

Dr. 8 Bk 132

OFFICE OF COUNTY ENGINEER
RAMSEY CO. MINN.

_____ PLAN _____ Survey

Hamline Ave. Connection

From *STH #51* To *Hamline Ave.*

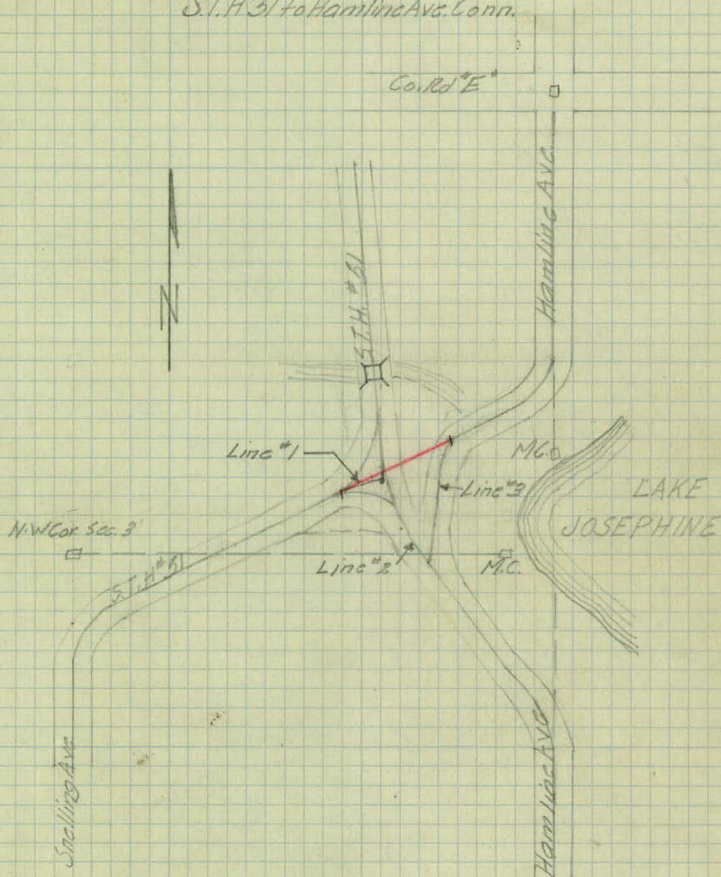
Road Acc't. No. _____

Date Filed _____

File _____

Drainage Survey - 1935
Judith to Co. Rd. 22

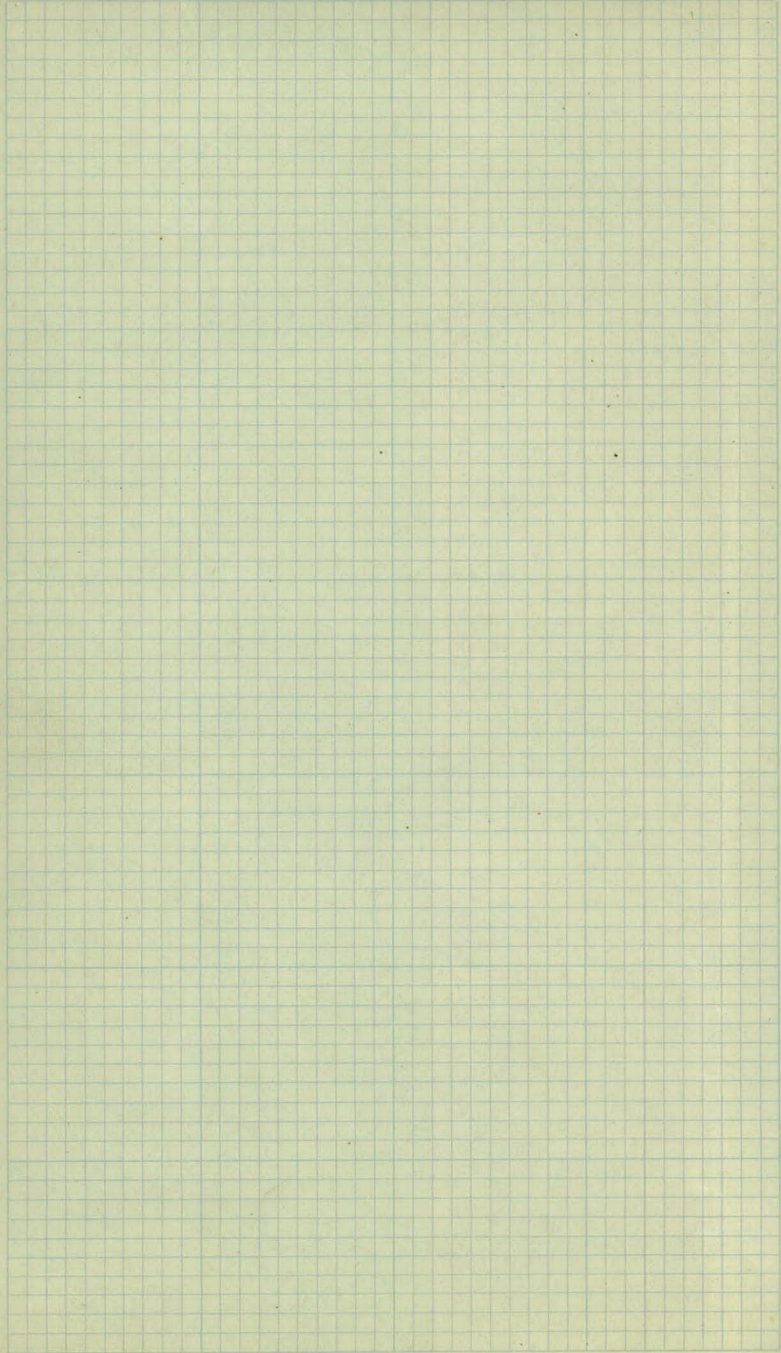
PLAN SURVEY S.T.H. #31 to Hamline Ave. Conn.



INDEX

Line #	Pos.
Line #1	1-9
Line #2	11-17
Line #3	19-28

W. Ctr. Sec. 3



ALIGNMENT

Line #1

S.T.H. # 51 to Hamling Ave.

Sta	Point	ΔL	ΔR
-----	-------	------------	------------

6+29.42	P.T. L1403		3°04' Corr. by K.A. 5/20/41
12+32.31	P.I.		1°57'

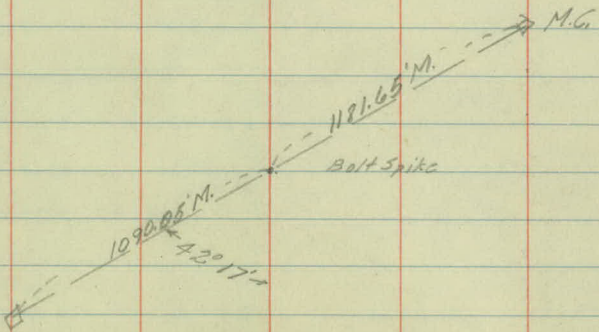
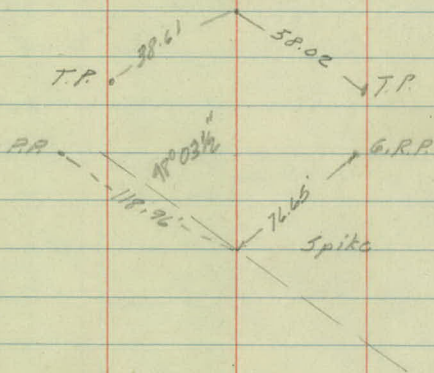
9+69.8	P.O.T. X ³ Line 2 at sta 209+21.51		
--------	---	--	--

3+06.0	P.I.	1°00'	P.L.
--------	------	-------	------

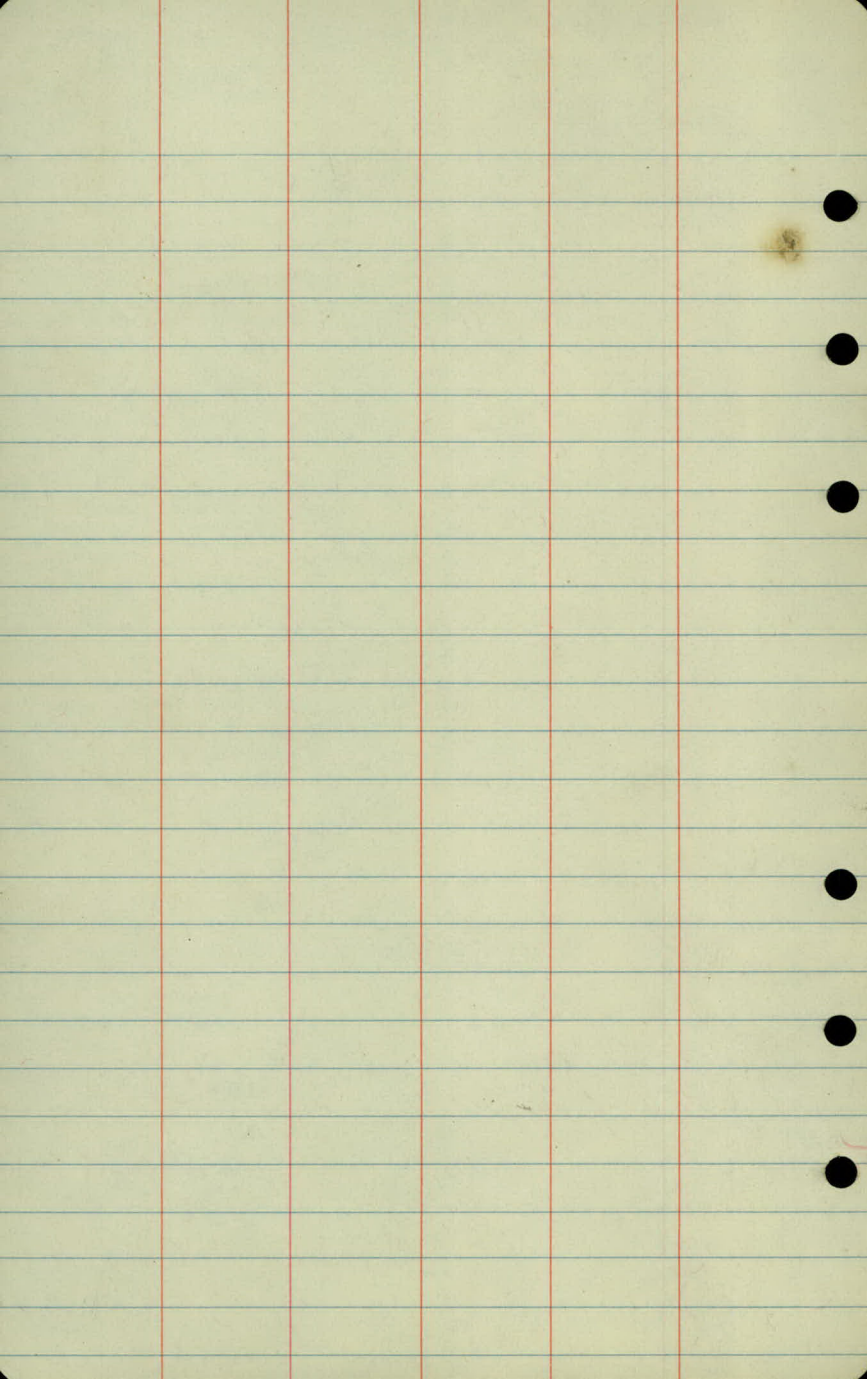
0+00	P.O.T.		
------	--------	--	--

K.A.
L.B.H.
L.G.
M.G.

2



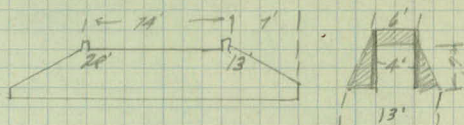
N.W. Cor.
500.3



TOPOGRAPHY
LINE #1

SRH. #31 to Hamling Ave.

+50



5

20'

14'

17'

8'

4

15'

9'

11'

11'

3

11'

11'

10'

13'

2

11'

11'

10'

10'

1

12'

12'

12

13'

0+00

10'

12'

3 Nov. 4

G.R. 32'
+35 1/2 End Coll. to Base 49'

+50 1/2 End Coll. to Base 23.5

Cable G.R. with
Steel Poles



+98 1/2 G.R. 26'

+95 Ext
18" x 26" C.M. 32'

+70 Ext.

Bl Top

Bl Top

+32

9'

12'

12

9'

12'

+50

1'

22'

11

12-36'

+50

41'-65'

10

50'-15'

+85

00'

+54

00'

40'

9

55'

8

95'-67'

70'-100'

24" X 110' Cone Gully

7

60'-36'

21'-47'

+80

6'

50

28'

6

38'

17'

Feb. 26
1899 P.P. 20

 $F_c = 20.5$

+ 104 End 60. Rh 3'
Fc
+ 90 R 90 g T 1 c t o R.
+ 87 P P 7'
+ 84. Fc Col 15'

482 T. P. 30'

G.R. 29'

193 Feb 16 R 04

+29 End 24" Conc Gully 12
+10 End G.R. 67'
G.R 32'-63'

4856.R.7'

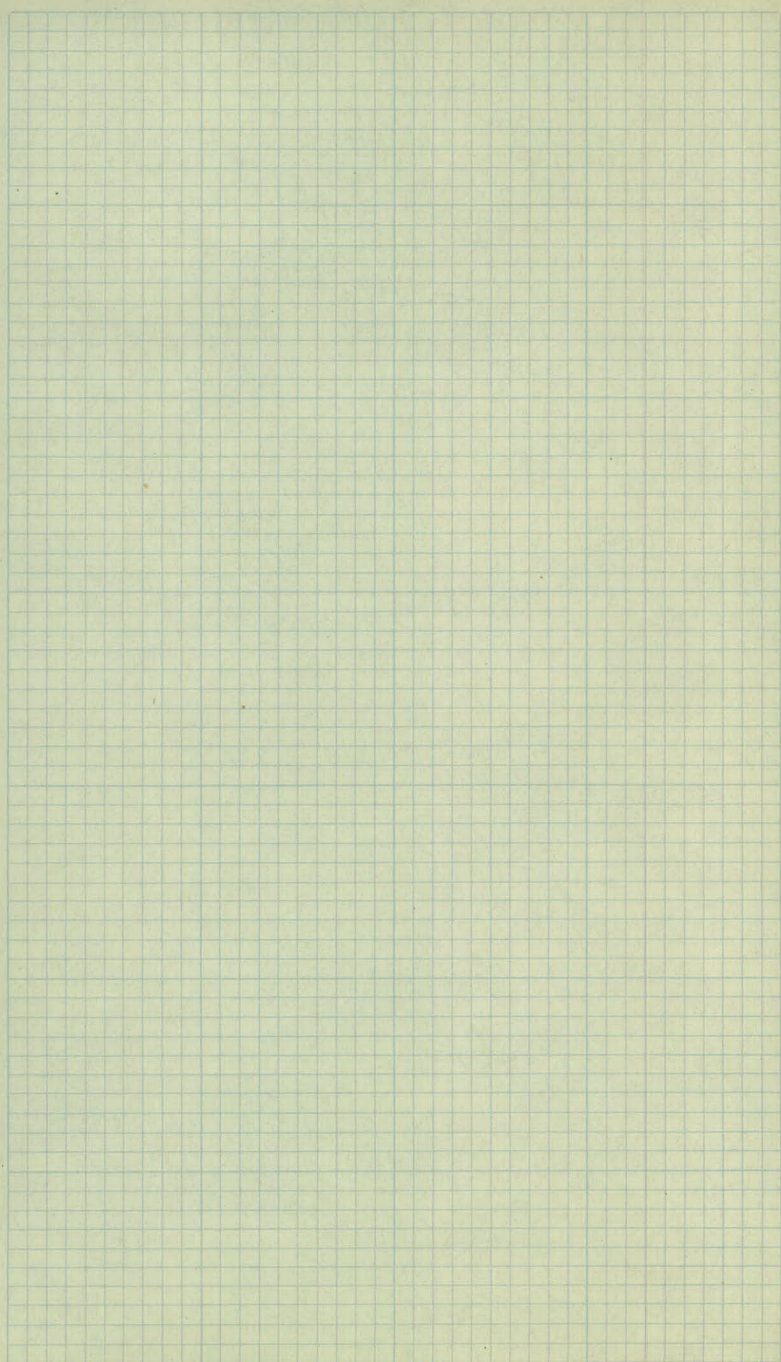
+52 End 29' Conc. Curb 90' /
6 R. 52' V. 0

EWGR 32'

G.R. 15'

G. R. 42'

Cable with
54 col. Paste



Additional Topog.
Line #1

Bl. Top

Bl. Top

17

11'

10'

10'

10'

16

7'

9'

10'

9'

15

10'

9'

11'

8'

14

11'

9'

11'

10'

13

11'

11'

10'

11'

12

+02 P.P. -28'
Fc. 33'

T.P. 21' Fc. 23'

+50 Fc. 33'

+50 Fc. 24'

Fc. 33'

Swamp

Swamp

+94 T.P. -22' Fc. 25'

+77-15' P.P. 29'

+13 P.P. -27'
Fc. 34'

Fc. 33'

+50 Fc. 34'
+98-24' O. 30'

+50 Fc. 33'
+48 T.P. -24'

Fc. 34'

Fc. 34'

+55 P.P. -25'
+50 Fc. 33'

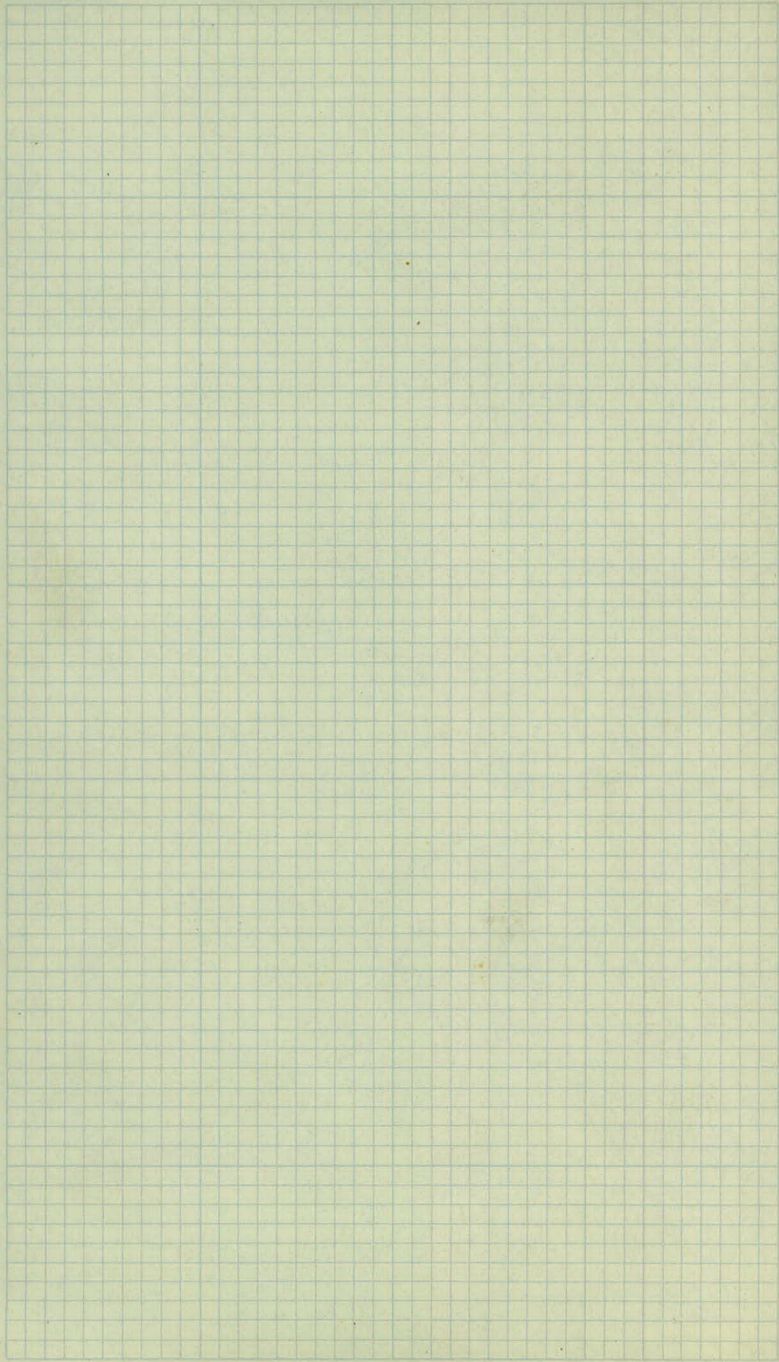
+50 Fc. 37'

Fc. 35'

H.P. T.P. -26' Fc. 43'

+55 End

Scattered Oaks & Stumps



X Sections

Line #1

Sta	+	T	-	Elev
		901.26 ✓		901.17
B.M.	0.09	(911.84)		(911.73)
		904.78 ✓		898.25 ✓
I.P.	6.53	(915.36)	3.01	(908.83)
		904.78 ✓		900.36 ✓
B.M.	4.42	(915.36)	4.42	(910.94)

0+00 01.7

+50 00.9

1 00.2

+50 99.6

2 99.0

+50 98.6

3 98.3

+50 98.0

4 97.4

+50 96.9

T.P. 4.18 900.54 895.76
(911.12) 9.02 (906.34)

Lt

L

Rt

Spt. in P.R. on Hamling Ave #130

Spt. in 12' Willow Rt

50	52	52	36	33	31	35	43	90	94
50	35	22	16	12		12	20	39	50

51	57	58	45	40	39	42	45	95	100
50	38	29	17	12		13	17	41	50

57	58	58	47	46	46	50	54	95	100
50	36	23	19	12		12	17	40	50

55	59	64	53	51	52	54	58	97	100
50	38	21	18	10		10	16	38	50

90	66	68	57	58	58	59	60	98	102
55	38	29	21	11		11	18	33	50

+57	90	76	77	68	65	62	61	64	78	79	97	L0
61	46	29	19	15	10		13	19	27	32	48	

17.0	00	84	85	77	71	65	62	68	72	81	40	40
6.0	48	28	21	16	11		11	19	24	38	48	50

+2.1	05	98	100	78	74	68	65	70	88	87	54	50
58	50	30	23	16	11		11	20	26	39	48	50

37	42	115	113	82	82	74	71	74	91	91	61	58
50	48	55	28	18	13		9	20	25	38	46	50

11.2	12.8	12.5	95	89	77	76	75	90	94	64	71
50	42	34	38	19		8	20	24	32	38	50

Top 3rd Gac Mar. Cult.

