}{100} \frac{4.1}{50} \frac{6.3}{30} \frac{6.9}{28} \frac{6.9}{25} \frac{4.8}{20} \frac{4.8}{11} \frac{4.6}{8} \frac{4.9}{11} \frac{5.2}{16} \frac{6.5}{32} \frac{7.4}{50} \frac{7.1}{50}$$

Culv

$$\frac{6.0}{100} \frac{7.7}{26} \frac{7.0}{29} \frac{5.3}{11} \frac{5.0}{8} \frac{5.4}{11} \frac{5.6}{15} \frac{6.9}{24} \frac{7.9}{38} \frac{10.9}{50} \frac{10.9}{50}$$

$$\frac{5.6}{100} \frac{5.7}{20} \frac{5.9}{21} \frac{5.2}{10} \frac{5.1}{9} \frac{5.4}{11} \frac{5.7}{16} \frac{7.4}{27} \frac{8.3}{50} \frac{8.3}{50}$$

$$\frac{5.1}{100} \frac{6.2}{38} \frac{3.4}{11} \frac{3.3}{10} \frac{5.6}{10} \frac{5.8}{12} \frac{7.1}{15} \frac{7.9}{23} \frac{8.9}{33} \frac{7.3}{50}$$

Flow Line No End Culv 29.70

$$\frac{6.0}{100} \frac{7.0}{50} \frac{7.1}{28} \frac{7.5}{25} \frac{7.2}{24} \frac{6.1}{17} \frac{5.8}{11} \frac{5.3}{8} \frac{5.6}{10} \frac{5.8}{15} \frac{6.9}{24} \frac{8.2}{31} \frac{8.0}{33} \frac{7.5}{50} \frac{6.6}{5.0}$$

Sta.	+	-	Elev.
		932.62	
+43			932.5
15			32.9
+50			32.7 32.9
+66	Parallel to Tracks		
	↓		32.9
+80			
+88		4.74	932.88
+88		4.71	32.91
+98.3		4.51	33.11
16	+03.5	4.52	33.10
+06	Parallel to Tracks		33.0 33.2
* +25			32.4
+30			31.7 32.1
17			31.3 31.5
T.P.	4.02	935.32 ✓	4.32 ✓ 931.30

$$\begin{array}{r} 44 \\ 29.12 \\ \hline \end{array}$$

K

Rt. d

$$\begin{array}{r} 28 \\ 2 \\ \hline \end{array}$$

$$\begin{array}{r} 8.50 \\ \hline \text{Culv} \end{array}$$

$$\begin{array}{r} 8.90 \\ \hline \text{Culv} \end{array}$$

$\frac{13}{100}$	$\frac{78}{50}$	$\frac{77.85}{28}$	$\frac{83}{26}$	$\frac{58}{23}$	$\frac{54}{74}$	$\frac{54}{9}$	$\frac{51}{9}$	$\frac{5.2}{11}$	$\frac{54}{15}$	$\frac{68}{23}$	$\frac{79}{29}$	$\frac{83}{33}$	$\frac{6.5}{30}$	$\frac{6.2}{50}$
------------------	-----------------	--------------------	-----------------	-----------------	-----------------	----------------	----------------	------------------	-----------------	-----------------	-----------------	-----------------	------------------	------------------

926.79

$\frac{1083}{90}$	$\frac{90}{50}$	$\frac{87}{27}$	$\frac{88}{19}$	$\frac{78}{16}$	$\frac{60}{7}$	$\frac{51}{7}$	$\frac{49}{9}$	$\frac{47}{16}$	$\frac{56}{22}$	$\frac{77}{31}$	$\frac{82}{33}$	$\frac{79}{33}$	$\frac{6.7}{50}$
-------------------	-----------------	-----------------	-----------------	-----------------	----------------	----------------	----------------	-----------------	-----------------	-----------------	-----------------	-----------------	------------------

S. End R.R. Culv.

$\frac{53}{100}$	$\frac{53}{50}$	$\frac{58}{10}$	$\frac{48}{6}$	$\frac{47}{9}$	$\frac{47}{9}$	$\frac{5.2}{12}$	$\frac{5.7}{50}$
------------------	-----------------	-----------------	----------------	----------------	----------------	------------------	------------------

Top Rail

Top Rail

Top Rail

Top Rail	$\frac{34.2}{300}$	33.76	$\frac{33.33}{100}$	$\frac{32.85}{100}$	$\frac{32.63}{200}$	$\frac{32.43}{300}$
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926.30

N. End R.R. Culv.	$\frac{11.3}{100}$	$\frac{49}{100}$	$\frac{51}{50}$	$\frac{49}{9}$	$\frac{45}{6}$	$\frac{46}{9}$	$\frac{4.7}{11}$	$\frac{5.0}{50}$	$\frac{5.2}{50}$
-------------------	--------------------	------------------	-----------------	----------------	----------------	----------------	------------------	------------------	------------------

$\frac{93}{100}$	$\frac{92.7039}{50}$	$\frac{5.2}{19.15}$	$\frac{5.2}{8}$	$\frac{5.2}{10}$	$\frac{5.5}{14}$	$\frac{7.7}{21}$	$\frac{7.6}{50}$
------------------	----------------------	---------------------	-----------------	------------------	------------------	------------------	------------------

