

Bk. 8 - Dr. 14A

OFFICE OF COUNTY ENGINEER
RAMSEY CO. MINN.

Drainage Survey

CASTLEWOOD DITCH

From Soo Line R.R. ^{North to Vicinity of} To Sewage Disp.
Plant N.S.P.

Road Acc't. No.

ate Filed 10-26-37

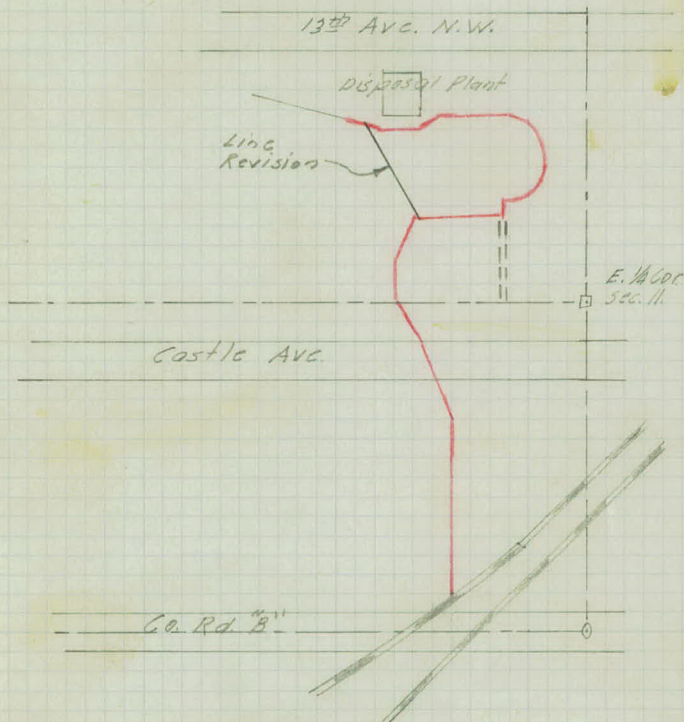
File

Castlewood Ditch

DITCH SURVEY

SEC. 11-

Co. Rd "B" to N. St. Paul Sewerage Disposal Plant.



INDEX.

Align. - 1-6

Topog. - 7-17

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Line Revision - 33-34

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Alignment

Sta	Point	ΔL	ΔR
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18	+74.33	Approx. to Castle Ave.	
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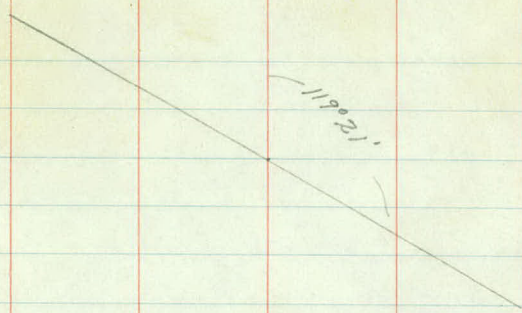
N-29°47'-W.

17	+60.68	P.I.	30°05'
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N-0°18'-E

0	+11.6	P.I.	30°30'
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0	+100	= End East Culvert	
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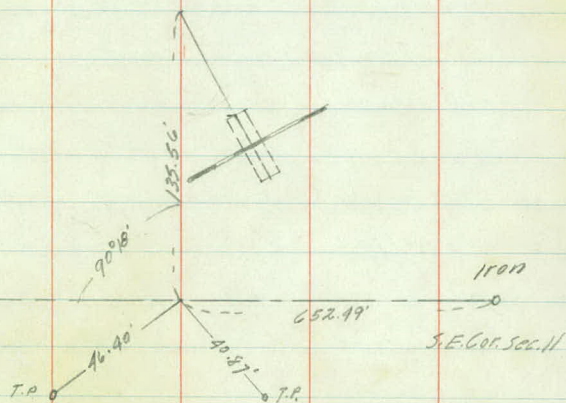


5136.90 Mon. 83 Lt.

3487.20 Iron 0.4' Lt.

1431.27 Iron 0.15' Lt.

0442.5 Iron 0.1' Lt.



Sta.	Point	ΔL	ΔR
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25	+88.30	P.O.T.	
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N-0°05'-W

22	+77.18	P.T.	
----	--------	------	--

+50

16°51' Δ -33°42'

12°59.6' D-29°-

22	+71.45	PI	
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33°42' T-60.48'

22

5°39.6' L-116.21

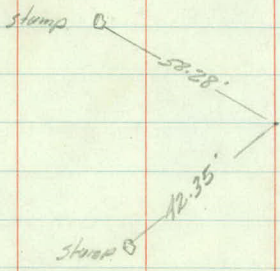
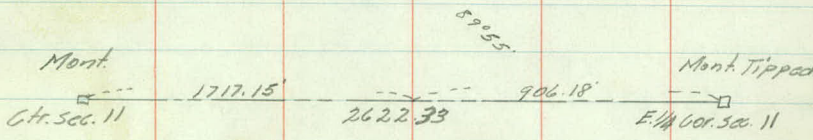
21	+60.97	P.C.	
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0°00' R-199.70'

N-33°47'-W

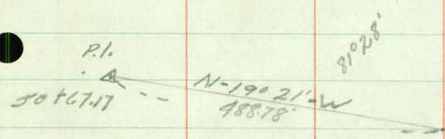
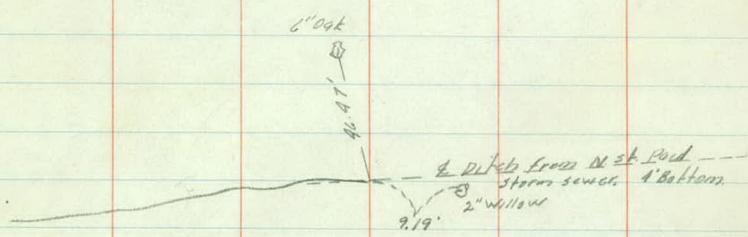
18	+77.63	PI.	
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4°00'



Punch Mark on Rim of N.
End C/LN.

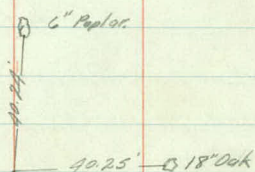
Sta	Point	$\Delta L.$	$\Delta R.$	
37	+18.55 P.I.		38°21'	N-49°18'E
38	170 P.I.		43°10'	N-10°57'E
38	+42.65 P.I.	99°06'		N-32°13'W
32	+41.0 P.I.		43°21'	N-61°53'E
27	100 P.I.		18°37'	N-18°32'E



Sta	Point	ΔL	ΔR	S-73°13'-W.
+33.69	P.T.	37°30.5'	$\Delta - 75^{\circ}01'$	
43		26°03.2'	D-68°-	
42+92.0	P.I.	75°01'	T-68.65	
+50		9°03.2'	L-110.32'	
42 +23.37	P.C.	0°00'	R-89.42'	

41 + 67.29 33°45'

+48.79	P.T.	23°48.5'	$\Delta - 47^{\circ}21'$	N-105°4'-E.
41		15°37.4'	D-33°-	
40 +52.5	P.I.	47°21'	T-77.19'	
+50		7°22.4'	L-143.48'	
40 +08.31	P.C.	0°00'	R-176.05'	N-49°18'-E.



Sta.	Point	ΔL	ΔR
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50	+67.17	P.I.	
----	--------	------	--

N-81°48'W

49	+00	P.I.	
----	-----	------	--

27°43'

S-70°29'W

48	+09.7	P.I.	
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41°21'

S-29°08'W

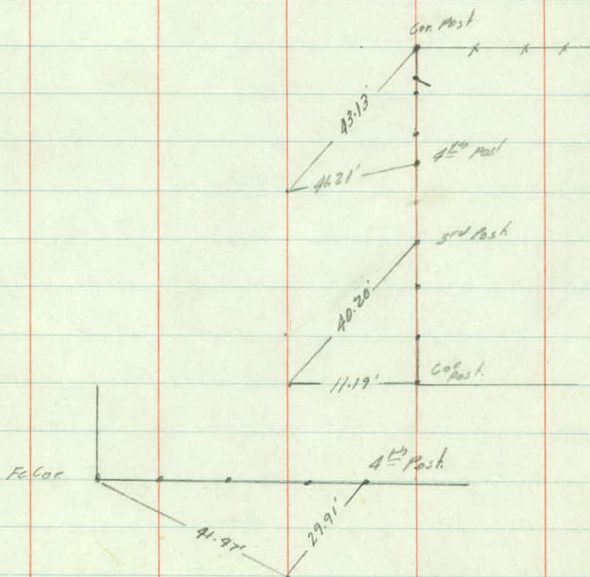
47	+07.6	P.I.	
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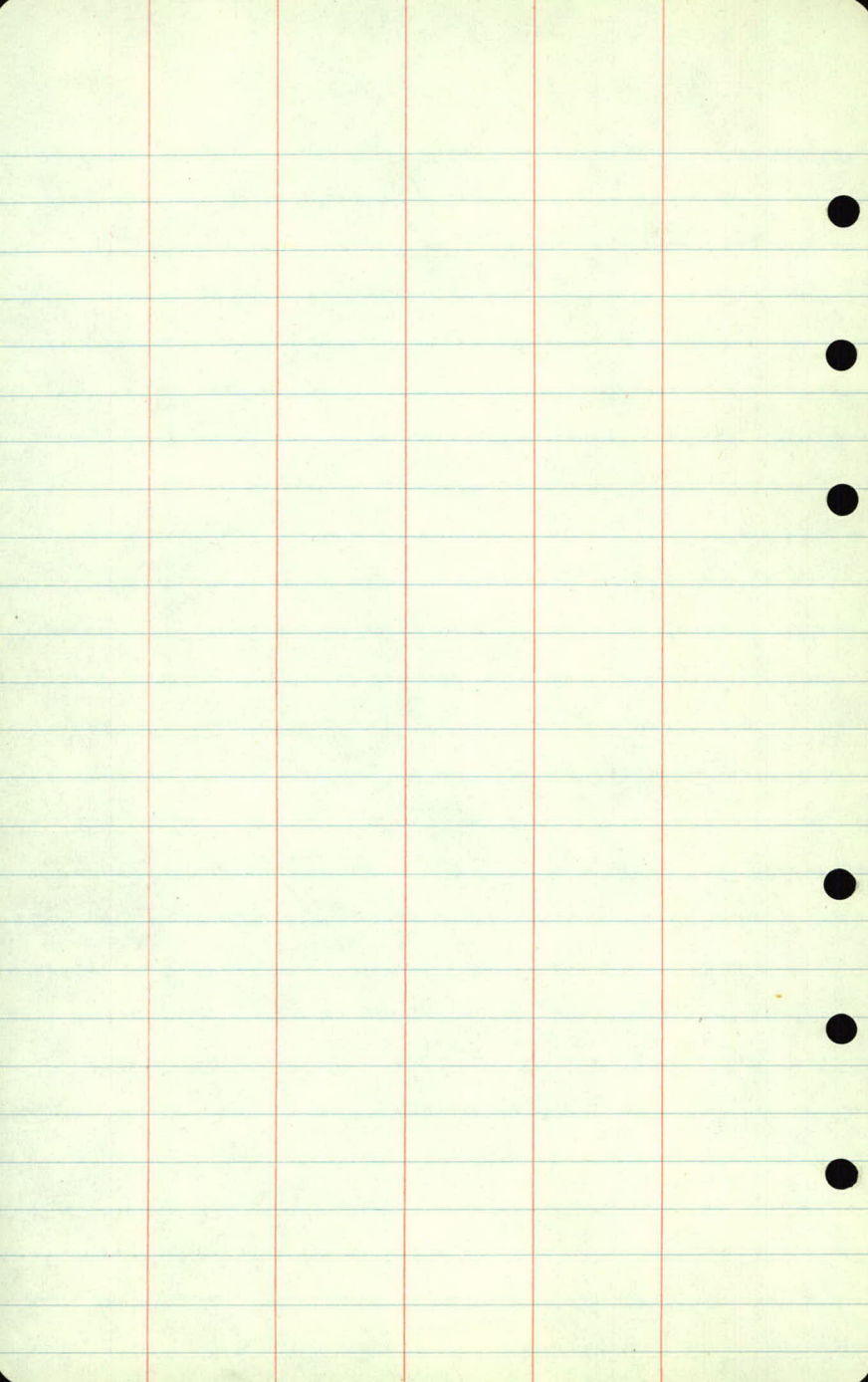
44°05'

S-73°13'W

81°25'

6





Topography

175.800 Pa-7'

5

5'

4

5'

3

25'

2

2'

1

1'

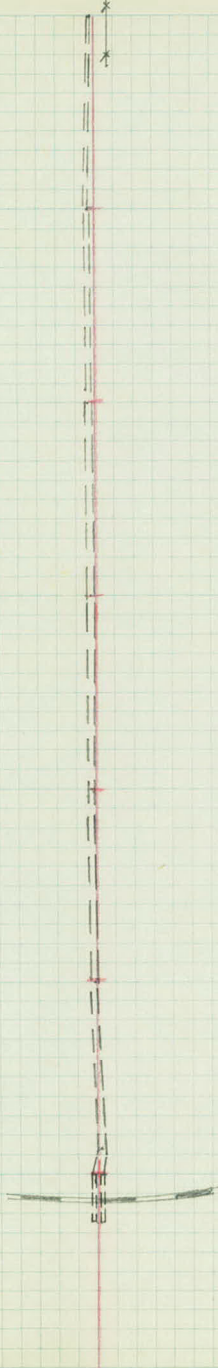
0

2' + 12'

N. End Double 36" Conc Culv.

- 12" 4. Track

- 25" S. End Double 36" Conc Culv.



