

Dr 14 - BK 24

OFFICE OF COUNTY ENGINEER
RAMSEY CO. MINN.

_____ PLAN _____ Survey

City of White Bear Drainage

From Johnson Ave To Area &
Mich. Str.

Road Acc't. No. _____

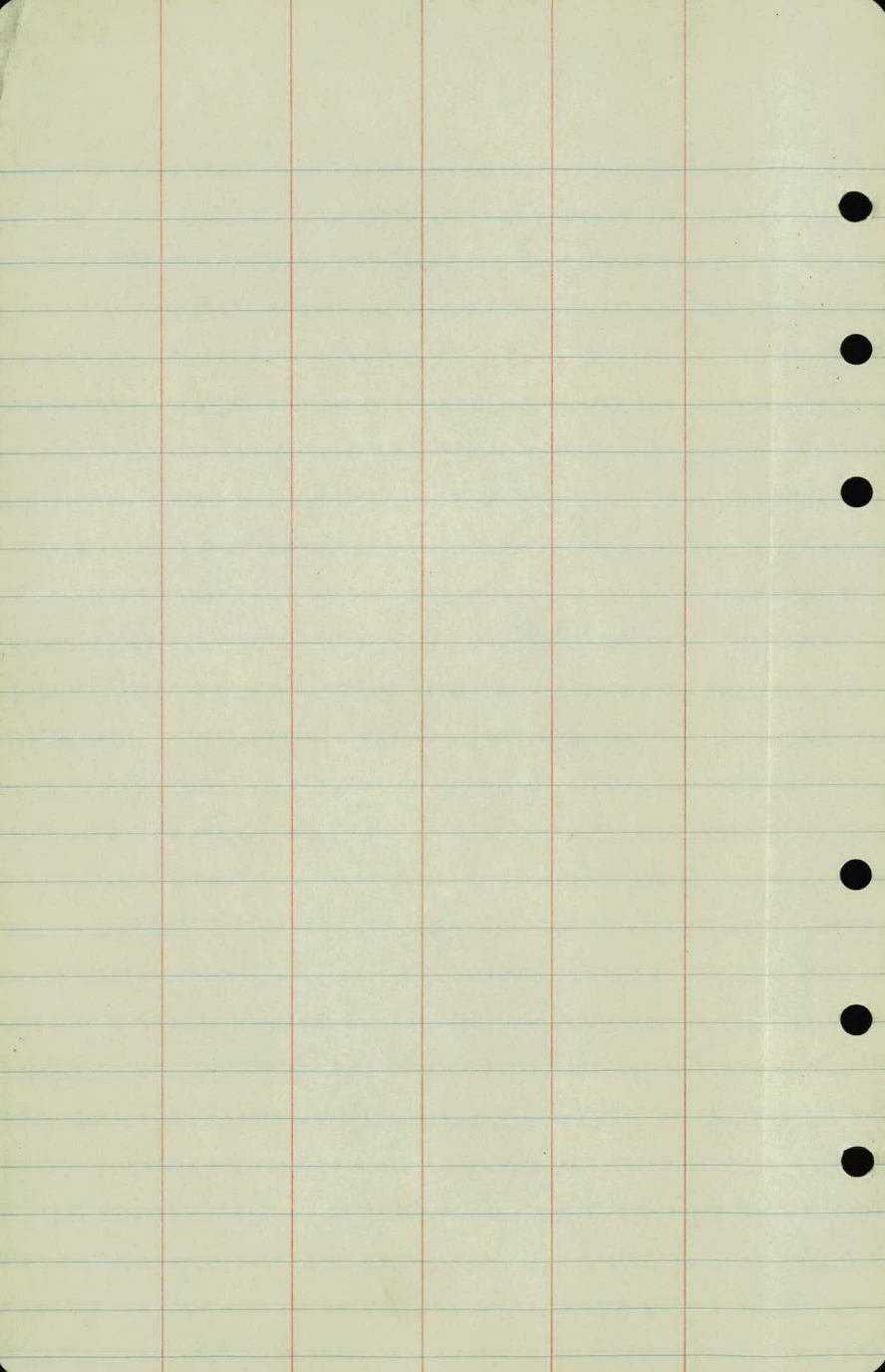
Filed _____

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Mr. Crampton:-

Street Levels or Drainage
situation between Stewart Ave
and Lake Ave, and from
Stewart Lake to 12th or Northernly
limits of White Bear Village.
Alignment & chaining
being approximate.

4/26/38



Stewart Ave.

0+00 = Lake Ave.

Sta.	+	π	-	Elev.
B.M.	3.24	943.00 ✓		939.76 ✓
B.M.	2.95	944.78 ✓	1.17	941.83 ✓
B.M.	1.93	944.78 ✓	1.93	942.85 ✓

0+00 933.6

+50 34.6

1+00 35.8

+50 36.9

2+00 37.8

+66 Approx to 3rd St. 38.4

3+00 38.9

+50 39.3

4+00 39.4

+50 39.6

5+00 39.7

Lt.

E

Rt.

2

Top of Hydrant, NW. Cor. 5th & Johnson.

" " " , NE. " 5th & Stewart

" " " , " " 3rd & "

11.2 $\frac{10.7}{16}$ 10.2 $\frac{10.8}{22}$ $\frac{9.2}{17}$ 9.0 $\frac{9.1}{21}$ $\frac{8.0}{16}$ 7.9 $\frac{8.1}{15}$ $\frac{7.2}{16}$ 7.0 $\frac{7.2}{15}$ $\frac{6.2}{18}$ 6.2 $\frac{6.2}{15}$ $\frac{6.0}{15}$ 5.9 $\frac{6.0}{13}$ $\frac{5.8}{23}$ 5.5 $\frac{6.1}{18}$ $\frac{5.5}{24}$ 5.4 $\frac{6.2}{20}$ $\frac{5.4}{24}$ 5.2 $\frac{5.5}{19}$ $\frac{5.5}{23}$ 5.1 $\frac{5.4}{20}$

Sta.	+	π	-	Elev.
		944.78		
5+80				939.7
6+00				39.8
+41	Curb line 4th St.			39.7
+56	Approx $\angle$			39.7
+70	Curb line			39.7
7+00				39.7
B.M.	1.57	944.78 ✓	1.57	943.21 ✓
+50				39.7
8+00				39.7
+50				39.6
9+00				39.5
+50				39.4
10+00				39.4

Lt.

E

Rt.

$$\frac{53}{24}$$

$$\frac{51}{18}$$

$$\frac{52}{18}$$

$$\frac{52}{23}$$

$$\frac{50}{17}$$

$$\frac{51}{17}$$

$$\frac{57}{23}$$

$$\frac{51}{27}$$

$$\frac{56}{27}$$

$$\frac{51}{21}$$

$$\frac{56}{25}$$

$$\frac{51}{21}$$

$$\frac{55}{21}$$

$$\frac{50}{19}$$

$$\frac{51}{19}$$

$$\frac{52}{19}$$

Top Hydrant N.E. Cor. 4th & Stewart

$$\frac{51}{16}$$

$$\frac{51}{19}$$

$$\frac{50}{19}$$

$$\frac{53}{21}$$

$$\frac{51}{21}$$

$$\frac{51}{21}$$

$$\frac{55}{21}$$

$$\frac{52}{20}$$

$$\frac{54}{20}$$

$$\frac{56}{21}$$

$$\frac{53}{20}$$

$$\frac{56}{20}$$

$$\frac{58}{19}$$

$$\frac{54}{20}$$

$$\frac{56}{20}$$

$$\frac{61}{19}$$

$$\frac{54}{19}$$

$$\frac{60}{19}$$

Sta.	+	π	-	Elev.
		944.78		
10+33	Approx Gutter			939.4
+48	Approx $\pm$ 5 th			39.3
+60	Gutter			39.3
11+00				39.4
+50				39.5
12+00				39.7
T.P.	5.67	945.41 ✓	5.04	939.74 ✓
+50				39.9
12+00				40.1
+50				40.2
+93	Approx Gutter			40.3
+11	Approx d 6 th			40.3
+25	Approx Gutter			40.4

Lt.

Z

Rt.

4

$$\frac{6.2}{25}$$

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

$$\frac{6.3}{24}$$

$$\frac{5.5}{-}$$

$$\frac{5.9}{18}$$

$$\frac{5.5}{-}$$

$$\frac{6.1}{18}$$

$$\frac{5.9}{23}$$

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

$$\frac{5.7}{16}$$

$$\frac{5.6}{23}$$

$$\frac{5.3}{-}$$

$$\frac{5.6}{16}$$

$$\frac{5.7}{23}$$

$$\frac{5.1}{-}$$

$$\frac{5.4}{16}$$

$$\frac{6.1}{22}$$

$$\frac{5.5}{-}$$

$$\frac{5.9}{21}$$

$$\frac{5.9}{22}$$

$$\frac{5.3}{-}$$

$$\frac{5.7}{16}$$

$$\frac{5.8}{23}$$

$$\frac{5.2}{-}$$

$$\frac{5.5}{16}$$

$$\frac{5.7}{31}$$

$$\frac{5.1}{-}$$

$$\frac{5.7}{30}$$

$$\frac{5.1}{-}$$

$$\frac{5.3}{24}$$

$$\frac{5.0}{-}$$

$$\frac{5.4}{23}$$

Sta. + ∇ - Elev.

945.41

14+50

940.4

15+00

40.5

+50

40.5

16+00

40.5

+50

40.5

17+00

40.6

+55

Approx better line

40.6

+70

Approx $\pm 7\frac{1}{2}$

40.6

+85

better line

40.7

18

40.7

B.M.

3.10

945.41

310

944.31

+50

41.0

19

41.3

Lt.

E

Rt.

5

$$\frac{54}{16}$$

$$\frac{50}{1}$$

$$\frac{54}{18}$$

$$\frac{55}{20}$$

$$\frac{49}{1}$$

$$\frac{57}{20}$$

$$\frac{56}{20}$$

$$\frac{49}{1}$$

$$\frac{55}{19}$$

$$\frac{55}{24}$$

$$\frac{49}{1}$$

$$\frac{58}{20}$$

$$\frac{55}{24}$$

$$\frac{49}{1}$$

$$\frac{52}{15}$$

$$\frac{57}{21}$$

$$\frac{48}{1}$$

$$\frac{55}{21}$$

$$\frac{56}{25}$$

$$\frac{48}{1}$$

$$\frac{52}{24}$$

$$\frac{48}{1}$$

$$\frac{50}{21}$$

$$\frac{47}{1}$$

$$\frac{50}{18}$$

$$\frac{48}{21}$$

$$\frac{47}{1}$$

$$\frac{49}{21}$$

Top Hydrant N.E. Cor. 7th & Stewart

$$\frac{48}{21}$$

$$\frac{44}{1}$$

$$\frac{55}{19}$$

$$\frac{47}{32}$$

$$\frac{41}{1}$$

$$\frac{69}{23}$$

Sta.	+	π	-	Elev.
		945.41		
19+50				941.7
20+00				42.0
+50				42.3
T.P.	3.96	946.47 ✓	2.90	942.51 ✓
21+00				43.7
+19	Cutter 8 th			42.7
+36	Approx 4 8 th			42.7
+50	Cutter on side drain			42.7
22+00				42.7
+50				42.5
23+00				42.0
+50				41.6
24+00				40.9

Lt.

E

Rt.

6

$$\frac{45}{25}$$

$$\frac{37}{25}$$

$$\frac{64}{23}$$

$$\frac{39}{26}$$

$$\frac{34}{26}$$

$$\frac{54}{22}$$

$$\frac{35}{23}$$

$$\frac{31}{23}$$

$$\frac{38}{20}$$

$$\frac{43}{21}$$

$$\frac{38}{21}$$

$$\frac{42}{13}$$

$$\frac{38}{22}$$

$$\frac{38}{22}$$

$$\frac{41}{26}$$

$$\frac{38}{22}$$

$$\frac{39}{24}$$

$$\frac{38}{24}$$

$$\frac{40}{16}$$

$$\frac{39}{16}$$

$$\frac{38}{16}$$

$$\frac{38}{13}$$

$$\frac{40}{17}$$

$$\frac{40}{17}$$

$$\frac{40}{13}$$

$$\frac{47}{16}$$

$$\frac{45}{16}$$

$$\frac{45}{13}$$

$$\frac{52}{15}$$

$$\frac{49}{15}$$

$$\frac{54}{18}$$

$$\frac{60}{15}$$

$$\frac{56}{15}$$

$$\frac{61}{16}$$

Sta.	+	Σ	-	Elev.
		946.47		
24+50				940.2
+80				39.9
25+00	Approx $\pm$ 9 th			39.4
+24				39.3
+50				39.0
B.M.	5.97	946.47 ✓	5.97	940.50 ✓
26+00				38.4
+50	24" Conc Pipe			37.7
+70	$\pm$ W.P.R.R.			937.47
27+00				37.4
+50				37.1
T.P.	3.18	940.11 ✓	9.54	936.93 ✓
28+00				36.8

Lt.

E

Rt.

7

$$\frac{6.9}{17}$$

$$\frac{6.3}{17}$$

$$\frac{2.7}{22}$$

$$\frac{8.6}{23}$$

$$\frac{6.6}{23}$$

$$\frac{8.6}{26}$$

$$\frac{6.9}{17}$$

$$\frac{9.5}{21}$$

$$\frac{7.2}{21}$$

$$\frac{10.6}{43}$$

$$\frac{9.7}{23}$$

$$\frac{7.5}{23}$$

$$\frac{10.9}{35}$$

Top Hydrant N.E. Cor. 9th & Stewart

$$\frac{10.4}{24}$$

$$\frac{8.1}{24}$$

$$\frac{11.4}{31}$$

$$\frac{12.5}{12.3}$$

$$\frac{8.8}{16}$$

$$\frac{12.5}{12.5}$$

~~Top Rail 9.0~~

$$\frac{10.3}{23}$$

$$\frac{9.1}{23}$$

$$\frac{9.8}{21}$$

$$\frac{8.4}{24}$$

$$\frac{9.4}{24}$$

$$\frac{7.1}{20}$$

$$\frac{3.4}{24}$$

$$\frac{8.3}{24}$$

$$\frac{4.8}{23}$$

Sta. + π - Elev.