Sta

+

900.54

-

Elev

(211.12)

5 +00

96.6

+50

96.5

6

96.1

+50

95.7

+90

95.0

7 +10

89.0

+50

88.2

+60

89.2

8

91.0

Lt

2

Rt

118	118	55	49	39	37	40	74	66	66
50	46	30	20	19	20	33	37	50	

7

81.35

1919

Flow Line So. End C. Pass.

88.23

1231

Flow No. End Cattle Pass.

171	130	67	57	45	40	39	40	110	109	93
60	50	38	28	12	12	19	36	41	50	

90	66	62	46	44	45	48	100	100	87	63
50	45	38	18	16	22	38	46	50	57	

76	69	49	48	53	57	88	92
55	48	22	26	33	45	50	

64	60	53	57	55	52	53	57	62	84
50	44	26	13	14	31	40	47	57	

69	59	120	115	57	52	53	57	63
50	35	15	17	22	34	44	50	

80.44

201

24' Cons. Cuts.

Flow Line No. End Cuts.

84.44

161

Flow Line So. End Cuts.

62	58	153	155	123	94	54	53	54
50	39	17	10	16	27	33	50	

62	102	113	113	109	127	103	82	59	52
50	35	15	7	11	18	27	37	50	

64	89	92	76	82	95	101	115	115	101	96	61	51
60	50	39	28	13	26	30	32	36	40	50	54	

Sta	+	π	-	Elev
		900.54 (911.12)		
8	+50			90.8 ✓
	+70			89.5 ✓
9				87.8 ✓
T.P.	6.21	897.66 ✓ (908.24)	909	891.45 ✓ (902.03)
	+32			89.0
	+45			91.5 ✓
	+97			90.5 ✓
10	+03			89.2 ✓
	+17			91.0 ✓
T.P.	10.22	905.14 ✓ (915.72)	2.24	894.92 ✓ (905.50)
	+50			93.8
	+65			97.6 ✓
11				99.7 ✓

Lt

L

Rt

$$\begin{array}{cccccccccccccccc} 70 & 87 & 86 & 43 & 51 & 64 & 71 & 90 & 97 & 106 & 116 & 116 & 113 & 64 & 50 \\ 84 & 76 & 59 & 50 & 46 & 27 & 21 & 4 & & 6 & 46 & 50 & 58 & 73 & 79 \end{array}$$

$$\begin{array}{cccccccccccc} 72 & 91 & 86 & 57 & 53 & 72 & 84 & 97 & 110 & 116 & 116 & 110 & 52 \\ 90 & 81 & 67 & 56 & 42 & 22 & 23 & 7 & & 10 & 50 & 62 & 54 \end{array}$$

$$\begin{array}{cccccccccccc} 78 & 90 & 87 & 60 & 56 & 101 & 115 & 127 & 123 & 116 & 74 & 73 \\ 97 & 89 & 74 & 71 & 43 & 18 & 8 & & 24 & 32 & 47 & 50 \end{array}$$

$$\begin{array}{cccccccccccc} 49 & 66 & 65 & 31 & 31 & 77 & 87 & 87 & 62 & 57 & 54 & 54 \\ 115 & 107 & 90 & 78 & 49 & 32 & 11 & & 12 & 23 & 43 & 50 \end{array}$$

$$\begin{array}{cccccccccccc} 50 & 68 & 63 & 33 & 34 & 70 & 83 & 83 & 62 & 60 & 59 & 60 \\ 120 & 107 & 93 & 83 & 54 & 43 & 28 & 12 & & 11 & 41 & 50 \end{array}$$

$$\begin{array}{cccccccccccc} 55 & 75 & 71 & 48 & 44 & 83 & 82 & 72 & 70 & 68 & 69 & 72 & 80 & 84 & 79 & 72 & 60 \\ 106 & 104 & 72 & 113 & 100 & 80 & 68 & 60 & 47 & 28 & 8 & & 8 & 15 & 79 & 40 & 50 \end{array}$$

$$\begin{array}{cccccccc} 69 & 48 & 69 & 71 & 85 & 84 & 77 & 62 & 48 \\ 50 & 41 & 24 & 8 & & 6 & 11 & 34 & 50 \end{array}$$

$$\begin{array}{cccccccc} 70 & 71 & 74 & 87 & 68 & 67 & 64 & 53 & 37 & 26 \\ 50 & 33 & 22 & 12 & 5 & & 17 & 31 & 47 & 50 \end{array}$$

$$\begin{array}{cccccccc} 162 & 118 & 117 & 113 & 107 & 87 & 45 & 58 \\ 50 & 34 & 14 & & 14 & 25 & 32 & 50 \end{array}$$

$$\begin{array}{cccccc} 135 & 114 & 88 & 76 & 58 & 58 \\ 50 & 35 & 15 & & 23 & 50 \end{array}$$

$$\begin{array}{cccccc} 108 & 102 & 85 & 54 & 51 & 56 & 55 \\ 50 & 31 & 14 & & 22 & 38 & 50 \end{array}$$

Sta + — Elev

905.14

915.72

11 +50

00.1

12

00.3

12+92.31 - 11

00.0

+78

99.1

13+03

98.4

+53

96.6

14+03

94.6

+53

92.6

T.P.

2.53

904.06 ✓

914.64

3.61

901.53 ✓

912.11

B.M.

2.53

901.21 ✓

914.79

911.75

$$\frac{111}{50} \quad \frac{58}{22} \quad \frac{54}{11} \quad \frac{50}{12} \quad \frac{48}{21} \quad \frac{53}{28} \quad \frac{57}{41} \quad \frac{+20}{41} \quad L.O.$$

$$\frac{81}{50} \quad \frac{49}{33} \quad \frac{40}{27} \quad \frac{54}{22} \quad \frac{54}{16} \quad \frac{50}{7} \quad \frac{48}{12} \quad \frac{51}{17} \quad \frac{56}{24} \quad \frac{58}{33} \quad \frac{+10}{33} \quad \frac{+15}{50}$$

$$\frac{62}{50} \quad \frac{46}{33} \quad \frac{36}{25} \quad \frac{60}{20} \quad \frac{58}{8} \quad \frac{51}{12} \quad \frac{54}{16} \quad \frac{56}{18} \quad \frac{58}{22} \quad \frac{+03}{34} \quad \frac{00}{50}$$

$$\frac{56}{80} \quad \frac{52}{25} \quad \frac{30}{30} \quad \frac{19}{35} \quad \frac{22}{29} \quad \frac{68}{22} \quad \frac{63}{10} \quad \frac{62}{10}$$

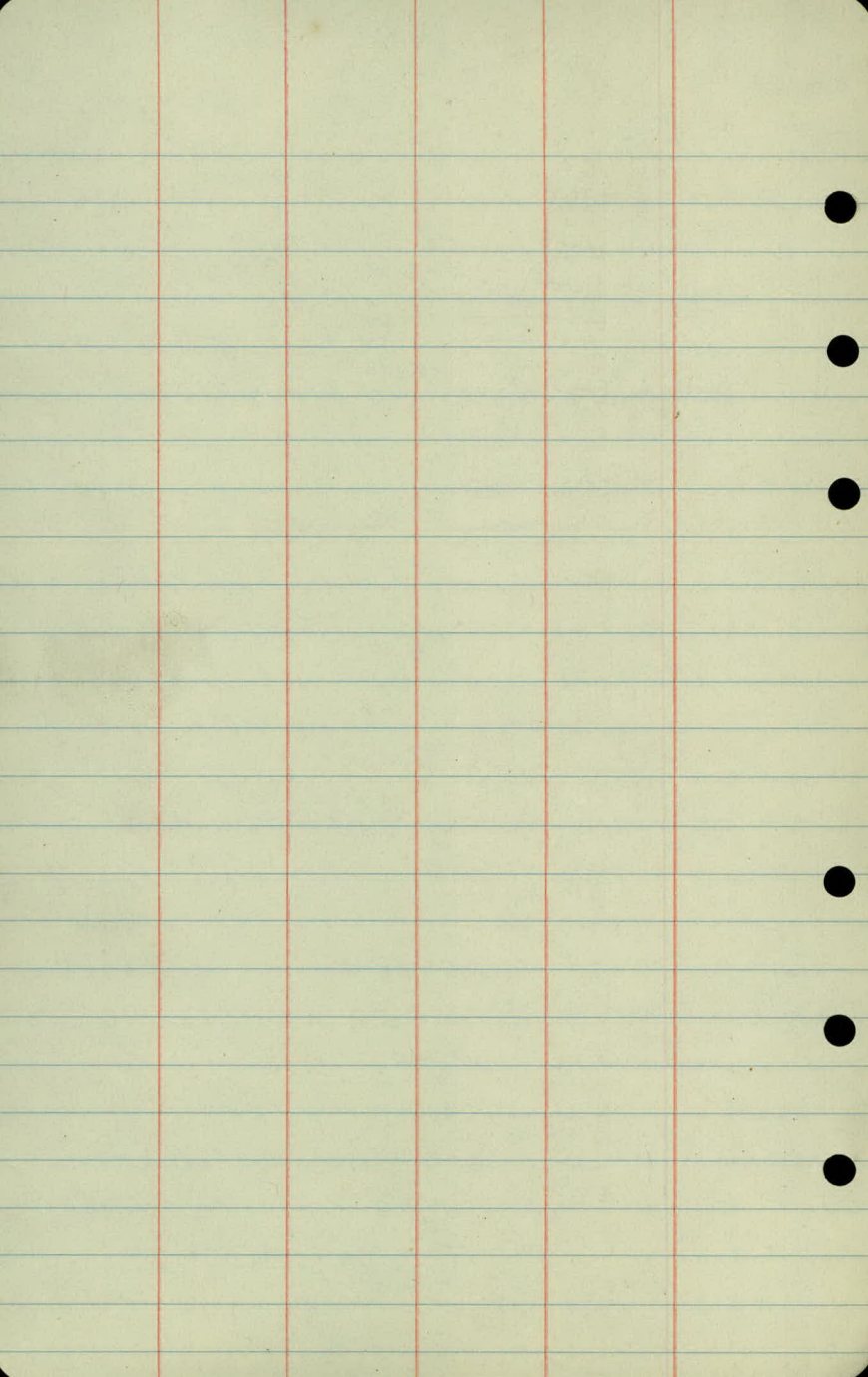
$$\frac{75}{80} \quad \frac{48}{25} \quad \frac{30}{30} \quad \frac{16}{30} \quad \frac{13}{22} \quad \frac{70}{11} \quad \frac{61}{11}$$

$$\frac{103}{80} \quad \frac{67}{25} \quad \frac{47}{30} \quad \frac{34}{32} \quad \frac{79}{24} \quad \frac{89}{11} \quad \frac{85}{11}$$

$$\frac{121}{25} \quad \frac{78}{30} \quad \frac{80}{30} \quad \frac{412}{24} \quad \frac{109}{11} \quad \frac{105}{11}$$

$$\frac{151}{24} \quad \frac{133}{17} \quad \frac{127}{10} \quad \frac{125}{11}$$

Spk in PP #130 on Harding Ave.



X sections

Line #1

Sta	+	π	-	Elev
B.M	3.01	904.18 ✓		901.17 ✓
T.P	6.44	906.46 ✓	4.16	900.02

12 +50 899.7

13 98.5

+50 96.7

14 94.7

+50 92.7

T.P	2.16	894.89 ✓	13.73	892.73 ✓
-----	------	----------	-------	----------

15 90.6

+50 88.3

16 86.4

+50 84.9

17 84.3

LL

R

RL

$\frac{120}{80} \frac{63}{30} \frac{52}{31} \frac{56}{26} \frac{80}{21} \frac{77}{17} \frac{71}{9} \frac{68}{11} \frac{68}{17} \frac{65}{17} \frac{53}{32} \frac{14}{42} \frac{09}{50}$

$\frac{85}{75} \frac{44}{50} \frac{29}{30} \frac{89}{21} \frac{83}{12}$

$\frac{80}{11} \frac{83}{15} \frac{85}{20} \frac{70}{34} \frac{95}{50}$

$\frac{90}{70} \frac{59}{50} \frac{47}{30} \frac{11}{22} \frac{108}{79} \frac{102}{11} \frac{98}{10} \frac{101}{18} \frac{106}{25} \frac{88}{34} \frac{16}{50} \frac{08}{50}$

$\frac{147}{70} \frac{110}{50} \frac{91}{29} \frac{134}{23} \frac{126}{79} \frac{121}{12} \frac{118}{10} \frac{120}{9} \frac{124}{16} \frac{126}{19} \frac{116}{22} \frac{38}{34} \frac{23}{50}$

$\frac{103}{50} \frac{160}{27} \frac{161}{22} \frac{148}{17} \frac{140}{9} \frac{138}{9} \frac{139}{17} \frac{140}{21} \frac{144}{33} \frac{66}{50} \frac{47}{50}$

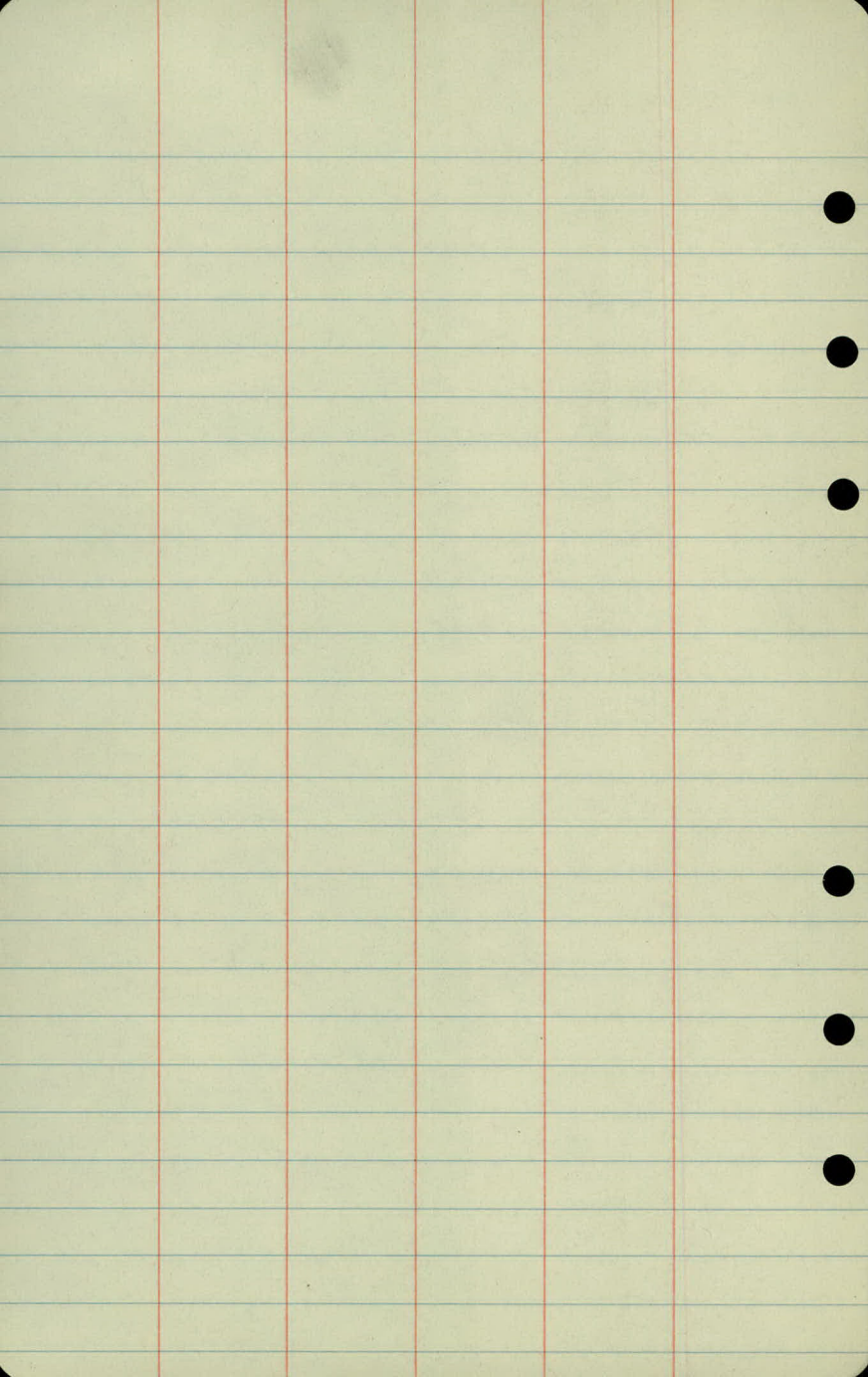
$\frac{125}{50} \frac{121}{35} \frac{113}{28} \frac{57}{17} \frac{46}{10} \frac{43}{10} \frac{44}{7} \frac{52}{17} \frac{65}{22} \frac{51}{27} \frac{28}{35} \frac{+02}{50}$

$\frac{136}{38} \frac{129}{25} \frac{81}{18} \frac{68}{9} \frac{66}{9} \frac{68}{15} \frac{78}{24} \frac{126}{50} \frac{125}{50}$

$\frac{138}{30} \frac{138}{32} \frac{135}{23} \frac{99}{17} \frac{82}{9} \frac{85}{7} \frac{88}{14} \frac{96}{23} \frac{135}{23} L9$

$L0. \frac{140}{32} \frac{140}{22} \frac{118}{16} \frac{103}{10} \frac{100}{10} \frac{104}{16} \frac{118}{20} \frac{137}{50} \frac{140}{50}$