12

0.0

172-FC Loc-3'

11

0.0

FC-7'

10

0

172-FC Loc-7'

9

1'

FC-6'

8

2'

FC-7'

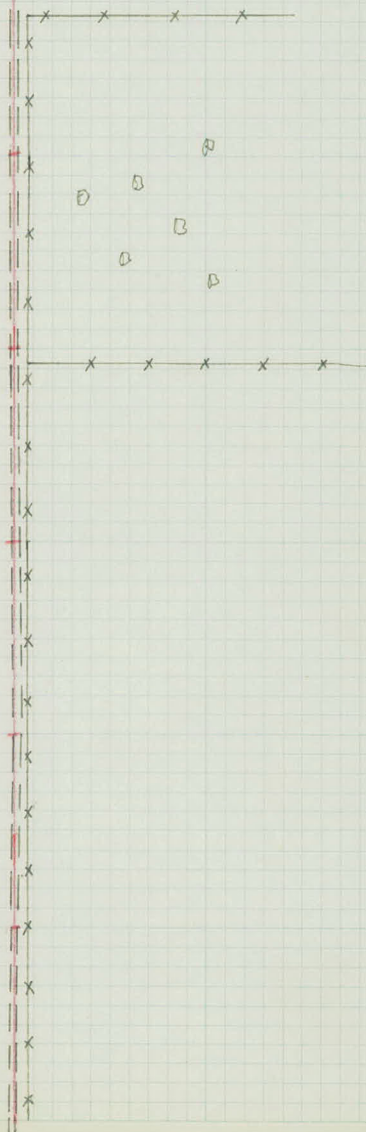
7

0.0

FC-6'

6

0'



19

1976-N. End 36" C.M.
 †86-Edge Bl. Tap.

†62-Edge Bl. Tap.
 †56.5 End 36" C.M. 00

18

2'

H8-Hedge-27'

197-End Row Bushes-35'

3' †15

†60 00

135.5" Plum Tr. - 7'

17

1'

†43-Box Row Gooseberry Pasture 4 bands 15'

†60-ditch Lt.

16

1'

15

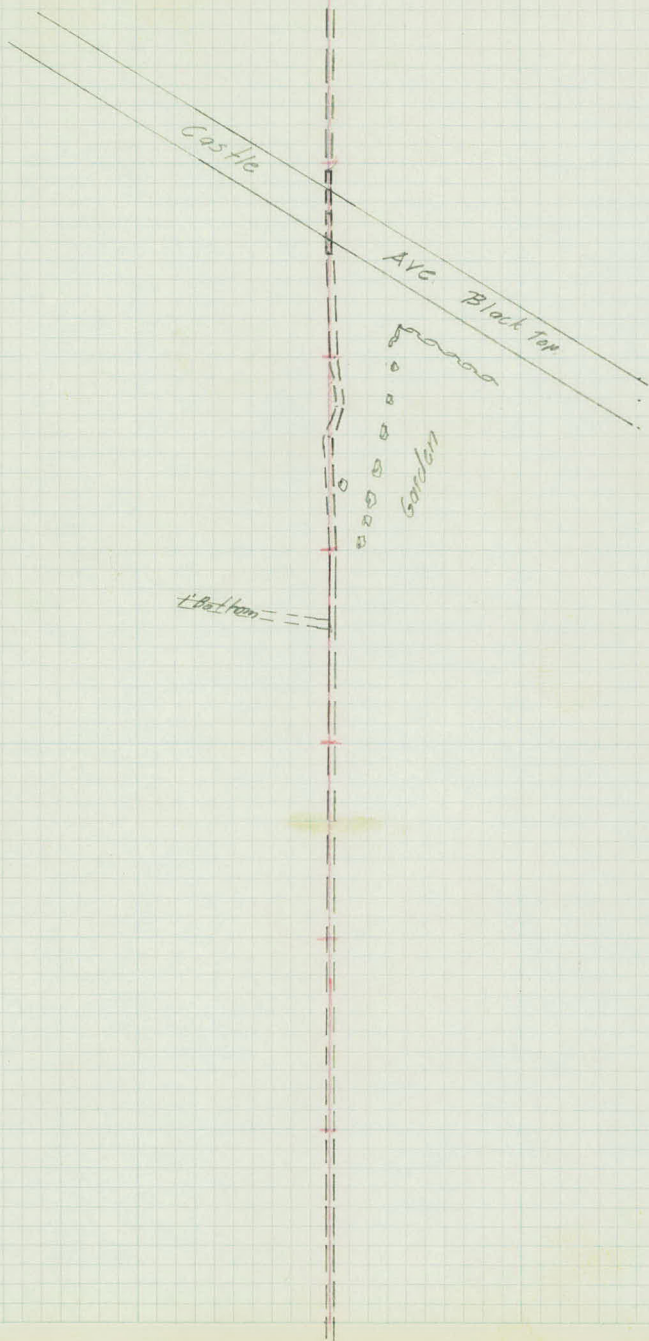
1'

14

2'

13

00



00 178'
2' 163

26 Cult-9' 00

150-BRS Cult

160-End Cult

25 FC-71' Trail-61' 00 Cult-9'

24 FC-39' Trail-24' 1' Cult-11'

23 FC-32' Trail-18' 3' Cult-12'

1' 177

1' 150 Cult-13'

22 FC-38' Trail-23' 1' Cult-10'

0.5' 160- Cult-9'

21 00 Cult-8'

20 1' Cult-6'

Cult.



Cult.

33

Bes. Ditch 9.0

32

31

30

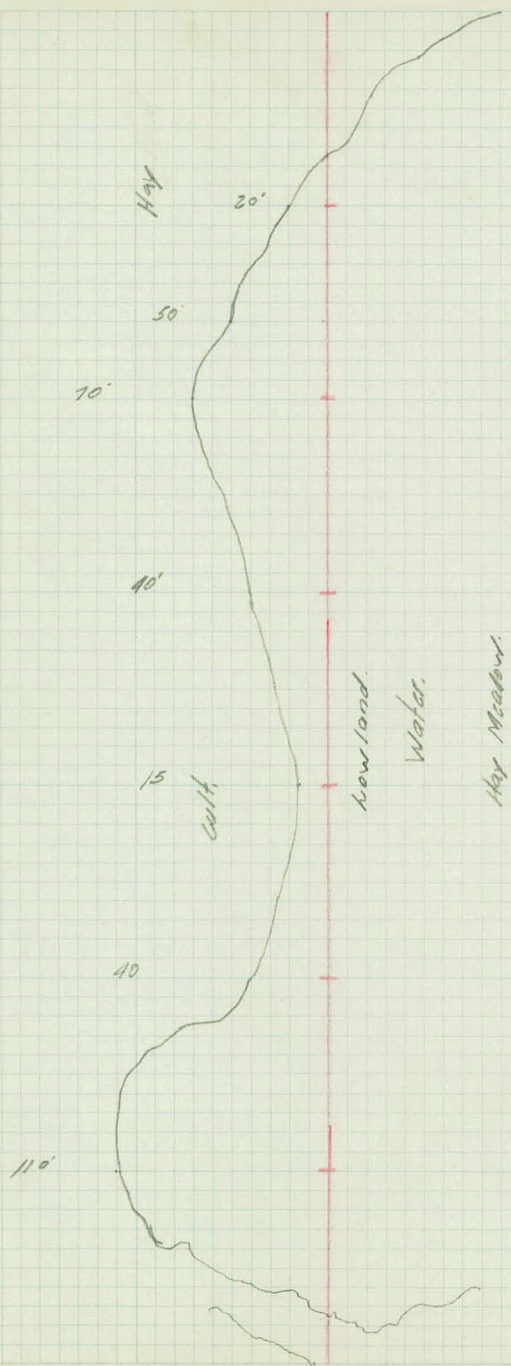
29

28

27

End Cult - 6'

125-Bes. Swamp
410-End Ditch
2



150 1'

40 0.0

39 130 0.0
00 2' 118

170 0.0

142.65 0.0

38 1'

37 1'

1' 150

36 0.5'

Hel-Mook King 55' 55'

199-Plank King 6' 6'

35 0.0

34 1'

Brush

Hay

Hay



177 80
 167- 3' 00
 157. 00

47 0.0

46 1'

45 1'

94 Approx. to 13th Ave N.W. 72' 0.5'
 30' Top.

134 - Approx. to 13th Ave N.W. 50' 1'

43 0.0

150 0.0

42 0.0

162.29' 4'
 150 0.0

41 0.0

13th AVG 16th Wt

52

51

167. Fc - 09'

15' 167

150

0.0

138-End Fc-

50

0.5'

191-000 Fc - 13'

187-800 Fc - 12'

162 0.0

4' 145

15' 128'

112-15'

2'

49

180- 0.0

165 1' 16

120- 0.0

3' 110

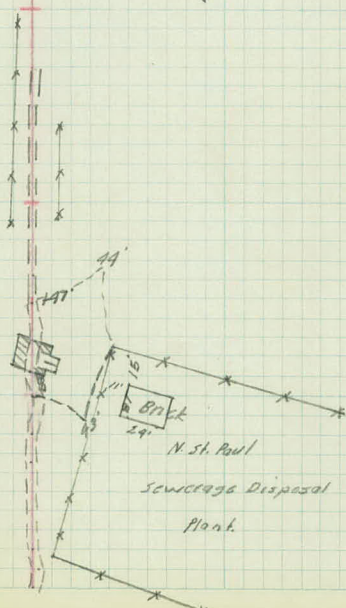
116-Fc Cor-10'

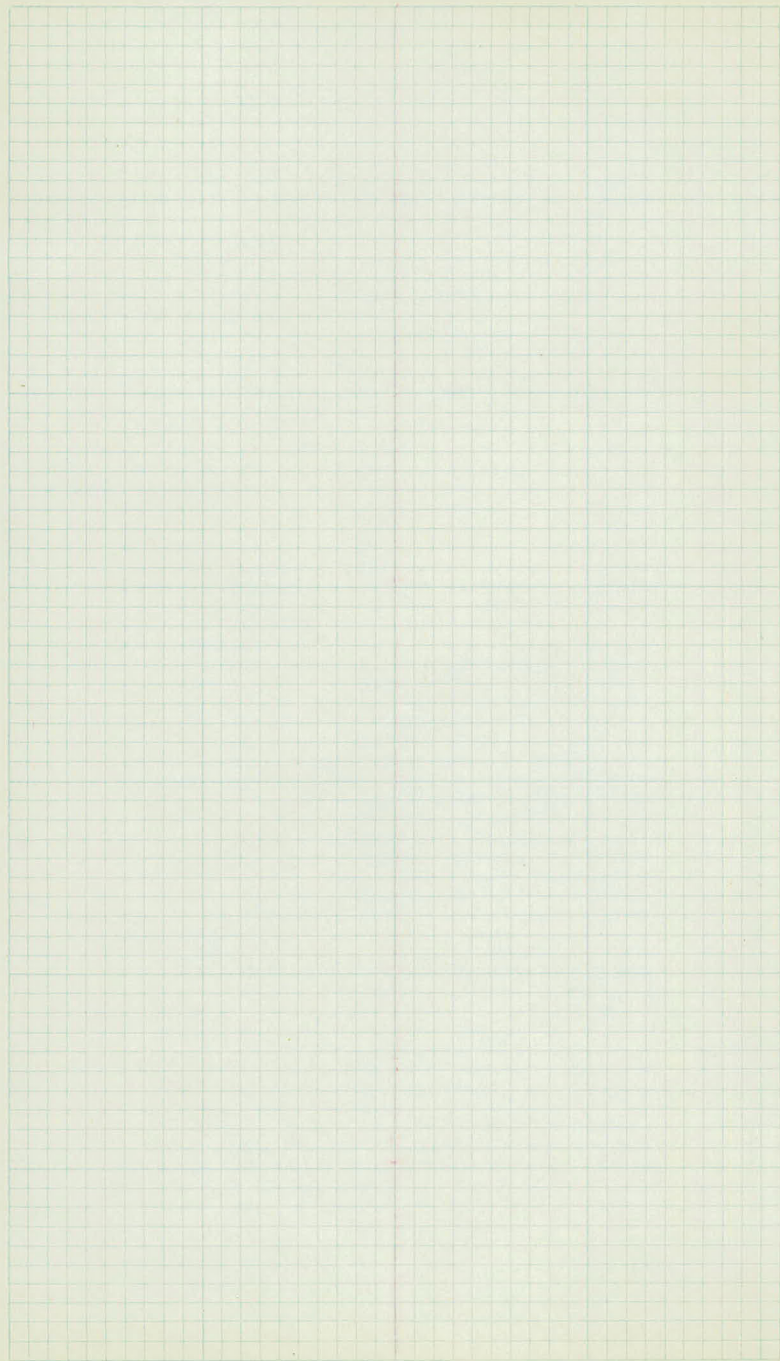
48

0.0

Dump.