940.11

28+40 936.6 .

+64 Approx $\pm 10^{\text{th}}$ 36.4 .

+82 36.4 .

29+00 36.3 .

+50 36.1 .

30+00 35.9 .

+50 35.7 .

31+00 35.4 .

+50 35.1 .

32+00 34.7 .

+23 Approx $\pm 11^{\text{th}}$ 34.5 .

+50 34.2 .

Lt.

E

Et.

8

$$\frac{40}{26}$$

$$\frac{35}{-}$$

$$\frac{50}{24}$$

$$\frac{37}{-}$$

$$\frac{53}{51}$$

$$\frac{37}{-}$$

$$\frac{56}{27}$$

$$\frac{49}{23}$$

$$\frac{38}{-}$$

$$\frac{45}{22}$$

$$\frac{49}{20}$$

$$\frac{40}{-}$$

$$\frac{46}{18}$$

$$\frac{53}{19}$$

$$\frac{42}{-}$$

$$\frac{47}{19}$$

$$\frac{56}{20}$$

$$\frac{44}{-}$$

$$\frac{45}{15}$$

$$\frac{57}{20}$$

$$\frac{47}{-}$$

$$\frac{50}{19}$$

$$\frac{59}{21}$$

$$\frac{50}{-}$$

$$\frac{45}{13}$$

$$\frac{65}{24}$$

$$\frac{54}{-}$$

$$\frac{57}{21}$$

$$\frac{56}{-}$$

$$\frac{61}{19}$$

$$\frac{59}{-}$$

$$\frac{59}{27}$$

Sta.	+	π	-	Elev.
		940.11		
33+00				933.7 ✓
B.M.	1.81	940.11 ✓	1.81	938.30 ✓
+50				33.1
34+00				32.5
+50				31.9
35+00				31.3
+20				31.1
+50	Approx $\pm 12^{\text{th}}$ St.			30.8
+80				30.5
36+00				30.3
+50				30.0
37+00				29.7
B.M.		660		933.51 ✓

Lt.

E

Rt.

9

$$\frac{67}{18}$$

$$\frac{64}{19}$$

$$\frac{60}{19}$$

Top Hydrant N.E. Cor. 11th & Stewart

$$\frac{72}{19}$$

$$\frac{700}{19}$$

$$\frac{64}{23}$$

$$\frac{84}{19}$$

$$\frac{76}{19}$$

$$\frac{80}{22}$$

$$\frac{107}{22}$$

$$\frac{82}{22}$$

$$\frac{94}{25}$$

$$\frac{122}{23}$$

$$\frac{88}{23}$$

$$\frac{104}{25}$$

$$\frac{114}{24}$$

$$\frac{90}{24}$$

$$\frac{107}{34}$$

$$\frac{93}{24}$$

$$\frac{108}{23}$$

$$\frac{96}{23}$$

$$\frac{98}{25}$$

$$\frac{110}{31}$$

$$\frac{98}{31}$$

$$\frac{118}{39}$$

$$\frac{105}{24}$$

$$\frac{101}{24}$$

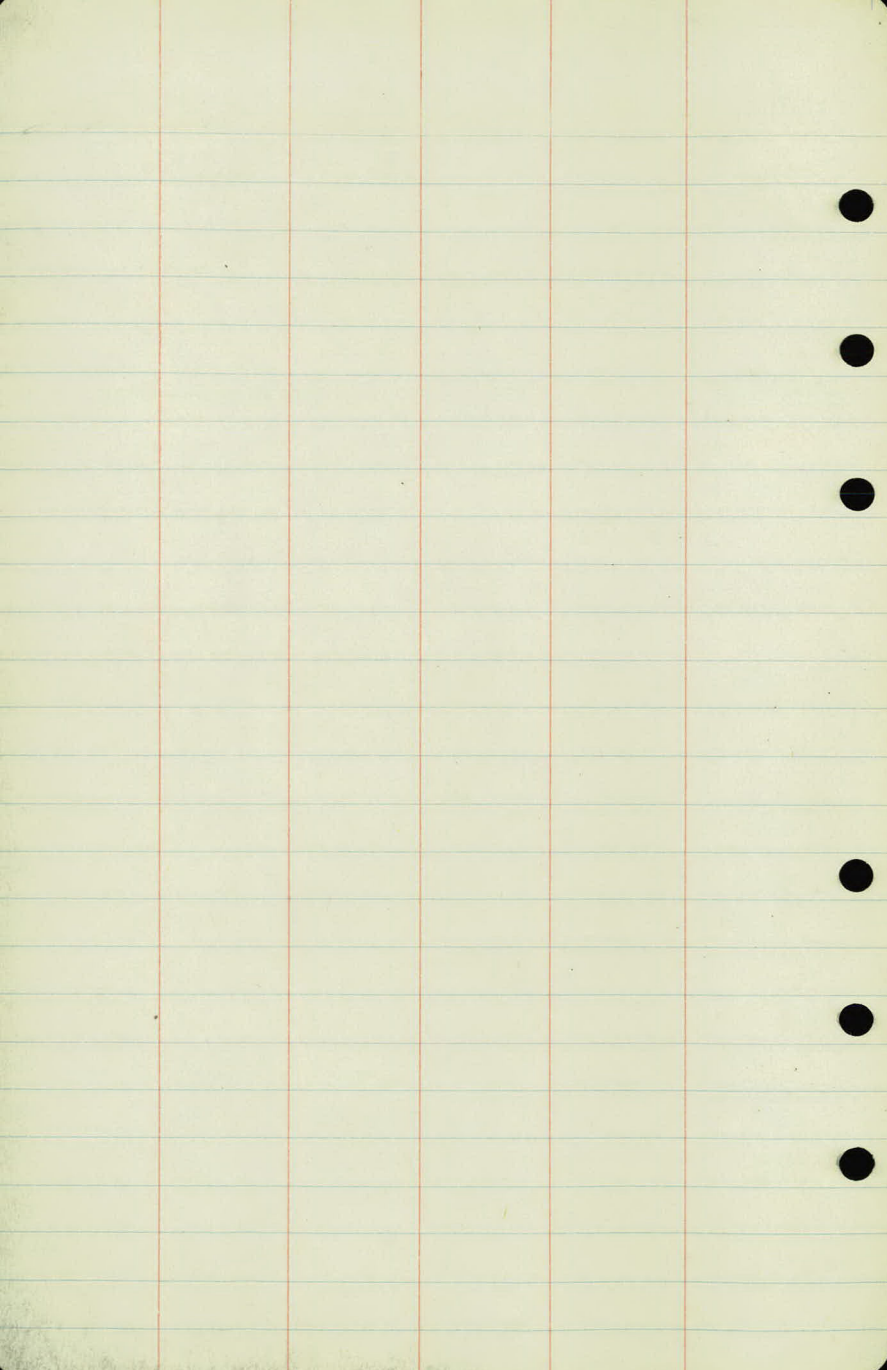
$$\frac{129}{21}$$

$$\frac{111}{24}$$

$$\frac{104}{24}$$

$$\frac{108}{26}$$

Top Hydrant N.E. Cor. 12th & Stewart



Morehead St.

Gate Area = 56.0100

Sta.	+	π	✓	-	Elev
B.M.	0.20	943.05	✓		942.85
T.P.	8.11	943.50	✓	7.66	935.39 ✓
0+00					934.5
+50					35.2
1+00					36.4
+50					37.6
2+00					38.2
+50					38.5
3+00					38.7
+15					38.5
+29	Curb Line				37.6
+48	± Approx 43 ft.				38.0
+58	Curb Line				37.6

Lt.

E

et

11

Top Hydrant N.E. Cor. 3rd & Stewart.90 $\frac{82}{12}$ $\frac{8.3}{1}$ $\frac{82}{14}$ $\frac{71}{15}$ $\frac{7.1}{1}$ $\frac{66}{13}$ $\frac{57}{17}$ $\frac{5.9}{1}$ $\frac{54}{10}$ $\frac{54}{16}$ $\frac{5.3}{1}$ $\frac{5.0}{12}$ $\frac{50}{20}$ $\frac{5.0}{1}$ $\frac{49}{15}$ $\frac{49}{19}$ $\frac{4.8}{1}$ $\frac{5.0}{14}$ 5.0 $\frac{53}{28}$ $\frac{5.9}{1}$ $\frac{62}{21}$ 5.5 $\frac{53}{27}$ $\frac{5.9}{1}$ $\frac{53}{26}$

Sta. + K - Elev.

943.50

3+75 938.6

4+00 39.1

+80 39.3

5+00 39.7

+80 39.3

6+00 38.7

+80 38.3

7+00 38.1

+19 = 10" C.M. 38.1

+35 Approx 2 5th St. 38.0

+54 = 12" C.M. 38.0

B.M. 3.93 944.93 2.50 941.00

Lt.

E

Rt.

12

4.94.8
154.44.8
114.7
154.24.5
114.2
133.84.5
114.6
124.24.8
115.3
124.85.2
135.8
145.25.7
116.0
115.46.0
11Inv. 2.3
175.4Inv. 2.3
135.5Inv. 6.6
155.5Inv. 6.9
13Top Hydrant N.E. Cor. 5th & Morehead.

Sta.	+	π	-	Elev
		944.93		
8+00				938.2
+50				38.5
9+00				38.7
+50				38.9
10+00				39.1
+50				39.4
+82				39.9
+94	Approx ϕ 6 th St.			40.1
11+14	= 12" C.M.			39.9
+50				39.7
12+00				39.9
+50				40.3

Lt.

E

Rt.

$$\frac{7.3}{15}$$

$$\frac{6.7}{15}$$

$$\frac{7.3}{13}$$

$$\frac{7.2}{15}$$

$$\frac{6.4}{15}$$

$$\frac{7.1}{14}$$

$$\frac{6.9}{15}$$

$$\frac{6.2}{15}$$

$$\frac{7.0}{14}$$

$$\frac{6.6}{15}$$

$$\frac{6.0}{15}$$

$$\frac{6.9}{15}$$

$$\frac{6.3}{15}$$

$$\frac{5.8}{15}$$

$$\frac{6.7}{15}$$

$$\frac{6.1}{15}$$

$$\frac{5.5}{15}$$

$$\frac{6.7}{13}$$

$$\frac{5.7}{27}$$

$$\frac{5.0}{27}$$

$$\frac{5.6}{24}$$

$$\frac{4.8}{15}$$

$$\frac{6.1 \text{ hr.}}{15}$$

$$\frac{5.0}{15}$$

$$\frac{6.1}{15}$$

$$\frac{6.0}{15}$$

$$\frac{5.2}{15}$$

$$\frac{6.1}{15}$$

$$\frac{6.0}{15}$$

$$\frac{5.0}{15}$$

$$\frac{5.7}{15}$$

$$\frac{5.4}{15}$$

$$\frac{4.6}{15}$$

$$\frac{6.3}{15}$$

Sta	+	π	-	Elev.
		944.93		
13+00				940.5
+50				40.9
14+00				41.2
+47				42.0
+57	Approx of	7 th St.		42.3
+74				42.2
15+00				41.8
T.P.	4.38	946.50	2.71	944.22
+50				41.7
16+00				41.6
+50				41.4
17+00				41.4
+50				41.1

11.

2

21

14

$$\frac{5.1}{15}$$

$$\frac{4.4}{15}$$

$$\frac{4.9}{14}$$

$$\frac{4.6}{15}$$

$$\frac{4.0}{15}$$

$$\frac{4.5}{15}$$

$$\frac{4.3}{15}$$

$$\frac{3.7}{15}$$

$$\frac{3.8}{15}$$

$$\frac{3.5}{23}$$

$$\frac{2.9}{19}$$

$$\frac{3.5}{19}$$

$$\frac{2.6}{15}$$

$$\frac{3.5}{22}$$

$$\frac{2.7}{18}$$

$$\frac{3.2}{18}$$

$$\frac{3.5}{14}$$

$$\frac{3.1}{10}$$

$$\frac{3.3}{10}$$

$$\frac{5.2}{14}$$

$$\frac{4.8}{13}$$

$$\frac{5.2}{13}$$

$$\frac{5.4}{14}$$

$$\frac{4.9}{9}$$

$$\frac{5.6}{9}$$

$$\frac{5.1}{15}$$

$$\frac{5.1}{10}$$

$$\frac{5.6}{10}$$

$$\frac{5.6}{15}$$

$$\frac{5.1}{9}$$

$$\frac{5.6}{9}$$

$$\frac{5.8}{14}$$

$$\frac{5.4}{9}$$

$$\frac{5.8}{9}$$

Sta.	+ K	- Elev.
	946.50	
18+00		941.2
+24	Approx $\frac{1}{2}$ 8 th St.	41.2
+41		41.2
19+00		40.1
+50		39.7
20+00		39.7
+50		39.3
21+00		38.9
+50		38.6
+74		38.6
+85	Approx $\frac{1}{2}$ 9 th St.	38.8
22+00		38.6

Lt.