$\frac{89}{100}$	$\frac{89}{50}$	$\frac{85}{20}$	$\frac{6.8}{11}$	$\frac{59.59}{6}$	$\frac{6.1}{12}$	$\frac{6.2}{14}$	$\frac{7.6}{22}$	$\frac{7.0}{50}$
------------------	-----------------	-----------------	------------------	-------------------	------------------	------------------	------------------	------------------

$\frac{76}{100}$	$\frac{88}{50}$	$\frac{88}{27}$	$\frac{96}{26}$	$\frac{85}{74}$	$\frac{64}{9}$	$\frac{64}{6}$	$\frac{63}{16}$	$\frac{6.6}{15}$	$\frac{6.9}{26}$	$\frac{8.1}{50}$	$\frac{7.6}{50}$
------------------	-----------------	-----------------	-----------------	-----------------	----------------	----------------	-----------------	------------------	------------------	------------------	------------------

Sta	+	X	-	Elev.
		935.32		
17	+50			931.0 31.2
	+57			30.9 30.7
	+73			30.7
	+84			30.6
18				30.5 30.7
	+50			30.1 30.35
19				29.7 30.0
	+50			29.2 ✓
T.P.	2.52	931.23 ✓	6.61	928.71
20				28.4
	+50			27.5
21				26.4

$$\frac{6.9}{100} \frac{72}{50} \frac{58}{28} \frac{45}{7} \frac{43}{7} \frac{43}{12} \frac{53}{19} \frac{3.1}{50}$$

29.6²

$$\frac{6.3}{100} \frac{5.9}{50} \frac{5.4}{26} \frac{5.7}{60V_1} \frac{46}{7} \frac{44}{7} \frac{46}{12} \frac{5.6}{19} \frac{5.4}{32} \frac{3.6}{39} \frac{3.2}{50}$$

$$\frac{6.3}{100} \frac{6.0}{34} \frac{46}{7} \frac{48}{12} \frac{5.4}{16} \frac{5.6}{28} \frac{4.1}{33} \frac{3.1}{50}$$

6.9¹⁰
6.9²⁵
7.1

26.9

$$\frac{7.3}{100} \frac{7.6}{50} \frac{8.4}{60V_1} \frac{7.5}{25} \frac{5.8}{19} \frac{5.0}{8} \frac{4.7}{12} \frac{4.8}{31} \frac{5.2}{34} \frac{3.9}{34} \frac{3.3}{50}$$

$$\frac{7.8}{100} \frac{7.9}{50} \frac{6.9}{30} \frac{8.1}{27} \frac{8.1}{25} \frac{5.2}{11} \frac{5.1}{8} \frac{4.8}{8} \frac{5.1}{11} \frac{5.4}{29} \frac{4.3}{32} \frac{3.2}{50}$$

$$\frac{10.3}{110} \frac{7.8}{50} \frac{6.9}{30} \frac{8.4}{28} \frac{6.8}{29} \frac{6.2}{17} \frac{5.6}{10} \frac{5.4}{8} \frac{5.2}{11} \frac{5.5}{31} \frac{5.2}{33} \frac{4.7}{33} \frac{4.1}{50}$$

$$\frac{8.8}{100} \frac{8.6}{50} \frac{7.8}{29} \frac{8.7}{27} \frac{6.9}{21} \frac{6.0}{14} \frac{5.7}{12} \frac{5.6}{12} \frac{5.9}{11} \frac{5.9}{26} \frac{4.9}{34} \frac{4.1}{50}$$

$$\frac{8.3}{100} \frac{6.8}{75} \frac{6.8}{50} \frac{6.6}{29} \frac{7.1}{24} \frac{6.3}{9} \frac{6.1}{10} \frac{6.4}{29} \frac{6.2}{29} \frac{5.2}{33} \frac{4.9}{50}$$

$$\frac{4.5}{100} \frac{3.1}{30} \frac{3.3}{31} \frac{3.9}{25} \frac{3.1}{16} \frac{3.1}{10} \frac{3.8}{10} \frac{3.2}{10} \frac{2.9}{13} \frac{2.3}{34} \frac{2.3}{50}$$

$$\frac{4.5}{100} \frac{4.5}{70} \frac{4.0}{37} \frac{4.4}{24} \frac{3.8}{18} \frac{4.0}{11} \frac{3.7}{10} \frac{4.1}{10} \frac{4.2}{11} \frac{3.6}{34} \frac{3.3}{50}$$

$$\frac{5.8}{100} \frac{4.7}{60} \frac{4.6}{34} \frac{5.3}{26} \frac{5.0}{11} \frac{4.8}{11} \frac{5.1}{11} \frac{4.8}{13} \frac{5.1}{27} \frac{4.4}{31} \frac{4.0}{50}$$

Sta.	+	π ✓	-	Elev
		931.23		
21	+50			925.1
22				23.8
	+50			22.8 ✓
T.P.	5.01	927.03 ✓	9.21	912.02
23				22.0
	+50			21.7
	+74			21.8
	+80			21.8
+85	Back Tang. Produced			21.8
+96	Back Tang. Produced			22.0
24	+22.2			22.4
B.M.		3.45	921.58	921.58

Lt

R.