$\frac{150}{50} \frac{145}{22} \frac{120}{15} \frac{112}{9} \frac{106}{10} \frac{109}{16} \frac{119}{21} \frac{135}{25} \frac{137}{25} L9$



ALIGNMENT

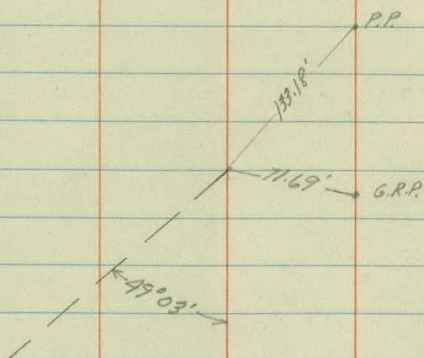
Line #2

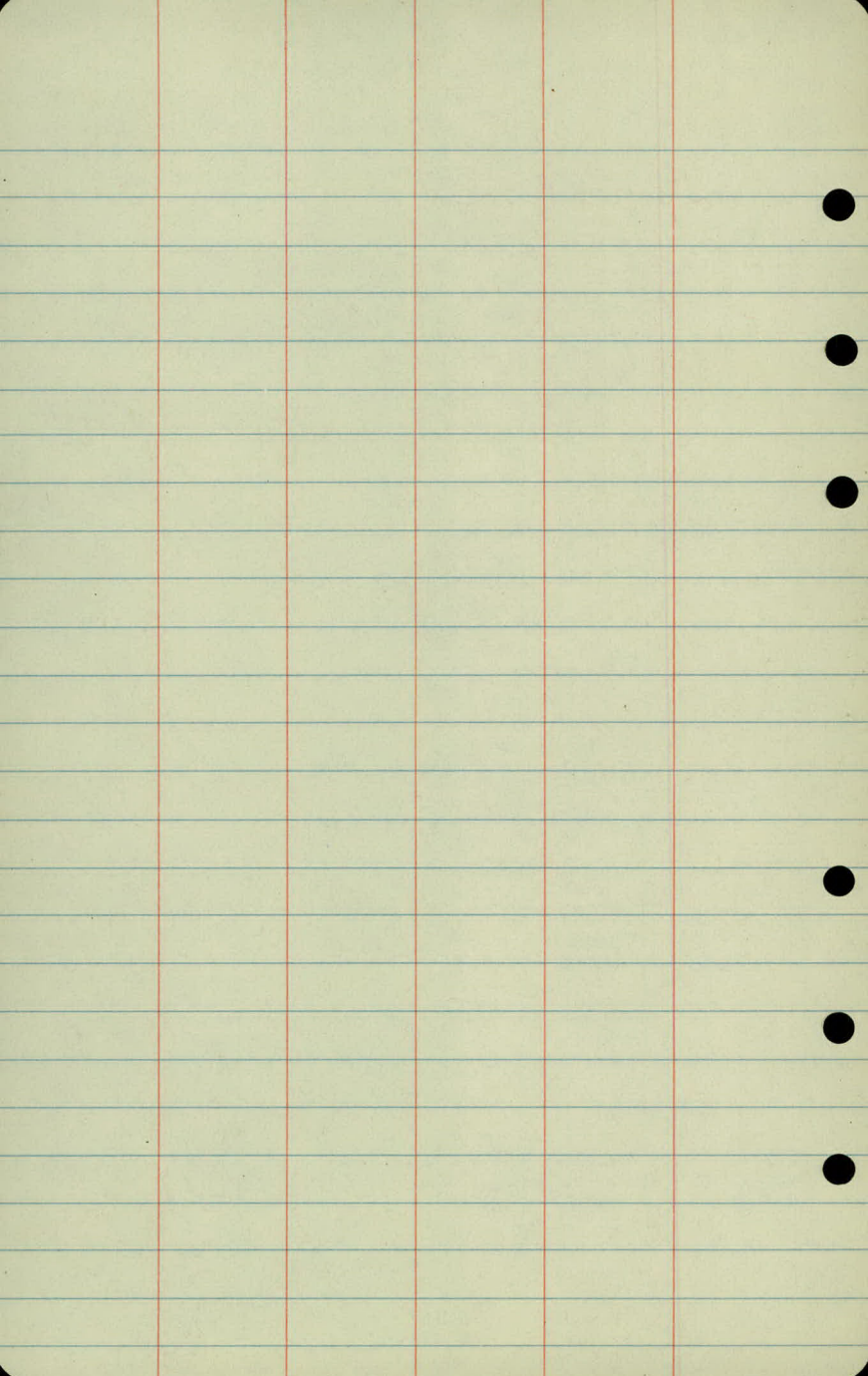
Sta	Point	ΔL	ΔR
-----	-------	------------	------------

216 +50.8	P.O.T.	=	End of Bridge
-----------	--------	---	---------------

209 +06.3	P.O.T.	=	Pl. 12141205 TH. 51
-----------	--------	---	---------------------

	+1287 P.T.		22°24'
208			21°57.2'
	+50		20°49.7' $\Delta 44°48'$
207			19°42.2' $D 4°30'$
	+50		18°34.7' T 524.93
206			17°27.2' L 997.77
	+50		16°19.7' R 1273.57
205			15°12.2'
	+50		14°04.7'
204			12°57.2'





TOPOGRAPHY

Line #2

211

10'

9'

210

11'

11'

209

10'

10'

+08 24" X 67' Cond. Curb.

3.4' Lt.

208

9'

13'

33' Rt.

+70

30'

+90

60'

13'

+23

37'

207

15'

12'

12'

22'

206

13'

47'

13'

35'

205

10'

27'

12'

19'

204

14'

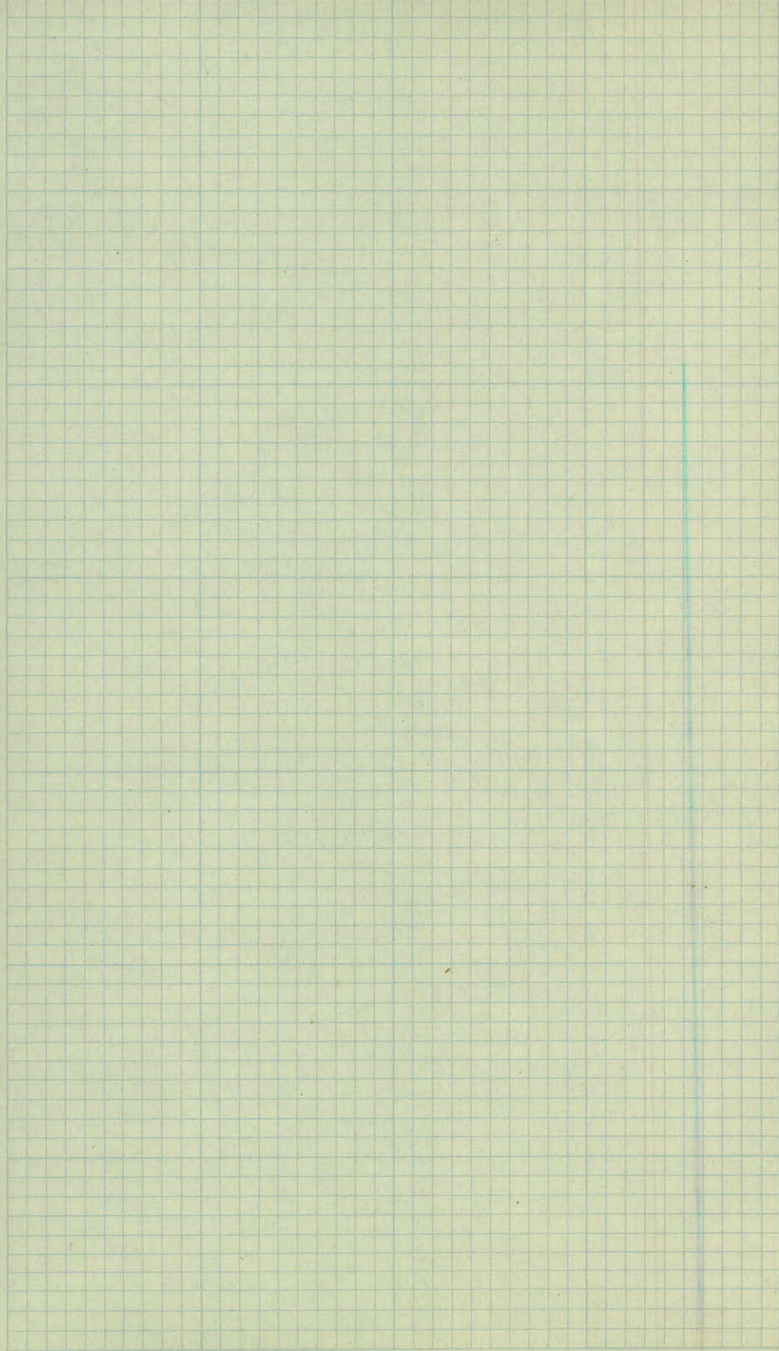
18'

==

+38 Light P. 24

+37 TP. 41'

+56 P.P. 35



X Sections

Line #2

Sta	+	Δ	-	Elev
B.M.	6.69	907.86 ✓		901.17

205				903.4
-----	--	--	--	-------

+50				01.6
-----	--	--	--	------

206				99.9
-----	--	--	--	------

+50				98.6 ✓
-----	--	--	--	--------

T.P.	3.91	901.14 ✓	10.63	897.23
------	------	----------	-------	--------

207				97.2
-----	--	--	--	------

+50				95.9
-----	--	--	--	------

+80				94.9
-----	--	--	--	------

208				94.2
-----	--	--	--	------

+50				92.7
-----	--	--	--	------

209				91.7
-----	--	--	--	------

+50				90.9
-----	--	--	--	------

210				90.6
-----	--	--	--	------

Lt

F

Rt

Spk in R.P. #120 on Harding Ave.

$\frac{+1.5}{50}$	$\frac{0.0}{4.0}$	$\frac{2.8}{3.5}$	$\frac{5.3}{2.5}$	$\frac{5.4}{2.2}$	$\frac{4.7}{1.9}$	$\frac{4.5}{9}$	$\frac{4.5}{9}$	$\frac{5.6}{26}$	$\frac{5.8}{30}$	$\frac{6.5}{34}$	$\frac{6.5}{37}$	$\frac{5.1}{42}$	$\frac{4.9}{50}$
-------------------	-------------------	-------------------	-------------------	-------------------	-------------------	-----------------	-----------------	------------------	------------------	------------------	------------------	------------------	------------------

$\frac{+1.0}{50}$	$\frac{0.6}{4.1}$	$\frac{6.8}{30}$	$\frac{7.0}{2.4}$	$\frac{6.2}{1.9}$	$\frac{6.3}{9}$	$\frac{6.3}{9}$	$\frac{6.9}{15}$	$\frac{7.6}{3.6}$	$\frac{8.0}{4.5}$	$\frac{9.2}{50}$
-------------------	-------------------	------------------	-------------------	-------------------	-----------------	-----------------	------------------	-------------------	-------------------	------------------

$\frac{0.5}{50}$	$\frac{2.1}{40}$	$\frac{8.2}{2.9}$	$\frac{8.4}{2.4}$	$\frac{7.8}{1.9}$	$\frac{7.9}{10}$	$\frac{8.0}{10}$	$\frac{8.7}{1.9}$	$\frac{8.4}{3.4}$	$\frac{9.0}{4.7}$	$\frac{9.2}{50}$
------------------	------------------	-------------------	-------------------	-------------------	------------------	------------------	-------------------	-------------------	-------------------	------------------

$\frac{4.0}{50}$	$\frac{5.0}{41}$	$\frac{9.4}{30}$	$\frac{9.6}{2.7}$	$\frac{9.2}{2.3}$	$\frac{9.3}{11}$	$\frac{9.3}{11}$	$\frac{10.2}{2.3}$	$\frac{9.0}{50}$
------------------	------------------	------------------	-------------------	-------------------	------------------	------------------	--------------------	------------------

$\frac{4.6}{50}$	$\frac{6.1}{2.9}$	$\frac{4.0}{2.3}$	$\frac{3.7}{1.6}$	$\frac{3.9}{1.6}$	$\frac{4.3}{1.3}$	$\frac{5.2}{2.5}$	$\frac{6.8}{3.1}$	$\frac{2.8}{4.6}$	$\frac{2.1}{50}$
------------------	-------------------	-------------------	-------------------	-------------------	-------------------	-------------------	-------------------	-------------------	------------------

$\frac{5.3}{50}$	$\frac{5.1}{2.2}$	$\frac{5.2}{2.2}$	$\frac{5.8}{1.4}$	$\frac{6.8}{2.5}$	$\frac{10.1}{3.1}$	$\frac{1.7}{50}$
------------------	-------------------	-------------------	-------------------	-------------------	--------------------	------------------

$\frac{5.8}{50}$	$\frac{6.0}{1.6}$	$\frac{6.2}{1.6}$	$\frac{6.8}{1.3}$	$\frac{7.8}{2.5}$	$\frac{10.9}{3.3}$	$\frac{5.9}{4.1}$	$\frac{4.7}{4.6}$	$\frac{2.3}{50}$
------------------	-------------------	-------------------	-------------------	-------------------	--------------------	-------------------	-------------------	------------------

$\frac{11.7}{50}$	$\frac{11.0}{3.7}$	$\frac{6.6}{2.0}$	$\frac{6.8}{1.0}$	$\frac{6.9}{1.0}$	$\frac{7.5}{1.3}$	$\frac{8.4}{2.7}$	$\frac{11.2}{3.5}$	$\frac{7.9}{4.3}$	$\frac{5.8}{50}$
-------------------	--------------------	-------------------	-------------------	-------------------	-------------------	-------------------	--------------------	-------------------	------------------

$\frac{12.5}{50}$	$\frac{12.6}{3.1}$	$\frac{9.0}{2.3}$	$\frac{8.3}{1.2}$	$\frac{8.4}{1.2}$	$\frac{8.7}{1.1}$	$\frac{9.4}{2.2}$	$\frac{12.1}{3.0}$	$\frac{11.9}{4.3}$	$\frac{10.5}{50}$
-------------------	--------------------	-------------------	-------------------	-------------------	-------------------	-------------------	--------------------	--------------------	-------------------

$\frac{11.6}{50}$	$\frac{12.2}{3.8}$	$\frac{12.1}{2.7}$	$\frac{9.7}{2.0}$	$\frac{9.4}{9}$	$\frac{9.4}{9}$	$\frac{9.7}{1.2}$	$\frac{10.0}{2.1}$	$\frac{12.3}{2.9}$	$\frac{11.8}{3.5}$	$\frac{10.4}{50}$
-------------------	--------------------	--------------------	-------------------	-----------------	-----------------	-------------------	--------------------	--------------------	--------------------	-------------------

$\frac{7.5}{50}$	$\frac{11.6}{3.6}$	$\frac{11.6}{2.6}$	$\frac{10.8}{2.0}$	$\frac{10.3}{1.0}$	$\frac{10.2}{1.0}$	$\frac{10.5}{1.2}$	$\frac{11.1}{2.1}$	$\frac{12.6}{2.5}$	$\frac{12.5}{2.7}$	$\frac{10.6}{3.3}$	$\frac{9.5}{50}$
------------------	--------------------	--------------------	--------------------	--------------------	--------------------	--------------------	--------------------	--------------------	--------------------	--------------------	------------------

$\frac{7.6}{50}$	$\frac{7.6}{4.3}$	$\frac{12.0}{3.1}$	$\frac{12.0}{2.4}$	$\frac{11.1}{1.9}$	$\frac{10.6}{9}$	$\frac{10.5}{9}$	$\frac{10.6}{10}$	$\frac{11.2}{2.0}$	$\frac{12.9}{2.6}$	$\frac{13.2}{2.8}$	$\frac{8.2}{3.9}$	$\frac{7.3}{50}$
------------------	-------------------	--------------------	--------------------	--------------------	------------------	------------------	-------------------	--------------------	--------------------	--------------------	-------------------	------------------

Sta	+	$\bar{\lambda}$	-
T.P.	4.48	895.14 ✓	10.48 ✓
210 + 58			890.66 ✓ 90.5
211			90.7
211			
+ 50			90.6
+ 50			
+ 60			90.6
212			90.3
+ 50			90.0
213			89.5
+ 50			
+ 50			89.3
214			
214			89.0
+ 50			
+ 50			88.6
215			88.3
+ 50			87.8

$$\begin{array}{r} 5.6 \\ 50 \end{array} \quad \begin{array}{r} 4.7 \\ 44 \end{array} \quad \begin{array}{r} 6.2 \\ 33 \end{array} \quad \begin{array}{r} 6.2 \\ 25 \end{array} \quad \begin{array}{r} 5.4 \\ 21 \end{array} \quad \begin{array}{r} 4.8 \\ 9 \end{array} \quad \begin{array}{r} 4.6 \\ \end{array} \quad \begin{array}{r} 5.4 \\ 20 \end{array} \quad \begin{array}{r} 6.9 \\ 28 \end{array} \quad \begin{array}{r} 6.9 \\ 31 \end{array} \quad \begin{array}{r} 1.0 \\ 43 \end{array} \quad \begin{array}{r} 1.2 \\ 50 \end{array}$$

Shoulder Line 574 M51

$$\begin{array}{r} 3.9 \\ 56 \end{array} \quad \begin{array}{r} 6.4 \\ 47 \end{array} \quad \begin{array}{r} 6.5 \\ 24 \end{array} \quad \begin{array}{r} 5.1 \\ 19 \end{array} \quad \begin{array}{r} 4.6 \\ 12 \end{array} \quad \begin{array}{r} 4.4 \\ \end{array} \quad \begin{array}{r} 4.6 \\ 14 \end{array} \quad \begin{array}{r} 5.1 \\ 20 \end{array} \quad \begin{array}{r} 7.6 \\ 28 \end{array} \quad \begin{array}{r} 7.7 \\ 31 \end{array} \quad \begin{array}{r} 4.0 \\ 36 \end{array} \quad \begin{array}{r} 3.8 \\ 50 \end{array}$$

$$\begin{array}{r} 4.5 \\ 50 \end{array} \quad \begin{array}{r} 4.5 \\ 41 \end{array} \quad \begin{array}{r} 6.0 \\ 35 \end{array} \quad \begin{array}{r} 5.9 \\ 27 \end{array} \quad \begin{array}{r} 4.9 \\ 21 \end{array} \quad \begin{array}{r} 4.7 \\ 11 \end{array} \quad \begin{array}{r} 4.5 \\ \end{array} \quad \begin{array}{r} 4.6 \\ 15 \end{array} \quad \begin{array}{r} 5.0 \\ 21 \end{array} \quad \begin{array}{r} 9.0 \\ 35 \end{array} \quad \begin{array}{r} 9.5 \\ 50 \end{array}$$

$$\begin{array}{r} 4.8 \\ 50 \end{array} \quad \begin{array}{r} 4.7 \\ 27 \end{array} \quad \begin{array}{r} 4.5 \\ 16 \end{array} \quad \begin{array}{r} 4.7 \\ 23 \end{array} \quad \begin{array}{r} 5.2 \\ 37 \end{array} \quad \begin{array}{r} 9.8 \\ 50 \end{array}$$

$$\begin{array}{r} 5.9 \\ 50 \end{array} \quad \begin{array}{r} 5.5 \\ 45 \end{array} \quad \begin{array}{r} 4.8 \\ 25 \end{array} \quad \begin{array}{r} 4.8 \\ \end{array} \quad \begin{array}{r} 4.9 \\ 11 \end{array} \quad \begin{array}{r} 5.3 \\ 21 \end{array} \quad \begin{array}{r} 9.2 \\ 34 \end{array} \quad \begin{array}{r} 13.0 \\ 45 \end{array} \quad \begin{array}{r} 13.4 \\ 50 \end{array}$$

$$\begin{array}{r} 7.3 \\ 50 \end{array} \quad \begin{array}{r} 6.7 \\ 42 \end{array} \quad \begin{array}{r} 5.7 \\ 29 \end{array} \quad \begin{array}{r} 5.1 \\ \end{array} \quad \begin{array}{r} 5.3 \\ 12 \end{array} \quad \begin{array}{r} 5.8 \\ 21 \end{array} \quad \begin{array}{r} 9.6 \\ 33 \end{array} \quad \begin{array}{r} 13.2 \\ 42 \end{array} \quad \begin{array}{r} 14.0 \\ 50 \end{array}$$

$$\begin{array}{r} 11.6 \\ 50 \end{array} \quad \begin{array}{r} 7.4 \\ 39 \end{array} \quad \begin{array}{r} 6.8 \\ 31 \end{array} \quad \begin{array}{r} 5.9 \\ 19 \end{array} \quad \begin{array}{r} 5.6 \\ \end{array} \quad \begin{array}{r} 5.7 \\ 14 \end{array} \quad \begin{array}{r} 6.3 \\ 20 \end{array} \quad \begin{array}{r} 10.4 \\ 33 \end{array} \quad \begin{array}{r} 13.5 \\ 42 \end{array} \quad \begin{array}{r} 13.8 \\ 50 \end{array}$$