E

Rt.

$$\frac{58}{21}$$

$$\frac{53}{}$$

$$\frac{60}{17}$$

$$\frac{53}{}$$

$$\frac{61}{26}$$

$$\frac{53}{}$$

$$\frac{65}{25}$$

$$\frac{71}{18}$$

$$\frac{64}{}$$

$$\frac{67}{13}$$

$$\frac{76}{19}$$

$$\frac{68}{}$$

$$\frac{72}{13}$$

$$\frac{75}{15}$$

$$\frac{68}{}$$

$$\frac{72}{9}$$

$$\frac{76}{20}$$

$$\frac{72}{}$$

$$\frac{74}{9}$$

$$\frac{82}{11}$$

$$\frac{76}{}$$

$$\frac{79}{8}$$

$$\frac{86}{13}$$

$$\frac{79}{}$$

$$\frac{83}{11}$$

$$\frac{87}{26}$$

$$\frac{79}{}$$

$$\frac{82}{23}$$

$$\frac{77}{}$$

$$\frac{90}{24}$$

$$\frac{79}{}$$

$$\frac{82}{14}$$

Sta.	+	x	-	Elev.
		946.50 ✓		
B.M.	0. 10	940.95	5.65	940.85 ✓
22+00				938.3
23+00				37.9
+50				37.4
24+00				36.9
+50				36.4
25+00				35.9
+50	Approx E of 10 th St.			35.9
26+00				34.7
+52				34.8
+57				32.1
+59				32.1
+61				32.7
+68	E N.P.R.R.			33.2
+76				32.2

LT

E

RT

940.85
 + 2.00
 942.85
 2.10
 940.75
 940.10 - Top Hydr.
 91% & Stewart

Top of bolt in 2" iron pipe N.E. Cor 9th & Merchard

$$\frac{37}{14}$$

$$\frac{27}{9}$$

$$\frac{31}{9}$$

$$\frac{37}{13}$$

$$\frac{31}{9}$$

$$\frac{34}{10}$$

$$\frac{44}{14}$$

$$\frac{36}{9}$$

$$\frac{40}{9}$$

$$\frac{47}{11}$$

$$\frac{41}{9}$$

$$\frac{43}{9}$$

$$\frac{50}{11}$$

$$\frac{46}{9}$$

$$\frac{50}{14}$$

$$\frac{57}{14}$$

$$\frac{51}{9}$$

$$\frac{53}{15}$$

$$\frac{58}{17}$$

$$\frac{51}{9}$$

$$\frac{56}{18}$$

$$\frac{66}{20}$$

$$\frac{63}{9}$$

$$\frac{58}{19}$$

$$\frac{67}{9}$$

$$\frac{89}{9}$$

$$\frac{89}{9}$$

$$\frac{83}{9}$$

Top Rail

$$\frac{78}{9}$$

$$\frac{88}{9}$$

End of Grading



Sta + - Elev.

940.95

26+81

932.4

+89

34.6

27+00

34.0

+50

33.6

28+00

34.5

+50

33.0

+84

32.6

+91

31.7

29+09 Approx & 11th St.

31.8

+30

32.1

+37

32.9

+50

32.5

T.P.

2.35

934.23

9.04

931.91

Lt.

Z

Rt.

$$\frac{8.6}{1}$$

$$\frac{6.4}{1}$$

$$\frac{7.2}{20}$$

$$\frac{7.0}{1}$$

$$\frac{7.4}{14}$$

$$\frac{6.9}{25}$$

$$\frac{7.4}{1}$$

$$\frac{7.4}{20}$$

$$\frac{6.5}{23}$$

$$\frac{6.5}{1}$$

$$\frac{6.9}{20}$$

$$\frac{7.8}{15}$$

$$\frac{8.0}{1}$$

$$\frac{8.7}{19}$$

$$\frac{8.4}{1}$$

$$\frac{8.9}{20}$$

$$\frac{9.3}{1}$$

$$\frac{8.5}{22}$$

$$\frac{9.2}{1}$$

$$\frac{8.9}{1}$$

$$\frac{8.1}{1}$$

$$\frac{7.9}{19}$$

$$\frac{8.5}{1}$$

$$\frac{8.7}{20}$$

Sta. + π - Elev.

934.23

30+00

930.1

+50

29.1

31+00

26.5

+50

26.5

32+00

27.9

+30

29.1

+55 Approx @ 12th

28.6

+80

28.2

33+00

27.2

+44

25.0

+74

Drain Ditch

24.6

On Section

34

24.3

Lt.

E

Rt.

$$\frac{35}{20}$$

$$\frac{41}{1}$$

$$\frac{40}{21}$$

$$\frac{60}{20}$$

$$\frac{51}{1}$$

$$\frac{50}{20}$$

$$\frac{80}{20}$$

$$\frac{77}{1}$$

$$\frac{70}{20}$$

$$\frac{95}{21}$$

$$\frac{77}{1}$$

$$\frac{87}{21}$$

$$\frac{105}{25}$$

$$\frac{63}{1}$$

$$\frac{108}{22}$$

$$\frac{51}{1}$$

$$\frac{56}{1}$$

$$\frac{105}{24}$$

$$\frac{60}{70}$$

$$\frac{84}{12}$$

$$\frac{120}{18}$$

$$\frac{92}{1}$$

$$\frac{96}{13}$$

$$\frac{125}{17}$$

$$\frac{96}{1}$$

$$\frac{128}{7}$$

$$\frac{94}{20}$$

$$\frac{95}{1}$$

$$\frac{110}{14}$$



Begin grading
Approach fill to 12 1/2

End grading

Sta.	+	Σ	-	Elev.
		934.23 ✓		
B.M.	0.76	934.23 ✓	0.76	933.47 ✓ 933.51
T.P.	6.41	935.45 935.41	5.19	929.04 ✓
B.M.			0.37	935.08 935.04 935.12

Lt.

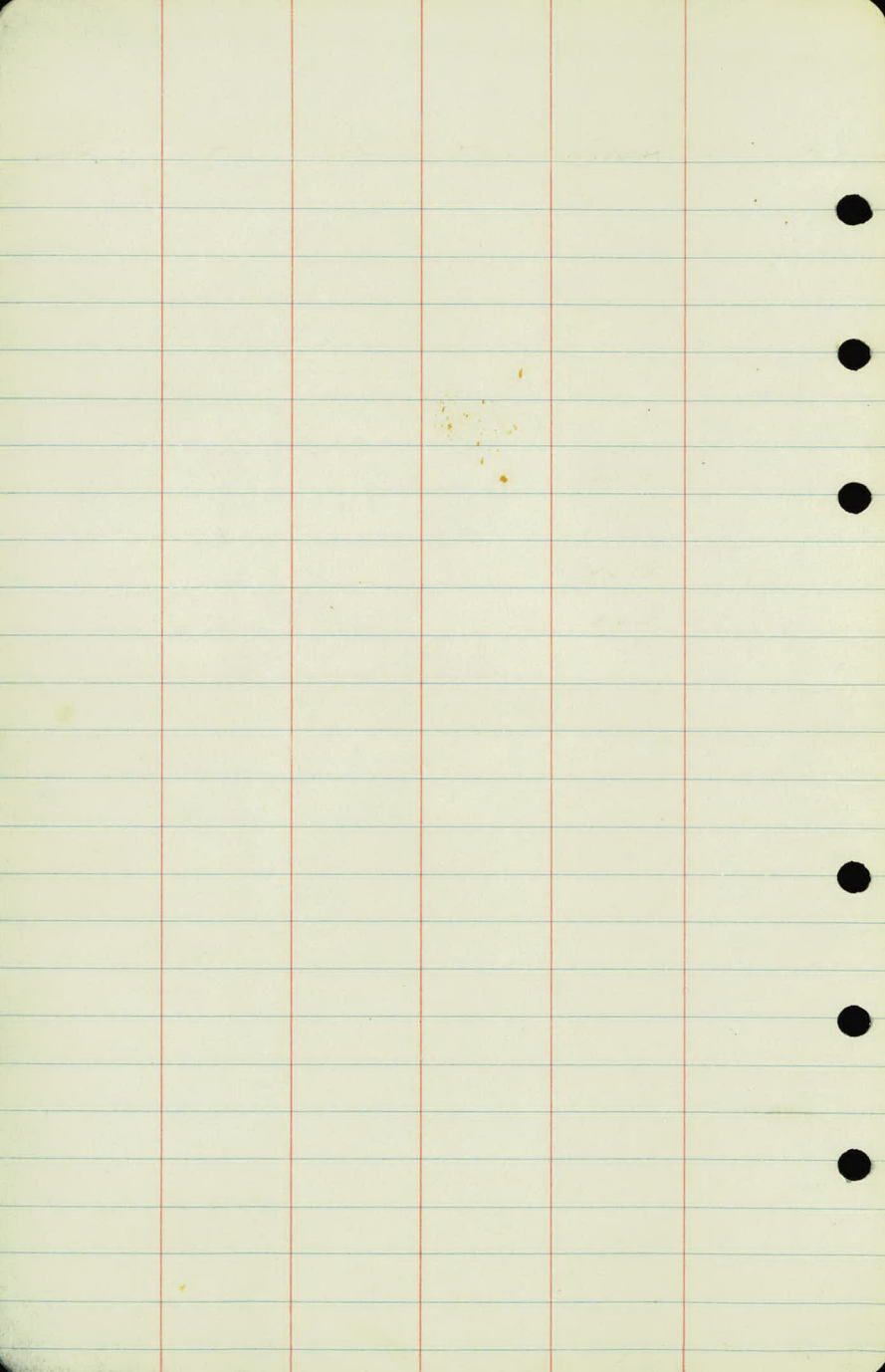
E

Rt.

Top Hydrant N.E. Cor. 17th & Stewart

Spike in Oak 60' Rt. St. ^W Johnson St.

check
with
Johnson
survey



Johnson St.

Refer to previous survey of
this street made 8 months ago. 4/38
(Continuation to town limits)

Sta.	+	Σ	-	Elev.
B.M.	0.37	935.42 935.41		935.08 935.04
				935.11

28+25	End of grading	929.8
+34		26.9
+53		26.7
+68		28.2
+76	to P.R.R.	28.9
+85		27.1
29+00		23.2
30+00		22.1
31+00		21.7
+70	Ditch	22.1
+72		21.6
+75		21.6
+78		22.5
+90		23.5
32+07		28.1
+50	4.96	27.1
+67		23.8
33+00		23.1

Lt.

E

Rt.

Spike in Oak 60' Rt. Jls. 27 + 55 (See Johnson Survey)

5.78.68.87.3

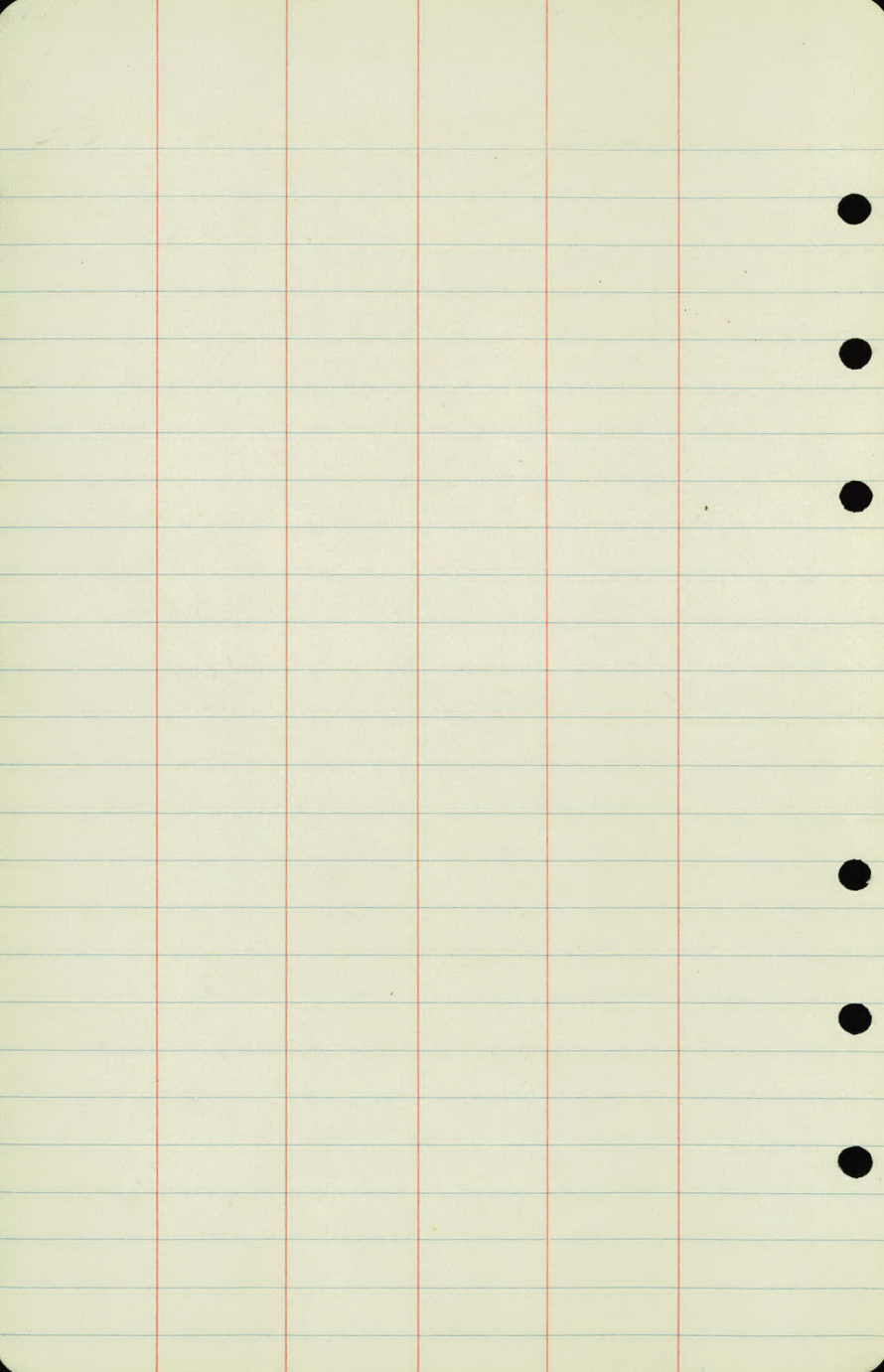
Top Rail

6.68.412.313.413.813.413.913.912.012.07.48.411.712.4

↑

11.5.
Post Dog

↓



Lake Avenue

Sta. 0+00 P.I. with Stewart.

Sta	+	π	-	Elev
B.M.	0.39	943.24 ✓		942.85
0+00				933.6
+50				33.7
+75	Drain Lt.			33.7
1+00				33.8
+50				33.9
2+00				33.9
+50				33.9
3+00				33.9
+50				34.0
4+00				34.1
+50				34.2
+99				34.4

Lt.

C

Rt.