Rt.

53	55	56	66	63	61	63	59	61	48	51
70	50	29	24	11	—	8	14	25	33	30

104	54	83	82	77	76	74	78	73	75	54	54
100	50	23	20	17	12	—	8	12	22	33	30

55	124	107	88	88	—	84	85	90	76	66
100	50	21	15	12	—	8	8	28	33	30

87	78	56	53	50	51	56	64	66	58
50	20	15	12	—	6	22	27	39	30

67	54	73	77	59	55	53	54	56	85	79
50	38	33	25	16	13	—	5	8	32	30

117	126	54	59	138	52	55	59	81	84
50	41	12	16	34	—	7	12	32	30

80	141	144	547	52	—	545	139	156
50	36	20	20	—	—	10	10	30

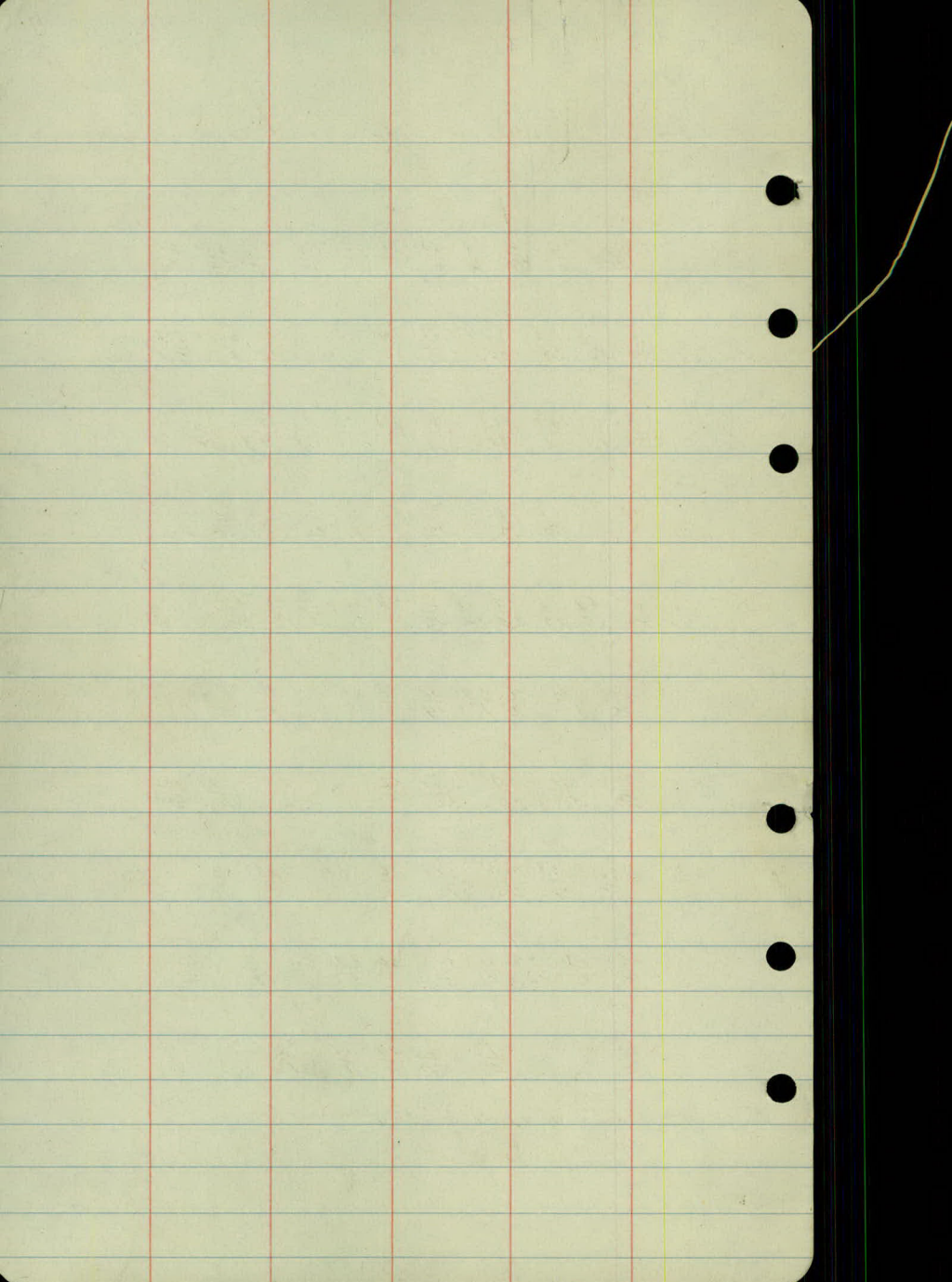
66	133	144	674	52	—	545	139	157
50	29	20	10	—	—	10	10	30

Culm

53	53	735	58	51	50	52	54	63	72
50	36	26	21	15	—	5	9	13	30

42	40	49	47	53	62
50	30	11	31	30	—

Top S.E. Cor. E. Headwood Mar. Culm Rt 23184



Portland Ave

B.M. 1370 935.28 921.58

0+00 5.0 30.30

10 5.2 30.1

15 5.5 29.8

24 6.4 28.9

75 8.7 26.6

100 9.7 25.6

110 = 0+00 9.9 25.4

135 + 25 9.7 25.6

+40 9.0 26.3

+60 8.5 26.8

+75 9.4 25.9

+77 8.4 26.9

1+00 8.3 27.0

+25 8.3 27.0

+50 8.4 26.9

+75 8.0 27.3

2 7.4 27.9

+25 7.1 28.2

+59 7.3 28.0

+78 8.7 26.6

T.P. 1.73 928.81 8.20 927.08.