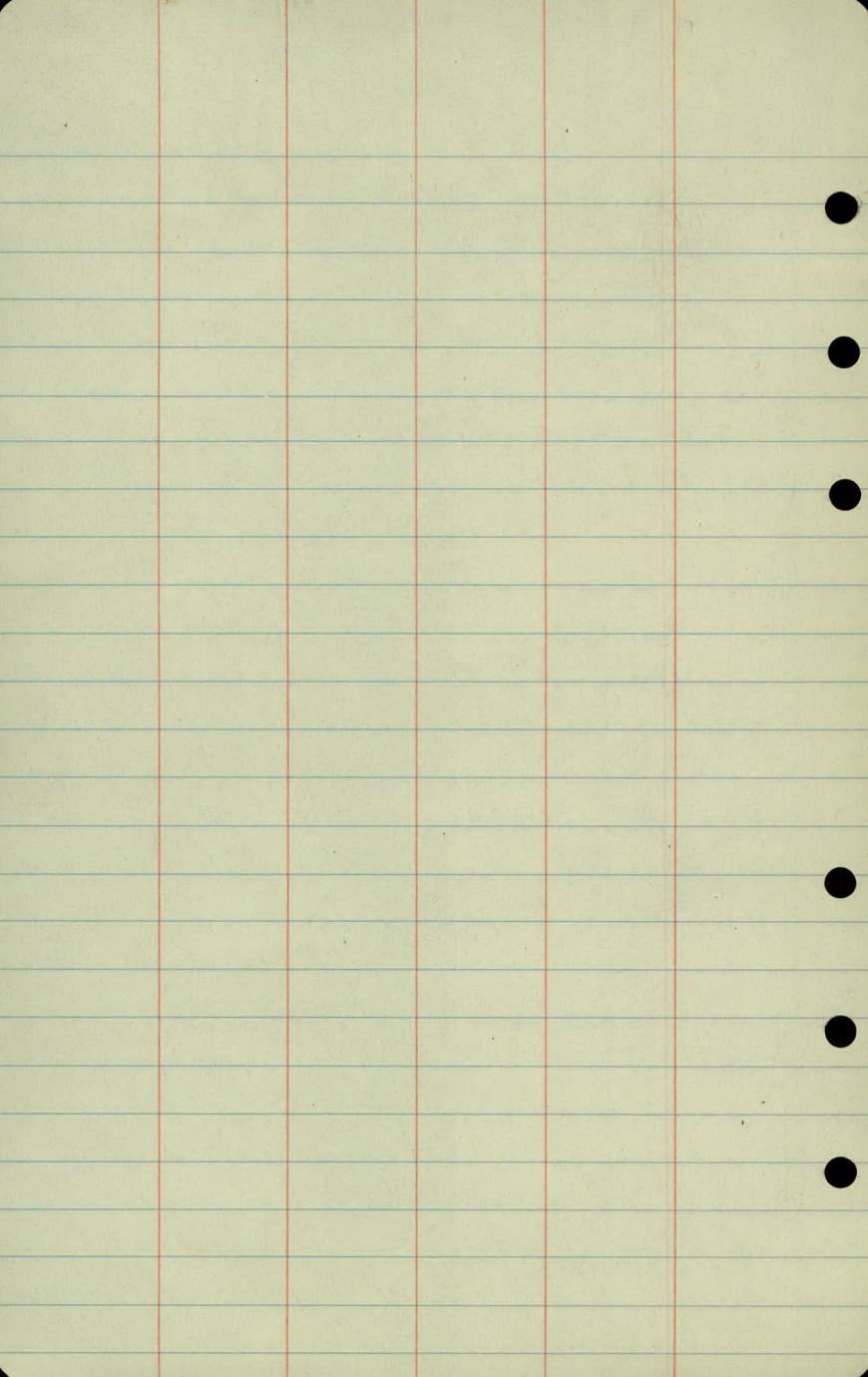
$$\begin{array}{r} 12.2 \\ 50 \end{array} \quad \begin{array}{r} 11.8 \\ 44 \end{array} \quad \begin{array}{r} 7.6 \\ 31 \end{array} \quad \begin{array}{r} 7.1 \\ 25 \end{array} \quad \begin{array}{r} 6.1 \\ 10 \end{array} \quad \begin{array}{r} 5.8 \\ \end{array} \quad \begin{array}{r} 5.9 \\ 15 \end{array} \quad \begin{array}{r} 6.6 \\ 21 \end{array} \quad \begin{array}{r} 10.8 \\ 35 \end{array} \quad \begin{array}{r} 14.1 \\ 50 \end{array}$$

$$\begin{array}{r} 10.7 \\ 50 \end{array} \quad \begin{array}{r} 11.7 \\ 47 \end{array} \quad \begin{array}{r} 11.4 \\ 36 \end{array} \quad \begin{array}{r} 7.8 \\ 26 \end{array} \quad \begin{array}{r} 7.0 \\ 18 \end{array} \quad \begin{array}{r} 6.1 \\ \end{array} \quad \begin{array}{r} 6.0 \\ 15 \end{array} \quad \begin{array}{r} 6.5 \\ 22 \end{array} \quad \begin{array}{r} 14.0 \\ 46 \end{array} \quad \begin{array}{r} 14.5 \\ 50 \end{array}$$

$$\begin{array}{r} 6.5 \\ \end{array}$$

$$\begin{array}{r} 6.8 \\ \end{array}$$

$$\begin{array}{r} 7.3 \\ \end{array}$$



2 Levels

Line #2

Sta	+	π	-	Elm
B.M.	5.37	906.54 <u>912.12</u>		901.17 <u>911.75</u>

2.04			0.6	905.9
------	--	--	-----	-------

+50			1.8	04.7
-----	--	--	-----	------

2.05			3.2	03.3
------	--	--	-----	------

+50			4.9	01.6
-----	--	--	-----	------

2.06			6.6	899.9
------	--	--	-----	-------

+50			8.0	98.5
-----	--	--	-----	------

2.07			9.3	97.2
------	--	--	-----	------

+50			10.6	95.9
-----	--	--	------	------

2.08			12.25	94.3
------	--	--	-------	------

T.P.	2.42	896.71 <u>902.29</u>	12.25	894.29 <u>904.87</u>
------	------	-------------------------	-------	-------------------------

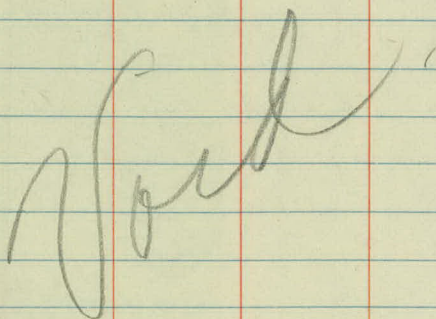
+50			4.0	892.7
-----	--	--	-----	-------

Lt

E

Rt

Spk in RP #130 on Hamling Ave.



87.76

885

P.45

Sta	+	Δ	-	Elev
-----	---	----------	---	------

907.29

209			4.9	891.8
-----	--	--	-----	-------

+50			5.8	90.9
-----	--	--	-----	------

210			6.0	90.7
-----	--	--	-----	------

+50			6.1	90.6
-----	--	--	-----	------

211			6.0	90.7
-----	--	--	-----	------

+50

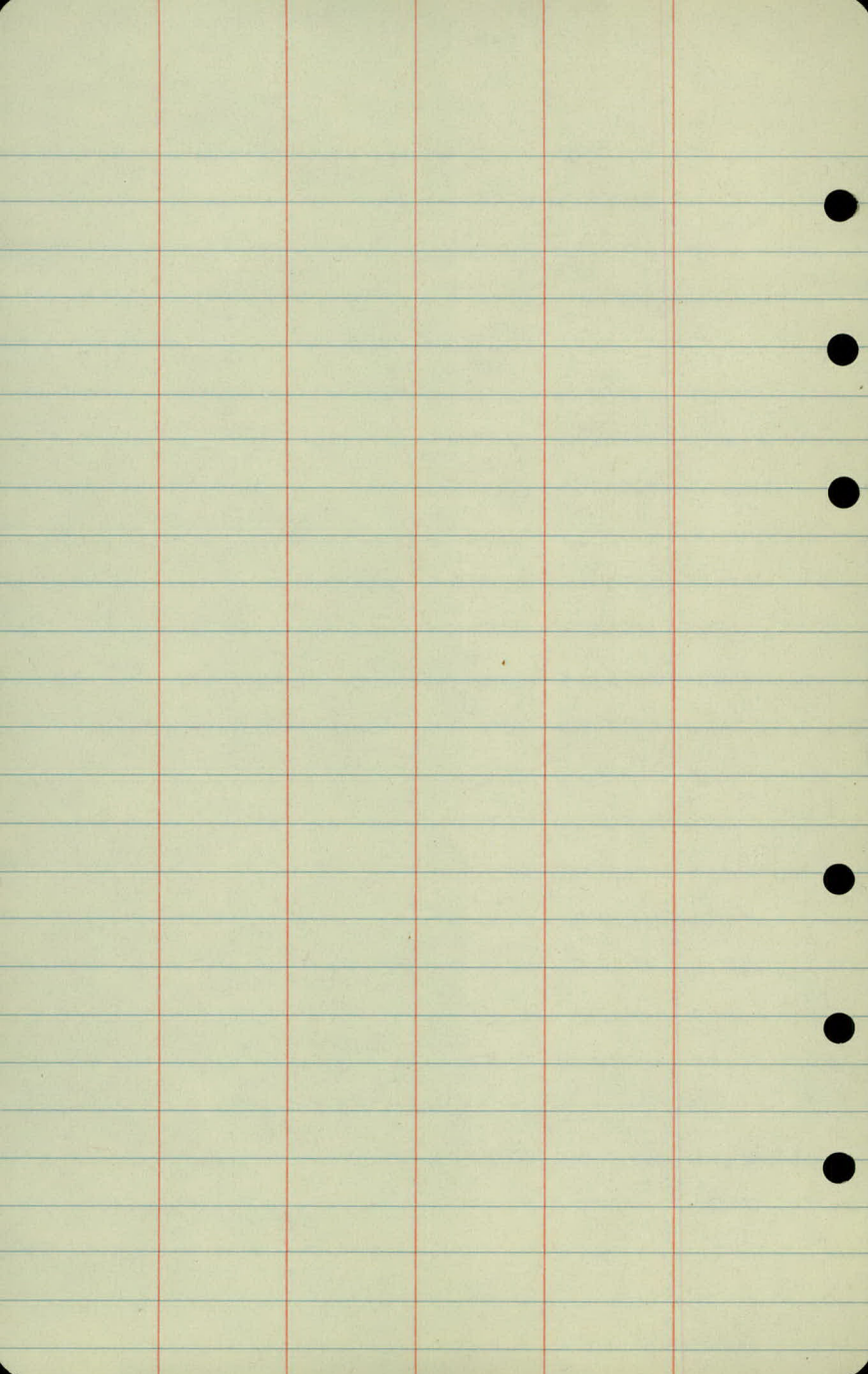
[Large handwritten signature]

Lt.

E

Rt.

Hill



ALIGNMENT

Line #3

Sta	Point	ΔL	ΔR
-----	-------	------------	------------

+22.92	P.T.		
--------	------	--	--

			22° 18.0'
--	--	--	-----------

6			
---	--	--	--

			19° 30.3'
--	--	--	-----------

+75			
-----	--	--	--

			17° 07.8'
--	--	--	-----------

+50			
-----	--	--	--

			14° 45.3' Δ 44° 36'
--	--	--	----------------------------

+25			
-----	--	--	--

			12° 22.8' P. 19° 00'
--	--	--	----------------------

+18.96	P.I.		
--------	------	--	--

			T-124.28'
--	--	--	-----------

5			
---	--	--	--

			10° 00.3' L 234.74'
--	--	--	---------------------

+75			
-----	--	--	--

			7° 37.8' P. 302.94'
--	--	--	---------------------

+50			
-----	--	--	--

			5° 15.3'
--	--	--	----------

+25			
-----	--	--	--

			2° 52.8'
--	--	--	----------

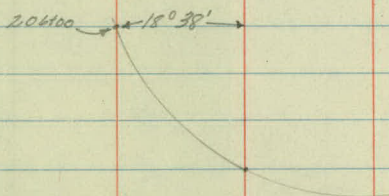
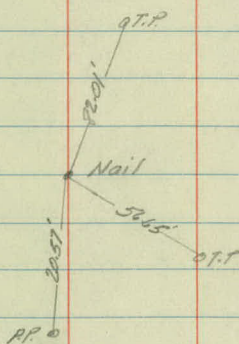
4			
---	--	--	--

			0° 30.3'
--	--	--	----------

3	+94.68	P.C.	
---	--------	------	--

			0° 00'
--	--	--	--------

0 + 00 = P.O.C. 205+00 Line #2



Sta	Point	ΔLt	ΔRt
-----	-------	-------------	-------------

P.L.

$180 + 06.25$ } Equa.
 $15 + 2513 =$) P.T.

$25^{\circ} 33.5'$

15 $23^{\circ} 02.7'$

$\Delta 51^{\circ} 07'$

+50

$18^{\circ} 02.7'$

$D 20^{\circ} 00'$

14 + 07.26 P.L.

$T 137.71'$

14 +00

$13^{\circ} 02.7'$

$L 255.58'$

+50

$8^{\circ} 02.7'$

$R 287.94'$

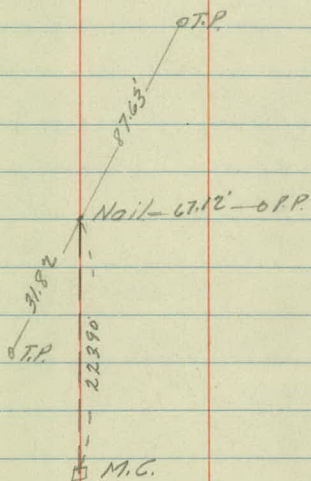
13

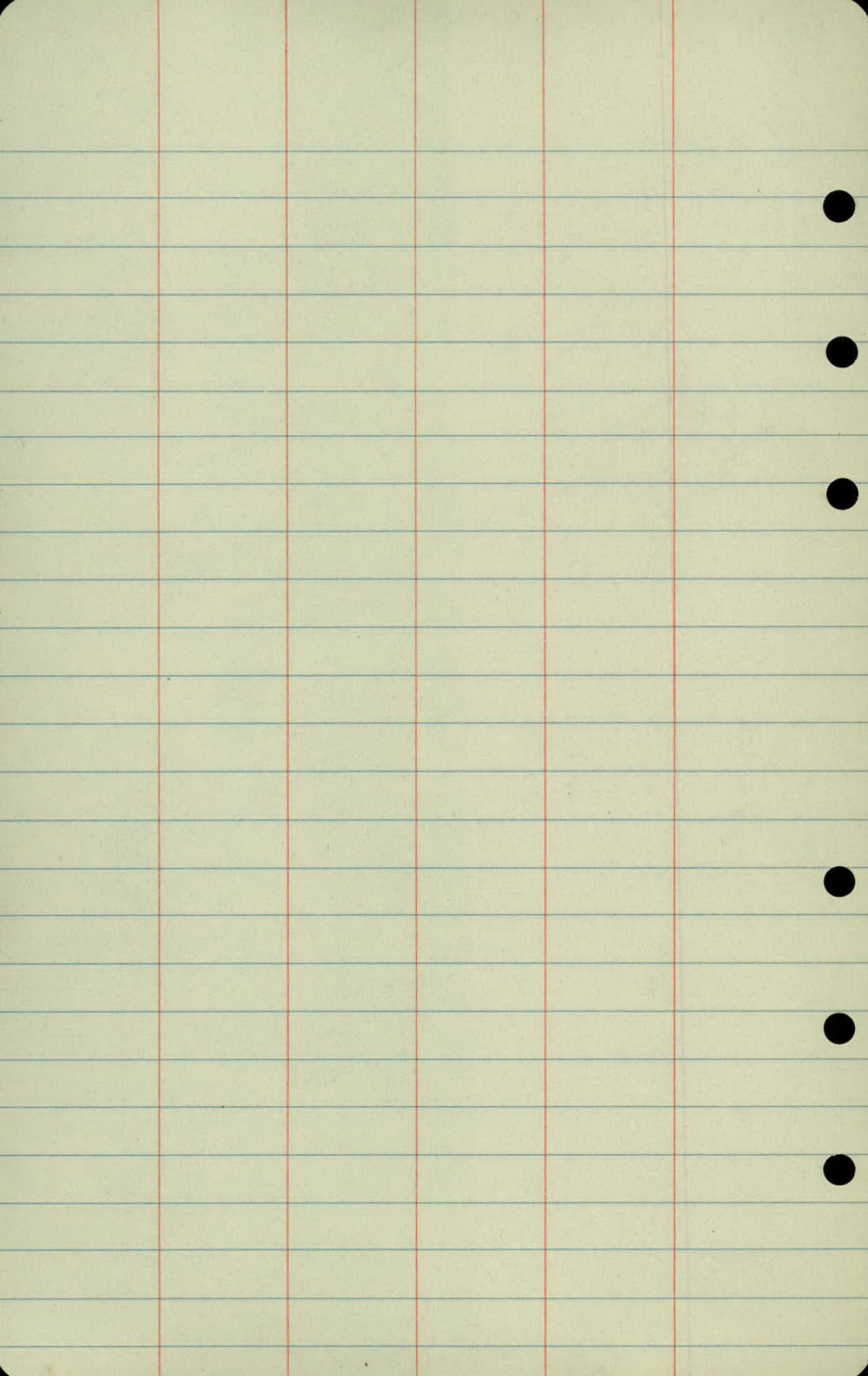
$3^{\circ} 02.7'$

12 +69.55 P.C.

$0^{\circ} 00'$

Mont & Co. Rd "E"





TOPOGRAPHY

Line #3

6 8' 13'

8' 14'

5 9' 15'

10 12'

4 9' 11'

12' 9'

3 11' 9'

12' 9'

24" X 18" C.M.

2 12' 10'

58-33' 12'

1 44 15

29 19'

0+00 10 27

+98 P.P. 21'

+76 T.P. 28'

+06 End G.R. 22'
+95 P.P. 33'

+92 T.P. 29'

G.R. 18'

+60 Ent.

G.R. 14'

+72 Ent.

G.R. 15'

+72 P.P. 20'

+55 Ent. 15' x 20' C.M. 22'

G.R. 15'

+06 No End 15' C.M. 19'

G.R. 15'

+39 Ent.