Top Hydrant N.E. Cor. Stewart & 3rd St.

$$\begin{array}{r} 96 \\ \hline 103 \\ 14 \end{array}$$

$$\begin{array}{r} 93 \\ \hline 25 \end{array}$$

$$\begin{array}{r} 95 \\ \hline \end{array}$$

$$\begin{array}{r} 97 \\ \hline 10 \end{array}$$

D-210 Grade

$$\begin{array}{r} 98 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 95 \\ \hline \end{array}$$

$$\begin{array}{r} 98 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 101 \\ \hline 133 \\ 26 \end{array}$$

$$\begin{array}{r} 96 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 94 \\ \hline \end{array}$$

$$\begin{array}{r} 97 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 95 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 93 \\ \hline \end{array}$$

$$\begin{array}{r} 97 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 95 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 93 \\ \hline \end{array}$$

$$\begin{array}{r} 96 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 95 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 93 \\ \hline \end{array}$$

$$\begin{array}{r} 96 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 95 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 93 \\ \hline \end{array}$$

$$\begin{array}{r} 97 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 95 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 92 \\ \hline \end{array}$$

$$\begin{array}{r} 96 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 94 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 91 \\ \hline \end{array}$$

$$\begin{array}{r} 95 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 92 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 90 \\ \hline \end{array}$$

$$\begin{array}{r} 94 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 91 \\ \hline 14 \end{array}$$

$$\begin{array}{r} 88 \\ \hline \end{array}$$

$$\begin{array}{r} 92 \\ \hline 10 \end{array}$$

Sta.	+	π	-	Elev.
		943.24		
5+00	Approx & Morehead			934.6
T.P.	5.23	939.51 ✓	8.96	934.28 ✓
+47				34.7
6+00				35.0
+50				35.1
7+00				35.2
+50				35.1
8+00				34.9
+50				34.6
9+00				34.2
+13				34.1
+38	Approx & Johnson			33.9
10+00				33.5

Lt.

E

Rt.

24

$$\begin{array}{r} 86 \\ 23 \\ \hline \end{array}$$

$$\begin{array}{r} 86 \\ \hline \end{array}$$

$$\begin{array}{r} 91 \\ 10 \\ \hline \end{array}$$

$$\begin{array}{r} \text{Grate Drain} \\ 51 \\ 10 \\ \hline \end{array}$$

$$\begin{array}{r} 48 \\ \hline \end{array}$$

$$\begin{array}{r} 51 \\ 10 \\ \hline \end{array}$$

$$\begin{array}{r} \text{Drain Outlet} \\ 99 \\ 28 \\ \hline \end{array}$$

$$\begin{array}{r} 48 \\ 11 \\ \hline \end{array}$$

$$\begin{array}{r} 45 \\ \hline \end{array}$$

$$\begin{array}{r} 49 \\ 10 \\ \hline \end{array}$$

$$\begin{array}{r} 46 \\ 11 \\ \hline \end{array}$$

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

$$\begin{array}{r} 48 \\ 10 \\ \hline \end{array}$$

$$\begin{array}{r} 46 \\ 11 \\ \hline \end{array}$$

$$\begin{array}{r} 43 \\ \hline \end{array}$$

$$\begin{array}{r} 47 \\ 10 \\ \hline \end{array}$$

$$\begin{array}{r} 47 \\ 11 \\ \hline \end{array}$$

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

$$\begin{array}{r} 48 \\ 10 \\ \hline \end{array}$$

$$\begin{array}{r} 49 \\ 11 \\ \hline \end{array}$$

$$\begin{array}{r} 46 \\ \hline \end{array}$$

$$\begin{array}{r} 50 \\ 10 \\ \hline \end{array}$$

$$\begin{array}{r} 52 \\ 11 \\ \hline \end{array}$$

$$\begin{array}{r} 49 \\ \hline \end{array}$$

$$\begin{array}{r} 53 \\ 10 \\ \hline \end{array}$$

$$\begin{array}{r} 56 \\ 11 \\ \hline \end{array}$$

$$\begin{array}{r} 53 \\ \hline \end{array}$$

$$\begin{array}{r} 56 \\ 10 \\ \hline \end{array}$$

$$\begin{array}{r} \text{Grate Drain} \\ 57 \\ 10 \\ \hline \end{array}$$

$$\begin{array}{r} 54 \\ \hline \end{array}$$

$$\begin{array}{r} 57 \\ \hline \end{array}$$

$$\begin{array}{r} \text{Drain Outlet} \\ 95 \\ 33 \\ \hline \end{array}$$

$$\begin{array}{r} 56 \\ \hline \end{array}$$

$$\begin{array}{r} 60 \\ 10 \\ \hline \end{array}$$

$$\begin{array}{r} 63 \\ 10 \\ \hline \end{array}$$

$$\begin{array}{r} 60 \\ \hline \end{array}$$

$$\begin{array}{r} 63 \\ 10 \\ \hline \end{array}$$

Sta.	+	π	-	Elev.
		939.61		
10+19				933.5
+68	Approx $\pm 4\frac{1}{4}$ ft.			33.2
+80				33.1
11+00				32.9
+50				32.6
12+00				32.3
+50				32.1
+98				31.9
13+50				32.0
T.P.	9.84	941.84 ✓	749	938.02 ✓
14+00				32.2
+47				32.4
15+00				32.6

Lt.

E

Rt.

$$\begin{array}{r} \text{Grate Drain} \\ 63 \\ \hline 14 \end{array}$$

$$\begin{array}{r} 60 \\ \hline \end{array}$$

$$\begin{array}{r} 64 \\ \hline 10 \end{array}$$

$$\begin{array}{r} \text{Drain Outlet} \\ 89 \\ \hline 31 \end{array}$$

$$\begin{array}{r} 63 \\ \hline \end{array}$$

$$\begin{array}{r} 67 \\ \hline 14 \end{array}$$

$$\begin{array}{r} 64 \\ \hline \end{array}$$

$$\begin{array}{r} 67 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 68 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 66 \\ \hline \end{array}$$

$$\begin{array}{r} 69 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 72 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 69 \\ \hline \end{array}$$

$$\begin{array}{r} 72 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 74 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 72 \\ \hline \end{array}$$

$$\begin{array}{r} 75 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 76 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 74 \\ \hline \end{array}$$

$$\begin{array}{r} 77 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 31.7 \\ \text{Grate Drain} \\ 78 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 76 \\ \hline \end{array}$$

$$\begin{array}{r} 31.5 \\ \text{Grate Drain} \\ 80 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 27.8 \\ \text{Drain Outlet} \\ 117 \\ \hline 38 \end{array}$$

$$\begin{array}{r} 78 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 75 \\ \hline \end{array}$$

$$\begin{array}{r} 78 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 89 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 86 \\ \hline \end{array}$$

$$\begin{array}{r} 100 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 32.1 \\ \text{Grate Drain} \\ 97 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 94 \\ \hline \end{array}$$

$$\begin{array}{r} 98 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 94 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 92 \\ \hline \end{array}$$

$$\begin{array}{r} 95 \\ \hline 10 \end{array}$$

Sta.	+	π	-	Elev.
		741.84		
15+50				932.9
+76				33.2
16+00	Approx $\pm$ 5 th			33.5
+29				33.8
17+00				34.9
+37	Manitou Rd. Rt.			35.7
18+00				36.8
+50				37.6
19+00				38.2
+50				38.9
+73	Approx $\pm$ 6 th			39.2
20				39.2

Lt.

E

Rt.

26

$$\frac{52}{10}$$

$$\frac{89}{10}$$

$$\frac{93}{10}$$

$$\frac{100}{23}$$

$$\frac{87}{17}$$

$$\frac{56}{10}$$

$$\frac{90}{10}$$

$$\frac{83}{10}$$

Crack Drain

$$\frac{84}{10}$$

$$\frac{80}{10}$$

$$\frac{84}{10}$$

$$\frac{71}{10}$$

$$\frac{69}{10}$$

$$\frac{72}{10}$$



$$\frac{61}{10}$$

$$\frac{64}{17}$$

$$\frac{75}{50}$$



$$\frac{53}{10}$$

$$\frac{50}{10}$$

$$\frac{54}{10}$$

$$\frac{45}{10}$$

$$\frac{42}{10}$$

$$\frac{46}{10}$$

$$\frac{38}{10}$$

$$\frac{36}{10}$$

$$\frac{39}{10}$$

$$\frac{30}{12}$$

$$\frac{29}{10}$$

$$\frac{34}{11}$$

$$\frac{26}{10}$$

$$\frac{26}{12}$$

$$\frac{26}{10}$$

$$\frac{31}{10}$$

Sta. + π - Elev.

941.84

20+11

939.2

T.P.

7.59

946.55 ✓

2.88

938.96 ✓

B.M.

3.62

946.55 ✓

3.62

947.93 ✓

+50

39.4

21+00

39.7

+50

39.9

22+00

40.1

+50

40.1 40.5

23+00

40.2 40.6

+38

Approx of 7th St.

41.0

+23

40.8

24+00

41.2

+50

41.6

Lt.

Ct.

Rt.

Grate Drain

$$\frac{30}{10}$$

$$\frac{26}{10}$$

$$\frac{31}{10}$$

Drain Outlet

$$\frac{57}{31}$$

Top Hydrant 6th of Lake Me.

$$\frac{25}{10}$$

$$\frac{22}{10}$$

$$\frac{26}{10}$$

$$\frac{22}{10}$$

$$\frac{69}{10}$$

$$\frac{23}{10}$$

$$\frac{20}{10}$$

$$\frac{67}{10}$$

$$\frac{20}{10}$$

$$\frac{67}{10}$$

$$\frac{65}{10}$$

$$\frac{68}{10}$$

$$\frac{64}{10}$$

$$\frac{61}{10}$$

$$\frac{65}{10}$$

$$\frac{61}{10}$$

$$\frac{60}{10}$$

$$\frac{63}{10}$$

$$\frac{56}{10}$$

Drain Grate

$$\frac{60}{10}$$

$$\frac{58}{10}$$

Drain Grate

$$\frac{61}{10}$$

Drain Outlet

$$\frac{93}{28}$$

$$\frac{56}{10}$$

$$\frac{54}{10}$$

$$\frac{57}{10}$$

$$\frac{52}{10}$$

$$\frac{50}{10}$$

$$\frac{53}{10}$$

Sta.	+	π	-	Elev.
		946.55		
25+00				942.1
+50				42.6
26+00				43.1
+50				43.6
27+08	Approx $\pm 8^{\text{th}}$			44.0
+44				44.1
B.M.	2.21	946.08 ✓	2.68	943.87 ✓
28+00				44.2
+50				44.0
29+00				43.5
+50				42.9
30+00				42.4
+42 ✓				42.0

Lt.

E

Rt.

$$\frac{46}{10}$$

$$\frac{45}{10}$$

$$\frac{48}{10}$$

$$\frac{42}{10}$$

$$\frac{40}{10}$$

$$\frac{44}{10}$$

$$\frac{38}{10}$$

$$\frac{35}{10}$$

$$\frac{39}{10}$$

$$\frac{33}{10}$$

$$\frac{30}{10}$$

$$\frac{34}{10}$$

$$\frac{26}{10}$$

$$\frac{30}{10}$$

Grate Drain

$$\frac{27}{10}$$

$$\frac{25}{10}$$

$$\frac{29}{10}$$

Ctr Grate Drain 10' Lt. 27+44 - 8th & Lake Ave

$$\frac{21}{10}$$

$$\frac{19}{10}$$

$$\frac{22}{10}$$

$$\frac{24}{10}$$

$$\frac{21}{10}$$

$$\frac{25}{10}$$

$$\frac{29}{10}$$

$$\frac{26}{10}$$

$$\frac{300}{10}$$

$$\frac{34}{10}$$

$$\frac{32}{10}$$

$$\frac{35}{10}$$

$$\frac{38}{10}$$

$$\frac{37}{10}$$

$$\frac{40}{10}$$

Drain Grate

$$\frac{44}{10}$$

$$\frac{41}{10}$$

$$\frac{45}{10}$$

Drain out 1st

$$\frac{147}{42}$$

Sta.	+	π	-	Elev.
		746.08		
30+72	Approx $\pm$ 9 th			941.8
31+00				41.4
+50				40.9
32+00				40.5
+50				40.3
33+00				40.2
+50				40.1
+97				40.1
34+33	Approx $\pm$ 10 th 54			40.3
35+00				40.5
+50				40.4
36+00				40.3

Lt.

E

Rt.

$$\frac{4.3}{10}$$

$$\frac{4.9}{10}$$

$$\frac{4.7}{10}$$

$$\frac{5.0}{10}$$

$$\frac{5.4}{10}$$

$$\frac{5.2}{10}$$

$$\frac{5.5}{10}$$

$$\frac{5.8}{11}$$

$$\frac{5.6}{10}$$

$$\frac{6.0}{10}$$

$$\frac{6.0}{10}$$

$$\frac{5.8}{10}$$

$$\frac{6.1}{10}$$

$$\frac{6.1}{10}$$

$$\frac{5.9}{10}$$

$$\frac{6.3}{10}$$

$$\frac{6.2}{11}$$

$$\frac{6.0}{10}$$

$$\frac{6.4}{10}$$

Drain Gate
 $\frac{6.4}{10}$

$$\frac{6.0}{10}$$

Drain Gate
 $\frac{6.6}{10}$

Drain Outlet
 $\frac{11.0}{33.0}$

$$\frac{5.8}{10}$$

$$\frac{6.3}{10}$$

$$\frac{5.9}{11}$$

$$\frac{5.6}{10}$$

$$\frac{6.0}{10}$$

$$\frac{5.8}{11}$$

$$\frac{5.5}{10}$$

$$\frac{5.9}{10}$$

$$\frac{6.0}{11}$$

$$\frac{5.8}{10}$$

$$\frac{6.2}{10}$$

Sta.	+	Σ	-	Elev.
		946.08		
T.P.	0.94	941.30	5.72	940.36
36+50				39.9
37+00				39.2
+50				38.5
38+07				38.4 37.4
+39	Approx ± 11.74			36.8
B.M.	6.18	941.30	6.18	935.12
				935.12
39+00				35.6
+50				34.6
40+00				33.6
+50				32.6
41+00				31.6
+50				30.6

Lt.