For details of spillways
see pages 16-17.







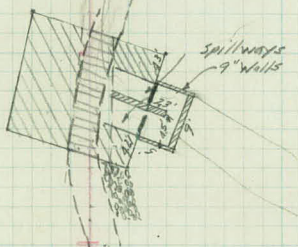
131 - Cor. Wall - 7.5'

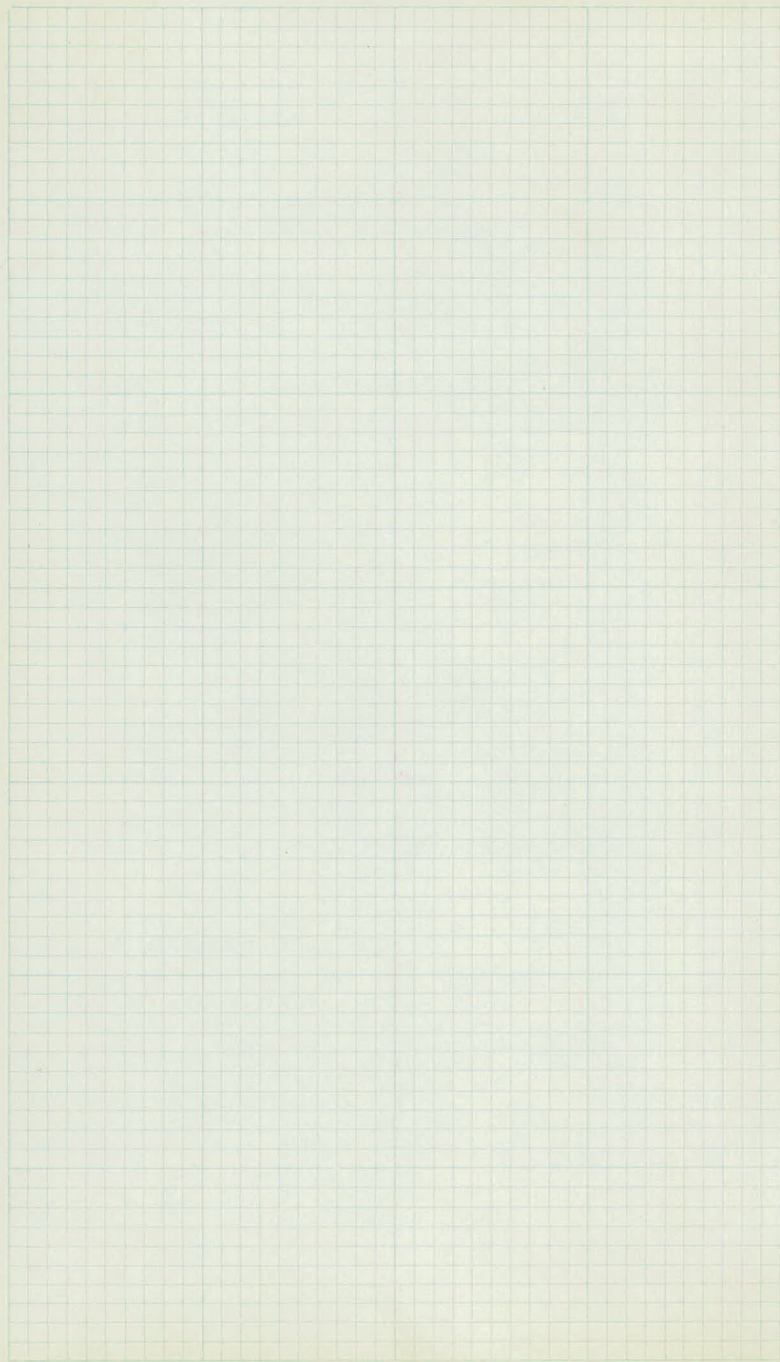
1245 Cor. Wall - 10'

119.5 - Cor. Wall - 11'

110 - Cor. Cons. Wall - 9.5' 6" thick
103 - Cor. Rubble Wall - 5' 6"

Wall lays on slope
of ditch





Bench Levels

Sta.	+	-	Elev
B.M.			946.57
I.P.	4.20	950.77 - 5.23	945.54.
I.P.	0.48	946.02 - 5.40	
B.M.		5.46	940.56.
		8.99	937.03.
	3.96	940.99 - 4.24	936.75.
	4.67	941.42.	
B.M.		0.60	940.82.
		3.53	937.89.
	1.60	939.49 - 3.49	936.00.
	4.82	940.82.	
B.M.		4.63	936.19.
		3.02	937.80.
	3.87	941.67 - 2.79	938.88.
	0.25	939.13.	
B.M.		0.68	938.45.
	2.43	940.88 - 5.05	935.83.
	1.93	937.76.	
B.M.		5.40	932.36.

Description

Top Iron Mont. East Ave & Co. Rd. "B"

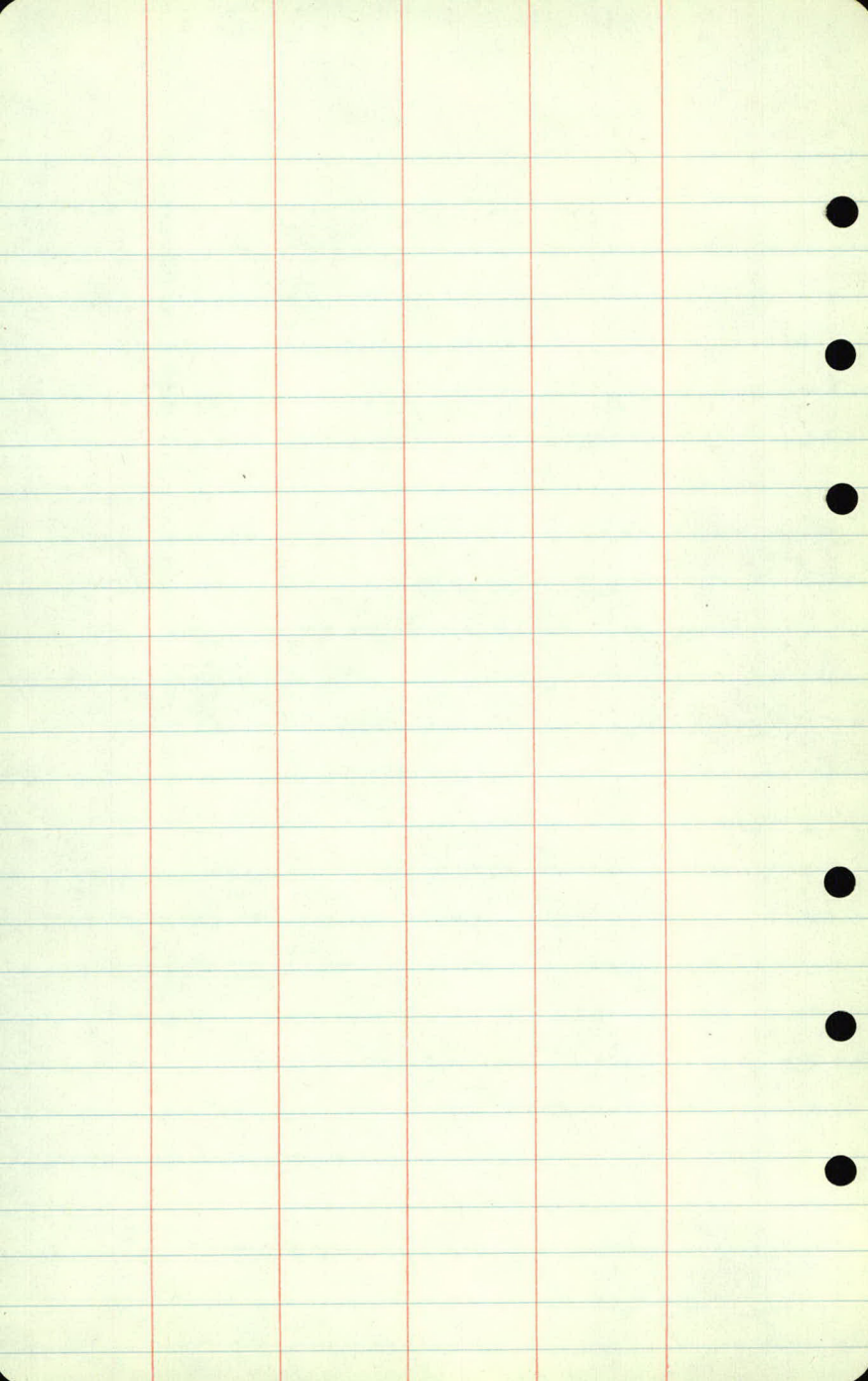
Top of N. end of E. Twin R.R. Culvert

Spike in 10' oak 33' Pt St. 10+80

Top N. end 36" CM Culvert Castle Ave

Spike in 14' oak 135' Lt St. 30

Top Conc. Base S.W. Cor Fence S D plant



x sections

Sta	+	π	-	Elev.
B.M.	3.45	746.01		940.56

0 - 25 FLOW LINE S. End R.R. Culverts.

- Top of So. Rail 943.84

- Top of N. Rail 43.43

37.21

0 +00 37.2

+20 36.8

+60 36.7

1 36.9

+50 36.4

2 36.5

+50 36.4

T.P. 377 940.91 889 941.12

3 36.5

Lt.

4

Rt

Top of N. End East R.R. Culvert.

$$\begin{array}{r} 815 \\ \hline 937.16 \end{array}$$

$$\begin{array}{r} 825 \\ \hline 937.76 \end{array}$$

$$\begin{array}{r} 217 \\ \hline \end{array}$$

$$\begin{array}{r} 258 \\ \hline \end{array}$$

$$\begin{array}{ccccccc} \frac{46}{25} & \frac{45}{7} & \frac{91}{3} & \frac{913}{2} & \frac{88}{-} & \frac{874}{2} & \frac{87}{3} & \frac{50}{7} & \frac{51}{25} \end{array}$$

$$\begin{array}{ccccccc} \frac{87}{25} & \frac{90}{15} & \frac{84}{1} & \frac{92}{-} & \frac{92}{3} & \frac{83}{5} & \frac{85}{25} \end{array}$$

$$\begin{array}{ccccccc} \frac{92}{25} & \frac{90}{19} & \frac{87}{5} & \frac{91}{4} & \frac{93}{-} & \frac{90}{3} & \frac{86}{5} & \frac{87}{25} \end{array}$$

$$\begin{array}{ccccccc} \frac{91}{25} & \frac{84}{6} & \frac{95}{7} & \frac{97}{1} & \frac{91}{-} & \frac{85}{1} & \frac{91}{10} & \frac{91}{25} \end{array}$$

$$\begin{array}{ccccccc} \frac{90}{25} & \frac{90}{3} & \frac{101}{3} & \frac{101}{2} & \frac{95}{1} & \frac{46}{-} & \frac{90}{3} & \frac{93}{17} & \frac{92}{25} \end{array}$$

$$\begin{array}{ccccccc} \frac{90}{25} & \frac{90}{6} & \frac{104}{3} & \frac{104}{2} & \frac{96}{1} & \frac{95}{-} & \frac{90}{2} & \frac{95}{7} & \frac{93}{25} \end{array}$$

$$\begin{array}{ccccccc} \frac{92}{25} & \frac{91}{6} & \frac{103}{3} & \frac{103}{2} & \frac{97}{1} & \frac{96}{-} & \frac{95}{7} & \frac{92}{25} \end{array}$$

$$\begin{array}{ccccccc} \frac{43}{25} & \frac{91}{7} & \frac{47}{4} & \frac{58}{3} & \frac{58}{2} & \frac{50}{2} & \frac{49}{1} & \frac{53}{6} & \frac{43}{25} & \frac{41}{25} \end{array}$$

Sta	+	A	-	Elev.
		942.91		
3	+50			36.5
4				36.4
	+50			36.2
5				36.0
	+50			35.9
6				35.5
	+50			35.4
7				34.6
	+50			35.2
I.P.	6.70	943.07	4.54	944.37
8				35.6
	+50			35.3