3 2.9 25.9

+25 4.0 24.8

+50 5.0 23.8

S.E. Cor. E. Headwall

4 Portland - 85' N. of 4 (5th)

110' from Portland

90 N. 4 (5th)

sta 7 π - Elev.

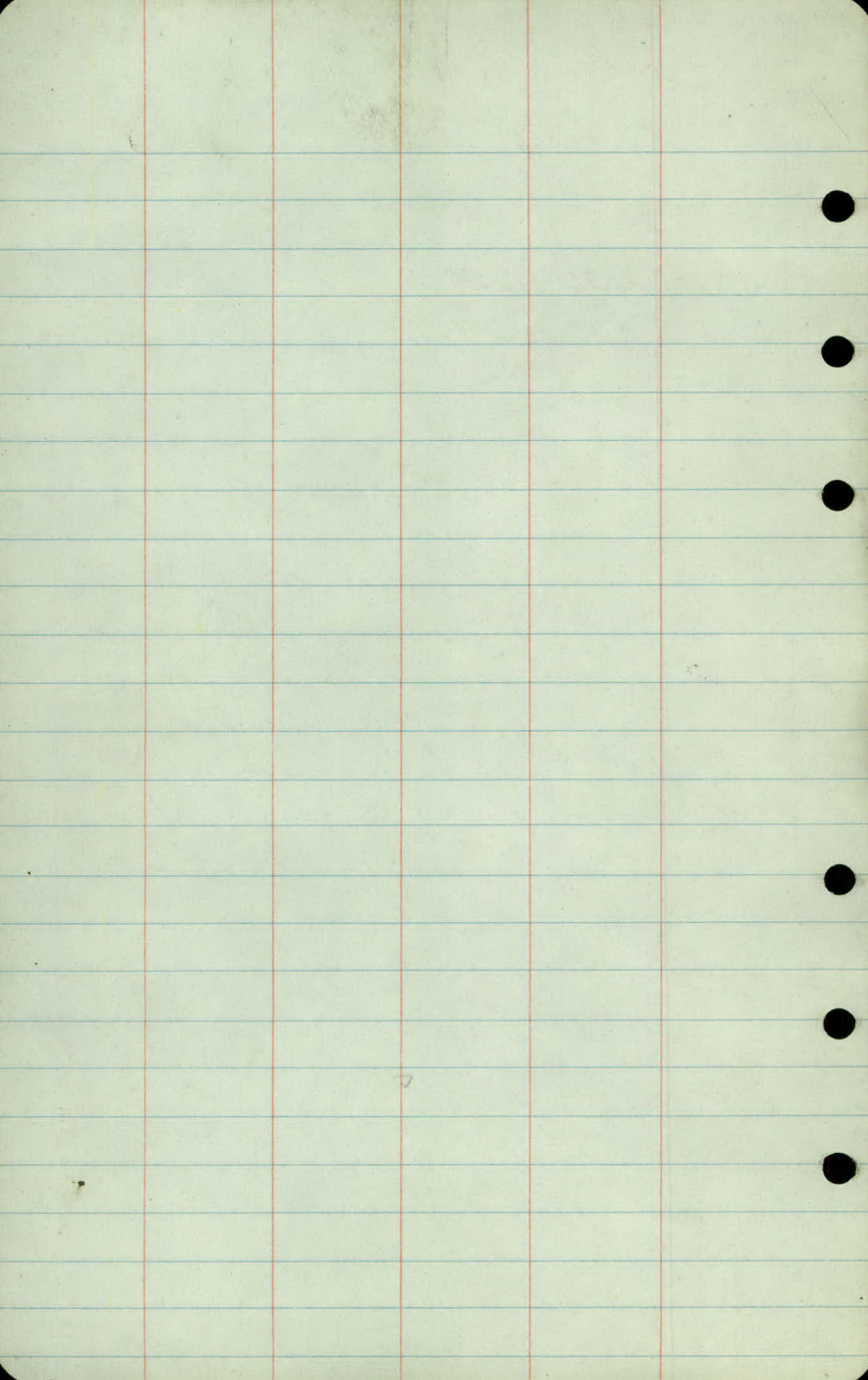
728.81.

3 + 75	5.4	23.4
+ 96	6.32	22.49
4 + 32	^{5.48} 6.92	21.89
+ 50	7.4	21.40
+ 75	8.1	20.7
5	8.9	19.9
+ 25	9.9	18.9
+ 50	11.0	17.8
+ 75	11.0	17.8
6	11.0	17.8
+ 25	11.0	17.8
+ 42	12.3	16.5
+ 45	16.6	12.2

F.L. 10" x 36' C.M.

FL 10" x 36' C.M.