2

Rt.

$$\frac{17}{11}$$

$$\frac{14}{11}$$

$$\frac{18}{10}$$

$$\frac{23}{11}$$

$$\frac{20}{11}$$

$$\frac{24}{10}$$

$$\frac{30}{11}$$

$$\frac{28}{11}$$

$$\frac{31}{10}$$

Drain Grate

$$\frac{4.1}{10}$$

$$\frac{3.9}{10}$$

$$\frac{4.2}{10}$$

Drain Outlet

$$\frac{2.9}{25}$$

$$\frac{4.5}{10}$$

$$\frac{4.8}{10}$$

Spike in 12" Oak 60' Rt. Sta. 27+55 Johnson St.

$$\frac{6.0}{11}$$

$$\frac{5.7}{11}$$

$$\frac{6.0}{10}$$

$$\frac{6.9}{11}$$

$$\frac{6.7}{11}$$

$$\frac{7.0}{10}$$

$$\frac{7.9}{11}$$

$$\frac{7.7}{11}$$

$$\frac{8.0}{10}$$

$$\frac{9.0}{11}$$

$$\frac{8.7}{11}$$

$$\frac{9.0}{10}$$

$$\frac{9.9}{11}$$

$$\frac{9.7}{11}$$

$$\frac{10.0}{10}$$

$$\frac{11.0}{11}$$

$$\frac{10.7}{11}$$

$$\frac{11.0}{10}$$

Sta.	+	Σ	-	Elev.
		941.30		
42+00				929.7 ✓
B.M.	4.61	933.21 ✓	12.70	928.60
+49				29.0
+90	Approx $\pm 12\frac{1}{2}$ ft.			28.5
43+50				28.2
44+00				28.2
+50				28.1
45+00				27.9
+40	Triple Row 24" Conc Pipe			27.8
+81	Approx Sec. Line Xing			27.7
+98				27.7

Lt.

E

Rt.

$$\frac{11.9}{10}$$

$$\frac{11.6}{10}$$

$$\frac{12.0}{10}$$

Ch. Drain Grate 10' Lt. Sts 42 + 49

12th St. & Lake Ave

Drain Grate.

$$\frac{4.6}{10}$$

$$\frac{4.2}{10}$$

Drain Grate.

$$\frac{4.7}{10}$$

outlet
plugged
About 28' out

$$\frac{4.7}{10}$$

$$\frac{5.3}{11}$$

$$\frac{5.0}{11}$$

$$\frac{5.2}{11}$$

$$\frac{5.4}{12}$$

$$\frac{5.0}{12}$$

$$\frac{4.9}{12}$$

$$\frac{5.6}{10}$$

$$\frac{5.1}{10}$$

$$\frac{5.0}{10}$$

$$\frac{5.8}{10}$$

$$\frac{5.3}{10}$$

$$\frac{4.5}{11}$$

Int. 80.2

$$\frac{21.5}{10}$$

$$\frac{6.0}{10}$$

$$\frac{5.4}{11}$$

$$\frac{4.9}{11}$$

86 Int

$$\frac{16}{10}$$

White Bear Creek

$$\frac{5.5}{10}$$

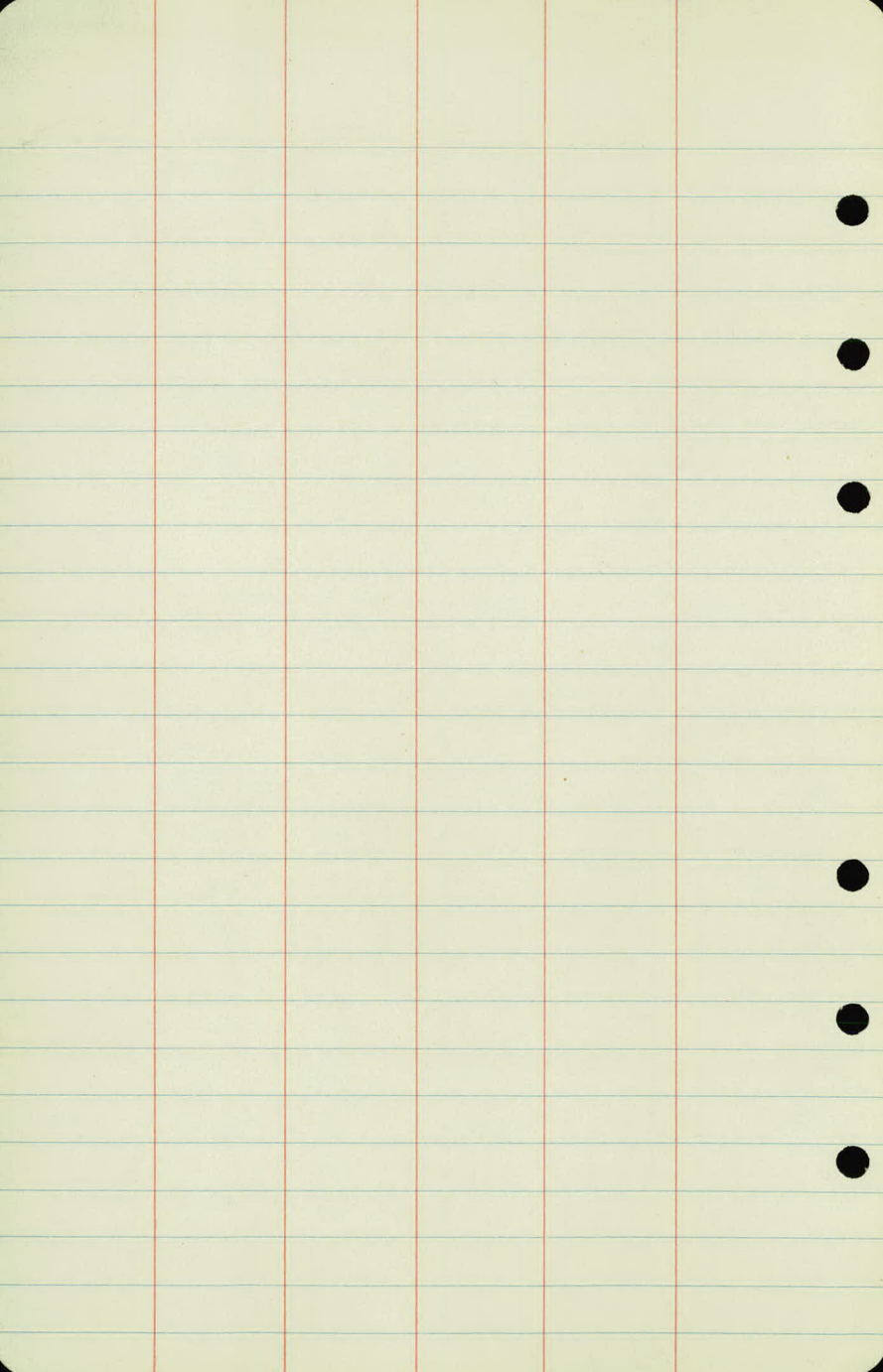
Drain
Outlet

$$\frac{91}{21}$$

Drain Grate

$$\frac{64}{10}$$

$$\frac{5.5}{10}$$



4th St.

Stewart = 0100 to Lake Ave.

Sta.	+	-	Elev.
B.M.	0.70	943.91.	943.21
0+00			939.7 .
+50			39.6 .
1+00			39.4 .
+50			39.3 .
2+00			39.2 .
+50			39.0 .
3+00			38.8 .
+72	Approx to Morehead St.		38.1 .
4+00			37.7 .
+50			37.2 .
5+00			36.8 .
+50			36.5 .

Lt.

E

Rt.

Top of Hydrant, N.E. Cor. 4th & Stewart

	<u>4.2</u>	
$\frac{4.8}{1.5}$	$\frac{4.3}{1.5}$	$\frac{4.8}{1.5}$
$\frac{5.0}{1.5}$	$\frac{4.5}{1.5}$	$\frac{5.0}{1.5}$
$\frac{5.1}{1.5}$	$\frac{4.6}{1.5}$	$\frac{5.1}{1.5}$
$\frac{5.1}{1.5}$	$\frac{4.7}{1.5}$	$\frac{5.2}{1.5}$
$\frac{5.4}{1.5}$	$\frac{4.9}{1.5}$	$\frac{5.3}{1.5}$
$\frac{5.5}{1.5}$	$\frac{5.1}{1.5}$	$\frac{5.6}{1.5}$
	<u>5.8</u>	
$\frac{6.7}{1.5}$	$\frac{6.2}{1.5}$	$\frac{6.7}{1.5}$
$\frac{7.1}{1.5}$	$\frac{6.7}{1.5}$	$\frac{7.2}{1.5}$
$\frac{7.5}{1.5}$	Manhole $\frac{7.1}{1.5}$	$\frac{7.6}{1.5}$
$\frac{7.8}{1.5}$	$\frac{7.4}{1.5}$	$\frac{7.9}{1.5}$

Sta.	+	π	-	Elev.
		943.91		
6+00				936.1

+50				35.7
-----	--	--	--	------

7+00				35.5
------	--	--	--	------

+35	Approx E Johnson St.			34.9
-----	----------------------	--	--	------

+50				34.7
-----	--	--	--	------

8+00				33.7
------	--	--	--	------

8+43	Approx E Lake Ave.			33.2
------	--------------------	--	--	------

B.M.		2.91	941.00	OK [941.00]
------	--	------	--------	----------------

Lt.

E

Rt.

$$\frac{8.2}{15}$$

$$\frac{7.8}{15}$$

$$\frac{8.3}{15}$$

$$\frac{8.6}{15}$$

$$\frac{8.2}{15}$$

$$\frac{8.6}{15}$$

$$\frac{8.8}{15}$$

$$\frac{8.4}{15}$$

$$\frac{8.9}{15}$$

$$\frac{9.0}{15}$$

$$\frac{9.7}{15}$$

$$\frac{9.2}{15}$$

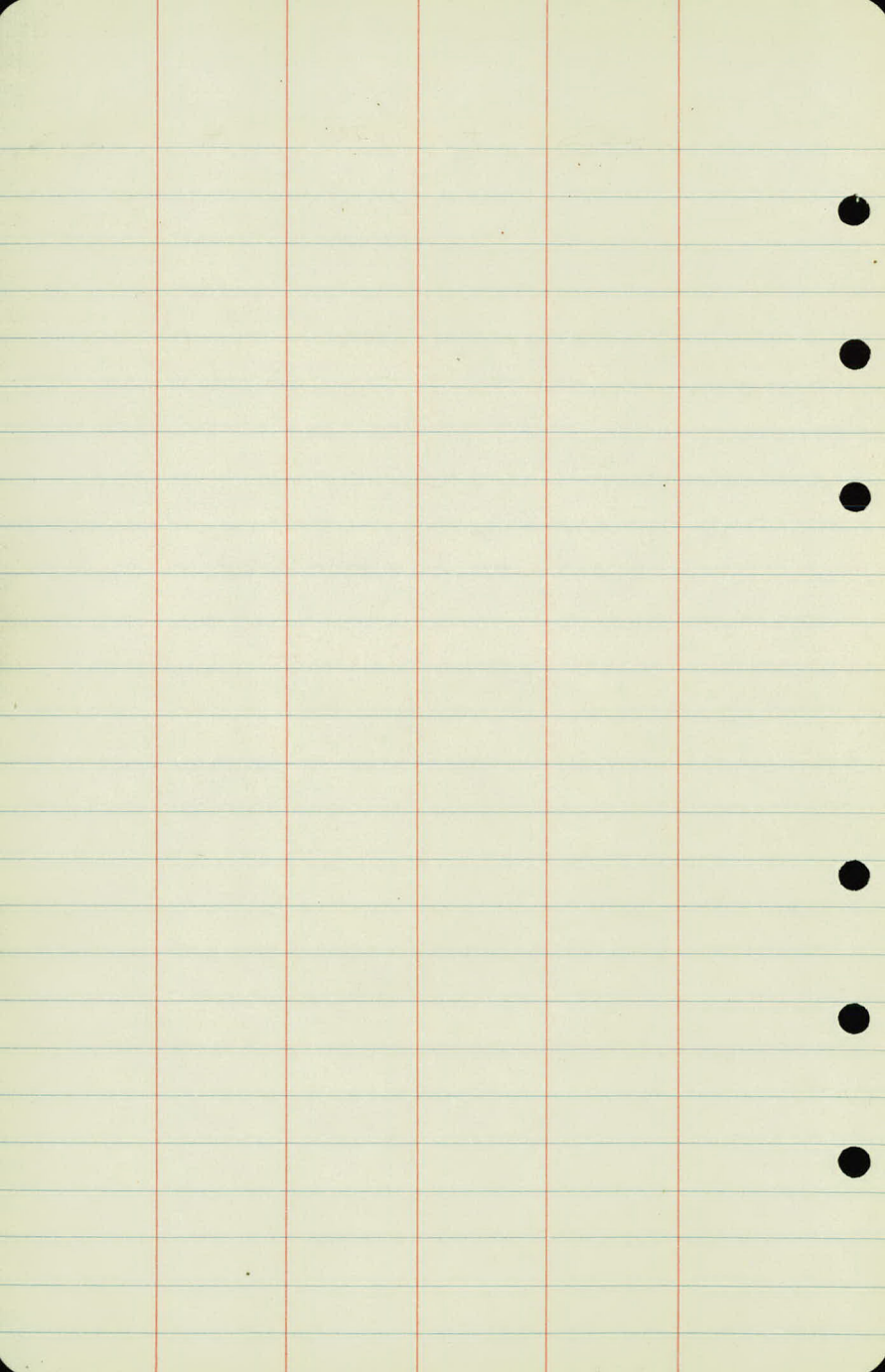
$$\frac{9.9}{15}$$

$$\frac{10.6}{15}$$

$$\frac{10.2}{15}$$

$$\frac{10.7}{15}$$

Top Hydrant N.E. Cor 5th & Morehead



5th St. White Bear

From Stewart Ave. Sta. 0+00
to Lake Ave.