Lt

L

Rt

$$\frac{41}{25} \frac{38}{6} \frac{54}{4} \frac{53}{1} \frac{44}{1} \frac{44}{2} \frac{39}{8} \frac{43}{25}$$

$$\frac{41}{25} \frac{41}{14} \frac{41}{6} \frac{57}{4} \frac{55}{1} \frac{47}{1} \frac{45}{1} \frac{36}{1} \frac{40}{7} \frac{41}{25}$$

$$\frac{42}{25} \frac{41}{10} \frac{36}{7} \frac{57}{4} \frac{55}{1} \frac{47}{1} \frac{38}{2} \frac{42}{8} \frac{42}{25}$$

$$\frac{42}{25} \frac{43}{11} \frac{37}{8} \frac{47}{4} \frac{55}{2} \frac{59}{2} \frac{49}{1} \frac{43}{2} \frac{39}{8} \frac{42}{25}$$

$$\frac{43}{25} \frac{43}{10} \frac{36}{8} \frac{42}{5} \frac{58}{4} \frac{59}{2} \frac{52}{1} \frac{50}{3} \frac{43}{13} \frac{45}{25}$$

$$\frac{44}{5} \frac{45}{11} \frac{34}{8} \frac{43}{6} \frac{44}{5} \frac{53}{4}$$

$$\frac{54}{2} \frac{47}{5} \frac{38}{8} \frac{43}{18} \frac{45}{25}$$

$$\frac{44}{25} \frac{44}{10} \frac{43}{5} \frac{56}{3} \frac{61}{2} \frac{55}{1} \frac{53}{3} \frac{43}{7} \frac{47}{25}$$

$$\frac{45}{25} \frac{46}{9} \frac{37}{6} \frac{44}{3} \frac{54}{2}$$

$$\frac{63}{1} \frac{55}{6} \frac{44}{7} \frac{44}{7} \frac{47}{25}$$

$$\frac{45}{25} \frac{46}{8} \frac{37}{6} \frac{42}{3} \frac{53}{2} \frac{57}{1} \frac{61}{3} \frac{57}{6} \frac{44}{12} \frac{47}{25}$$

$$\frac{67}{25} \frac{66}{8} \frac{64}{2} \frac{73}{1} \frac{75}{1} \frac{81}{2} \frac{83}{4} \frac{75}{5} \frac{63}{11} \frac{65}{25}$$

$$\frac{68}{25} \frac{67}{9} \frac{63}{5} \frac{67}{2} \frac{78}{2} \frac{82}{3} \frac{75}{3} \frac{70}{9} \frac{63}{17} \frac{67}{25}$$

Sta	+	π	-	Elev.
		943.07		
9				35.1
	+50			34.9
10				35.5
	+50			35.5
B.M.			2.24	940.83
11				35.8
	+50			35.9
12				35.4
	+50			35.1
13				34.7
	+50			34.3
14				35.0

(940.82)

Lt.

L

Rt.

7

$$\frac{71}{25} \frac{73}{7} \frac{69}{5} \frac{72}{2}$$

$$\frac{80}{4} \frac{87}{5} \frac{73}{7} \frac{69}{19} \frac{73}{25} \frac{69}{25}$$

$$\frac{79}{25} \frac{73}{7} \frac{69}{4} \frac{78}{1} \frac{82}{3} \frac{80}{5} \frac{70}{12} \frac{71}{25} \frac{69}{25}$$

$$\frac{69}{25} \frac{67}{16} \frac{69}{4} \frac{74}{2} \frac{76}{1} \frac{76}{3} \frac{61}{7} \frac{68}{10} \frac{65}{25} \frac{66}{25}$$

$$\frac{63}{25} \frac{66}{17} \frac{69}{7} \frac{57}{4} \frac{76}{2} \frac{76}{1} \frac{72}{3} \frac{63}{8} \frac{63}{19} \frac{58}{25} \frac{46}{25}$$

Sub. in 10° 00' 33" RL 10450

$$\frac{61}{25} \frac{51}{8} \frac{46}{6} \frac{53}{3} \frac{71}{1} \frac{73}{1} \frac{71}{3} \frac{59}{6} \frac{44}{11} \frac{47}{20} \frac{40}{25} \frac{32}{25}$$

$$\frac{62}{25} \frac{59}{9} \frac{51}{7} \frac{56}{4} \frac{74}{2} \frac{72}{2} \frac{53}{5} \frac{50}{8} \frac{55}{25} \frac{47}{25}$$

$$\frac{67}{25} \frac{63}{10} \frac{58}{8} \frac{62}{3} \frac{75}{2} \frac{77}{1} \frac{77}{3} \frac{57}{6} \frac{54}{8} \frac{59}{25} \frac{55}{25}$$

$$\frac{77}{25} \frac{77}{13} \frac{76}{3} \frac{80}{2} \frac{80}{1} \frac{78}{4} \frac{60}{7} \frac{69}{25} \frac{67}{25}$$

$$\frac{77}{25} \frac{77}{16} \frac{76}{2} \frac{82}{1} \frac{89}{2} \frac{83}{4} \frac{71}{7} \frac{72}{25} \frac{74}{25}$$

$$\frac{78}{25} \frac{81}{12} \frac{80}{1} \frac{88}{3} \frac{83}{5} \frac{77}{11} \frac{75}{25} \frac{80}{25}$$

$$\frac{78}{25} \frac{81}{5} \frac{81}{1} \frac{92}{3} \frac{91}{5} \frac{80}{10} \frac{74}{15} \frac{80}{25} \frac{81}{25}$$

Sta.	+	π	-	Elev.
		943.07		
14	+50			34.8
T.P.	6.92	941.80	7.69	925.38
15				33.8
	+50			33.4
16				33.8
	+50			35.0
	100 Ditch Lt.			34.0
17				34.2
	160.68			33.7
18				35.9
	+34			34.6
	+48			34.0

Ditch
 (34.1)

Lt.

L

Rt

$$\frac{79}{25} \frac{82}{14} \frac{81}{1} \frac{83}{1} \frac{75}{4} \frac{70}{5} \frac{81}{10} \frac{74}{15} \frac{81}{25} \frac{80}{25}$$

$$\frac{68}{25} \frac{71}{15} \frac{70}{1} \frac{80}{4} \frac{82}{6} \frac{66}{11} \frac{63}{13} \frac{68}{25} \frac{67}{25}$$

$$\frac{70}{25} \frac{69}{13} \frac{71}{1} \frac{84}{3} \frac{87}{5} \frac{71}{7} \frac{69}{25} \frac{71}{25}$$

$$\frac{73}{25} \frac{70}{8} \frac{65}{1} \frac{80}{4} \frac{81}{5} \frac{70}{9} \frac{67}{12} \frac{73}{25} \frac{73}{25}$$

D

$$\frac{70}{25} \frac{68}{15} \frac{61}{2} \frac{68}{1} \frac{78}{3} \frac{77}{4} \frac{68}{10} \frac{65}{25} \frac{66}{25}$$

$$\frac{79}{200} \frac{77}{150} \frac{78}{100} \frac{72}{50} \frac{78}{25}$$

D

$$\frac{64}{25} \frac{55}{13} \frac{46}{4} \frac{63}{1} \frac{76}{1} \frac{82}{4} \frac{57}{7} \frac{47}{25} \frac{54}{25}$$

$$\frac{58}{25} \frac{48}{10} \frac{56}{7} \frac{40}{5} \frac{75}{1} \frac{61}{2} \frac{72}{4} \frac{45}{11} \frac{45}{25} \frac{43}{25}$$

D

$$\frac{61}{25} \frac{61}{11} \frac{53}{6} \frac{48}{1} \frac{59}{1} \frac{77}{3} \frac{74}{6} \frac{49}{17} \frac{52}{25} \frac{45}{25}$$

1)

$$\frac{61}{25} \frac{53}{2} \frac{46}{4} \frac{58}{2} \frac{72}{1} \frac{82}{4} \frac{77}{8} \frac{47}{15} \frac{61}{25} \frac{68}{25}$$

D

$$\frac{60}{25} \frac{54}{10} \frac{45}{4} \frac{61}{1} \frac{78}{2} \frac{66}{14} \frac{63}{14} \text{ Diff to cubic avg.}$$

Sta.	+	π	-	Elev.
		741.80		
18	+56.5			33.83
	+60			39.2
	+67			39.8
	+74			39.9
	+87			39.3
	+95			37.3
B.M.	5.57	741.76	5.87	744.23 (956.19)
	+97.63			33.17
19				33.8
	+105			33.7
	+150			33.7
20				34.1

Ditch Along Castle Ave.

Lt.

A.

Rt.

Pitch $\frac{70}{25}$ $\frac{69}{12}$ $\frac{71}{9}$ $\frac{797}{\text{Culm.}}$
 Castle Ave

2220192545

Top N. End 36' Culm. Under Castle Ave.

859
 Culm.

$\frac{65}{25}$ $\frac{63}{16}$ $\frac{70}{7}$ $\frac{78}{4}$ $\frac{80}{2}$ $\frac{79}{4}$ $\frac{71}{13}$ $\frac{64}{25}$ $\frac{58}{25}$

$\frac{63}{25}$ $\frac{59}{18}$ $\frac{51}{10}$ $\frac{60}{4}$ $\frac{78}{3}$ $\frac{61}{2}$ $\frac{74}{3}$ $\frac{63}{7}$ $\frac{58}{15}$ $\frac{61}{25}$ $\frac{59}{25}$

$\frac{60}{25}$ $\frac{65}{19}$ $\frac{64}{4}$ $\frac{79}{3}$ $\frac{81}{1}$ $\frac{68}{4}$ $\frac{60}{7}$ $\frac{68}{11}$ $\frac{61}{25}$ $\frac{57}{25}$

$\frac{59}{25}$ $\frac{65}{18}$ $\frac{60}{6}$ $\frac{68}{4}$ $\frac{77}{3}$ $\frac{77}{2}$ $\frac{66}{5}$ $\frac{69}{6}$ $\frac{67}{16}$ $\frac{66}{25}$

Sta + X - Elev

991.76

20 +50

33.8

21

33.9

T.P.

3.97

991.77

3.96

997.80

+50

33.7

22

34.0

+50

33.8

23

33.8

Ditch

33.7

+50

36.0

33.6

24

33.5

+50

33.0

25

32.9

+50

32.7

Lt.

R.

Rt.

$$\frac{57}{25} \frac{61}{7} \frac{68}{4} \frac{79}{3} \frac{80}{7} \frac{69}{6} \frac{64}{12} \frac{62}{25}$$

$$\frac{47}{25} \frac{54}{17} \frac{57}{4} \frac{78}{7} \frac{79}{1} \frac{79}{4} \frac{55}{8} \frac{57}{19} \frac{55}{25}$$

Top Rock Lt 21+40

$$\frac{37}{25} \frac{36}{6} \frac{49}{3} \frac{77}{1} \frac{81}{1} \frac{51}{4} \frac{37}{8} \frac{38}{25}$$

$$\frac{34}{25} \frac{40}{14} \frac{34}{7} \frac{59}{4} \frac{78}{1} \frac{78}{1} \frac{44}{4} \frac{32}{7} \frac{39}{14} \frac{39}{25}$$

$$\frac{28}{25} \frac{35}{19} \frac{37}{7} \frac{34}{4} \frac{51}{1} \frac{80}{2} \frac{80}{6} \frac{40}{10} \frac{28}{13} \frac{38}{25}$$

$$\frac{34}{25} \frac{45}{10} \frac{41}{2} \frac{60}{1} \frac{81}{4} \frac{80}{7} \frac{43}{10} \frac{32}{14} \frac{33}{25}$$

$$\frac{37}{25} \frac{47}{8} \frac{45}{2} \frac{58}{2} \frac{83}{4} \frac{44}{7} \frac{37}{11} \frac{36}{17} \frac{31}{25}$$

$$\frac{43}{25} \frac{45}{18} \frac{53}{11} \frac{53}{4} \frac{68}{1} \frac{83}{2} \frac{84}{7} \frac{51}{10} \frac{48}{11} \frac{52}{18} \frac{46}{25}$$

$$\frac{50}{25} \frac{58}{14} \frac{51}{5} \frac{67}{2} \frac{88}{1} \frac{88}{1} \frac{88}{4} \frac{51}{8} \frac{50}{14} \frac{55}{25}$$

$$\frac{60}{25} \frac{60}{12} \frac{59}{4} \frac{89}{1} \frac{89}{1} \frac{89}{5} \frac{56}{13} \frac{58}{25}$$

$$\frac{66}{25} \frac{67}{18} \frac{68}{5} \frac{79}{3} \frac{91}{2} \frac{91}{1} \frac{91}{4} \frac{61}{8} \frac{65}{13} \frac{70}{25}$$

Sta.	+	π	-	Elev.
		941.77		
26				32.5
	+50			32.1
27				32.7
I.P.	4.93	939.19	7.51	934.26
	+50			32.2
28				31.8
	+50			31.8
29				31.7
	+50			32.1
30				31.7
B.M.			0.75	938.44
	+50			31.5
31				31.8