~~L~~ Ditch



PORTLAND AVE. DRAINAGE

Lt. Only

Slope Stakes

Staked - 7-11-41

R. Pease

A. Moeschler

L. Goldberg.

2 Pages

Left Only

Sta.	+	π	-	Elev.	G.R.
B.M.	1229	933.87		921.58	
18+00				25.2	8.7
+50				25.1	8.8
19				25.0	8.9
+50				24.9	9.0
20				24.8	9.1
+50				24.7	9.2
21				24.6	9.3
+50				23.5	10.4
22				22.4	11.5
+50				21.3	12.6

Var.

3'

Var

15'

Profile

2:1

A
Varies

n:1

Lt. Only

E

V
00

Top S.E. Headwall Culv. Rt Sta 23184

3.2 (5.5) 29.0

$$\begin{array}{r} 67-22.0 \\ 26.0 \\ \hline 5.7 \\ SD \quad 3.0 \\ 35 \end{array}$$

3.5 (5.3) 28.6

$$\begin{array}{r} 48 \\ 64.0 \\ \hline 25.6 \\ SD \quad 5.3 \\ 35 \quad 3.5 \\ 35 \end{array}$$

3.9 (5.0) 28.0

$$\begin{array}{r} 59 \\ 63.0 \\ \hline 25.0 \\ SD \quad 6.2 \\ 33 \quad 2.7 \\ 33 \end{array}$$

4.4 (4.6) 27.2

$$\begin{array}{r} 5.0 \\ 64.0 \\ \hline 24.2 \\ SD \quad 4.7 \\ 35 \quad 4.3 \\ 35 \end{array}$$

5.2 (3.9) 25.8

$$\begin{array}{r} 61 \\ 63.0 \\ \hline 22.8 \\ SD \quad 5.7 \\ 32 \quad 4.1 \\ 32 \end{array}$$

6.2 (3.0) 24.0

$$\begin{array}{r} 6.2 \\ 63.0 \\ \hline 21.0 \\ SD \quad 6.6 \\ 29 \quad 6.6 \\ 29 \end{array} \quad \begin{array}{r} 12.6 \\ 29.2 \end{array}$$

7.3 (2.0) 22.0

$$\begin{array}{r} 7.3 \\ 62.0 \\ \hline 19.0 \\ SD \quad 7.7 \\ 25 \quad 1.6 \\ 25 \end{array} \quad \begin{array}{r} 1.6 \\ 25 \end{array}$$

8.6 (1.8) 21.6

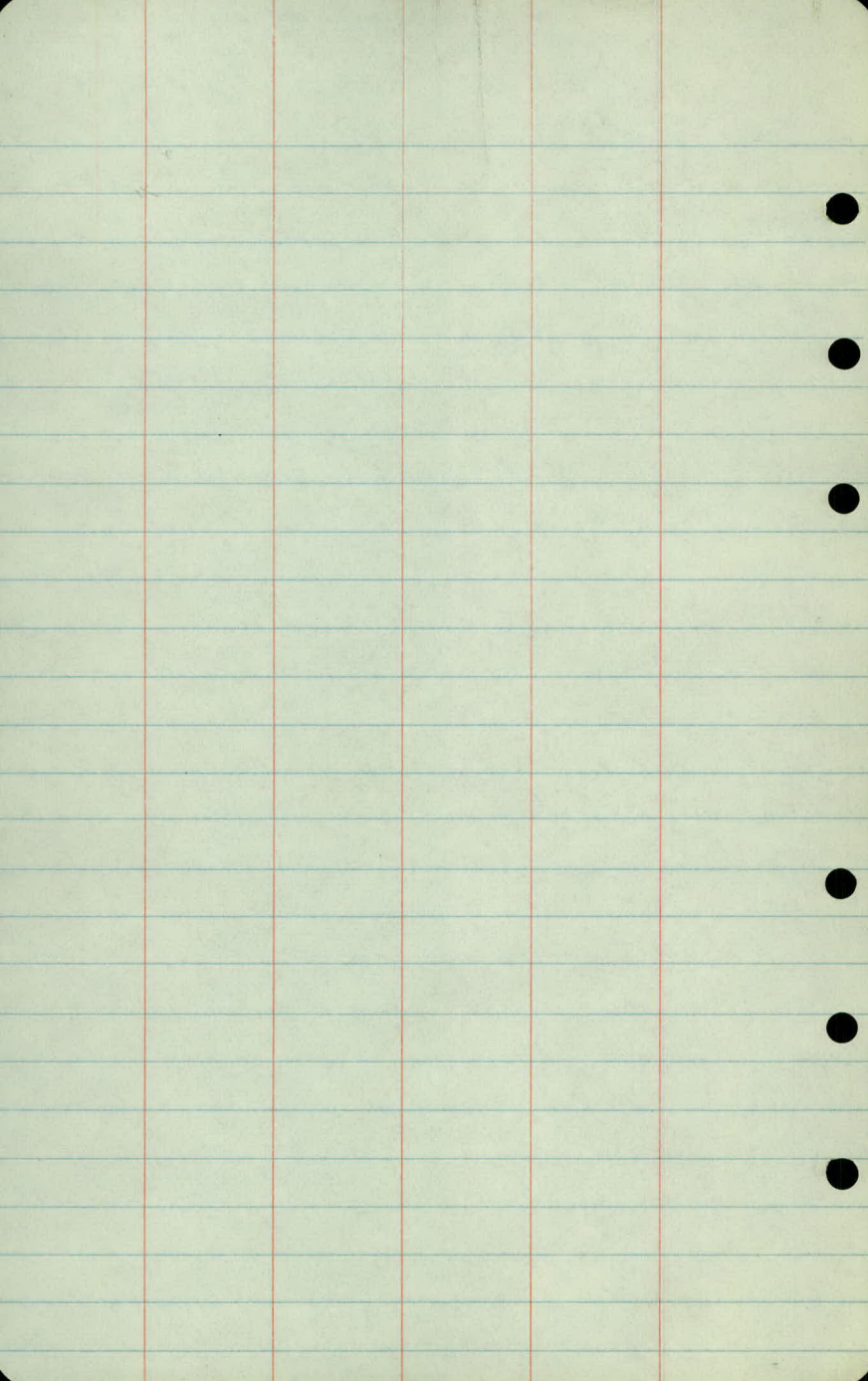
$$\begin{array}{r} 8.4 \\ 62.0 \\ \hline 18.6 \\ SD \quad 9.0 \\ 24 \quad 1.4 \\ 24 \end{array}$$