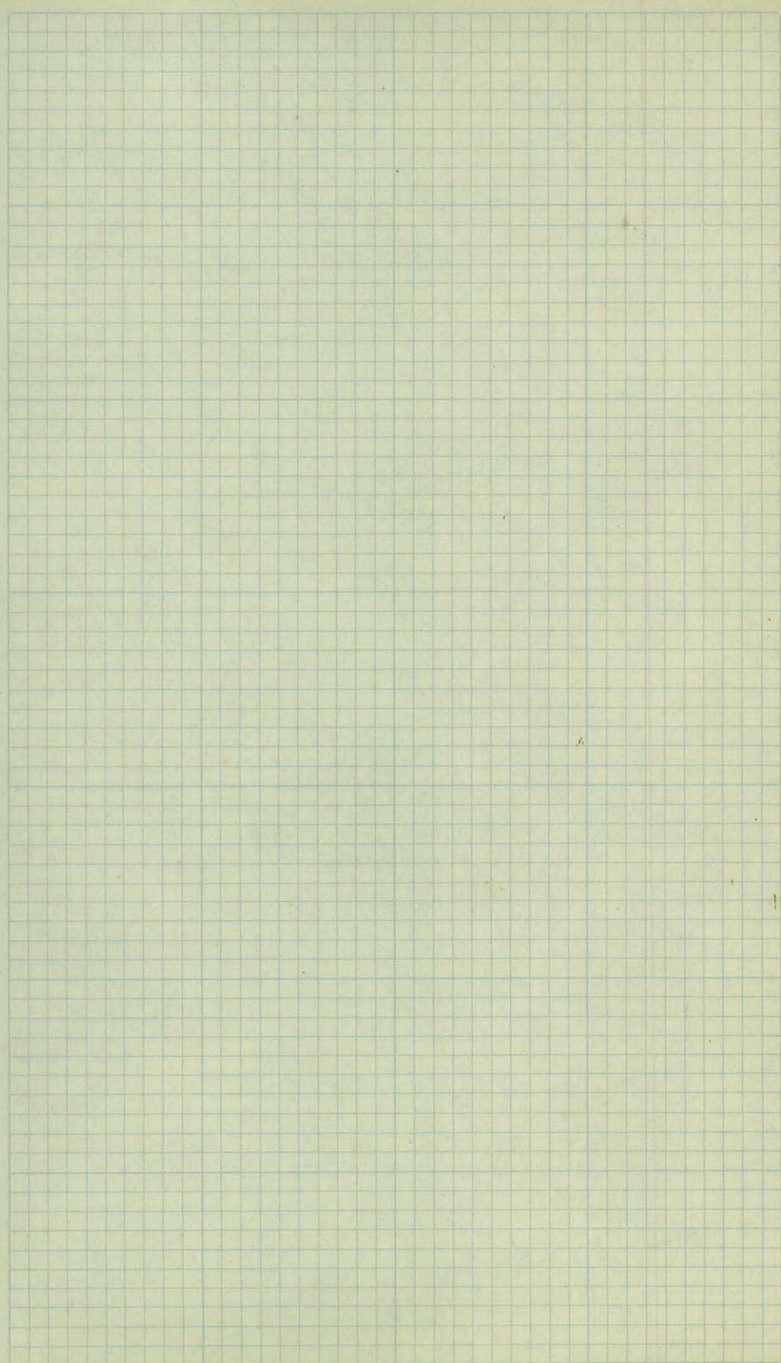
+31 End 24" Curb 31'
+31 Guy P. 20'+29 Range tie tower
+27.50 End 15' C.M. 27'
+26 Stone wall 23'
+24 P.P. 20'

G.R. 16'

+56 Beg G.R. 18'
+56 P.P. 24'

+66 End 24" Curb 24'

+98 P.P. 22'



BENCH LEVELS

Sta	+	-	Elev.
B.M.	2.46	789.02	930.56
T.P.	0.30	920.39	12.93 920.09
T.P.	3.66	919.74	10.31 910.08
T.P.	0.29	902.26	11.78 901.96 901.76
T.P.	3.15	895.38 895.48	10.02 892.23
T.P.	1.42	887.45 887.55	9.35 886.03 886.13
T.P.	6.98	891.43 891.43	884.45 890.35
B.M.	6.36	890.32 896.32	883.96 887.96
T.P.	13.71	903.50 909.50	889.79 895.79
T.P.	2.49	903.70 914.28	901.21 911.79
B.M.		2.53	901.7 911.75

Top Mont Co. Rd E & Hamling Ave.

930.23

↓ Lowered to this elev.

to agree with U.S.G.S data.

10-20-94 K.A.

from Hamling Ave.

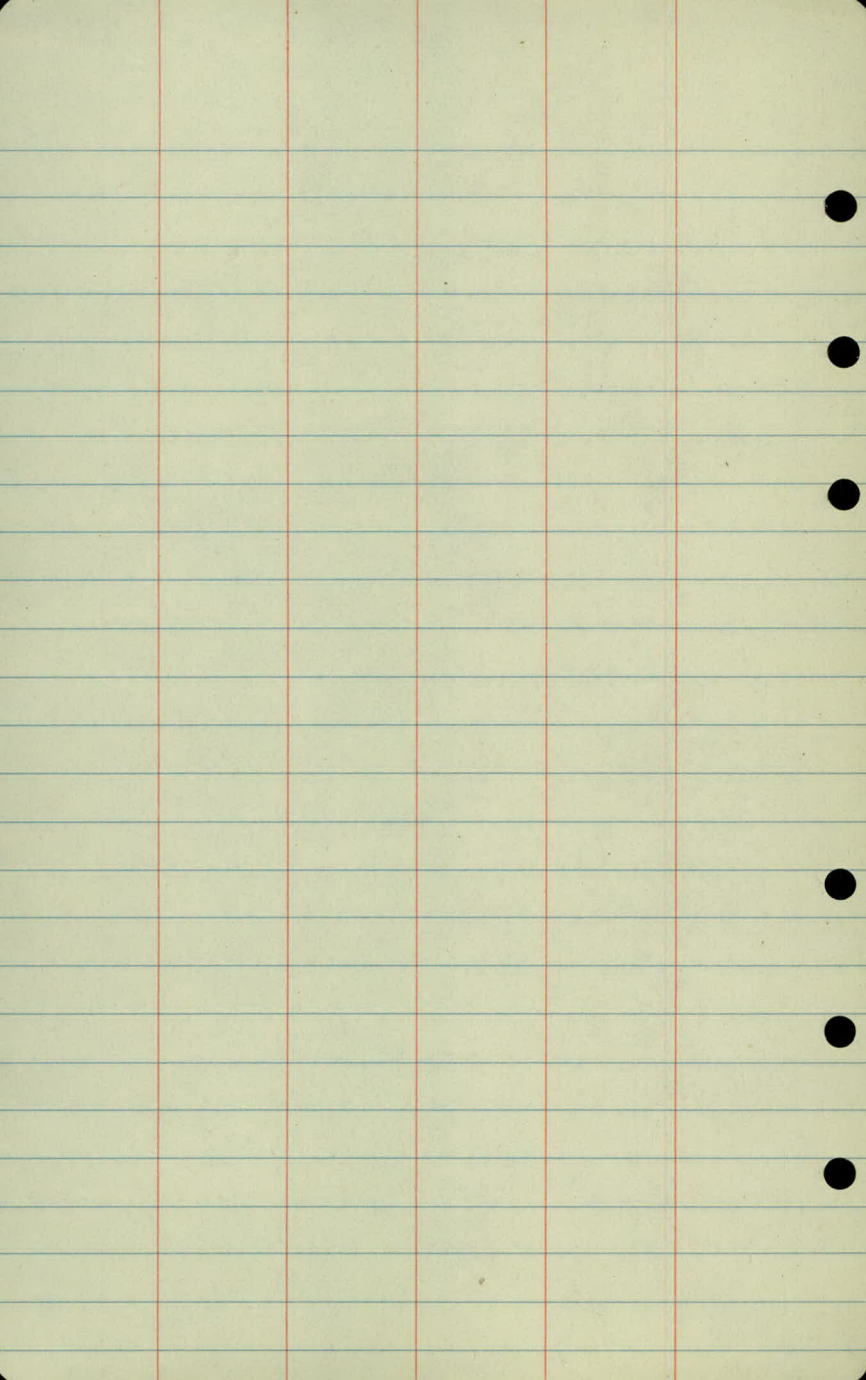
Spt. in Power Transformer Pole opposite Reddy's Res.

Spt. in P.P. #130 Rt Sta 2+25

900.84

901.17
900.84
— 33

930.56
33
— 930.23



X Sections

Line No. 3

Sta	+	Δ	-	Elev
B.M.	2.53	903.70 (914.28)		901.17 (911.75)

0 +00 903.4

+50 901.0

1 899.5

+50 98.8

+68 E. End 24" C.M. 27.5 RL

2 99.3

+23 99.9

+27 900.0

+30 W. End 24" C.M. 30.1 RL

Lt

L

Rt

SpA. in P.P. #190 Rt sta 2+25

BT
 $\frac{03}{26} \frac{13}{36} \frac{20}{44} \frac{03}{73} \frac{+27}{92} \frac{+27}{150} \frac{0.5}{200} \frac{2.2}{220} \frac{1.8}{227}$

$\frac{2.1}{18} \frac{2.7}{19} \frac{33}{26} \frac{37}{35} \frac{48}{81} \frac{78}{88} \frac{90}{100} \frac{94}{109} \frac{10.5}{125} \frac{10.4}{165} \frac{7.2}{200} \frac{4.7}{227} \frac{2.7}{227}$

$\frac{38}{33} \frac{45}{13} \frac{42}{13} \frac{47}{22} \frac{51}{35} \frac{94}{75} \frac{112}{100} \frac{115}{121} \frac{116}{150} \frac{99}{158} \frac{8.5}{200} \frac{7.0}{227} \frac{2.1}{227}$

$\frac{59}{32} \frac{61}{24} \frac{5.2}{11} \frac{49}{10} \frac{53}{15} \frac{57}{27} \frac{116}{54} \frac{117}{87} \frac{90}{112} \frac{84}{153} \frac{76}{200} \frac{4.5}{227} \frac{1.4}{227}$

12.7
 891.30
 Flowline Cuts
 Bot. Top. Wall
 ↓ ↓

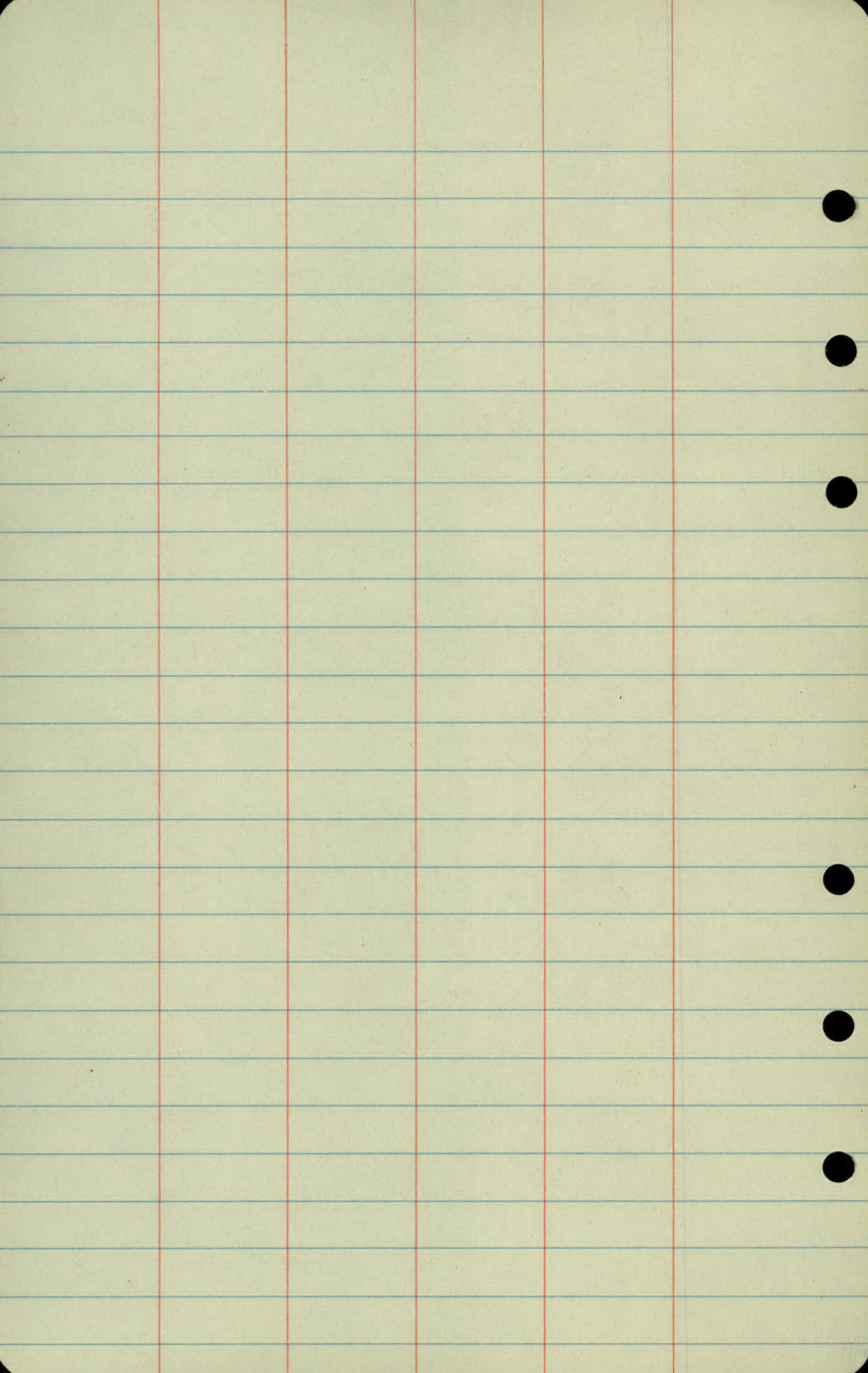
$\frac{78}{33} \frac{95}{26} \frac{54}{19} \frac{48}{11} \frac{44}{10} \frac{47}{76} \frac{53}{24} \frac{80}{63} \frac{78}{100} \frac{60}{136} \frac{42}{176} \frac{82}{182} \frac{0.9}{182}$