Sta.	+	π	-	Elev.
B.M.	0.89	944.72		941.83

0+00				939.3
------	--	--	--	-------

+50				38.7
-----	--	--	--	------

1+00				38.6
------	--	--	--	------

+24				38.5
-----	--	--	--	------

+50				38.5
-----	--	--	--	------

2+00				38.3
------	--	--	--	------

+50				38.0
-----	--	--	--	------

3+00				37.8
------	--	--	--	------

+50				37.9
-----	--	--	--	------

+72	Approx 4	Morehead.		38.1
-----	----------	-----------	--	------

4+00				37.4
------	--	--	--	------

+42				37.4
-----	--	--	--	------

Lt.

E

Rt.

Top Hydrant N.E. Cor. Stewart & 5th34 $\frac{44}{12}$ 40 $\frac{44}{15}$ $\frac{46}{12}$ 41 $\frac{47}{14}$ Manhole
@ 4.2 $\frac{48}{12}$ 42 $\frac{49}{14}$ $\frac{50}{12}$ 44 $\frac{51}{12}$ $\frac{52}{12}$ 47 $\frac{54}{12}$ $\frac{53}{12}$ 49 $\frac{56}{12}$ $\frac{54}{11}$ 48 $\frac{61}{16}$ 46 $\frac{60}{13}$ 53 $\frac{64}{16}$ $\frac{62}{13}$ Manhole
@ 5.3 $\frac{67}{16}$

Sta. + π - Elev.

942.72

5+00 936.9

+50 36.6

6+00 36.5

+50 36.2

7+00 36.3

+25 Approx to Johnson St. 36.4

+50 36.3 OK

B.M. 0.92 940.68 ✓ 2.96 939.76 ✓ 939.76

8+00 35.8

+50 36.0

9+00 35.6

+50 35.4

Lt.

E

Rt.

$$\frac{6.5}{14}$$

$$\frac{5.8}{14}$$

$$\frac{6.5}{16}$$

$$\frac{6.4}{13}$$

$$\frac{6.1}{13}$$

$$\frac{6.8}{15}$$

$$\frac{6.9}{13}$$

$$\frac{6.2}{13}$$

$$\frac{6.9}{13}$$

$$\frac{7.1}{14}$$

$$\frac{6.5}{14}$$

$$\frac{7.2}{14}$$

$$\frac{7.2}{13}$$

$$\frac{6.4}{13}$$

$$\frac{7.5}{16}$$

$$\frac{6.3}{13}$$

$$\frac{7.2}{16}$$

$$\frac{6.4}{21}$$

$$\frac{7.5}{21}$$

Top Hydrant N.E. Cor. 5th & Johnson

$$\frac{5.5}{14}$$

$$\frac{4.9}{14}$$

$$\frac{6.0}{15}$$

$$\frac{5.6}{12}$$

Manhole
Cover
• 4.7

$$\frac{6.8}{15}$$

$$\frac{5.8}{13}$$

$$\frac{5.1}{13}$$

$$\frac{6.7}{15}$$

$$\frac{6.0}{12}$$

$$\frac{5.3}{12}$$

$$\frac{2.0}{15}$$

Sta.	+	X.	-	Elev.
		940.68		
10+00				935.2
+80				35.1
+78				34.8
11+00				34.4
+80				33.7
+73	Approx	±	Lake Ave.	33.6

Lt.

£

Rt.

$$\frac{6.1}{14}$$

$$\frac{5.5}{1}$$

$$\frac{7.2}{16}$$

$$\frac{6.3}{13}$$

$$\frac{5.6}{1}$$

$$\frac{7.3}{16}$$

Marble
Caird
59
.

$$\frac{6.9}{13}$$

$$\frac{6.3}{1}$$

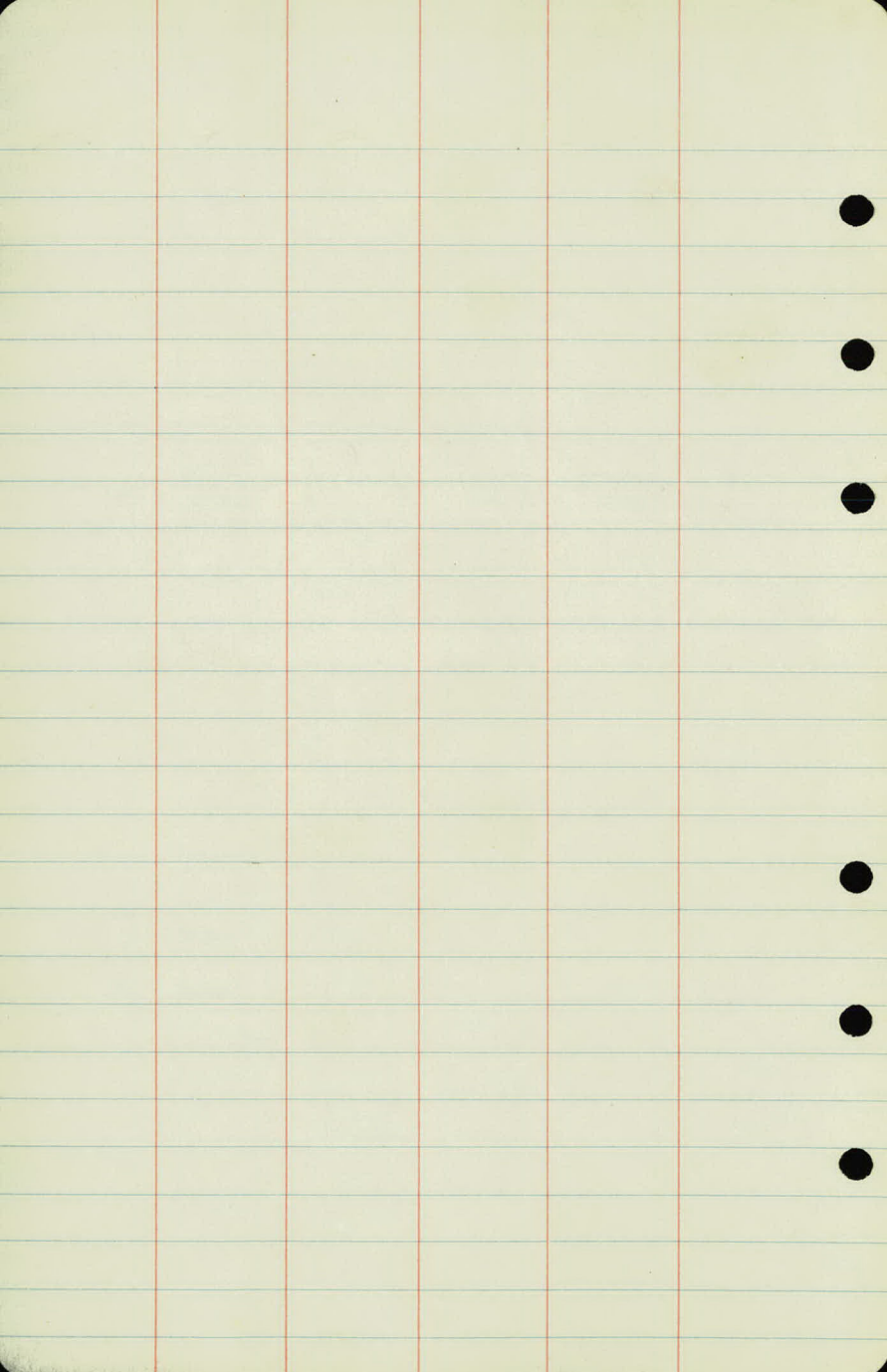
$$\frac{7.9}{15}$$

$$\frac{7.9}{16}$$

$$\frac{7.0}{1}$$

$$\frac{8.6}{16}$$

$$\frac{7.1}{1}$$



6th St, White Bear

From Stewart Ave. Sta. 0100
to Lake Ave.

Sta.	+	π	-	Elev.
B.M.	332	944.32 ✓		941.00
0+00				940.3 .
+50				40.3 .
1+00				40.4 .
+50				40.4 .
2+00				40.4 .
+50				40.3 .
3+00				40.2 .
+50				40.0 .
+73	Approx $\pm$ Move head			40.1 .
4+00				39.7 .
+50				39.7 .
5+00				39.8 .

Lt.

Ct.

Rt.

Top of Hydrant N.E. Cor. 5th & Morehead.

40

$$\frac{45}{14}$$

40

$$\frac{45}{17}$$

$$\frac{46}{17}$$

39

$$\frac{43}{16}$$

$$\frac{45}{14}$$

39

$$\frac{44}{17}$$

$$\frac{47}{14}$$

39

$$\frac{40}{17}$$

$$\frac{48}{13}$$

40

$$\frac{44}{18}$$

$$\frac{48}{13}$$

41

$$\frac{47}{18}$$

$$\frac{51}{13}$$

43

$$\frac{51}{19}$$

24" Manhole
Cover
4.2

$$\frac{54}{14}$$

45

$$\frac{51}{15}$$

$$\frac{53}{15}$$

Manhole
4.6

$$\frac{53}{16}$$

$$\frac{52}{14}$$

45

$$\frac{53}{17}$$

Sta. + π - Elev.

944.34

5+50

940.1

6+00

40.1

+50

40.0

7+00

39.9

+34 Approx $\pm$ Johnson St. 39.5.

8+00

39.8

+50

39.8

9+00

39.9

+50

39.7

10+00

39.5

+50

39.5

+94

39.6

Lt.

E

Rt.

$$\begin{array}{r} \swarrow \\ 48 \\ \hline 14 \end{array} \quad \begin{array}{r} 42 \\ \hline \end{array} \quad \begin{array}{r} 48 \\ \hline 15 \end{array}$$

$$\begin{array}{r} 50 \\ \hline 16 \end{array} \quad \begin{array}{r} 42 \\ \hline \end{array} \quad \begin{array}{r} 48 \\ \hline 13 \end{array}$$

$$\begin{array}{r} 52 \\ \hline 16 \end{array} \quad \begin{array}{r} 43 \\ \hline \end{array} \quad \begin{array}{r} 49 \\ \hline 13 \end{array}$$

$$\begin{array}{r} 50 \\ \hline 14 \end{array} \quad \begin{array}{r} 44 \\ \hline \end{array} \quad \begin{array}{r} 52 \\ \hline 14 \end{array}$$

Manhole

$$\begin{array}{r} 48 \\ \hline \end{array}$$

$$\swarrow \begin{array}{r} 51 \\ \hline 16 \end{array} \quad \begin{array}{r} 45 \\ \hline \end{array} \quad \begin{array}{r} 50 \\ \hline 13 \end{array}$$

$$\begin{array}{r} 50 \\ \hline 17 \end{array} \quad \begin{array}{r} 45 \\ \hline \end{array} \quad \begin{array}{r} 49 \\ \hline 13 \end{array}$$

$$\begin{array}{r} 48 \\ \hline 15 \end{array} \quad \begin{array}{r} 44 \\ \hline \end{array} \quad \begin{array}{r} 47 \\ \hline 13 \end{array}$$

$$\begin{array}{r} 47 \\ \hline 15 \end{array} \quad \begin{array}{r} 46 \\ \hline \end{array} \quad \begin{array}{r} 49 \\ \hline 13 \end{array}$$

$$\begin{array}{r} 50 \\ \hline 15 \end{array} \quad \begin{array}{r} 48 \\ \hline \end{array} \quad \begin{array}{r} 55 \\ \hline 13 \end{array}$$

$$\swarrow \begin{array}{r} 52 \\ \hline 16 \end{array} \quad \begin{array}{r} 48 \\ \hline \end{array} \quad \begin{array}{r} 59 \\ \hline 18 \end{array}$$

Manhole

$$\begin{array}{r} 47 \\ \hline \end{array}$$

$$\begin{array}{r} 54 \\ \hline 14 \end{array} \quad \begin{array}{r} 59 \\ \hline 19 \end{array}$$

Sta. + K - Elev.

944.32

11+50

939.6

12+00

39.8

14+61

Approx. & Lake Ave. 39.1

B.M.

1.40

942.92

OK
942.93

Lt.

£

Rt.