9.8 (1.7) 21.4

$$\begin{array}{r} 9.5 \\ 62.0 \\ \hline 18.4 \\ SD \quad 10.6 \\ 23 \quad 0.9 \\ 23 \end{array}$$

10.8 (1.8) 21.6

$$\begin{array}{r} 12.6 \\ 18.6 \\ \hline SD \quad 0.0 \\ 21 \quad 0.0 \\ 21 \end{array}$$



Cole Stakes
Portland Ave.

Sta	+	X	-	Elev
-----	---	---	---	------

B.M.	12.37	933.95		(921.58)
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19	+50			24.9
----	-----	--	--	------

	+75			24.85
--	-----	--	--	-------

20				24.80
----	--	--	--	-------

	+25			24.75
--	-----	--	--	-------

	+50			24.70
--	-----	--	--	-------

9-15-41

Gr. Rod 3' offset

B1 Top.

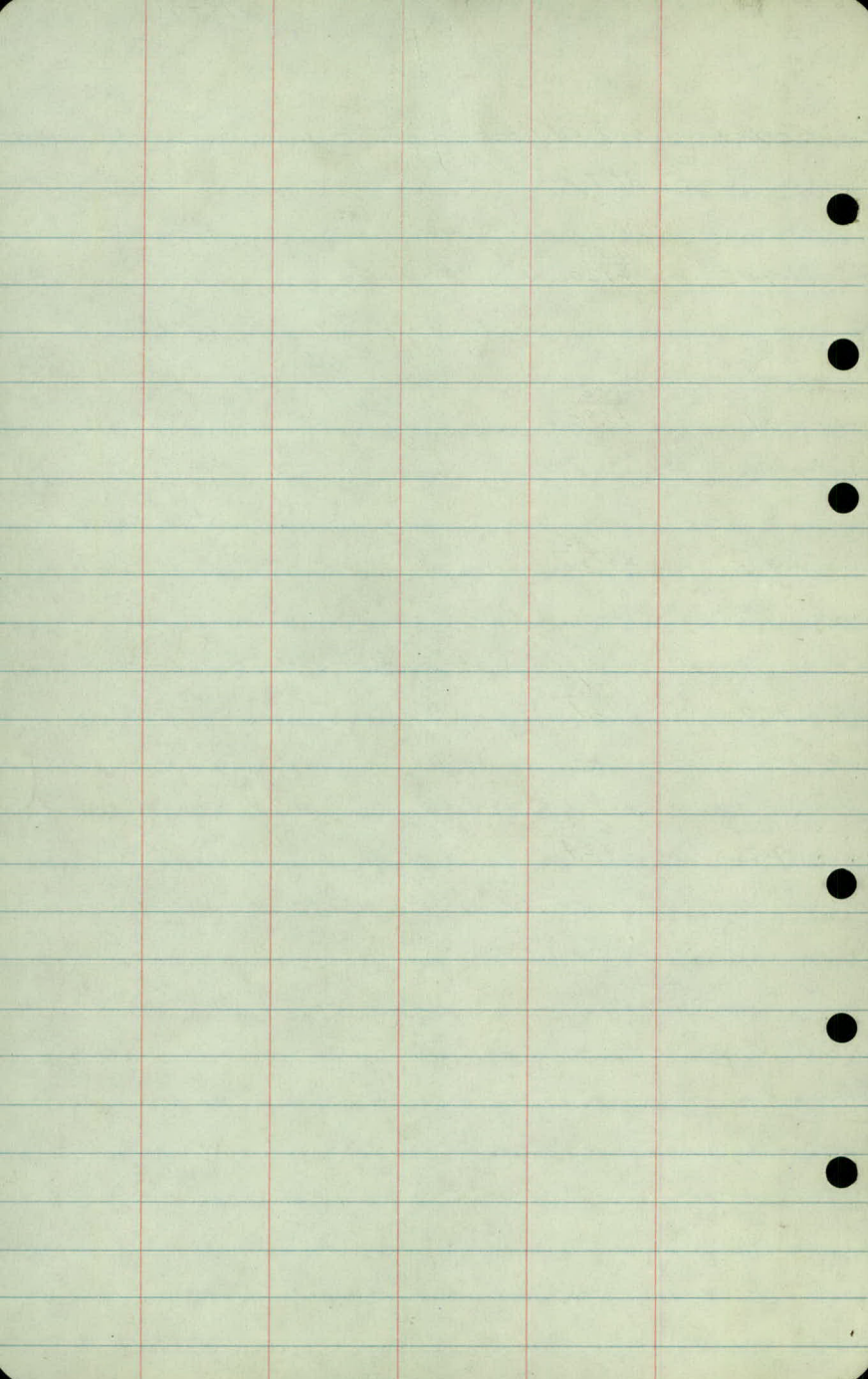
$$\begin{array}{r} 9.05 \\ \underline{4.85} \\ +4.20 \end{array}$$