Top Wall

$\frac{38}{18} \frac{42}{17} \frac{42}{27} \frac{59}{29} \frac{2.5}{29}$

$\frac{37}{11} \frac{40}{25} \frac{28}{50} \frac{17}{50}$

135
 890.20
 Flowline



E Levels

Line #3

Hawthorne Ave

Sta	+	Σ	-	Elev
B.M.	2.85	904.02 914.60		901.17 911.75

2	+50		3.8	900.2
---	-----	--	-----	-------

3			4.2	899.8
---	--	--	-----	-------

	+50		4.6	99.4
--	-----	--	-----	------

4			4.6	99.4
---	--	--	-----	------

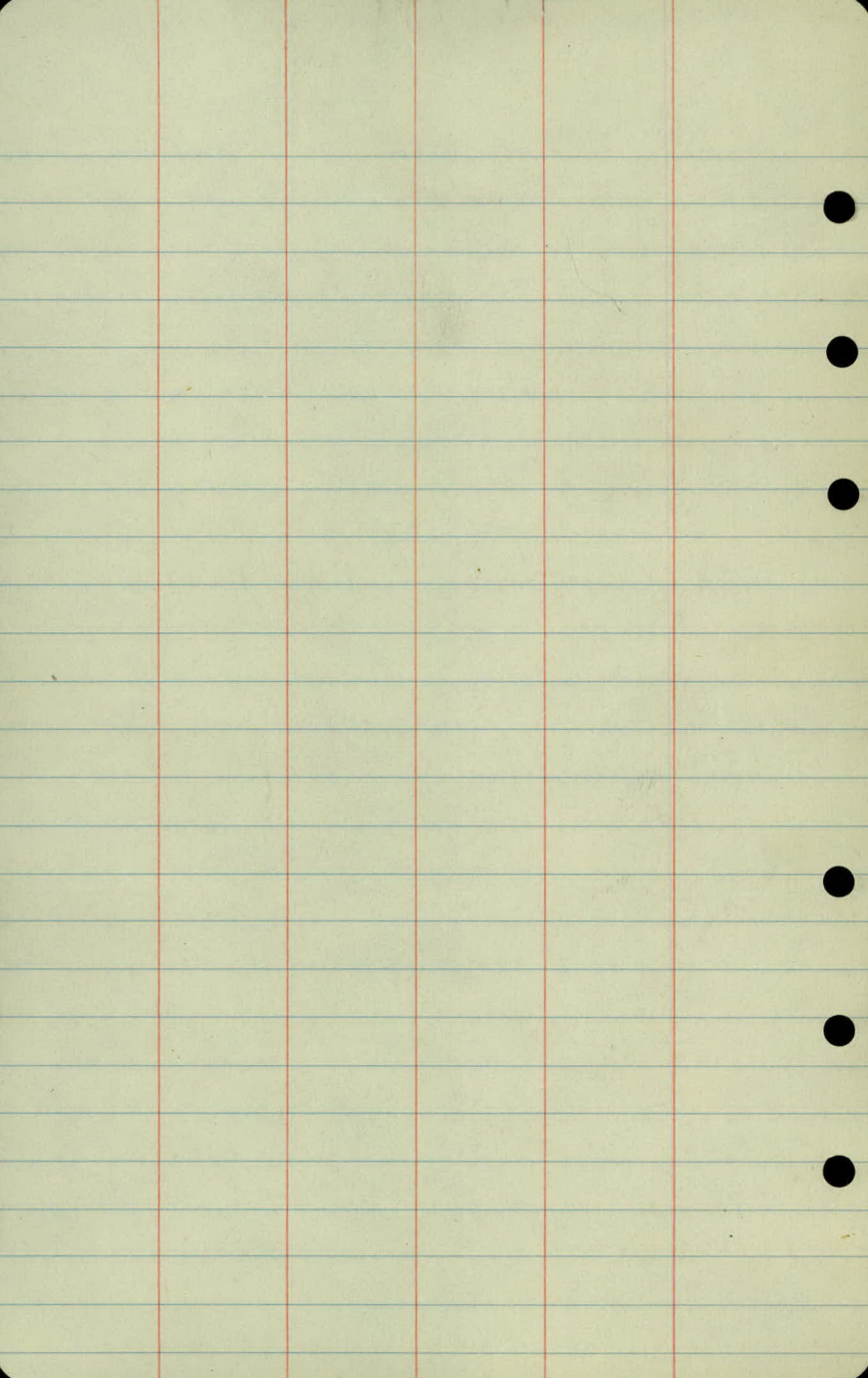
	+50		4.2	99.8
--	-----	--	-----	------

5			4.0	900.0
---	--	--	-----	-------

	+50		3.8	00.2
--	-----	--	-----	------

6			3.7	00.3
---	--	--	-----	------

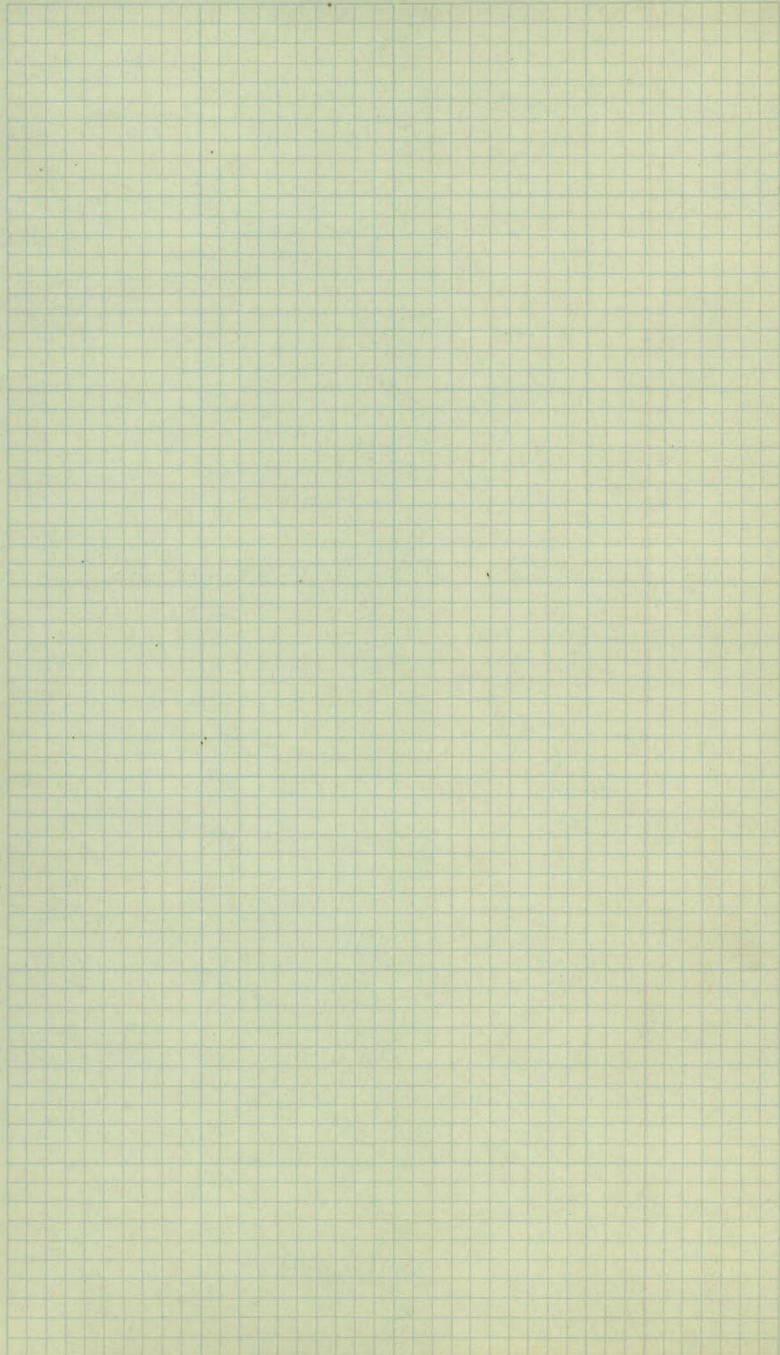
Spt in P.A. #130 Rt. 340. 2+25



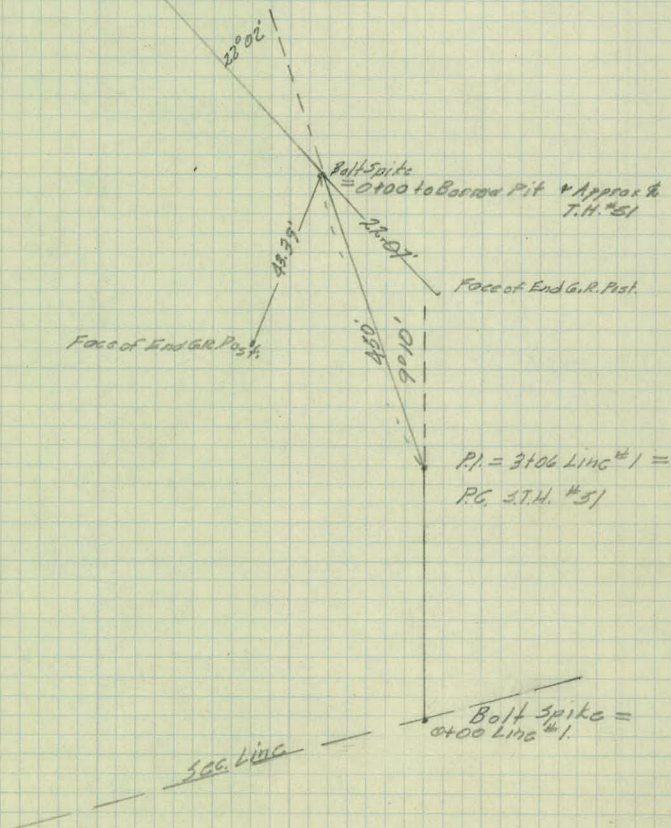
BORROW PIT SURVEY

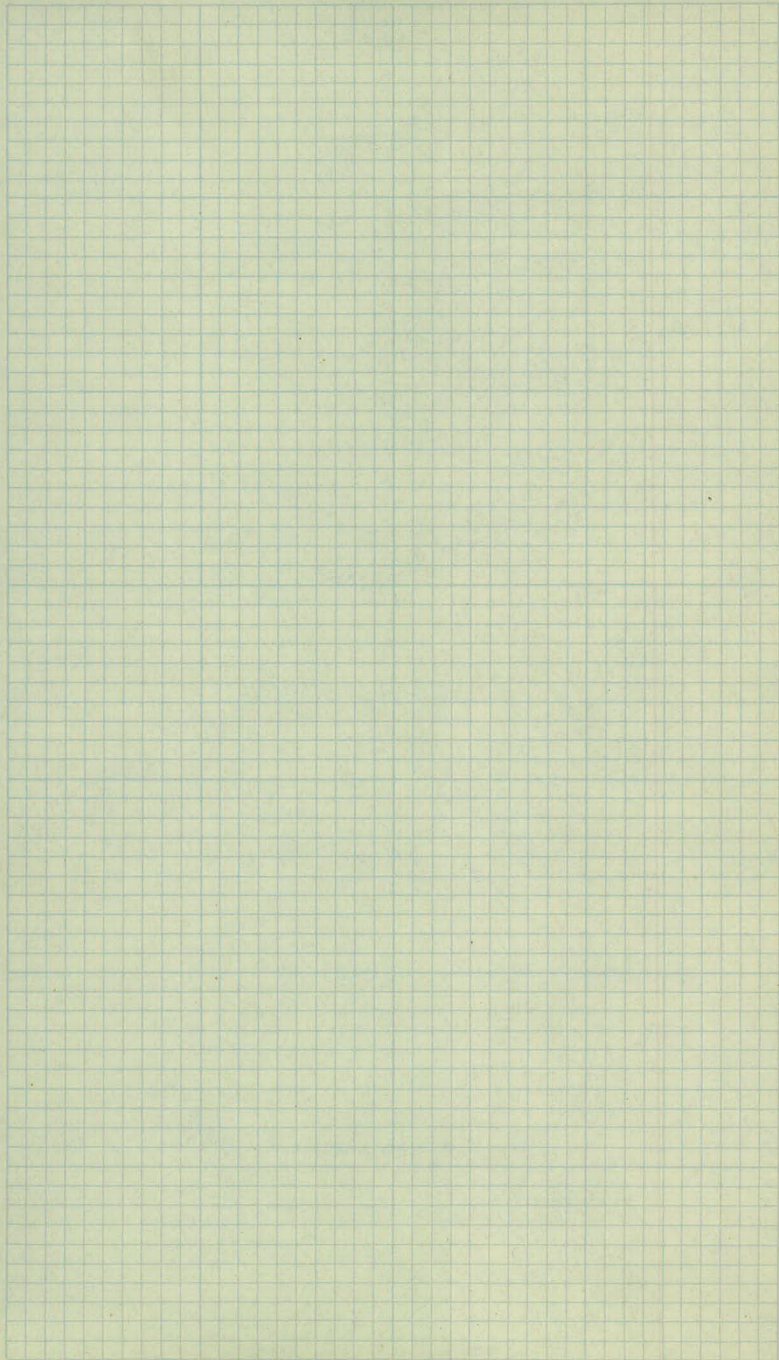
Alignment

S.T.H. #51 & Hamline Ave, Conn.



Foresight = Nail & Red in 1st P.P. So. of Bridge





X Sections

Sta	+	X	-	Elev
B.M.	2.86	✓ 904.03		901.17

0+00				893.7
------	--	--	--	-------

+60				92.5
-----	--	--	--	------

1 +00				91.2
-------	--	--	--	------

+50				91.0
-----	--	--	--	------

T.P.	6.66	✓ 899.24	11.45	892.58
------	------	-------------	-------	--------

2 +00				91.6
-------	--	--	--	------

+50				92.5
-----	--	--	--	------

3				92.1
---	--	--	--	------

+68				91.9
-----	--	--	--	------

+65				89.6
-----	--	--	--	------

T.P.	10.33	✓ 908.91	0.88	898.36 ✓
------	-------	-------------	------	----------

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

+50				
-----	--	--	--	--

Lt.

R

Rt.

Spt in P.P. # 190 on Ham line.

$$0-20 = 6.00$$

S.L.

Fc.	120	134	108	114	134	150	114	110	109
86	100	75	58	50	36	27	18	14	9

S.L.

R

14.0	Fc.	117	81	44	30	119	134	129	119	115	107
100	89	89	68	50	37	20	12	7	4		13

S.L.

R

FC.	SS	14.1	10.7	6.6	6.2	5.0	1.5	1.4	13.5	13.2	128	124	11.7	11.0
84		100	88	75	63	59	36	15	7	20	10	8	20	

S.S.

S.L.

R

Fc.	135	115	55	44	17	10.4	19	1.1	114	120	132	122	114
	71	95	87	75	70	60	50	38	35	10	7	150	27

S.L.

R

$\frac{2.7}{13}$	$\frac{76}{9}$	$\frac{89}{72}$	$\frac{8.9}{20}$	$\frac{17}{32}$	$\frac{6.9}{32}$
------------------	----------------	-----------------	------------------	-----------------	------------------

S.L.

R

$\frac{26}{9}$	$\frac{6.7}{9}$	$\frac{20}{9}$	$\frac{102}{11}$	$\frac{100}{13}$	$\frac{87}{16}$	$\frac{8.1}{22}$	$\frac{19}{26}$
----------------	-----------------	----------------	------------------	------------------	-----------------	------------------	-----------------

S.L.

R

<u>31</u>	<u>71</u>	<u>100</u>	<u>111</u>	<u>111</u>	<u>96</u>	<u>8.9</u>	<u>8.1</u>
9	9	11	15	19	26	37	

S.L.

R

Fc	157	148	115	69	21	105	10.4	3.7	7.9	97	106	115	119	99	90	84
62	75	70	62	46	29	18	16	8	8	10	11	13	19	28	38	

S.L.

R

Fc	174	(104)	151	120	63	50	57	96	119	118	125	125	117	103	85	90
63	75	17	63	50	22	19	10	5	9	9	12	13	19	28	37	

Fc SS,	17.8	141	5.3	5.6	3.3	16	16	84	17.3
67	81	75	67	57	50	43	36	22	

Fc	SS	188	107	87	62	28	22	52	92
64	75	64	37	30	40	33	25	16	16.4

908.91

3+ 00

I.P.

0.02

896.23 ✓

12.70

896.21 ✓

4

87.6

150

84.7

5

83.8

I.P.

10.59

901.98 ✓

5.34

896.89 ✓

B.M.

0.35

901.15 ✓

Lt

E

Rt

$$\frac{Fc}{62'} = \frac{282}{75} \frac{180}{62'} \frac{140}{50} \frac{100}{39} \frac{66}{25} \frac{69}{20} \quad (16.8)$$

$$\frac{Fc}{63} = \frac{187}{75} \frac{116}{63} \frac{90}{50} \frac{68}{37} \frac{44}{18} \frac{42}{12} \frac{92}{4} \frac{101}{7} \frac{102}{19} \frac{76}{26} \frac{72}{27} \frac{65}{27}$$

$$\frac{Fc}{68} = \frac{149}{100} \frac{100}{75} \frac{94}{68} \frac{71}{52} \frac{58}{44} \frac{58}{29} \frac{72}{20} \frac{86}{13} \frac{114}{6} \frac{115}{6} \frac{112}{16} \frac{86}{24} \frac{78}{35} \frac{69}{35}$$

$$\frac{Fc}{74} = \frac{126}{116} \frac{81}{100} \frac{44}{85} \frac{43}{75} \frac{48}{50} \frac{77}{29} \frac{76}{21} \frac{135}{16} \frac{129}{8} \frac{140}{6} \frac{129}{3} \frac{117}{12} \frac{86}{21} \frac{79}{31} \frac{70}{31}$$

(81.33)

$$+02 = \text{End } 24" \text{ Conc. Curb } \frac{149}{6'}$$

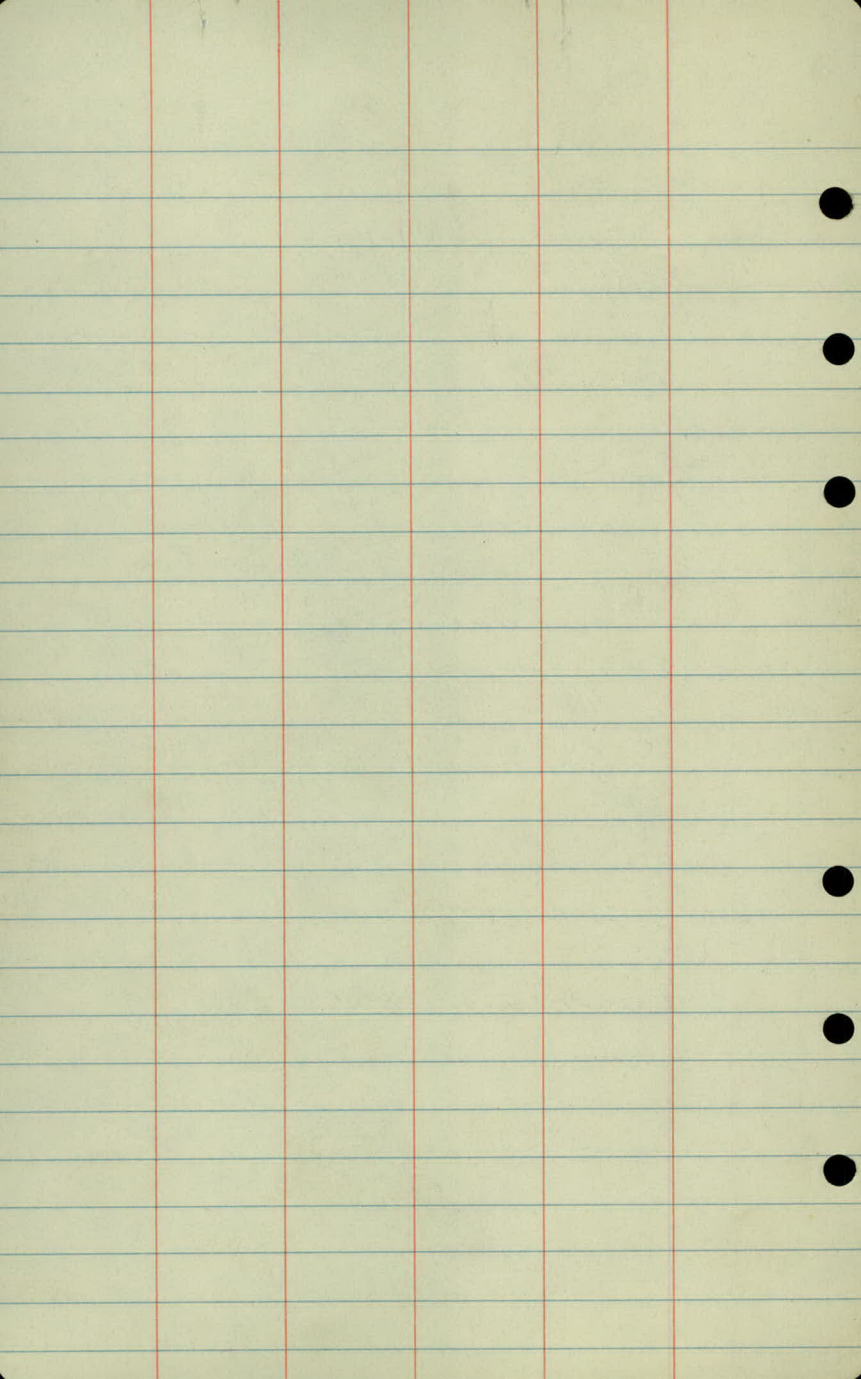
(24" X 104' Conc. Curb)

$$+26 = \text{End } 24" \text{ Conc. Curb } \frac{154}{93'} \quad (80.83)$$

Spt in P.P. #130 on Hamling

L = Approx E of S.T.H. #51

S.L. = Approx Shoulder Line of #51.



Hamline Ave.

StH. #51 Conn.

Slope Stakes.

Line #1

Sta	+	+	-	Grade
B.M.	0.79			901.17
T.P.	2.57	900.27	926	897.10
6	+90			948
7	+10			94.6
	+30			94.4
	+60			94.1
8		Elev. E. End 24" Conc. Culv. = 856.27 2.4% Grade in Ditch & Culv.		93.7
	+50			93.5
	+70			93.6
9				94.0
	+32			94.6
	+45			94.8
	+97			96.7

Gr. Rod.

Lt.

E

Rt.

Spk in R.R. # 30 Hamling Ave.

$$5.9 \quad \begin{array}{r} 27.9 / 10.2 \\ -4.3 \end{array} \quad \begin{array}{r} 12.3 \\ -6.4 \end{array} \quad \begin{array}{r} 7.7 \\ -1.8 / 20.4 \end{array}$$

$$6.2 \quad \begin{array}{r} 28.5 / 10.7 \\ -4.5 \end{array} \quad \begin{array}{r} 11.2 \\ -5.0 \end{array} \quad \begin{array}{r} 9.0 \\ -2.8 / 23.9 \end{array}$$

$$6.6 \quad \begin{array}{r} 17.7 / 7.5 \\ -0.9 \end{array} \quad \begin{array}{r} 9.4 \\ -2.8 \end{array} \quad \begin{array}{r} 10.0 \\ -3.4 / 25.2 \end{array}$$

CON
30.2

$$6.8 \quad \begin{array}{r} 21.6 / 9.0 \\ -2.2 \end{array} \quad \begin{array}{r} 9.5 \\ -2.7 \end{array} \quad \begin{array}{r} 11.2 \\ -4.4 / 28.2 \end{array}$$

$$6.7 \quad \begin{array}{r} 30.1 / 8.4 \\ -1.7 \end{array} \quad \begin{array}{r} 11.0 \\ -4.3 \end{array} \quad \begin{array}{r} 11.9 \\ -5.2 / 30.6 \end{array}$$

$$6.3 \quad \begin{array}{r} 22.5 / 8.8 \\ -2.5 \end{array} \quad \begin{array}{r} 12.4 \\ -6.1 \end{array} \quad \begin{array}{r} 11.1 \\ -4.7 / 29.1 \end{array}$$

$$5.7 \quad \begin{array}{r} 30.0 / 10.7 \\ -5.0 \end{array} \quad \begin{array}{r} 11.4 \\ -5.7 \end{array}$$

$$3.6 \quad \begin{array}{r} 10.0 \\ -4.4 \end{array} \quad \begin{array}{r} 10.1 \\ -6.5 / 39.5 \end{array}$$

Sta.	+	A	-	Grade
		700.27		
10	+0.3			96.8
	+17			97.4
	+50			98.4
B.M.	8.66	704.83		901.17
	+6.5			98.8
11				99.5
	+50			900.00
12				899.9
	+32.31			99.5
	+50			99.2
13				97.9
	+50			96.3
B.M.				901.17