938.45

Lt

L

Rt

$$\begin{array}{r} 70 \\ 25 \end{array} \quad \begin{array}{r} 74 \\ 12 \end{array} \quad \begin{array}{r} 74 \\ 3 \end{array} \quad \begin{array}{r} 93 \\ 2 \end{array} \quad \begin{array}{r} 93 \\ 2 \end{array} \quad \begin{array}{r} 93 \\ 2 \end{array} \quad \begin{array}{r} 76 \\ 4 \end{array} \quad \begin{array}{r} 77 \\ 12 \end{array} \quad \begin{array}{r} 84 \\ 25 \end{array}$$

$$\begin{array}{r} 19 \\ 25 \end{array} \quad \begin{array}{r} 82 \\ 12 \end{array} \quad \begin{array}{r} 78 \\ 3 \end{array} \quad \begin{array}{r} 92 \\ 1 \end{array} \quad \begin{array}{r} 92 \\ 2 \end{array} \quad \begin{array}{r} 92 \\ 2 \end{array} \quad \begin{array}{r} 79 \\ 4 \end{array} \quad \begin{array}{r} 79 \\ 14 \end{array} \quad \begin{array}{r} 82 \\ 25 \end{array}$$

$$\begin{array}{r} 87 \\ 25 \end{array} \quad \begin{array}{r} 86 \\ 12 \end{array} \quad \begin{array}{r} 83 \\ 3 \end{array} \quad \begin{array}{r} 91 \\ 6 \end{array} \quad \begin{array}{r} 94 \\ 10 \end{array} \quad \begin{array}{r} 86 \\ 25 \end{array} \quad \begin{array}{r} 90 \\ 25 \end{array}$$

$$\begin{array}{r} 67 \\ 50 \end{array} \quad \begin{array}{r} 74 \\ 33 \end{array} \quad \begin{array}{r} 68 \\ 27 \end{array} \quad \begin{array}{r} 67 \\ 14 \end{array} \quad \begin{array}{r} 70 \\ 25 \end{array} \quad \begin{array}{r} 71 \\ 50 \end{array} \quad \begin{array}{r} 68 \\ 50 \end{array}$$

$$\begin{array}{r} 83 \\ 30 \end{array} \quad \begin{array}{r} 84 \\ 34 \end{array} \quad \begin{array}{r} 86 \\ 25 \end{array} \quad \begin{array}{r} 79 \\ 21 \end{array} \quad \begin{array}{r} 74 \\ 25 \end{array} \quad \begin{array}{r} 72 \\ 50 \end{array} \quad \begin{array}{r} 71 \\ 50 \end{array}$$

$$\begin{array}{r} 73 \\ 50 \end{array} \quad \begin{array}{r} 72 \\ 47 \end{array} \quad \begin{array}{r} 79 \\ 44 \end{array} \quad \begin{array}{r} 70 \\ 42 \end{array} \quad \begin{array}{r} 75 \\ 25 \end{array} \quad \begin{array}{r} 74 \\ 25 \end{array} \quad \begin{array}{r} 72 \\ 50 \end{array} \quad \begin{array}{r} 77 \\ 50 \end{array}$$

$$\begin{array}{r} 69 \\ 50 \end{array} \quad \begin{array}{r} 70 \\ 45 \end{array} \quad \begin{array}{r} 64 \\ 42 \end{array} \quad \begin{array}{r} 71 \\ 21 \end{array}$$

$$\begin{array}{r} 75 \\ 25 \end{array} \quad \begin{array}{r} 75 \\ 25 \end{array} \quad \begin{array}{r} 77 \\ 50 \end{array}$$

$$\begin{array}{r} 52 \\ 50 \end{array} \quad \begin{array}{r} 56 \\ 43 \end{array} \quad \begin{array}{r} 64 \\ 40 \end{array} \quad \begin{array}{r} 58 \\ 37 \end{array} \quad \begin{array}{r} 69 \\ 10 \end{array} \quad \begin{array}{r} 71 \\ 25 \end{array} \quad \begin{array}{r} 74 \\ 25 \end{array} \quad \begin{array}{r} 76 \\ 50 \end{array}$$

$$\begin{array}{r} 53 \\ 50 \end{array} \quad \begin{array}{r} 59 \\ 35 \end{array} \quad \begin{array}{r} 66 \\ 33 \end{array} \quad \begin{array}{r} 60 \\ 30 \end{array} \quad \begin{array}{r} 70 \\ 14 \end{array}$$

$$\begin{array}{r} 75 \\ 19 \end{array} \quad \begin{array}{r} 81 \\ 35 \end{array} \quad \begin{array}{r} 74 \\ 35 \end{array} \quad \begin{array}{r} 70 \\ 50 \end{array}$$

Spt in 14" Oak 100' Lt. 20t

$$\begin{array}{r} 68 \\ 50 \end{array} \quad \begin{array}{r} 66 \\ 34 \end{array} \quad \begin{array}{r} 71 \\ 31 \end{array} \quad \begin{array}{r} 64 \\ 26 \end{array} \quad \begin{array}{r} 70 \\ 14 \end{array} \quad \begin{array}{r} 77 \\ 25 \end{array} \quad \begin{array}{r} 72 \\ 25 \end{array} \quad \begin{array}{r} 66 \\ 50 \end{array}$$

$$\begin{array}{r} 60 \\ 50 \end{array} \quad \begin{array}{r} 67 \\ 42 \end{array} \quad \begin{array}{r} 74 \\ 29 \end{array} \quad \begin{array}{r} 75 \\ 15 \end{array}$$

$$\begin{array}{r} 74 \\ 19 \end{array} \quad \begin{array}{r} 68 \\ 35 \end{array} \quad \begin{array}{r} 63 \\ 50 \end{array}$$

Sta.	+	π	-	Elev.
		939.19		
31	+50			31.5'
32				31.3
	+50			30.5'
33				31.2
	+50			31.8
34				32.5'
I.P.	4.93	939.19	4.33	939.86
	+50			32.0
35				31.8
	+50			31.6
36				31.6
	+50			31.3

Lt.

A

Rt.

$$\frac{70}{50} \frac{71}{42} \frac{79}{27} \frac{80}{10} \frac{77}{9} \frac{69}{28} \frac{66}{50}$$

$$\frac{70}{50} \frac{78}{39} \frac{80}{18} \frac{87}{7}$$

$$\frac{79}{17} \frac{70}{30} \frac{66}{50}$$

$$\frac{68}{50} \frac{72}{45} \frac{74}{18} \frac{78}{8} \frac{87}{8} \frac{83}{15} \frac{88}{23} \frac{79}{37} \frac{69}{50} \frac{68}{50}$$

(930.4)

$$\frac{50}{50} \frac{60}{40} \frac{69}{30} \frac{72}{13} \frac{80}{50}$$

$$\frac{82}{18} \frac{71}{38} \frac{69}{50}$$

$$\frac{49}{50} \frac{52}{29} \frac{62}{26} \frac{66}{2} \frac{73}{1} \frac{74}{1} \frac{67}{9} \frac{69}{29} \frac{75}{50} \frac{72}{50}$$

$$\frac{44}{50} \frac{55}{28} \frac{64}{4} \frac{72}{2} \frac{73}{1} \frac{67}{12} \frac{66}{24} \frac{76}{50} \frac{73}{50}$$

$$\frac{48}{25} \frac{49}{7} \frac{68}{2} \frac{77}{1} \frac{78}{4} \frac{49}{7} \frac{61}{25} \frac{68}{25}$$

$$\frac{41}{25} \frac{45}{5} \frac{66}{2} \frac{78}{2} \frac{80}{1} \frac{80}{2} \frac{62}{6} \frac{44}{10} \frac{56}{25} \frac{62}{25}$$

$$\frac{58}{25} \frac{57}{7} \frac{66}{3} \frac{81}{2} \frac{82}{1} \frac{82}{2} \frac{58}{6} \frac{53}{13} \frac{62}{25} \frac{60}{25}$$

$$\frac{73}{25} \frac{74}{16} \frac{71}{4} \frac{83}{1} \frac{82}{2} \frac{69}{2} \frac{70}{10} \frac{73}{25}$$

$$\frac{80}{25} \frac{81}{11} \frac{77}{2} \frac{85}{1} \frac{85}{1} \frac{85}{4} \frac{76}{9} \frac{77}{50} \frac{80}{50}$$

Sta.	+	π	-	Elev.	
		939.79			
37				31.0	
	+50			30.9	
					D. to h
38				31.5	30.9
	+34			30.7	
	+42.65	Ditch south.		30.1	
	+51			29.9	
	+70			29.9	
39				30.5	
	+40			30.0	
40				29.8	
	+50			29.4	

Lt

L

Rt

$$\frac{81}{25} \frac{83}{11} \frac{80}{1} \frac{88}{2} \frac{88}{9} \frac{78}{14} \frac{84}{25}$$

$$\frac{77}{25} \frac{80}{14} \frac{75}{5} \frac{82}{1} \frac{89}{2} \frac{89}{4} \frac{76}{13} \frac{79}{25} \frac{81}{25}$$

$$\frac{58}{25} \frac{55}{7} \frac{59}{3} \frac{74}{2} \frac{83}{1} \frac{89}{3} \frac{89}{4} \frac{77}{7} \frac{56}{15} \frac{63}{25} \frac{61}{25}$$

$$\frac{34}{25} \frac{49}{7} \frac{90}{2} \frac{91}{2} \frac{82}{2} \frac{54}{4} \frac{41}{13} \frac{40}{25}$$

$$\frac{97}{50} \frac{96}{100} \frac{92}{150} \frac{90}{200} \frac{89}{200}$$

$$\frac{53}{25} \frac{48}{21} \frac{25}{16} \frac{49}{10} \frac{78}{3} \frac{78}{2} \frac{99}{4} \frac{101}{10} \frac{71}{11} \frac{58}{25} \frac{33}{25}$$

$$\frac{55}{22} \frac{41}{16} \frac{39}{8} \frac{76}{2} \frac{99}{2} \frac{99}{3} \frac{95}{4} \frac{85}{7} \frac{61}{10} \frac{42}{25} \frac{36}{25}$$

$$\frac{31}{25} \frac{17}{21} \frac{15}{16} \frac{34}{10} \frac{85}{4} \frac{93}{3} \frac{93}{3} \frac{93}{4} \frac{81}{8} \frac{47}{14} \frac{39}{25} \frac{32}{25}$$

$$\frac{26}{25} \frac{25}{13} \frac{42}{8} \frac{77}{3} \frac{98}{2} \frac{98}{2} \frac{98}{4} \frac{83}{6} \frac{71}{11} \frac{42}{25} \frac{44}{25}$$

$$\frac{18}{25} \frac{19}{13} \frac{83}{4} \frac{100}{3} \frac{100}{2} \frac{100}{3} \frac{81}{7} \frac{58}{11} \frac{39}{17} \frac{45}{25} \frac{50}{25}$$

$$\frac{24}{25} \frac{21}{16} \frac{36}{11} \frac{86}{4} \frac{104}{20} \frac{104}{2} \frac{104}{3} \frac{81}{6} \frac{57}{14} \frac{54}{25} \frac{54}{25}$$

Sta	+	X	-	Elev
		939.79		
41				29.2
T.P.	3.90	939.81	4.88	934.91
+50				29.6
42				29.0
+50				29.3
43				29.2
+50				28.9
T.P.	8.04	939.43	1.42	931.39
44				28.7
+50				28.9
45				28.8
+50				28.6
46				28.2

Lt

L

Rt

$$\frac{26}{25} \frac{23}{19} \frac{50}{10} \frac{79}{5} \frac{106}{3} \frac{106}{3} \frac{56}{7} \frac{56}{17} \frac{55}{25}$$

$$\frac{30}{25} \frac{41}{14} \frac{82}{7} \frac{92}{3} \frac{92}{3} \frac{91}{5} \frac{72}{8} \frac{57}{25} \frac{63}{25}$$

$$\frac{49}{25} \frac{50}{13} \frac{65}{9} \frac{89}{3} \frac{98}{8} \frac{98}{3} \frac{98}{4} \frac{85}{5} \frac{69}{10} \frac{56}{14} \frac{65}{25} \frac{69}{25}$$

$$\frac{56}{25} \frac{56}{16} \frac{77}{12} \frac{89}{3} \frac{95}{1} \frac{95}{2} \frac{95}{4} \frac{82}{9} \frac{70}{13} \frac{71}{25}$$

$$\frac{55}{25} \frac{68}{10} \frac{86}{8} \frac{89}{3} \frac{96}{4} \frac{98}{4} \frac{95}{5} \frac{67}{8} \frac{65}{25}$$

$$\frac{60}{25} \frac{55}{18} \frac{79}{16} \frac{81}{7} \frac{88}{3} \frac{99}{2} \frac{99}{3} \frac{94}{7} \frac{68}{25} \frac{69}{25}$$

$$\frac{59}{25} \frac{68}{7} \frac{93}{4} \frac{107}{2} \frac{107}{3} \frac{107}{5} \frac{85}{7} \frac{73}{25} \frac{70}{25}$$

$$\frac{67}{25} \frac{58}{20} \frac{58}{12} \frac{96}{4} \frac{105}{3} \frac{105}{5} \frac{105}{6} \frac{80}{11} \frac{74}{25} \frac{75}{25}$$

$$\frac{69}{25} \frac{52}{19} \frac{62}{10} \frac{92}{3} \frac{106}{1} \frac{106}{3} \frac{92}{6} \frac{73}{7} \frac{79}{25}$$

$$\frac{68}{23} \frac{66}{12} \frac{97}{4} \frac{108}{3} \frac{108}{1} \frac{108}{3} \frac{100}{7} \frac{81}{25} \frac{81}{25}$$

$$\frac{75}{25} \frac{69}{18} \frac{78}{6} \frac{112}{3} \frac{112}{1} \frac{112}{3} \frac{99}{8} \frac{83}{25} \frac{82}{25}$$