$$\begin{array}{r} 9.1 \\ \underline{5.2} \\ +3.90 \end{array}$$

$$\begin{array}{r} 9.15 \\ \underline{5.85} \\ +3.30 \end{array}$$

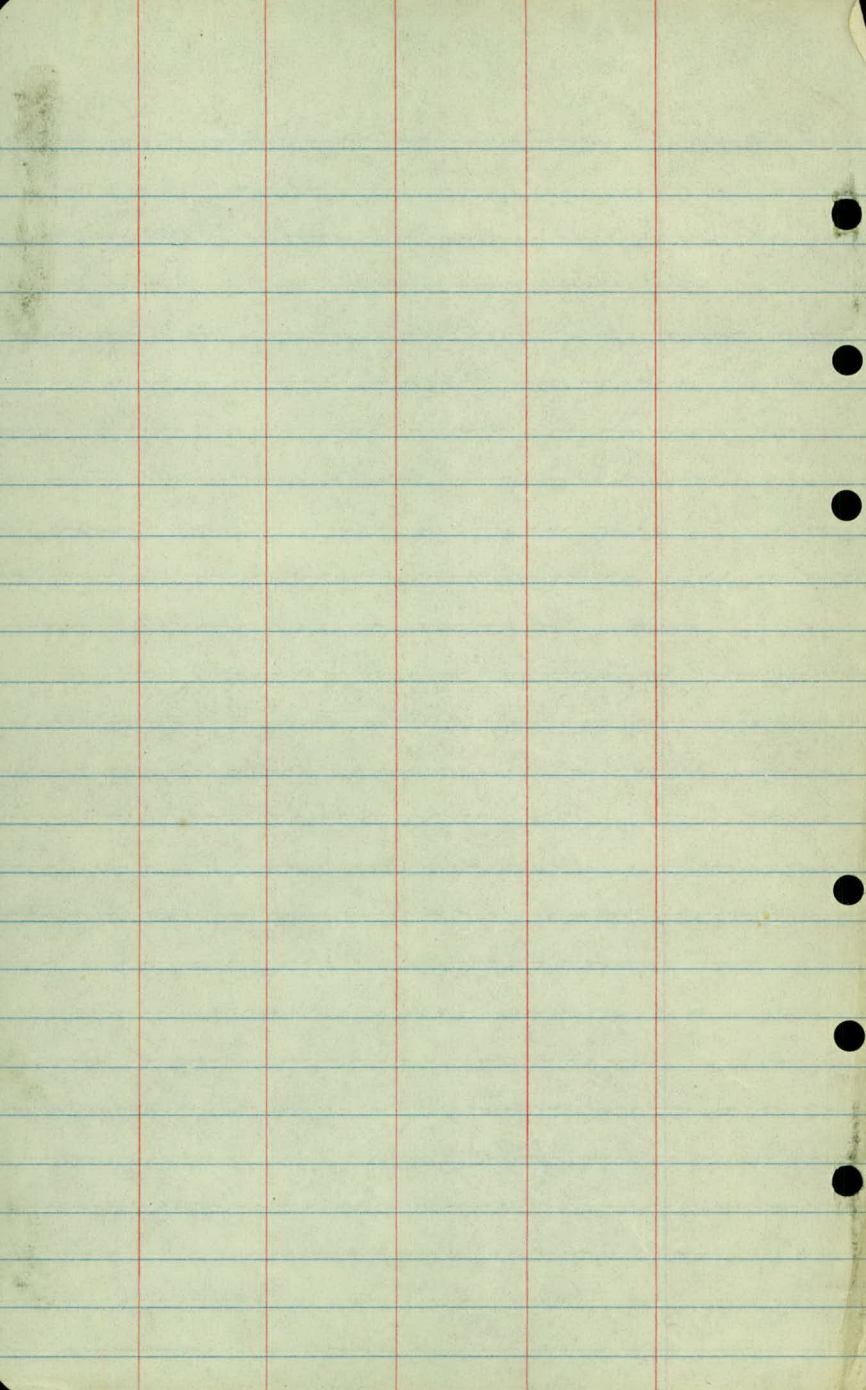
$$\begin{array}{r} 9.20 \\ \underline{6.10} \\ +3.1 \end{array}$$

$$\begin{array}{r} 9.25 \\ \underline{6.85} \\ +2.4 \end{array}$$



11/19/45
 A.W.L.