42

$$\frac{5.7}{14}$$

$$\frac{4.7}{1}$$

$$\frac{5.7}{14}$$

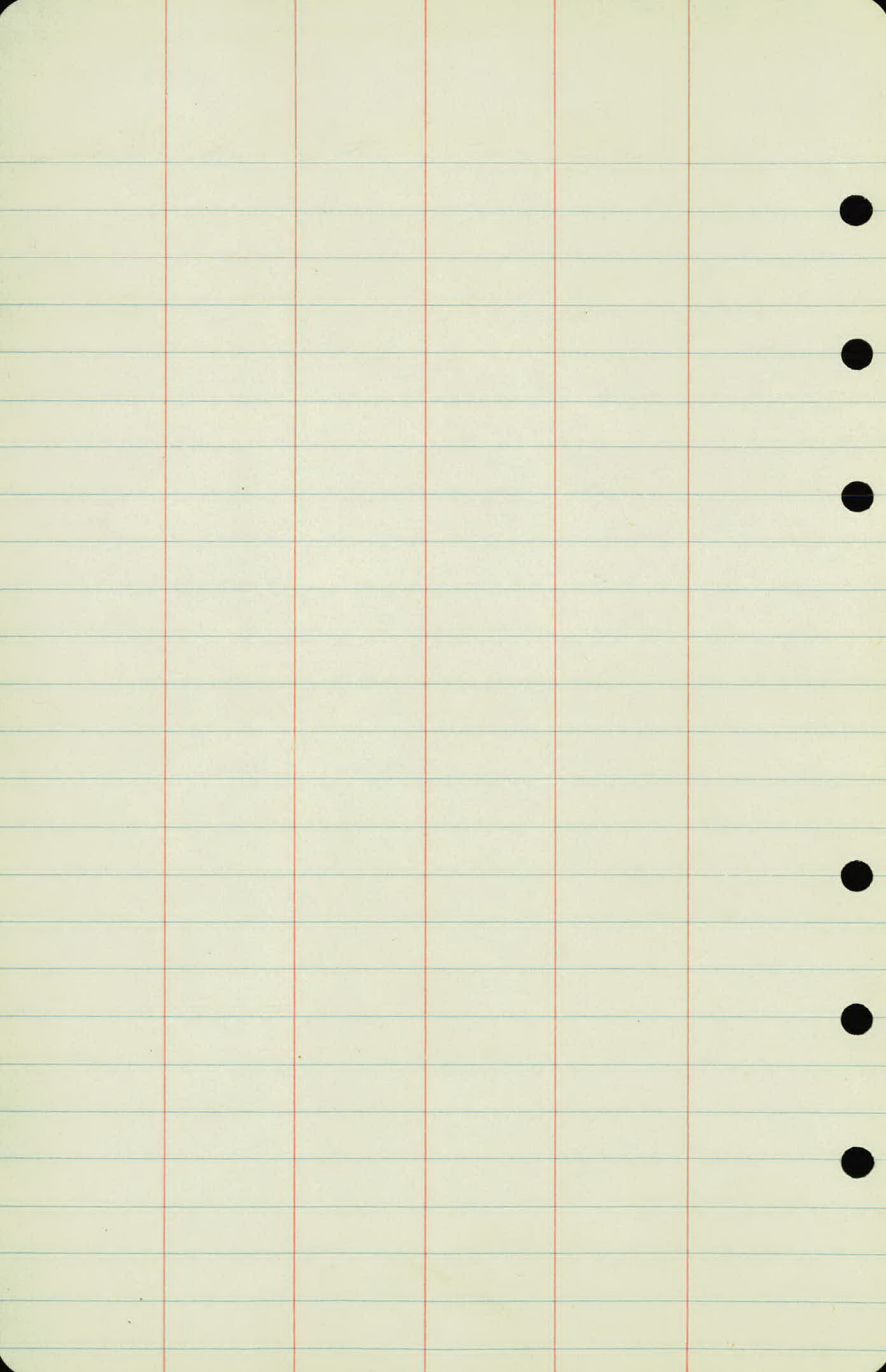
$$\frac{5.3}{15}$$

$$\frac{4.5}{1}$$

$$\frac{5.7}{13}$$

$$\frac{5.2}{1}$$

Top of Hydrant Lake Ave. & 6th St.



7th St. White Bear.

From Stewart Ave. \$5.0000
to Lake Ave.

Sta.	+	π	-	Elev.
B.M.	2.95	946.26		942.31

0+00				40.7
------	--	--	--	------

+50				40.7
-----	--	--	--	------

1+00				40.8
------	--	--	--	------

+50				41.0
-----	--	--	--	------

2+00				41.4
------	--	--	--	------

+50				41.8
-----	--	--	--	------

3+00				42.0
------	--	--	--	------

+50				42.1
-----	--	--	--	------

+75	Approx to Morehead St.			42.6
-----	------------------------	--	--	------

4+00				42.2
------	--	--	--	------

+50				42.3
-----	--	--	--	------

5+00				42.4
------	--	--	--	------

Lt.

E

Rt.

11

Top of Hydrant N.E. Cor. Stewart 97th5.65.1
125.66.2
145.8
135.56.0
145.6
125.35.8
135.3
114.95.4
134.8
114.55.0
134.7
114.34.8
124.8
154.25.0
136.7
Manhole4.4
124.14.6
104.4
134.04.4
144.4
133.94.4
13

Sta	+	π	-	Elev.
		946.16 ✓		
5+50				942.3
6+00				42.0
+50				41.4
7+00				40.9
+34	Approx	Johnson St.		40.4
+50				40.3 ✓
T.P.	5.94	946.38 ✓	5.8 ✓	940.44
8+00				40.7
+50				40.8
9+00				41.2
+50				42.0
10+00				42.5
+53				43.2

Lt.

E

Rt.

48

$$\frac{4.2}{13}$$

$$\frac{4.0}{13}$$

$$\frac{4.4}{15}$$

$$\frac{4.7}{13}$$

$$\frac{4.3}{13}$$

$$\frac{4.8}{13}$$

$$\frac{5.2}{15}$$

$$\frac{4.9}{15}$$

$$\frac{5.2}{13}$$

$$\frac{5.5}{14}$$

$$\frac{5.4}{14}$$

$$\frac{5.7}{14}$$

$$\frac{5.9}{14}$$

$$\frac{6.3}{20}$$

$$\frac{6.0}{20}$$

$$\frac{6.7}{19}$$

$$\frac{5.8}{10}$$

$$\frac{5.7}{10}$$

$$\frac{6.0}{15}$$

$$\frac{5.7}{13}$$

$$\frac{5.6}{13}$$

$$\frac{5.8}{13}$$

$$\frac{5.3}{12}$$

$$\frac{5.2}{12}$$

$$\frac{5.6}{16}$$

$$\frac{4.6}{13}$$

$$\frac{4.4}{13}$$

$$\frac{5.0}{16}$$

$$\frac{4.0}{12}$$

$$\frac{3.9}{12}$$

$$\frac{4.5}{16}$$

$$\frac{3.6}{12}$$

$$\frac{\text{man hole.}}{3.2}$$

$$\frac{4.0}{14}$$

Sta.

+

X

-

Elev.

946.38

11+00

943.0

+50

42.3

12+03

Approx & Lake Ave. 41.1

B.M.

3.43

942.95

OK

✓
942.95

Lt.

C

Rt.

46

$$\frac{36}{12}$$

$$\frac{34}{1}$$

$$\frac{39}{16}$$

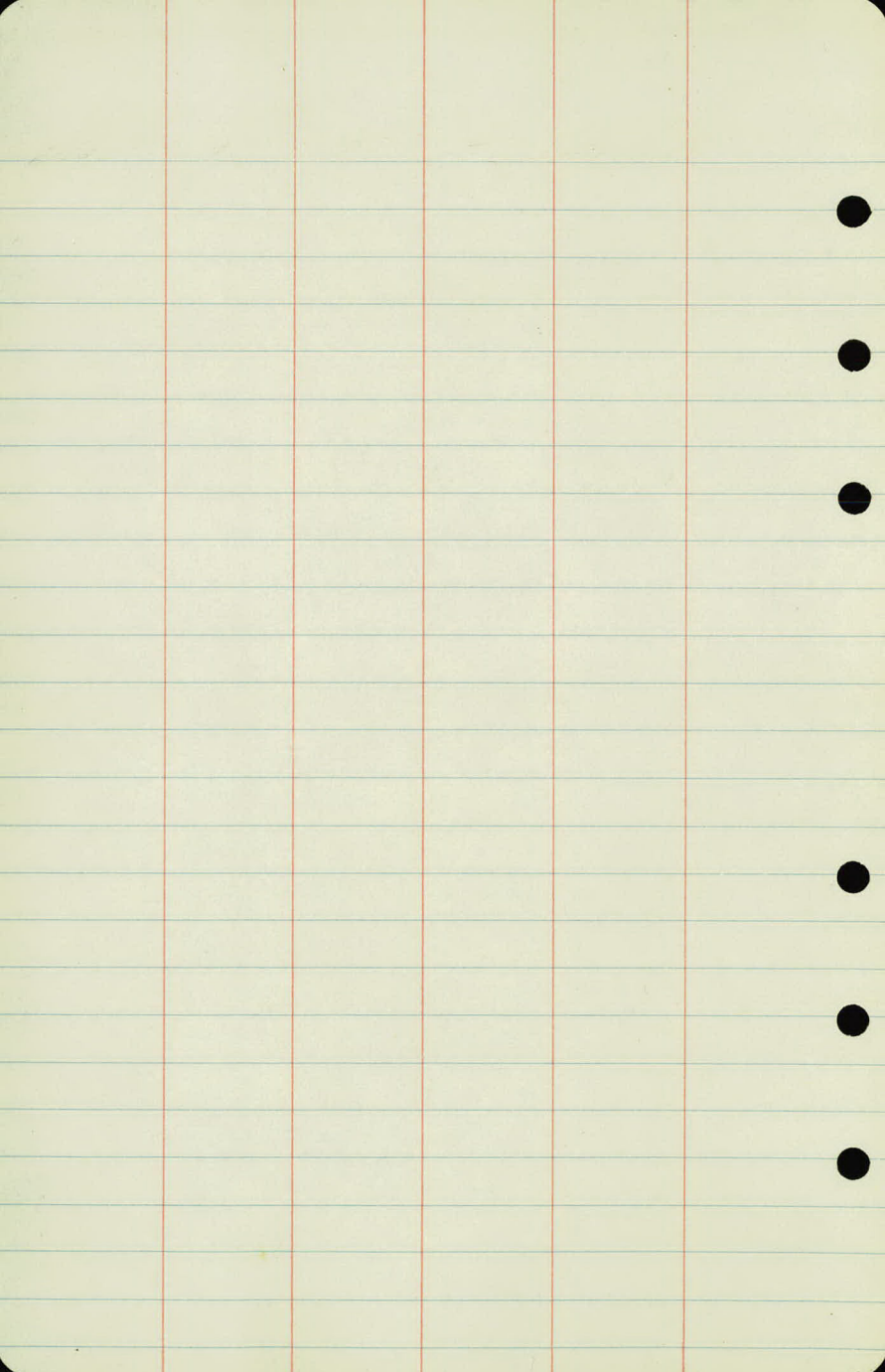
$$\frac{42}{11}$$

$$\frac{41}{1}$$

$$\frac{44}{14}$$

$$\frac{53}{1}$$

Top of Hydrant 6th & Lake Ave.



8th St., White Bear

From Stewart Ave. Sta. 0100

To Lake Ave.

Sta.	+	π	-	Elev.
BM.	5.60	946.45		940.85
0+00				942.7
+50				42.7
1+00				42.4
+50				42.5
2+00				42.4
+50				42.8
3+00				42.4
+50				41.7
+75	Approx & Marched			41.4
4+00				41.2
+50				40.7
5+00				41.0

Lt.

C

Rt.

48Top of belt in 2" iron pipe N.E. Cor. 9th & Norwich38 $\frac{40}{12}$ 38 $\frac{41}{11}$ $\frac{41}{15}$ 41 $\frac{51}{17}$ $\frac{42}{13}$ 40 $\frac{54}{18}$ $\frac{41}{13}$ 39 $\frac{45}{19}$ $\frac{39}{16}$ 37 $\frac{47}{23}$ $\frac{47}{13}$ 41 $\frac{48}{23}$ $\frac{60}{21}$ 48 $\frac{57}{18}$ 51 $\frac{60}{15}$ 53 $\frac{59}{14}$ $\frac{64}{14}$ 58 $\frac{60}{12}$ $\frac{59}{15}$ 55 $\frac{54}{11}$

Sta.	+	x	-	Elev.
		946.45		
+50				941.8
6+00				41.9
+50				42.1
7+00				42.0
+35	Approx to Johnson			41.8
+50				41.4
8+00				41.4
+35				41.5
+45	Drain 8" cm parallel 8 th			41.7
T.P.	7.15	949.05	4.58	941.87
9+00				42.1
+50				42.6
+78				43.2

Lt.

E

Rt.

$$\frac{50}{15}$$

$$\frac{47}{1}$$

$$\frac{44}{12}$$

$$\frac{49}{12}$$

$$\frac{46}{1}$$

$$\frac{46}{13}$$

$$\frac{45}{11}$$

$$\frac{44}{1}$$

$$\frac{45}{11}$$

$$\frac{49}{12}$$

$$\frac{45}{1}$$

$$\frac{44}{13}$$

$$\frac{47}{1}$$

$$\frac{57}{22}$$

$$\frac{51}{1}$$

$$\frac{59}{21}$$

$$\frac{56}{18}$$

$$\frac{51}{1}$$

$$\frac{62}{15}$$

$$\frac{50}{1}$$

Grate Drain

$$\frac{60}{16}$$

$$\frac{127}{23}$$

Grate Drain

$$\frac{65}{14}$$

$$\frac{59}{17}$$

$$\frac{74}{15}$$

$$\frac{69}{1}$$

$$\frac{78}{17}$$

$$\frac{69}{15}$$

$$\frac{64}{1}$$

$$\frac{68}{11}$$

$$\frac{59}{14}$$

$$\frac{\text{Manhole}}{5.8}$$

$$\frac{62}{11}$$

Sta. + X - Elev.

94902

10+00

943.4

+50

43.8

11+00

44.1

+44

Approx. E Lake Ave.

44.0

B.M.

5.17

943.85

OK

943.87

Lt.