Gr. Rod

Lt

R

Rt

2.9

$$\frac{94}{-6.5}$$

$$\frac{7.6}{-9.7/29.1}$$

1.9

$$\frac{28.7/6.8}{4.9}$$

$$\frac{6.4}{-4.5}$$

$$\frac{4.1}{-2.2/21.6}$$

Spt. in P.R. # 30

6.0

$$\frac{28.8/10.6}{-9.6}$$

$$\frac{7.3}{-1.3}$$

5.3

$$\frac{28.1/10.9}{-9.7}$$

$$\frac{5.4}{-0.1}$$

4.8

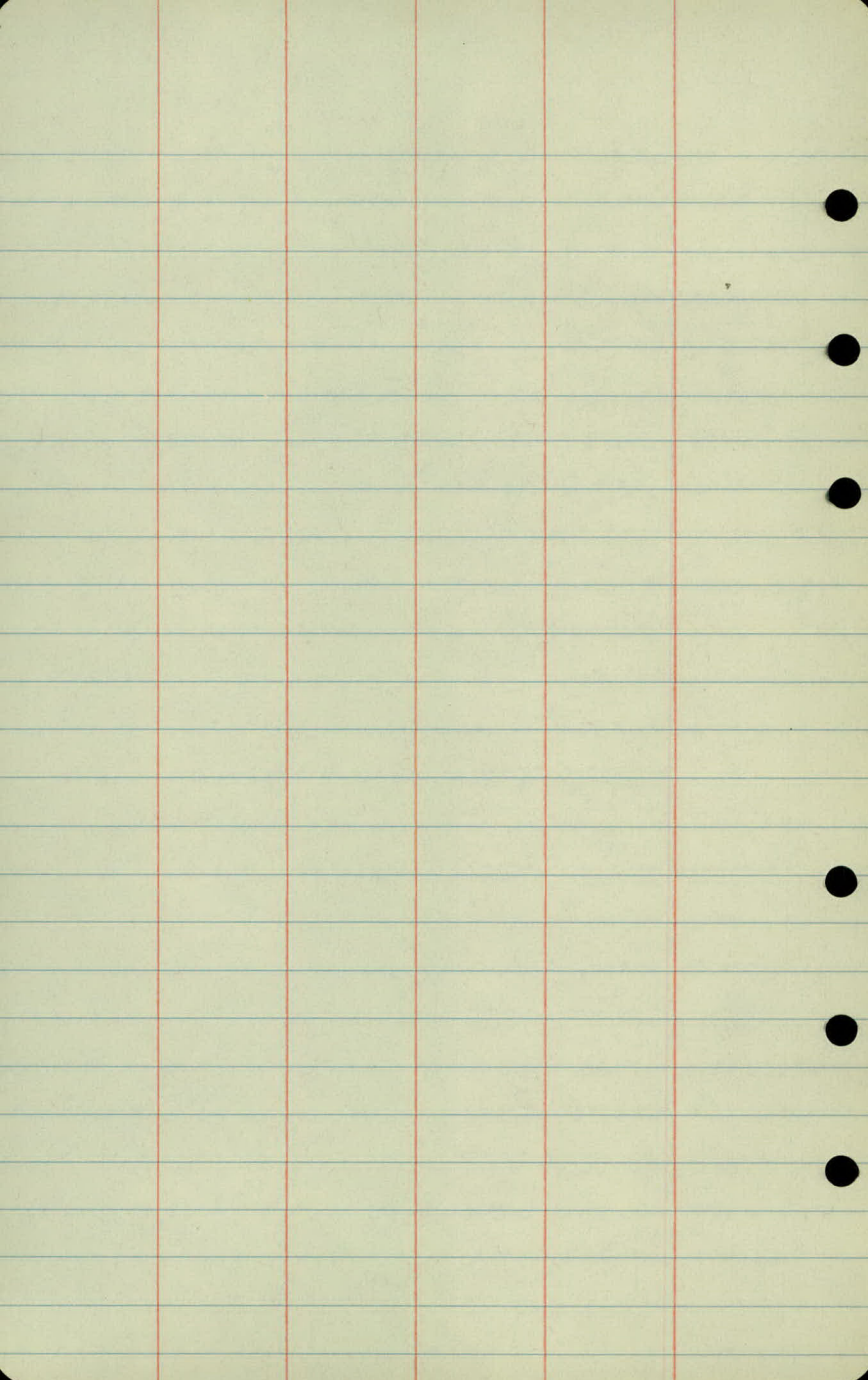
$$\frac{18.3/5.9}{-1.1}$$

$$\frac{4.8}{0.0}$$

4.9

5.3

Spt. in P.R. # 30



St. H. # 51 Conn.

Line # 2

Slope stakes.

Sta.	+	x	-	Grade
B.M.	0.63	901.80		901.17
207	+50			95.9
	+80			95.9
208				95.9
	+50			95.9
T.P.	3.65	895.95	7.50	892.30
209				95.7
	+50			95.2
210				94.4
	+50			93.3
211				92.1
	+50			91.1
	+60			90.9

Gr. Rod

14

4

14.

Spk in P.P. # 20

5.9

20.4

5.9

5.9

$$19.2 / \begin{array}{r} 7.3 \\ -1.4 \end{array}$$

$$\begin{array}{r} 7.6 \\ -1.7 \end{array}$$

$$\begin{array}{r} 8.9 \\ -2.0 \end{array} / 29.0$$

5.9

$$38.9 / \begin{array}{r} 18.2 \\ -7.8 \end{array}$$

$$\begin{array}{r} 9.0 \\ -3.1 \end{array}$$

$$\begin{array}{r} 12.9 \\ -7.6 \end{array} / 36.0$$

00.3

$$33.6 / \begin{array}{r} 6.3 \\ -4.2 \end{array}$$

$$\begin{array}{r} 4.3 \\ -2.0 \end{array}$$

$$\begin{array}{r} 6.6 \\ -6.3 \end{array} / 33.9$$

0.8

$$33.0 / \begin{array}{r} 4.8 \\ -4.0 \end{array}$$

$$\begin{array}{r} 5.0 \\ -4.2 \end{array}$$

$$\begin{array}{r} 6.0 \\ -5.2 \end{array} / 30.6$$

1.6

$$31.5 / \begin{array}{r} 7.1 \\ -5.5 \end{array}$$

$$\begin{array}{r} 5.3 \\ -3.7 \end{array}$$

$$\begin{array}{r} 5.8 \\ -5.2 \end{array} / 30.6$$

2.7

$$28.5 / \begin{array}{r} 7.2 \\ -4.5 \end{array}$$

$$\begin{array}{r} 5.5 \\ -2.8 \end{array}$$

$$\begin{array}{r} 7.9 \\ -5.2 \end{array} / 30.6$$

2.9

$$23.2 / \begin{array}{r} 7.3 \\ -4.4 \end{array}$$

$$\begin{array}{r} 5.2 \\ -1.3 \end{array}$$

$$\begin{array}{r} 6.0 \\ -2.1 \end{array} / 21.3$$

4.9

Sta	+	π	-	Grade
-----	---	-------	---	-------

212				
-----	--	--	--	--

				90.3
--	--	--	--	------

150				
-----	--	--	--	--

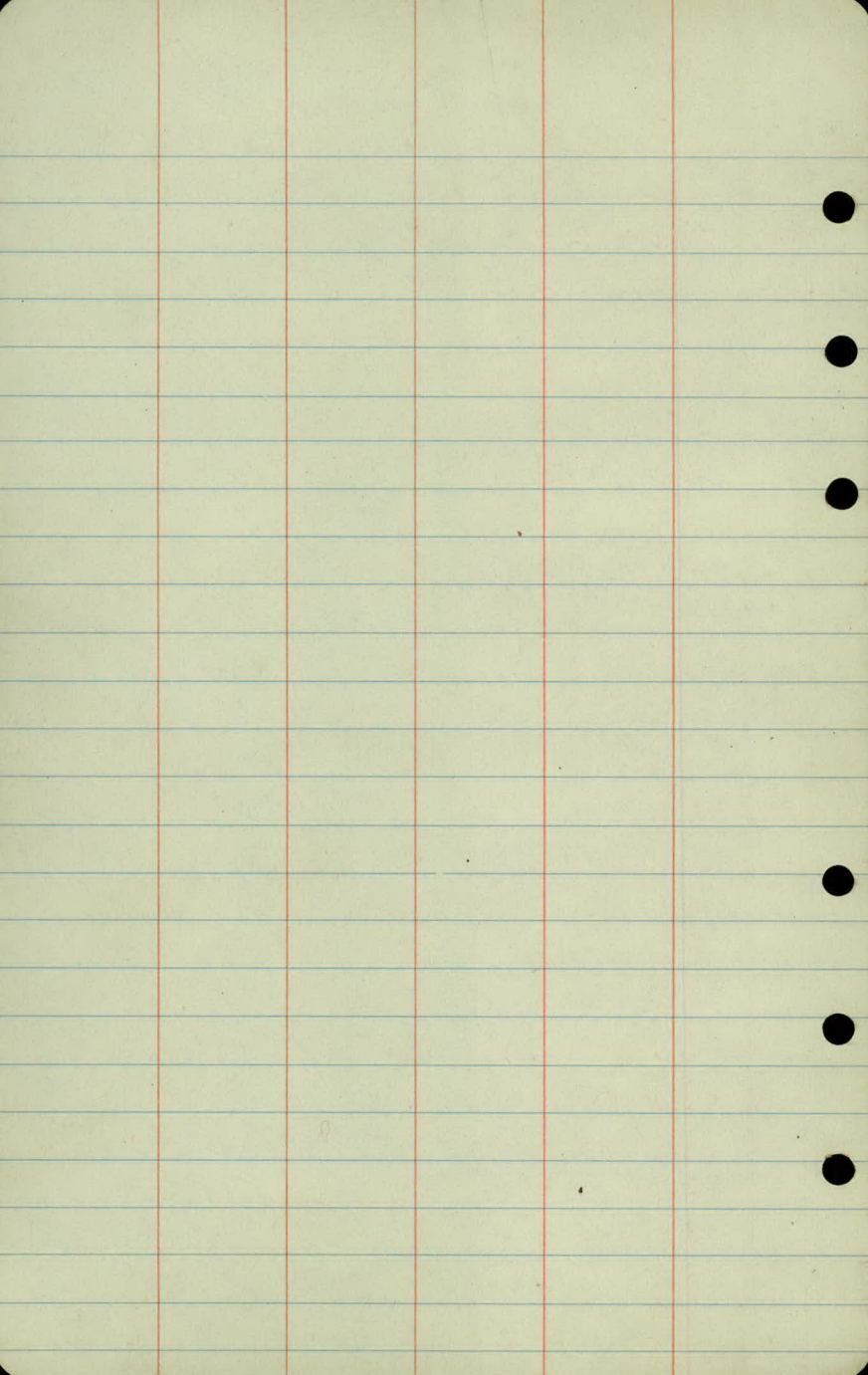
				89.7
--	--	--	--	------

Gr. Rod.

Lt.

R.

Rt.



1
X-Sections

Hamline Ave
"C" to "C2" Plan Survey

DRAINAGE SURVEY
between
Judith Ave & "C2"
1955

Sta	+	π	-	Elev	
BM	2.64	925.32 [✓]		922.68	✓

110 +50

111

+50

112

+50

+78.43

113 Gutter Line Rt

FX
AM
LC
MMo

April 7, 1955
Clear Cool 40°

2

RR Spike in 18" Oak 34' H Sta 113135

247
0.6

243
0.6

242
1.1

233
2.0

228
2.5

Then
Down

23.4	23.2	22.0	21.8	22.3	22.67	22.5	22.3	22.3
19	21	33	35	30	265	28	30	30
50	30	24	18	10		21	50	100
								300

22.9	22.7	21.2	21.3	21.9	22.3	22.1	21.5	21.1
2426	41	40	34	30	32	38	42	
50	30	25	19	10		11	26	50

Sta	+	π	-	Elev
		925.32		

113+11.43 Property Line

+50

114

+50

115

+195 S. End Ent Culvert

14

RH

22.5	22.8	21.2	21.0	21.7	22.2	21.9	21.6	21.4	21.8
28	25	41	43	36	31	34	37	39	35
0	35	26	20	11	10	20	20	26	50

21.8	21.5	20.3	20.6	21.4	21.9	21.5	21.3	21.0	21.5	22.3	23.1
35	38	50	47	39	34	38	40	43	38	30	22
15	30	23	18	10	9	17	18	28	50	Ho	

21.2	21.3	20.2	20.7	21.2	21.2	20.9	21.4	22.0
41	40	51	46	41	36	41	44	39
50	31	23	17	11	10	18	28	50

20.4	20.2	19.8	19.9	20.8	21.2	20.7	20.2	20.7	21.5	22.1
49	51	55	54	45	41	46	51	46	38	32
50	27	23	17	10	11	19	32	50	Ho	

19.7	19.6	19.5	19.1	19.4	20.0	20.0	19.7	19.6	20.09	20.65
56	57	58	62	59	53	49	53	56	57	52
50	32	23	22	17	10	10	16	24	28.7	50

18.54
6.78
FL

conc

✓
925.32

115 + 39.5 N End Ent Culvert

+ 50

116 + 88 Ent Rt

116

+ 50

+ 63 $\frac{1}{2}$ Ent Rt

LT

4

RT

4

18.14
7.18
FL

19.4	19.5	19.1	19.3	18.3	18.5	19.0	19.3	18.9	18.4	18.5	19.6	20.0	21.0
5.4	5.8	6.2	6.0	7.0	6.8	6.3	6.0	6.4	6.9	6.8	5.7	5.3	4.3
10	50	34	25	22	16	11	10	18	26	35	50	40	

17.51
7.81
32.8
Cone Ent

17.0	16.9	16.5	16.5	17.1	17.4	17.2	16.7	17.1	17.7	18.2
8.3	8.4	8.8	8.8	8.2	7.9	7.6	8.1	8.6	8.2	7.6
50	33	26	19	14	10	10	19	26	50	40

16.8	16.3	13.6	14.1	15.3	16.1	15.8	16.0	15.7	15.4	16.2	16.6
8.5	9.0	11.7	11.2	11.0	9.2	8.9	9.3	9.6	9.9	9.1	8.7
50	A2	34	21	17	10		9	16	17	28	50

16.24
9.08
32.3

Sta + π ✓ - Elev
925.32

117

BM 3.84 917.41 ✓ 11.75 ✓ 913.57

+50

118

+12

+1A Culvert Rt 15" C.M

LT

RT

15.0	14.8	12.9	13.0	14.4	14.8	14.3	14.5
10.3	10.5	12.4	12.3	10.9	10.5	11.0	10.8
50	38	34	23	17	10	16	18

16.7
86
Ho 50

16.2
9.1
50

15.5
9.8
33

RR.

Spike in PP LT Sta 117+49

14.7	12.7	12.2	13.4	13.8	14.0	13.7	13.6	13.1	12.9	14.2	16.6	17.3
2.7	4.7	5.2	4.0	3.6	3.4	3.7	3.8	4.3	4.5	3.2	0.8	9.1
50	34	25	19	10		10	15	17	24	31	50	

13.6	12.9	11.4	11.4	12.6	13.0	12.8	12.7	11.8	12.3	13.4
3.8	4.5	6.2	6.2	4.8	4.4	4.6	4.7	5.6	5.1	4.0
50	34	29	25	21	10	10	17	21	32	50

13.6	12.5	11.4	11.6	12.4	12.9	12.6	12.4	11.1	11.0	11.1
3.8	4.9	6.0	5.8	5.0	4.5	4.5	4.8	5.0	6.3	6.4
50	33	28	23	21	10		9	17	23	35

10.99
F.L.
6.42
2.2

Sta + Δ
917.41 ✓

118 + 19

+32 Gutter Line

+47 $\pm$ Judith

+62 Gutter Line

+74 15" C.M.

+76 Property Line

LT			RT		
12.8	12.2	FL 10.3	12.8	12.5	12.6
4.6	5.2	C.M. 7.1	4.9	4.9	4.8
50	38	23 23 7 11	9	17	19 26 50

12.4	12.3	12.3	12.6	12.5	12.4	12.0	11.9	12.0
5.0	5.1	5.1	4.8	4.9	5.0	5.4	5.5	5.4
50	38	23	11		7	23	34	50

14.2	13.7	12.6	12.4	12.4	12.4	12.4	13.0	13.5
3.2	3.7	4.8	5.0	5.0	5.0	5.0	4.4	3.9
150	100	50	31	11	10	24	50	150

12.0	11.8	12.3	12.5	12.3	12.1	12.0	12.1
5.4	5.6	5.1	4.9	5.1	5.3	5.4	5.3
50	28	12		9	18	32	50

10.13
F.L
7.28
22

12.2	11.7	11.4	12.2	12.5	12.3	12.0	10.8	11.8	12.1
5.2	5.7	6.0	5.2	4.9	5.1	5.4	6.6	5.6	5.1
50	34	22	12		9	15	22	25	50

Sta + x - Elev

912.41

+79 Culvert 15" c.m

19

+50

20

+50

21

LT

4

RT

7

12.0	11.3	11.4	09.91	F.L	11.4	12.2	12.3	12.1	11.8	10.7	10.6	10.6
5.4	6.1	6.0	7.50	6.0	5.2	5.1	5.3	5.6	6.7	6.8	6.8	✓
50	40	26	26	21	11	11	9	15	22	32	50	

11.7	10.9	11.1	12.2	12.5	12.1	11.8	10.5	10.3	10.4
5.7	6.5	6.3	5.2	4.9	5.3	5.6	6.9	7.1	7.0
50	34	23	11	9	14	18	28	50	✓

10.9	10.5	10.6	11.3	12.1	12.0	11.2	09.9	08.5	08.5	09.7	09.9
6.5	6.9	6.8	6.1	5.3	5.0	5.4	6.2	7.5	8.9	8.9	7.7
50	32	23	21	11	9	15	17	23	28	33	50

10.4	10.3	10.6	11.3	12.2	12.5	12.1	11.2	08.7	08.7	09.9	10.2
7.0	7.1	6.8	6.1	5.2	4.9	5.3	6.2	8.7	8.7	7.5	7.2
50	34	23	21	12	9	17	24	32	37	50	✓

10.0	10.1	11.7	12.3	12.4	12.0	11.2	08.6	08.6	09.7	10.2
7.4	7.3	5.7	5.1	5.0	5.4	6.2	8.8	8.8	7.7	7.2
50	25	19	11	9	18	24	30	37	50	✓

10.1	10.0	11.5	12.1	12.3	12.1	11.0	08.4	08.2	09.4	10.1
7.3	7.4	5.9	5.3	5.1	5.3	6.4	9.0	9.2	8.0	7.3
50	28	20	13	9	17	24	28	36	50	✓

STA + π - ELEV

917.41 ✓

121 + 50

122

B. M

7.40

919.01 ✓

5.80

911.61 ✓

+33

+41

+50

FX
AM
LC
MMc

April 11, 1955

8

LT

Z

RT

09.6	09.6	10.9	12.0	12.4	11.9	11.2	08.4	08.2	09.3	10.1	10.5
7.8	7.8	6.5	5.4	5.0	5.5	6.2	9.0	9.2	8.1	7.3	6.9
50	26	20	12		8	17	23	28	33	39	50
08.8	09.4	11.1	11.9	12.4	12.0	11.4	08.1	08.1	09.0	11.0	
8.6	8.0	6.3	5.5	5.0	5.4	6.0	9.3	9.3	8.4	6.4	
50	25	21	12		8	18	22	28	33	50	

P. Pole 28' LT' STA 121 + 70

08.2	06.99	11.5	12.1	12.4	12.1	11.7	07.39	08.1
10.7	12.02	7.5	6.9	6.6	6.9	7.3	11.62	10.9
35	24	21	12	8	18	22	26	
FL 18' SCP				FL 18' SCP				
07.9	11.1							
50								

09.8	09.5	09.3	11.5	12.2	12.6	12.2	11.8	10.9	11.2
9.2	9.5	9.7	7.5	6.8	6.4	6.8	7.2	8.1	7.8
50	36	26	21	12		9	17	33	50

09.9	10.4	11.6	12.3	12.7					
9.1	8.6	7.4	6.7	6.3					
50	31	21	12						

Dup.

✓

Sta + π ✓ - Elev
919.01

123

+50

124

+50

125

+50

LT

RT

11.8	12.4	12.6	13.8	13.3	12.8	12.4	12.1	12.1
72	66	64	60	57	62	66	69	69 ✓
50	34	23	12	10	15	34	50	

12.6	13.4	13.2	13.5	13.3	13.6	13.1	13.4	13.4 ✓
64	56	58	55	52	54	59	56	56
50	28	22	12		9	16	28	50

13.5	13.9	13.9	13.7	14.0	14.4	14.0	13.6	13.9	14.2 ✓
55	51	51	53	50	46	50	54	51	48
50	32	23	21	12		8	15	25	50

14.3	14.7	14.3	13.9	14.3	14.6	14.4	14.3	14.0	14.3 ✓
47	43	47	51	47	44	46	47	50	47
50	30	23	21	14		8	15	29	50

15.1	15.4	14.3	14.4	14.6	14.4	13.9	13.7	14.0
39	36	47	46	44	46	51	53	50 ✓
50	30	22	12		8	20	34	50

15.6	15.7	14.0	14.2	14.5	14.3	13.4	13.5	12.9 ✓
34	33	50	48	45	47	56	55	61
50	30	21	12		8	21	31	50

Sta + π / - Elev
9/19.01

126

+50

129

+10 $\neq$ Ditch Rt

+50

10

L

11.