Sta.	+	π	-	Elev.	
		932.43			
46	+50			28.1	
47				27.8	
	+50			27.3	
48				27.2	
	+25			27.0	
	+60			26.8	
49			26.6	26.6	
B.M.	+88	937.24.	7.08	932.35 -	932.36
	+10			27.3	
	+15			26.5	<u>26.00</u>
+		Flow Line of Spillway			28.24
	+25			25.9	P:1 25.5

Lt

4

Rt

$$\frac{80}{25} \frac{80}{9} \frac{95}{3} \frac{113}{2} \frac{113}{2} \frac{113}{2} \frac{102}{3} \frac{89}{7} \frac{86}{25}$$

$$\frac{83}{25} \frac{79}{7} \frac{93}{4} \frac{116}{2} \frac{116}{3} \frac{116}{4} \frac{97}{8} \frac{83}{18} \frac{86}{25} \frac{83}{25}$$

$$\frac{57}{25} \frac{64}{14} \frac{82}{8} \frac{115}{5} \frac{121}{4} \frac{120}{6} \frac{95}{10} \frac{72}{25} \frac{77}{25}$$

$$\frac{69}{22} \frac{50}{17} \frac{49}{13} \frac{55}{10} \frac{108}{3} \frac{118}{2} \frac{122}{3} \frac{118}{4} \frac{100}{7} \frac{65}{25} \frac{66}{25}$$

$$\frac{51}{25} \frac{44}{20} \frac{47}{12} \frac{65}{7} \frac{129}{3} \frac{129}{3} \frac{129}{5} \frac{111}{7} \frac{69}{25} \frac{66}{25}$$

$$\frac{51}{25} \frac{45}{23} \frac{42}{14} \frac{56}{9} \frac{126}{3} \frac{126}{2} \frac{116}{7} \frac{72}{25} \frac{71}{25}$$

$$\frac{57}{25} \frac{49}{16} \frac{69}{10} \frac{122}{2} \frac{128}{3} \frac{129}{5} \frac{112}{10} \frac{78}{25} \frac{70}{25}$$

Top Gang Base of S.W. Cor. E. Post of N. St. Paul Sewerage Disposal Plant.

$$\frac{50}{25} \frac{52}{12} \frac{91}{6} \frac{110}{5} \frac{108}{3} \frac{106}{3} \frac{99}{1} \frac{99}{1} \frac{602}{46} \frac{53}{11} \frac{49}{25}$$

C.M.O.

$$\frac{110}{1} \frac{107}{3} \frac{1124}{3} \frac{556}{10.3} \frac{52}{16} \frac{53}{25}$$

8.98

$$\frac{51}{25} \frac{55}{18} \frac{573}{8.1} \frac{1175}{65} \frac{113}{2} \frac{97}{4} \frac{938}{4.5} \frac{601}{10.4} \frac{51}{19} \frac{47}{25}$$

Sta	+	x	-	Elev.
		737.24		
49	+31			25.8
	+60			25.7
50				25.4
	+67.17			25.8
B.M.		4.58		ad. 3
				32.28 932.34

5/11/39

K.A.

L.B.H.

L.C.

E.A.B.

L.H.

L.

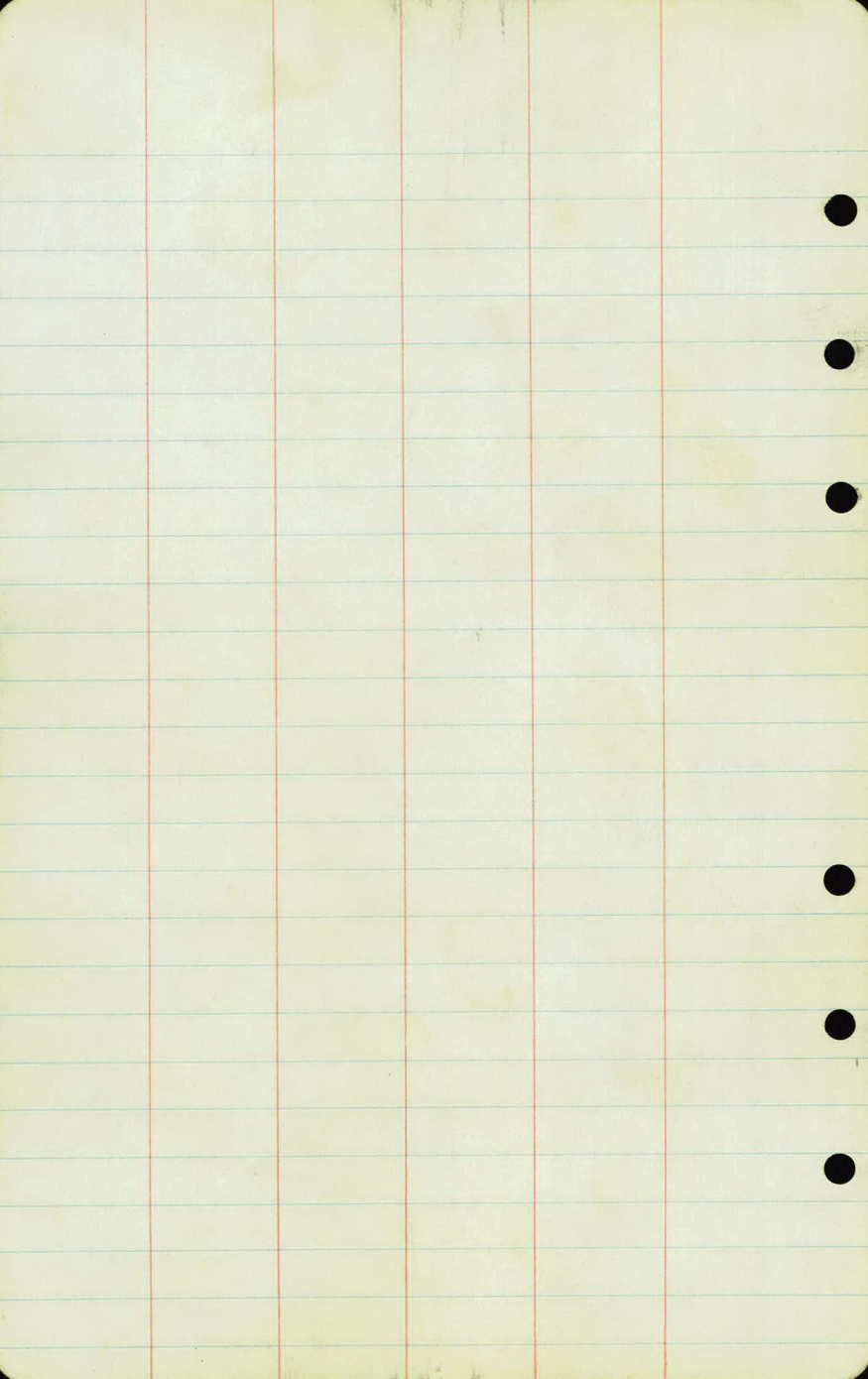
Rt

$\frac{50}{25}$	$\frac{59}{67}$	$\frac{96}{2}$	$\frac{114}{1}$	$\frac{114}{1}$	$\frac{115}{3}$	$\frac{101}{4}$	$\frac{87}{9}$	$\frac{50}{20}$	$\frac{48}{25}$
-----------------	-----------------	----------------	-----------------	-----------------	-----------------	-----------------	----------------	-----------------	-----------------

$\frac{54}{25}$	$\frac{65}{8}$	$\frac{78}{7}$	$\frac{98}{2}$	$\frac{115}{1}$	$\frac{115}{3}$	$\frac{115}{4}$	$\frac{99}{8}$	$\frac{87}{14}$	$\frac{47}{25}$	$\frac{43}{25}$
-----------------	----------------	----------------	----------------	-----------------	-----------------	-----------------	----------------	-----------------	-----------------	-----------------

$\frac{49}{25}$	$\frac{43}{10}$	$\frac{92}{4}$	$\frac{118}{3}$	$\frac{118}{1}$	$\frac{118}{3}$	$\frac{98}{11}$	$\frac{43}{25}$	$\frac{34}{25}$
-----------------	-----------------	----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------

$\frac{37}{25}$	$\frac{28}{13}$	$\frac{35}{10}$	$\frac{91}{3}$	$\frac{114}{1}$	$\frac{114}{4}$	$\frac{119}{6}$	$\frac{25}{10}$	$\frac{82}{17}$	$\frac{33}{25}$	$\frac{35}{25}$
-----------------	-----------------	-----------------	----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------



5/25/89
K.F.
L.G.
L.G.H.
A.B.
A.M.
L.G.

33

Line Revision

(32459 to 37452 = 4942.4)

Sta Point $\Delta L.$ $\Delta R.$

$$\begin{matrix} 19 + 92.4 \\ 37 + 52.0 \end{matrix} = \} \text{Equa. } 98^{\circ}26'$$

N 81° 48' W

N 16° 38' E

+90.41 P.T.

28° 39.5'

+75

21° 20.6 Δ -51° 19'

+50

14° 20.6 D-56° -

35 +99.83 P.I.

51° 19' T-51.06'

+25

96 7° 20.6 L-91.64'

34 +98.77 P.C.

0° 00' R-106.50

34 +98.77

0° 00'

N 34° 41' W

32 +57.0 P.I.

96° 56'

N 61° 53' E

2" x 2" Hub

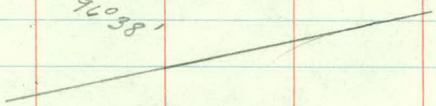
□ 24.2'

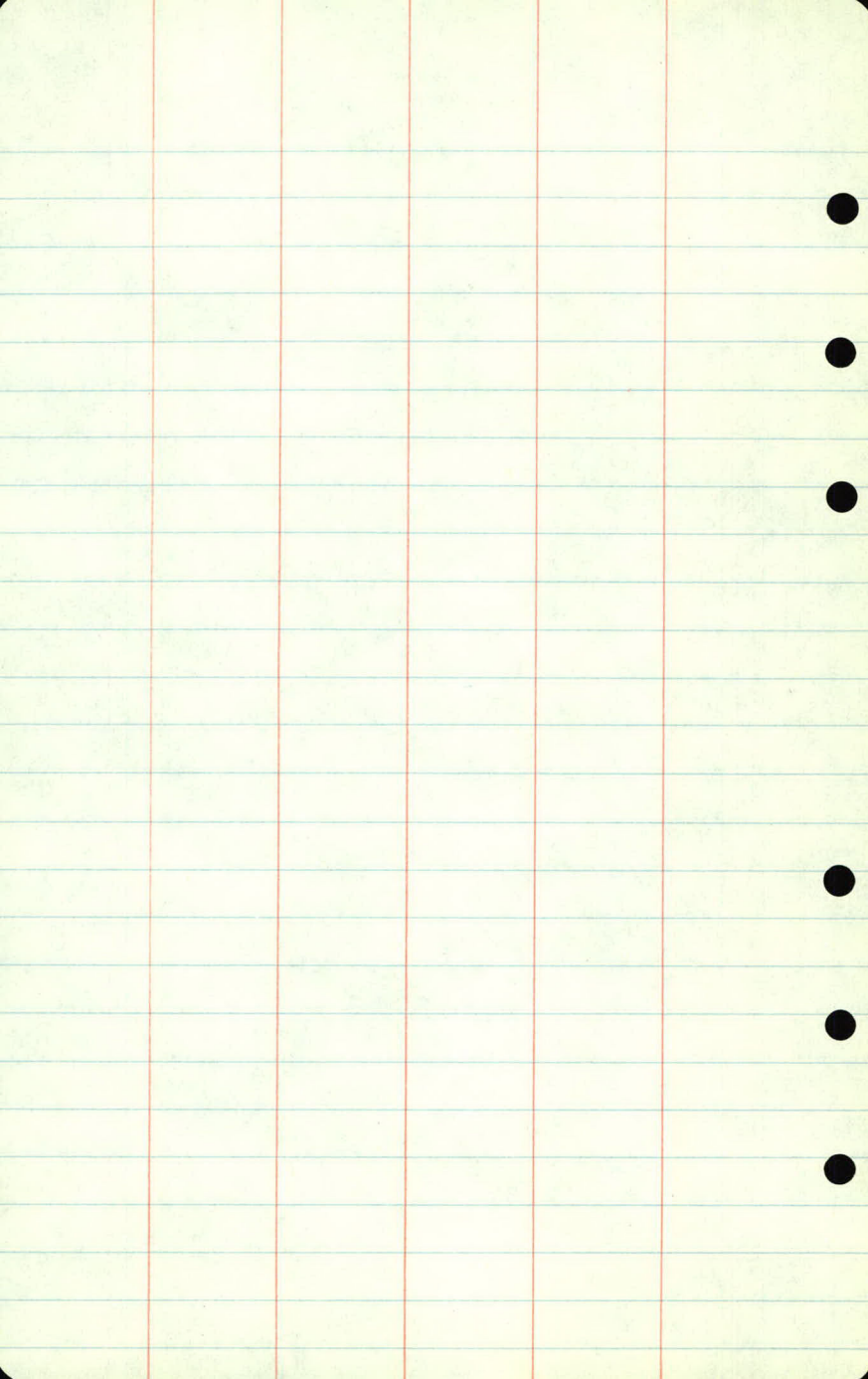
100'

□

2" x 2" Hub

96098'





2 levels

Sta	+	π ✓	-	Grade.
B.M.	2.11	740.56		(738.95)

			10.5	30.06	30.1
--	--	--	------	-------	------

32	+59.0		7.7	30.06	30.9
----	-------	--	-----	-------	------

	+65		7.2		31.4
--	-----	--	-----	--	------

33			8.6	29.7	32.0
----	--	--	-----	------	------

	+35		10.2		30.4
--	-----	--	------	--	------

	+50		6.3	29.25	34.3
--	-----	--	-----	-------	------

	+82		4.0		36.6
--	-----	--	-----	--	------

	+85		10.6		30.0
--	-----	--	------	--	------

34			3.8	28.8	36.8
----	--	--	-----	------	------

	+25		3.2		37.4
--	-----	--	-----	--	------

	+35		11.2		29.4
--	-----	--	------	--	------

Lt.