	+	H.I.	-	ELEV.
WHITE BEAR W.S.-	10.91	935.81		924.90
W. OF N.W. AVE. W.S. SWAMP			11.00	
T.P.	3.53	934.46	4.88	930.93
N. OF RD. W.S. SWAMP			7.83	926.63
E. OF PORTLAND				
S. OF RD. W.S. SWAMP			8.45	926.01
E. OF PORTLAND				
W.S. WHITE BEAR			9.58	924.88



July 9, 1973 - 1

PORTLAND AVE

Railroad X-ing Survey

3 pages

North	Sighting	East	West
400 ✓		52	52
350 ✓		56	55
300 ✓		63	62
275 ✓		66	67
250 ✓		70	74
225 ✓		138	84
200 ✓		172	100
175 ✓		181	116 Trees
150 ✓		197	142
125 ✓		215	218
100 ✓		260	320
75 ✓		400	420
50 ✓		508	600+

FK.
CG
MB

July 9, 1973

South

West

2
East

400

57

30

350

60

30

300

65

34

275

67

37

230

71

38

225

Trees

76

41

200

84

48

175

94

56

150

117

72

125

172

120

100

383

264

75

530

290

50

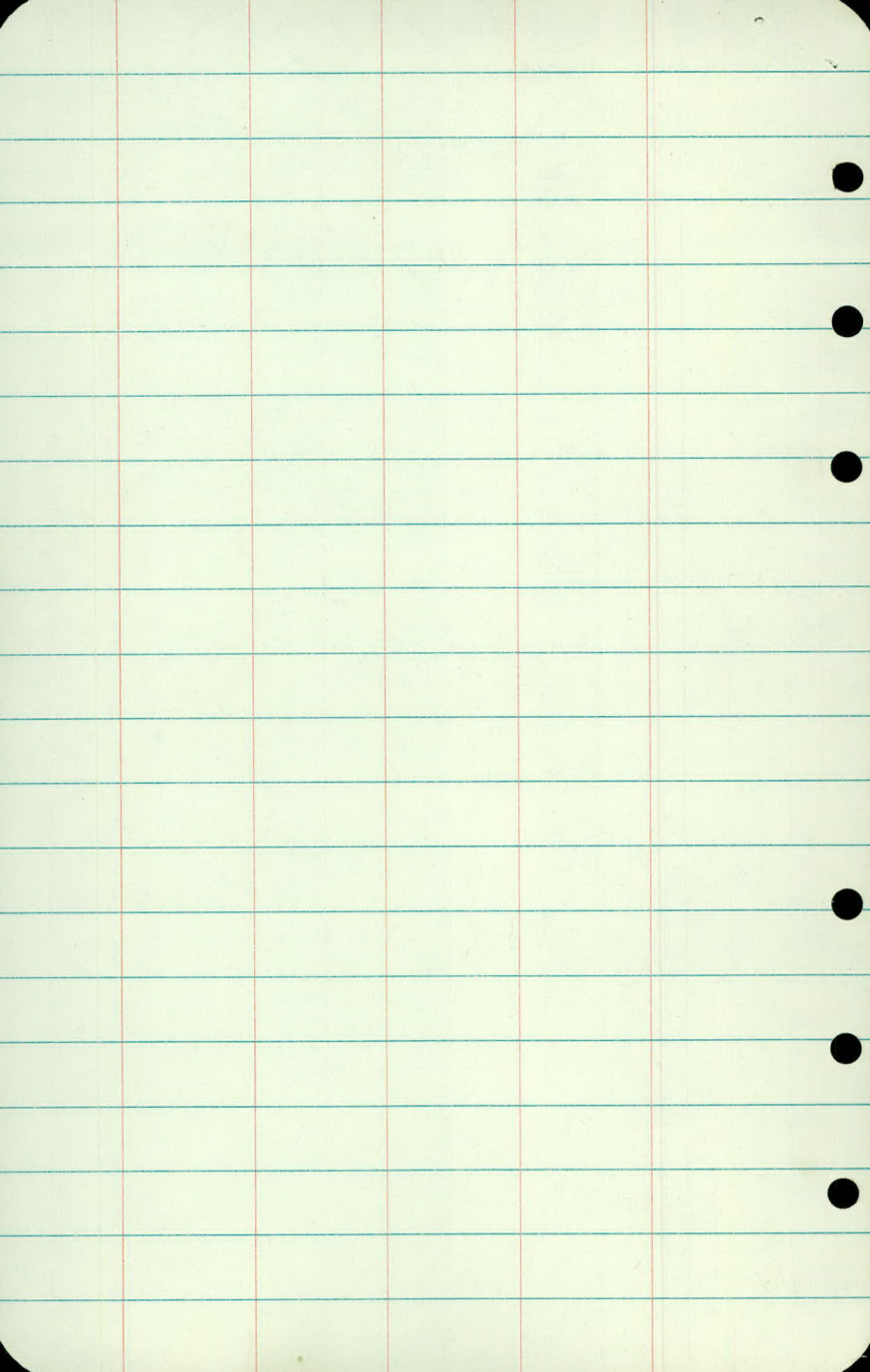
600+

365

25

600

Brush
Grass Embankment



July 9, 1923

3

West

South

Portland

East

North