4.1	4.7	5.1	5.1	4.8	4.9	5.6	6.7	7.9
0	30	21	12	12	8	17	26	50
14.9	15.3	13.9	13.9	14.2	14.1	13.4	12.3	11.1

55.9	55.13.1	55.13.4	55.13.5	55.13.7	55.12.7	55.11.7	55.11.0
50	25.6	25.5	25.1	25.3	18	26	50

6.7	5.8	6.1	5.9	5.5	5.8	6.7	9.2	8.8	8.9
50	29	21	13	135	8	17	25	37	50
12.3	13.2	12.9	13.1		13.2	12.3	9.8	10.2	10.1

Дур

13.9	13.1	12.1	8.9	8.6
5.6	5.9	6.9	10.1	10.4
8	16	25	50	

79	11.1	12.0	12.7	13.1	12.7	11.9	09.2	09.0
50	20	28	6.3	5.9	6.3	71	9.8	100
			13		8	15	25	33

09.9	10.0
9.1	9.0
50	40

Sta + ∇ ✓
919.01

128

+18' x-Drain to left

T.P. 9.63 919.23 9.41 909.60 ✓

+50

129

08.5 08.6 10.6 11.4 12.3 12.7 12.2 11.6 08.9 08.9
 10.5 9.4 9.0 7.6 6.7 6.3 6.8 7.4 10.1 10.1
 52 47 30 22 12 8 16 26 31
 Ditch

10.1 9.9
 8.9 9.1
 50 35

08.08 10.5 11.5 12.2 12.6 12.2 11.5 08.53 08.8
 10.93 8.5 7.5 6.8 6.4 6.8 7.5 10.4 10.2
 30 27 19 12 8 16 25.5 32
 FL 15'50" FL

09.8 10.0 10.1 10.3
 9.2 9.0 8.9 8.7
 38 50 50 38

10.1 09.9 10.3 11.6 12.3 12.6 12.2 11.6 10.4 09.8 10.5
 9.1 9.3 8.9 7.6 6.9 6.6 7.0 7.6 8.8 9.4 8.7
 50 41 29 21 13 8 15 18 35 50

12.1 11.2 12.1 12.7 13.1 12.7 12.1 11.0 11.2 11.4
 7.1 8.0 7.1 6.5 6.1 6.5 7.1 8.2 8.0 7.8
 50 40 23 13 8 15 18 36 50

Sta	+	π ✓	-	Elev
-----	---	---------	---	------

9/9.23

129+50

130

+50

131

+225 Prop Line

+37 Gutter Line

17

At

12

13.6	13.6	13.8	13.9	13.8	13.3	12.4	12.2	12.2
56	56	54	53	54	59	68	70	70
50	34	13	8	15	23	31	50	

14.9	14.6	14.2	14.5	14.6	14.5	13.7	13.1	12.4	13.6	13.3
4.3	1.6	5.0	4.7	4.6	4.7	5.5	6.1	6.8	5.6	5.9
50	28	19	12		9	18	21	26	39	50

15.6	15.1	14.5	14.7	14.8		14.6	13.7	13.1	13.1
3.6	4.1	4.7	4.5	4.4		4.6	5.5	6.1	6.1
50	32	25	14			8	20	23	50

15.3	15.0	14.8		15.0	14.9	14.3	13.6	13.6
3.9	4.2	4.4		4.2	4.3	4.9	5.6	5.6
50	29	13		8	17	31	50	

15.6	15.4	14.8	14.9	15.3	15.0	14.6	15.0	14.5
3.6	3.8	4.4	4.3	3.9	4.2	4.6	4.2	4.7
50	34	18	13	8	14	34	50	

14.8	14.7	14.5	15.0	15.3	15.1	14.9	14.9	14.9
4.4	4.5	4.7	4.2	3.9	4.1	4.3	4.3	4.3
50	34	24	13		9	13	28	50

Sta + π / - Elev

919.23

131+5530 $\pm$ C. Rd "C2"

132

+50

133

+50

134

BM

3.73

915.50

915.49

2

14

14

16.5	16.2	15.5	15.1	15.2	15.5	15.4	15.2	15.4	15.9
2.7	3.0	3.7	4.1	4.0	3.7	3.8	4.0	3.8	3.3
50	100	50	26	12		8	19	50	100

16.7.
2.5
194

16.4
2.8
200

16.3
2.9
150

16.2
3.0

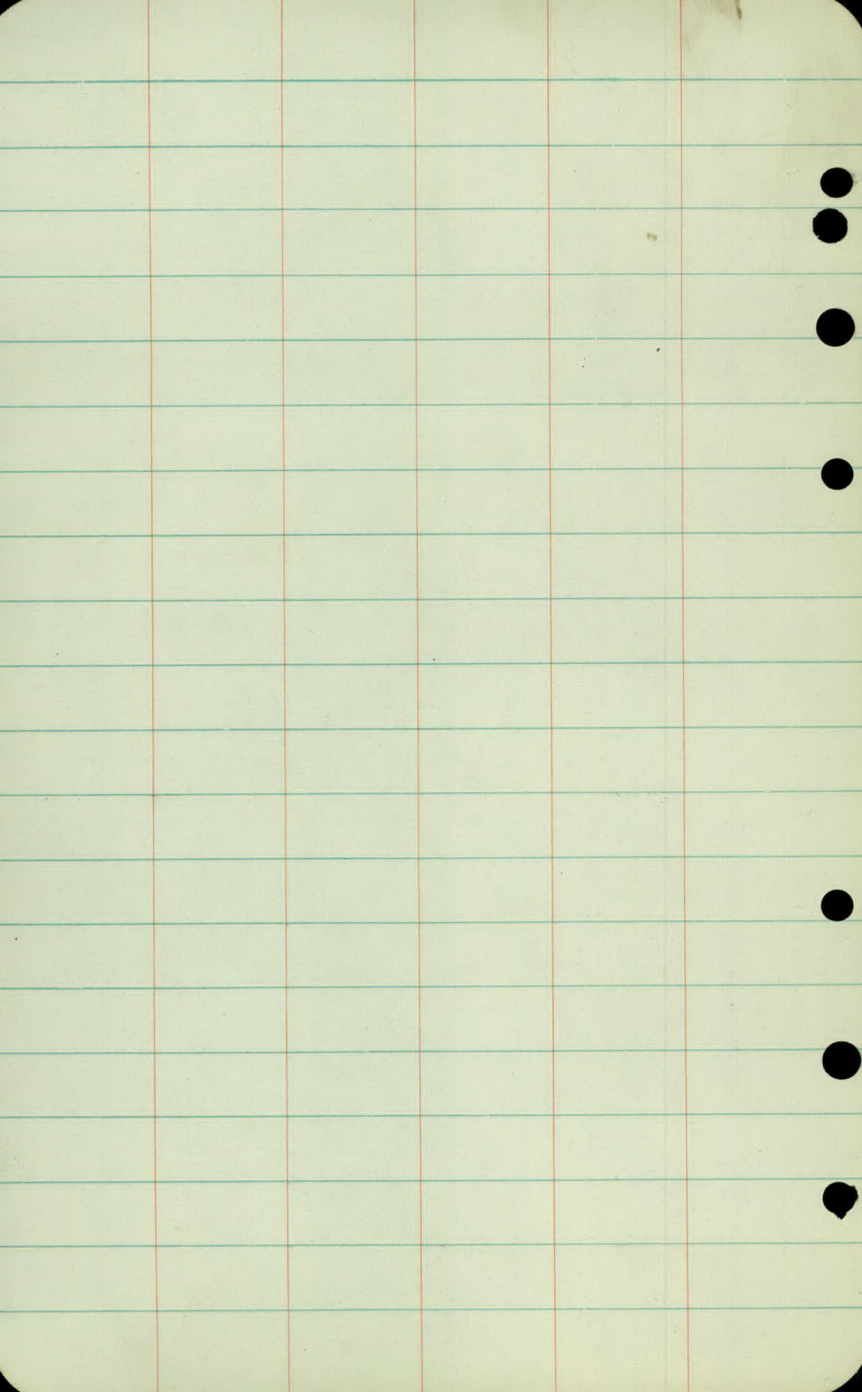
16.8
2.4

17.0
2.2

17.3
1.9

17.5
1.7

Top Mont Ctr. Sec 3 "C2" + Hamline



Ditch Profile

Lt. Sta 27+15

3 pages

Sta + π - Elev

BM 6.51 918.12 (911.61)

27+15 Hamline Ave = 417 913.95 (913.92)

0+00 $\angle$ Hamline

0+12

+21

+29

+50

+80

1

+50

2

908.08
FLW.

FK
LC
MMc

May 5 1955
E Windy

15

Spike in P.P. 28' Lt Sta 121+70

13.47

4.65

13.0

5.1

12.1

5.4

13.1

5.0

12.1

5.4

11.4

6.7

11.5

6.6

10.9

7.2

09.7

8.4

Sta + π - Elev

9/8, 12

2 + 09

+ 21

+ 50

3

8.67

FL

9.92 908.20 908.08

TP

8.45 909.67 (909.60)

May 5, 1955 163

2

09.2

8.9

06.6

11.5

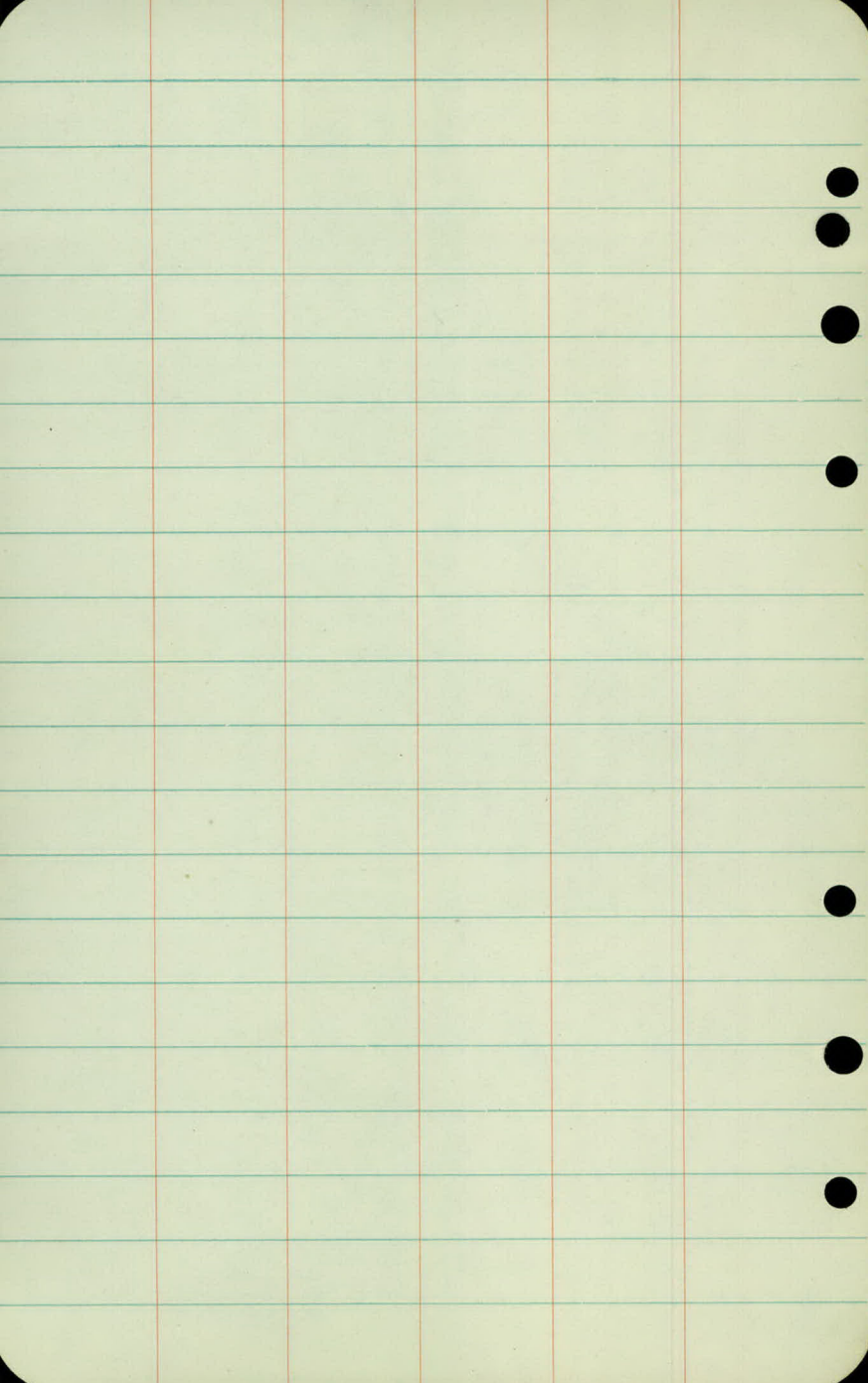
05.8

12.3

03.1

14.4

Page 11



(Hamline Ave)

HURON ST.

Judith to Drainage Ditch

Sta	+	x	-	Elev
B.M	5.53	919.10		913.57
T.P	4.75	919.12	4.73	914.37

0+00

+30

+65

1

+50

2

FA
AM
LC
MMC

April 26, 1935

182

Spike in P.P. Lt. Sta 117+49

Let Cor Iron SW. Cor Judith & Huron

14.7

4.4

14.9

4.2

14.8

4.3

14.6

4.5

14.3

4.8

14.2

4.9

Sta + π -

919.12

2+50

3

+50

4

+50

TP 1.22 918.01 5.33 913.79

5

$\frac{1}{2}$
 14.1
 5.0
 14.0
 5.1
 14.0
 5.1
 13.8
 5.3
 13.8
 5.3
 13.7
 4.3

Sta	+	π	-	Elev
-----	---	-------	---	------

		918.01		
--	--	--------	--	--

5 + 50				
--------	--	--	--	--

6				
---	--	--	--	--

+ 50				
------	--	--	--	--

7				
---	--	--	--	--

+ 50				
------	--	--	--	--

8				
---	--	--	--	--

13.1
4.3

13.7
4.3

13.3
4.7

13.3
4.7

13.0
5.0

12.8
5.2

Sta	+	π	-	Elev
-----	---	-------	---	------

918.01

8+50

+66 Begin Ditch Left

9

+50

10

TP	2.93	917.57	3.37	914.64
----	------	--------	------	--------

BM

5.94	911.63	911.61
------	--------	--------

Lt

21

12.5

5.5

10.5

11.4

12.0

12.3

7.5
100

6.6
50

6.0
Gutter

5.7

12.5

5.5

12.6

5.4

13.0

5.0

Spk in PP Lt Sta 121 + 70

Hamline Ave
Sta + K - Elev
BM 4.53 918.10 (913.57)

118+14 2 Ent / Front Jct 18" x 28' CM

L

Rt

21

Spike in PP Lt Sta 117+49

11.75

11.83

6.35

6.27

FL 18" OM

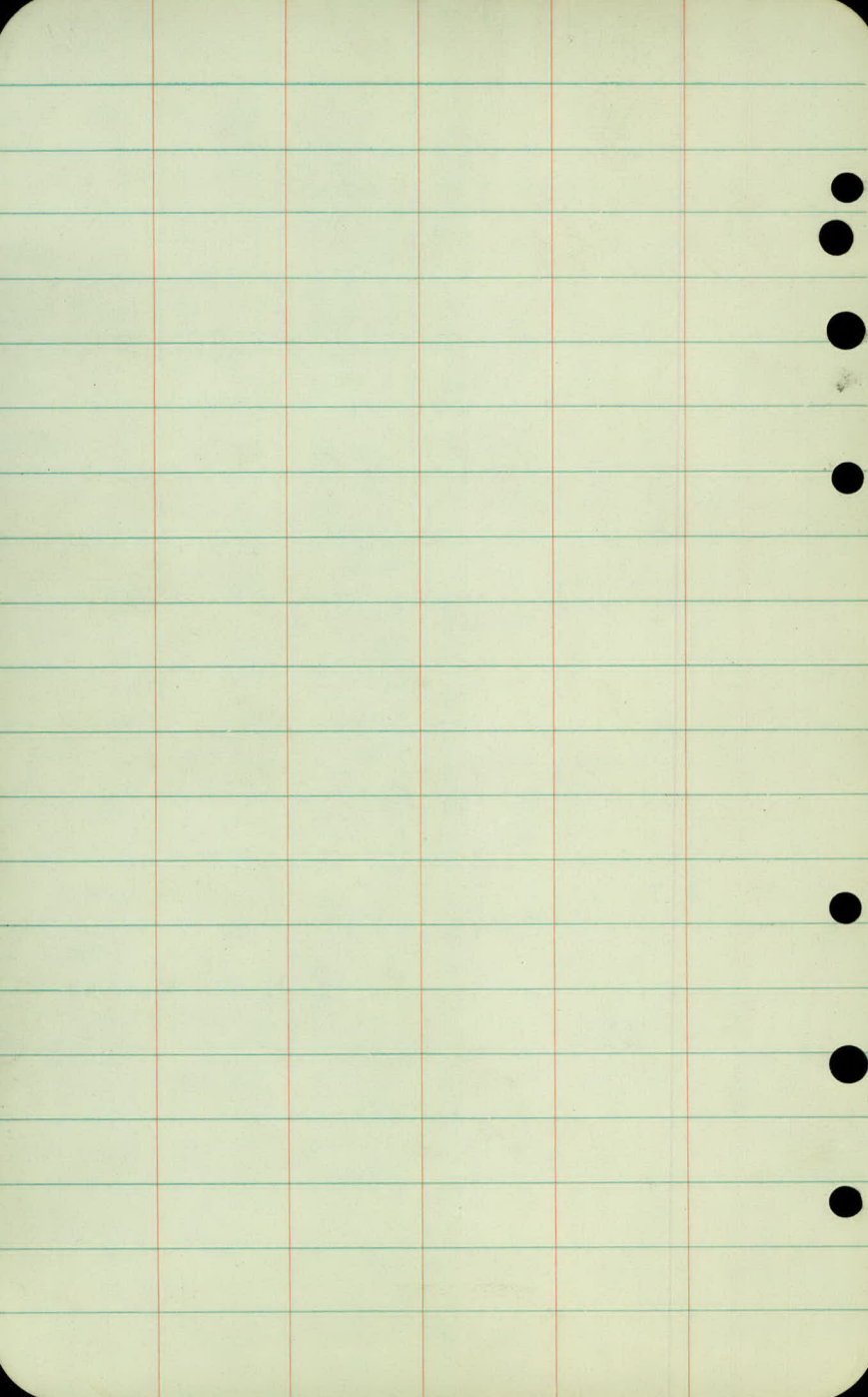
FL 18" OM

West End

East End

89'

117'



Hamline

Co. B d "C" to "C2"

2 pages

Sta	+	π	-	Elev
-----	---	-------	---	------

		917.6		
--	--	-------	--	--

127				
-----	--	--	--	--

				913.5
--	--	--	--	-------

128				
-----	--	--	--	--

				912.7
--	--	--	--	-------

127+50				
--------	--	--	--	--

FA
AM
LC
MNC
EG

2 June 3 1953

23

Lt

Rt

4.01

4.92

11.1	11.2	12.3	12.6	13.1	12.6	11.8	09.2	09.0	10.3	09.8
6.5	6.4	5.3	5.0	4.5	5.0	5.8	8.4	8.6	7.3	7.8
50	41	26	13		8	16	25	32	40	50

11.0	10.8	11.2	11.2	11.0	11.2	07.4	07.3
6.6	6.8	6.4	6.4	6.6	6.4	10.2	10.3
75	87	92	100	127	134	148	150

± Diff

09.5	07.4
8.1	10.2
179	162