L.

Lt.

Spk. in 14" Oak 100' Lt 30+

Low Point

W.P.A. Grade.

W.P.A. Grade.

W.P.A. Grade.

Sta.	+ -			Grade.	
			940.56		
34	+50		4.4	28.35	36.2
	+78		4.5		36.1
	+85		11.6		29.0
35			6.1	27.90	34.5
	+25		7.7	27.67	32.9
	+50		9.9	27.45	30.7
	+75		9.2	27.22	31.4
T.P.	2.15	934.26	8.95	932.11	
36			8.3	27.0	31.0
	+50		3.9	26.55	30.4
37			2.6	26.1	31.7
	+42		1.4		32.9

Gr. Rod.

44

4

21.

W.P.A. Grade.

7.26

7.71

8.16

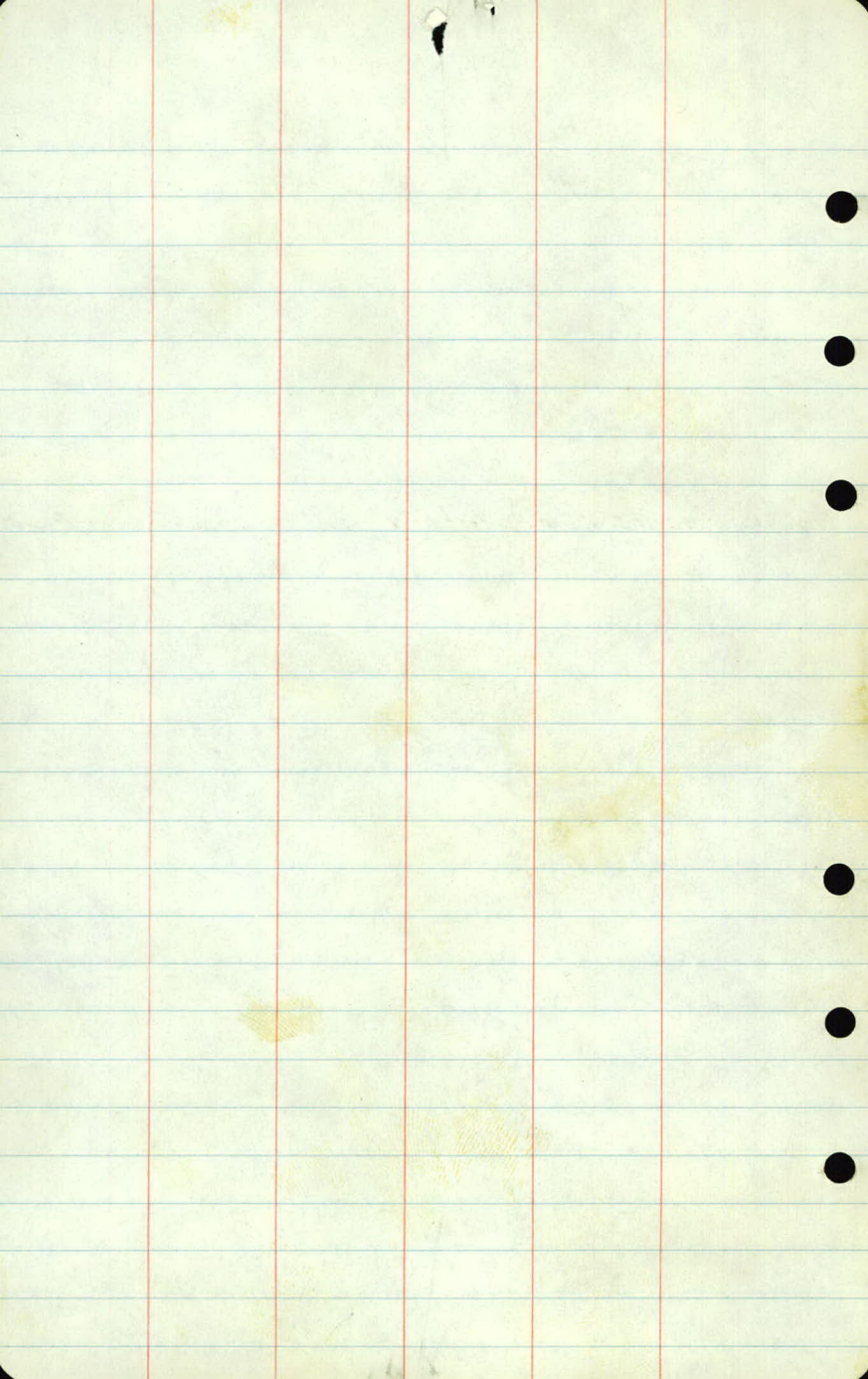
Sta.	+	π ✓	-	Grade
		939.26		
37	+47		6.6	27.7
	+49		8.5	25.8
+520			8.6	925.7
B.M.			1.87	932.39 ✓
				(932.36)

Lt

Q

Lt

Top Conc. Bosc at S.W. Cor. E.C. Post at N. St. Paul Sewerage Disposal Plant.



North St. Paul Ditch

Line Revision

X sections

	5/16	+	π	-	Elek
B.M.		6.65	939.01		932.36

82	+59				30.8
----	-----	--	--	--	------

	+92				31.7
--	-----	--	--	--	------

	+93				30.4
--	-----	--	--	--	------

33	+65				31.0
----	-----	--	--	--	------

	+68				35.1
--	-----	--	--	--	------

	+79				35.8
--	-----	--	--	--	------

	+97				31.8
--	-----	--	--	--	------

34	+35				30.6
----	-----	--	--	--	------

	+73				30.2
--	-----	--	--	--	------

35					30.9
----	--	--	--	--	------

	+25				29.7
--	-----	--	--	--	------

8/18/39

Lt.

C.

Rt.

Top Conc. at Fe Cor. S. & Cor. Disposal Plant.

8.2

$$\frac{73}{25} \quad \frac{73}{10} \quad \frac{73}{3} \quad \frac{85}{4} \quad \frac{72}{11} \quad \frac{63}{25} \quad \frac{68}{25}$$

$$\frac{74}{25} \quad \frac{72}{10} \quad \frac{86}{3} \quad \frac{89}{5} \quad \frac{71}{13} \quad \frac{61}{25} \quad \frac{6.9}{25}$$

$$\frac{42}{25} \quad \frac{41}{10} \quad \frac{86}{2} \quad \frac{80}{5} \quad \frac{40}{25} \quad \frac{36}{25}$$

$$\frac{41}{25} \quad \frac{41}{4} \quad \frac{85}{4} \quad \frac{95}{1} \quad \frac{39}{1} \quad \frac{39}{10} \quad \frac{36}{25} \quad \frac{3.4}{25}$$

$$\frac{35}{25} \quad \frac{37}{16} \quad \frac{28}{9} \quad \frac{34}{4} \quad \frac{86}{4} \quad \frac{86}{1} \quad \frac{33}{1} \quad \frac{32}{4} \quad \frac{23}{11} \quad \frac{26}{25} \quad \frac{16}{25}$$

$$\frac{22}{25} \quad \frac{23}{11} \quad \frac{54}{8} \quad \frac{45}{3} \quad \frac{83}{1} \quad \frac{72}{5} \quad \frac{51}{9} \quad \frac{23}{21} \quad \frac{21}{25} \quad \frac{0.8}{25}$$

$$\frac{18}{25} \quad \frac{20}{7} \quad \frac{68}{4} \quad \frac{73}{2} \quad \frac{84}{1} \quad \frac{72}{5} \quad \frac{54}{7} \quad \frac{17}{22} \quad \frac{17}{22} + 1:1 \text{ slope.}$$

$$\frac{30}{25} \quad \frac{29}{8} \quad \frac{78}{5} \quad \frac{82}{2} \quad \frac{88}{1} \quad \frac{88}{5} \quad \frac{77}{7} \quad \frac{31}{12} \quad \frac{27}{25} \quad \frac{18}{25}$$

$$\frac{32}{25} \quad \frac{46}{6} \quad \frac{69}{3} \quad \frac{81}{1} \quad \frac{62}{5} \quad \frac{91}{7} \quad \frac{46}{25} \quad \frac{49}{25}$$

$$\frac{58}{25} \quad \frac{63}{14} \quad \frac{50}{10} \quad \frac{69}{5} \quad \frac{92}{4} \quad \frac{83}{4} \quad \frac{10}{11} \quad \frac{44}{15} \quad \frac{64}{25} \quad \frac{73}{25}$$

Sta + π - Elev.

939.01.

35 +50

29.3

36

29.0

+50

28.6

37

28.8

+37

31.2

+48

26.2

B.M.

665 932.36

LH.

K.

RH.

$$\frac{80}{25} \quad \frac{85}{7} \quad \frac{88}{5} \quad \frac{97}{3} \quad \frac{96}{5} \quad \frac{89}{5} \quad \frac{83}{25}$$

$$\frac{77}{25} \quad \frac{75}{13} \quad \frac{82}{6} \quad \frac{101}{4} \quad \frac{100}{4} \quad \frac{98}{5} \quad \frac{79}{5} \quad \frac{64}{10} \quad \frac{79}{15} \quad \frac{80}{25}$$

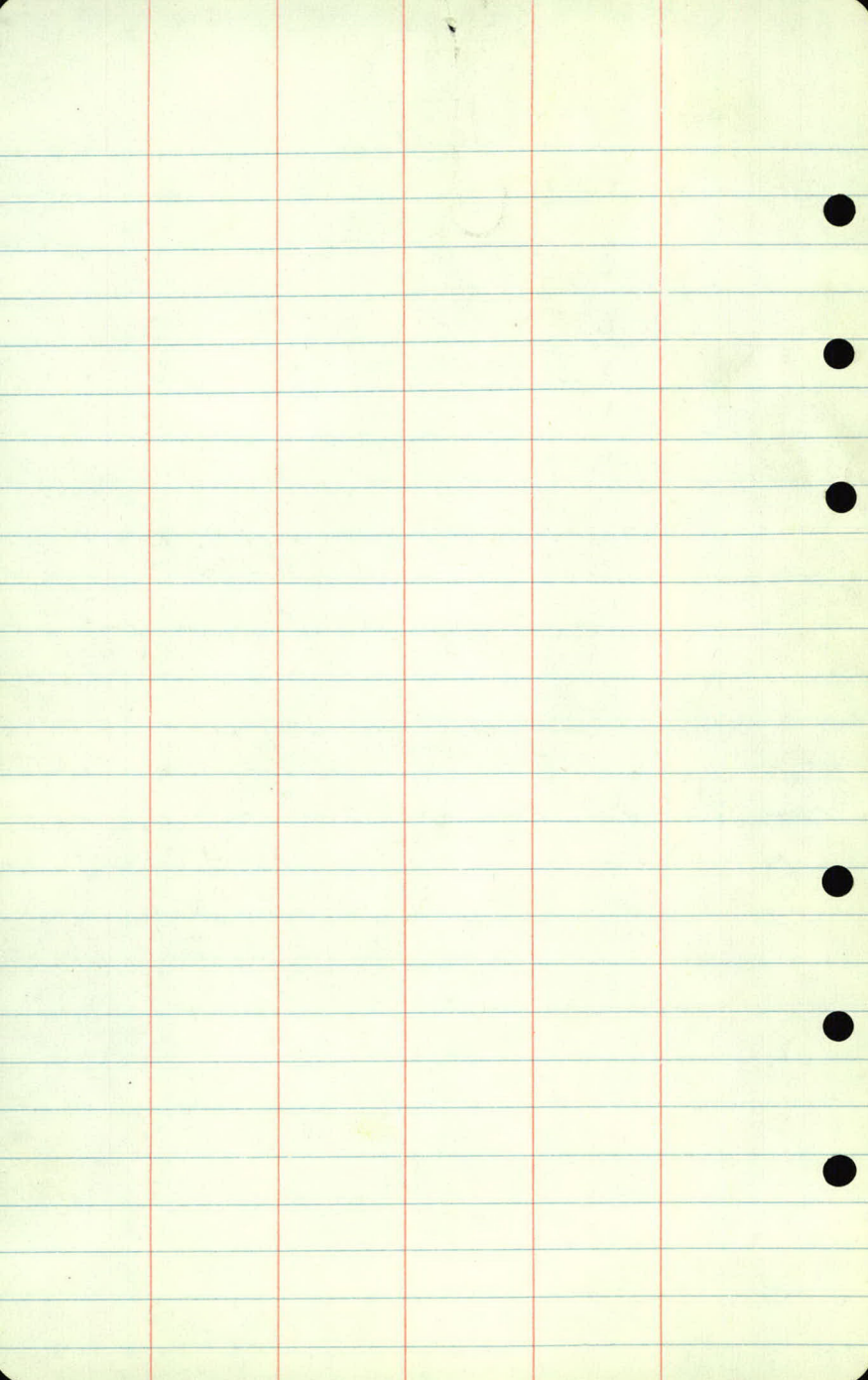
$$\frac{87}{25} \quad \frac{88}{6} \quad \frac{103}{4} \quad \frac{104}{4} \quad \frac{102}{4} \quad \frac{86}{6} \quad \frac{72}{11} \quad \frac{85}{15} \quad \frac{83}{25}$$

$$\frac{69}{25} \quad \frac{71}{18} \quad \frac{54}{11} \quad \frac{69}{6} \quad \frac{101}{5} \quad \frac{102}{4} \quad \frac{100}{4} \quad \frac{73}{6} \quad \frac{5.5}{12} \quad \frac{7.3}{16} \quad \frac{76}{25}$$

$$\frac{51}{25} \quad \frac{56}{13} \quad \frac{117}{11} \quad \frac{117}{5} \quad \frac{78}{4} \quad \frac{78}{5} \quad \frac{61}{5} \quad \frac{48}{11} \quad \frac{68}{25}$$

$$\frac{126}{25} \quad \frac{12.8}{25} \quad \frac{13.2}{25}$$

Top Conc. of Roscof Cor. Fe. s.s. & Conc. Disposal Plant.



staking Notes

drainage ditch
near
Abbott Ave.

Co. Rd. "B" to sewage Disposal Plant.

Sta	+	π	-	Grade.
B.M.	6.65	947.21		940.56

0	+11.6			35.74
---	-------	--	--	-------

	+5.5			35.67
--	------	--	--	-------

1				35.6
---	--	--	--	------

	+5.0			35.52
--	------	--	--	-------

2				35.44
---	--	--	--	-------

	+5.0			35.36
--	------	--	--	-------

3				35.28
---	--	--	--	-------

	+5.0			35.20
--	------	--	--	-------

4				35.12
---	--	--	--	-------

	+5.0			35.04
--	------	--	--	-------

5				35.96
---	--	--	--	-------

Blue
Taps

Cor. Rod.

+2.0

Top N. End. W. Gulch sta 0100

Target set at 11.45

11.47

Sta	+	π	-	Grade
5	+50			34.88
6				34.80
	+50			34.72
7				34.64
	+50			34.56
8				34.48
	+50			34.40
B.M.	3.00	943.82		(940.82)
9				34.32
	+50			34.24
10				34.16
	+50			34.08
B.M.				(940.82)

Gr. Rod.

Disc
Tops.

7.5

+2.0

7.58

+2.0

9.66

+2.0

9.74

+2.0

Spk. in 10" Oak. 33' Rt 10+50

Sta	+	π	-	Grade
		943.82		

11				34.00
----	--	--	--	-------

+50				33.92
-----	--	--	--	-------

12				33.84
----	--	--	--	-------

+50				33.76
-----	--	--	--	-------

13				33.68
----	--	--	--	-------

+50				33.60
-----	--	--	--	-------

14				33.52
----	--	--	--	-------

T.P.	6.84	942.35	8.31	335.51
------	------	--------	------	--------

+50				33.44
-----	--	--	--	-------

15				33.36
----	--	--	--	-------

+50				33.28
-----	--	--	--	-------

16				33.20
----	--	--	--	-------

Gr. Rod.

9.82 ✓

9.90 ✓

9.98 ✓

10.06 ✓

10.14 ✓

10.22 ✓

10.30 ✓

2.91 ✓

8.99 ✓

9.07 ✓

9.15 ✓

Sta	+	π	-	Grade
		942.35		

16	+50			33.12
----	-----	--	--	-------

17				33.04
----	--	--	--	-------

	+45			32.97
--	-----	--	--	-------

T.P	720	944.87	468	337.67
-----	-----	--------	-----	--------

	+75			32.92
--	-----	--	--	-------

18				32.88
----	--	--	--	-------

	+35			32.82
--	-----	--	--	-------

10
- 0.16

	+99.5 = S. End Calc			32.80
--	---------------------	--	--	-------

	+99.5 N. End Calc			32.72
--	-------------------	--	--	-------

B.M.	8.67	944.86	8.67	936.19
------	------	--------	------	--------

B.M.			5.42	939.44
------	--	--	------	--------

B.M.	6.53	942.72		936.19
------	------	--------	--	--------

19	+50			32.64
----	-----	--	--	-------

20				32.56
----	--	--	--	-------

Gr. Rod.

lt.

ft.

rt.

Blue Tops

9.23

9.31

9.38

11.95

11.99

12.05

12.07

12.15

Top N End Culm

Spk in P.P. N.W. Cor Castle Ave & Ditch

10.08

10.16

$$\begin{array}{r} 14 \\ 13.6 \\ \hline 15.2 \end{array}$$

$$\begin{array}{r} 8.9 \\ 14.6 \\ \hline 23.5 \end{array}$$

$$\begin{array}{r} 8.3 \\ 14.1 \\ \hline 22.4 \end{array}$$

$$\begin{array}{r} 7.6 \\ 13.4 \\ \hline 21.0 \end{array}$$

$$\begin{array}{r} 7.7 \\ 13.8 \\ \hline 21.5 \end{array}$$

$$\begin{array}{r} 5.61 \\ 13.7 \\ \hline 19.31 \end{array}$$

$$\begin{array}{r} 46.8 \\ 14.7 \\ \hline 61.5 \end{array}$$

$$\begin{array}{r} 675 \\ 15.2 \\ \hline 10250 \end{array}$$

$$\begin{array}{r} 769 \\ 14.3 \\ \hline 11007 \end{array}$$

$$\begin{array}{r} 805 \\ 19.0 \\ \hline 15295 \end{array}$$

$$\begin{array}{r} 1007 \\ 12.0 \\ \hline 12190 \end{array}$$

2' over 13.5

$$\begin{array}{r} 1015 \\ 12.0 \\ \hline 12165 \end{array}$$

$$\begin{array}{r} 808 \\ 12.0 \\ \hline 9696 \end{array}$$

$$\begin{array}{r} 816 \\ 12.0 \\ \hline 9792 \end{array}$$

Sta	+	π	-	Grade
		942.12		
20	+50			32.48
21				32.40
	+50			32.32
22	+75			32.28
22				32.24
	+25			32.20
	+50			32.16
	+77			32.12
23				32.08
	+50			32.0
24				31.92
TP	3.14	940.07	5.79	936.93

Gr. Bdd.

Lt

R

Rt

10.24

$$\begin{array}{r} 825 \\ 120 \end{array}$$

10.32

$$7.7' / \begin{array}{r} 65 \\ 138 \end{array}$$

$$\begin{array}{r} 832 \\ 120 \end{array}$$

$$\begin{array}{r} 1032 \\ 140 / 8.0' \end{array}$$

10.40

$$7.7' / \begin{array}{r} 53 \\ 151 \end{array}$$

$$\begin{array}{r} 57 \\ 14.7 / 9.1' \end{array}$$

10.44

$$10.0' / \begin{array}{r} 4.9 \\ 155 \end{array}$$

$$\begin{array}{r} 504 \\ 154 / 10.0' \end{array}$$

10.48

$$10.0' / \begin{array}{r} 4.5 \\ 160 \end{array}$$

$$\begin{array}{r} 448 \\ 160 / 10.0' \end{array}$$

10.52

$$10.0' / \begin{array}{r} 3.9 \\ 166 \end{array}$$

$$\begin{array}{r} 392 \\ 166 / 10.0' \end{array}$$

10.56

$$10.0' / \begin{array}{r} 3.8 \\ 158 \end{array}$$

$$\begin{array}{r} 386 \\ 167 / 10.0' \end{array}$$

10.60

$$10.0' / \begin{array}{r} 5.1 \\ 155 \end{array}$$

$$\begin{array}{r} 42 \\ 164 / 10.0' \end{array}$$

10.64

$$9.5' / \begin{array}{r} 5.6 \\ 150 \end{array}$$

$$\begin{array}{r} 414 \\ 165 / 10.0' \end{array}$$

10.72

$$9.7' / \begin{array}{r} 5.6 \\ 151 \end{array}$$

$$\begin{array}{r} 452 \\ 16.2 / 10.0' \end{array}$$

10.80

$$8.6' / \begin{array}{r} 6.4 \\ 144 \end{array}$$

$$\begin{array}{r} 55 \\ 153 / 10.0' \end{array}$$

Sta	+	π	-	Grade
		940.07		
24	+50			31.84
25				31.76
	+50			31.68
26				31.60
	+50			31.52
27				31.44
	+50			31.33
28				31.22
T.P.	1.50	940.71	6.86	933.21
	+50			31.11
29				31.00
	+50			30.89
B.M.			2.27	938.44
				938.45

- 0.16%

- 0.22%

Gr. Rod.

L_t

F

R_t

8.23

$$8.8 / \frac{3.7}{14.5}$$

$$\frac{32.3}{150} / 9.5'$$

8.31

$$8.2 / \frac{0.2}{14.1}$$

$$\frac{39.1}{144} / 8.6'$$

8.39

$$6.8 / \frac{15.2}{13.2}$$

$$\frac{9.89}{13.5} / 7.3'$$

8.47

$$6.5 / \frac{5.95}{13.0}$$

$$\frac{58.7}{12.6} / 5.9'$$

8.55

$$5.9 / \frac{6.0}{12.6}$$

$$\frac{6.35}{12.2} / 5.3'$$

8.63

$$\frac{6.63}{12.0}$$

8.74

$$\frac{6.74}{12.0}$$

8.85

$$\frac{8.86}{12.0}$$

9.60

$$\frac{9.62}{12.0}$$

9.71

$$\frac{9.72}{12.0}$$

9.82

$$\frac{9.82}{12.0}$$

Spl. 10 15" O & R 100 L_t. 5 to 20 to 100

Sta	+	π	-	Grade
		940.71		
30				30.78
	+50			30.67
31				30.56
	+50			30.45
32				30.34
	+41			30.27
	+50			30.23
	+74.8			30.12
T.P.	8.46	940.58	8.59	932.12
33				30.01
	+50			29.79
34				29.57
	+50			29.35

4%
-0.22%

4%
-0.44%

Gr. Rod.

Lt.

L

Rt.

9.93

$$\begin{array}{r} 793 \\ 120 \end{array}$$

10.04

$$\begin{array}{r} 804 \\ 120 \end{array}$$

10.15

$$\begin{array}{r} 815 \\ 120 \end{array}$$

10.26

$$\begin{array}{r} 826 \\ 120 \end{array}$$

10.37

$$\begin{array}{r} 837 \\ 120 \end{array}$$

10.44

$$\begin{array}{r} 845 \\ 120 \end{array}$$

10.59

$$\begin{array}{r} 859 \\ 120 \end{array}$$

10.57

$$\begin{array}{r} 858 \\ 120 \end{array}$$

10.79

$$82' \frac{6.7}{141}$$

$$\frac{148}{16.3} / 10.0'$$

11.01

$$10.0' \frac{15}{165}$$

$$\frac{181}{18.2} / 10.0'$$

11.23

$$10.0' \frac{28}{184}$$

$$\frac{433}{16.9} / 10.0'$$

Sta.	+	π	-	Grade
		940.58		
34	+98.71			29.14
35	+25			29.02
	+50			28.91
	+75			28.80
36				28.69
	+50			28.48
37				28.26
	+40			28.08
B.M.			8.20	932.38

- 0.44%

(932.36)

10/4/84
K.A.
L.C.
140.6
19.8.

G.P. Rod

Lt

R

Rt

11.44

$$10.0 / \frac{5.9}{15.5}$$

$$\frac{944}{12.0}$$

$$\frac{6.04}{15.4/10.0}$$

11.56

$$7.1 / \frac{8.2}{15.4}$$

$$\frac{11.6}{15.4/10.0}$$

11.67

$$\frac{96.7}{12.0}$$

11.78

$$\frac{97.8}{12.0}$$

11.89

$$\frac{11.85}{12.0}$$

12.1

$$\frac{10.12}{12.0}$$

12.32

$$\frac{10.33}{12.0}$$

12.50

$$\frac{75}{150/9.5}$$

Top Corner Base S.W. To Cor Sewerage Disposal Plant