E

Rt.

$$\frac{5.7}{13}$$

$$\frac{5.6}{1}$$

$$\frac{5.9}{12}$$

$$\frac{5.3}{13}$$

$$\frac{5.2}{1}$$

$$\frac{5.3}{11}$$

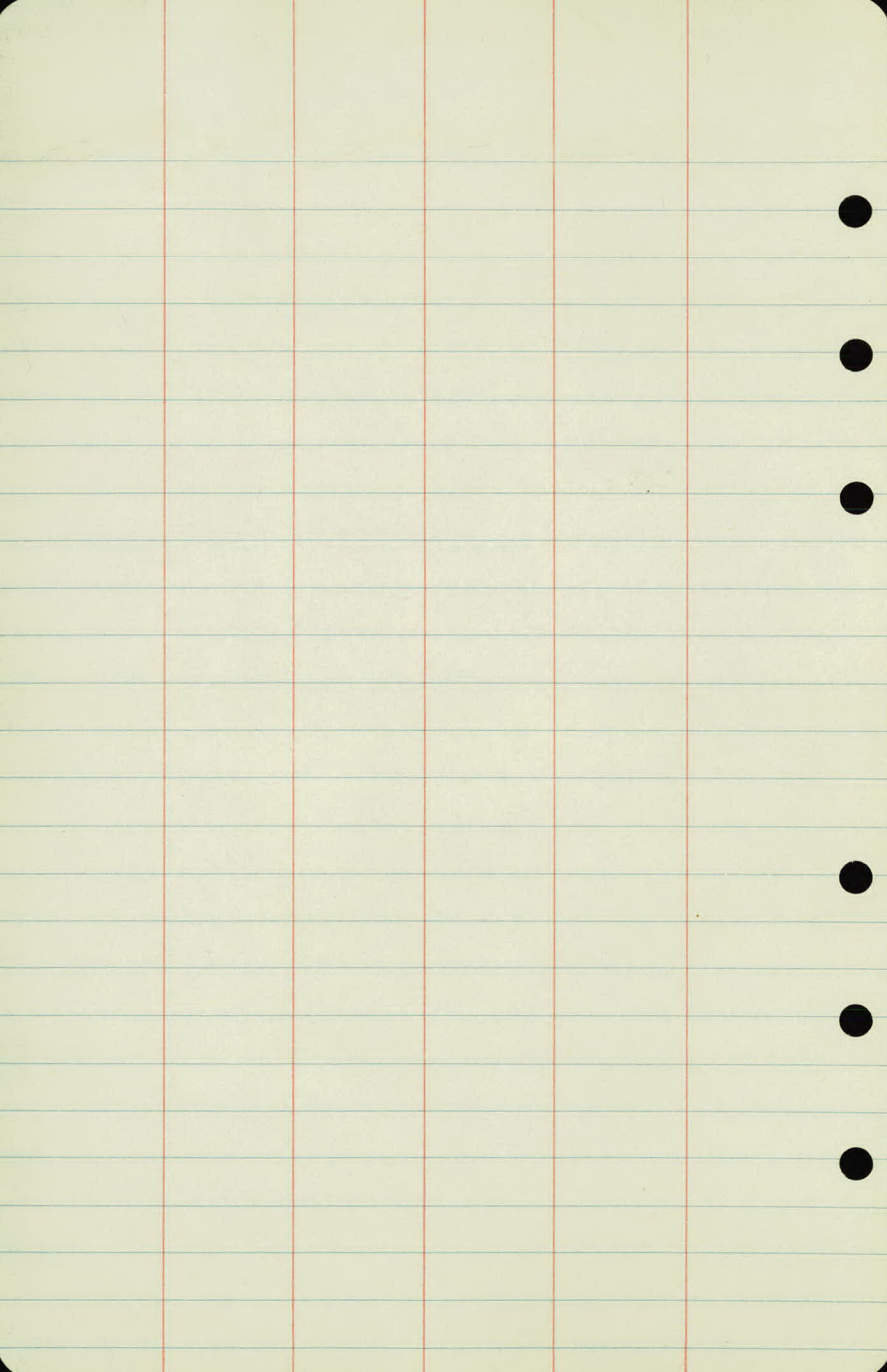
$$\frac{4.8}{11}$$

$$\frac{4.9}{1}$$

$$\frac{4.8}{11}$$

$$\frac{5.0}{1}$$

City Grate Drain 10' Lt. 27+44 @ 8th & Lake Ave.



9th St., White Bear

From Stewart Ave. Sta. 0100
to Lake Ave.

$St.$	$+$	$\times$	$-$	Elev
B.M.	4.88	945.38 ✓		940.50

0+00				939.6
------	--	--	--	-------

+50				37.9
-----	--	--	--	------

1+00				37.5
------	--	--	--	------

+36				37.5
-----	--	--	--	------

2+00				37.8
------	--	--	--	------

+50				38.0
-----	--	--	--	------

3+00				38.0
------	--	--	--	------

+50				38.6
-----	--	--	--	------

173	Approx to More head.			
-----	----------------------	--	--	--

4+00				38.9
------	--	--	--	------

+50				39.6
-----	--	--	--	------

5+00				40.3
------	--	--	--	------

Lt.

E

Rt.

Top of Hydrant N.E. Cor. 9th & Stewart.5.8 $\frac{82}{20}$ 7.5 $\frac{83}{17}$ $\frac{88}{13}$ 7.9 $\frac{85}{16}$ $\frac{83}{8}$ • $\frac{79.5}{5}$ Manhole $\frac{79}{18}$ $\frac{81}{17}$ 7.6 $\frac{83}{13}$ $\frac{78}{10}$ 7.4 $\frac{81}{13}$ $\frac{78}{8}$ 7.4 $\frac{79}{14}$ $\frac{77}{13}$ 6.8 $\frac{75}{14}$ $\frac{67}{21}$ 38.6
Manhole
 $\frac{6.6}{6}$ 39.1
Manhole
• $\frac{6.3}{6}$ $\frac{65}{19}$ $\frac{65}{9}$ 6.5 $\frac{67}{12}$ $\frac{65}{10}$ 5.8 $\frac{65}{13}$ $\frac{56}{13}$ 5.1 $\frac{55}{13}$

572. + π - Elev.

945.38

41.1

5+36

6+00

942.2

+50

42.7

7+00

43.0

+35

Approx. E. Johnson St. 42.6

+48

42.4

+56

43.2

8+00

43.2

+50

43.2

9+00

43.2

+50

42.9

T.P.

3.96

946.72 2.62

947.76

Lt.

Q

Rt.

$$\frac{48}{10}$$

$$\frac{\text{Nonhole}}{43}$$

$$\frac{44}{10}$$

$$\frac{36}{8}$$

$$\frac{32}{8}$$

$$\frac{36}{10}$$

$$\frac{32}{10}$$

$$\frac{27}{10}$$

$$\frac{28}{10}$$

$$\frac{28}{9}$$

$$\frac{24}{9}$$

$$\frac{26}{11}$$

$$\frac{\text{Nonhole}}{28}$$

$$\frac{30}{10}$$

$$\frac{28}{12}$$

$$\frac{22}{12}$$

$$\frac{26}{14}$$

$$\frac{24}{11}$$

$$\frac{22}{11}$$

$$\frac{25}{10}$$

$$\frac{25}{11}$$

$$\frac{22}{11}$$

$$\frac{25}{11}$$

$$\frac{27}{12}$$

$$\frac{22}{12}$$

$$\frac{24}{10}$$

$$\frac{30}{11}$$

$$\frac{25}{11}$$

$$\frac{27}{10}$$

Sta. + x - Elev.

946.71

9+68

42.7

10+00

942.4

+50

42.2

11+00

41.9

+18 Approx 4 Lake Ave.

41.8

B.M.

2.83

943.89

OK

943.87

Lt.

E

Rt.

$$\frac{4.5}{1.4}$$

Manhole

$$\frac{4.0}{1}$$

$$\frac{4.3}{1.1}$$

$$\frac{4.7}{1.1}$$

$$\frac{4.3}{1}$$

$$\frac{4.5}{1.0}$$

$$\frac{5.0}{1.4}$$

$$\frac{4.5}{1}$$

$$\frac{4.8}{1.0}$$

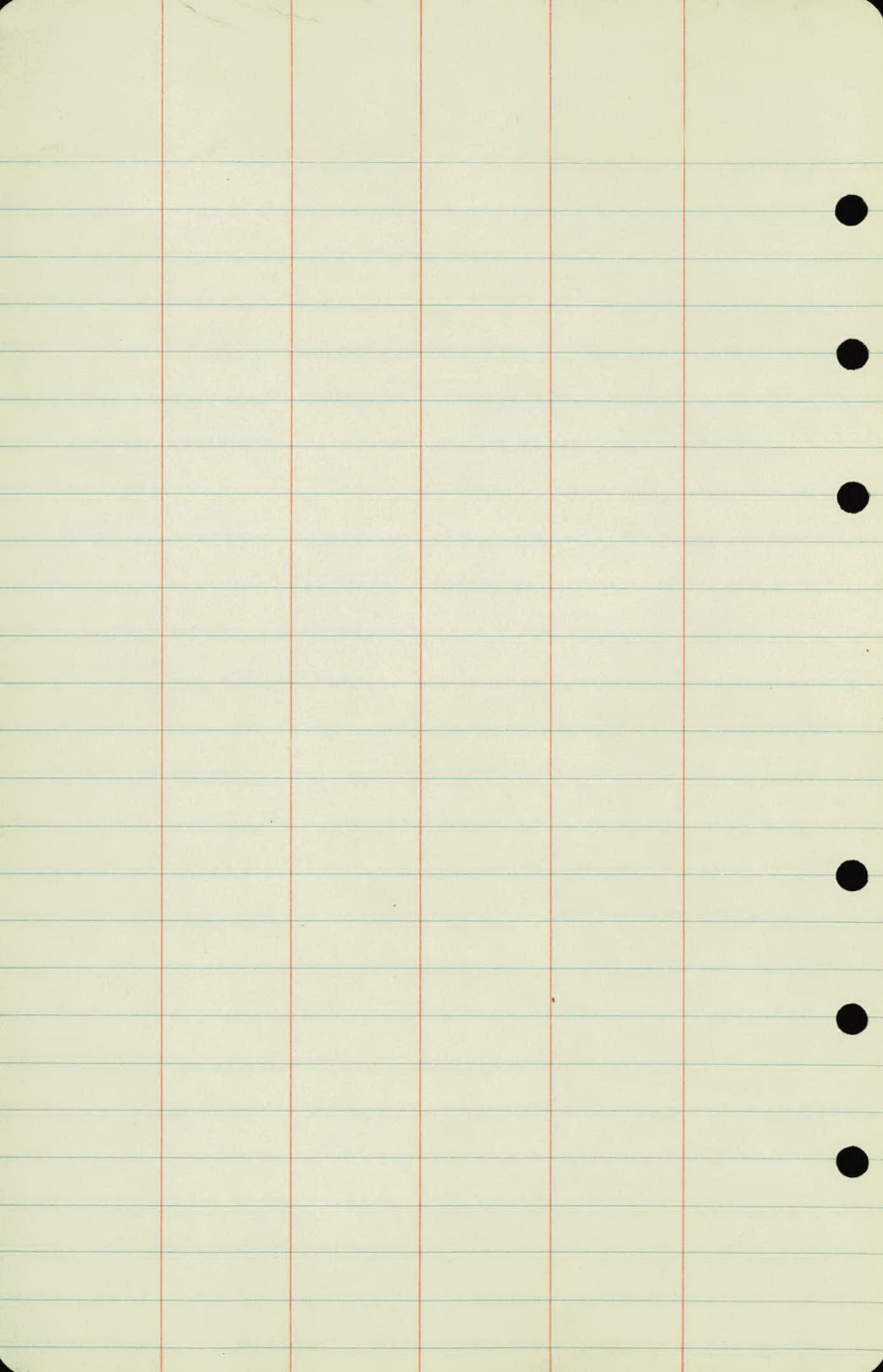
$$\frac{5.3}{1.6}$$

$$\frac{4.8}{1}$$

$$\frac{4.8}{1.4}$$

$$\frac{4.9}{1}$$

Ch. Grate Drain 10' Lt. Sta. 27+44 - 8th & Lake.



10th St., White Bear

From Stewart Ave. Sta. 0100

To Lake Ave.

Sta.	+	Δ	-	Elev.
B.M.	0.15	941.00 ✓		940.85
0+00				936.4
+13				36.2
+25				35.2
+50				34.7
1+00				34.9
+50				34.6
2+00				33.6
+32	2 NARR			34.75
+46				33.5
+86				35.5
3+00				34.7

not checked below
 thru out a Natchez St

Lt.

E

Rt.

Top of bolt in 2" from Pipe N.E. Cor. 9th & Morehead

$$\frac{46}{}$$

$$\frac{48}{}$$

$$\frac{58}{}$$

$$\frac{67}{13}$$

$$\frac{63}{}$$

$$\frac{63}{11}$$

$$\frac{71}{16}$$

$$\frac{61}{}$$

$$\frac{66}{13}$$

$$\frac{66}{15}$$

$$\frac{64}{}$$

$$\frac{67}{13}$$

$$\frac{14 \text{ Ditch} \begin{matrix} 78 \\ 80 \\ 21 \end{matrix}}{}$$

$$\frac{74}{}$$

$$\frac{71}{17}$$

$$\frac{\text{Top Rail} \begin{matrix} 625 \end{matrix}}{}$$

$$\frac{75}{}$$

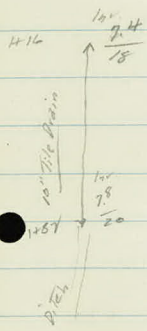
$$\frac{55}{}$$

$$\frac{54}{16}$$

$$\frac{60}{14}$$

$$\frac{63}{}$$

$$\frac{64}{15}$$



Sta.	+	π	-	Elev.
		941.00		
3+50				935.1
+75	Approx to Morehead.			35.8
4+00				35.4
+50				35.6
5+00				35.9
+50				36.7
6+00				37.7
+50				38.3
7+00				38.5
+26	Approx to Johnson			38.1
8+00				38.4
T.P.	5.75	944.33 ✓	2.45	938.55 ✓

Lt.

E

Rt.

$$\frac{6.0}{15}$$

$$\frac{5.9}{15}$$

$$\frac{6.0}{18}$$

$$\frac{6.3}{20}$$

$$\frac{\text{Manhole}}{5.7}$$

$$\frac{5.3}{37}$$

$$\frac{5.9}{13}$$

$$\frac{5.6}{13}$$

$$\frac{5.7}{19}$$

$$\frac{5.6}{10}$$

$$\frac{5.4}{10}$$

$$\frac{5.6}{11}$$

$$\frac{5.4}{10}$$

$$\frac{5.1}{10}$$

$$\frac{5.1}{10}$$

$$\frac{4.8}{11}$$

$$\frac{4.3}{11}$$

$$\frac{4.6}{11}$$

$$\frac{3.9}{11}$$

$$\frac{3.3}{11}$$

$$\frac{3.7}{11}$$

$$\frac{3.3}{10}$$

$$\frac{2.7}{10}$$

$$\frac{3.1}{12}$$

$$\frac{2.9}{10}$$

$$\frac{2.5}{10}$$

$$\frac{2.7}{12}$$

$$\frac{\text{Manhole}}{2.9}$$

$$\frac{3.0}{9}$$

$$\frac{2.6}{9}$$

$$\frac{3.1}{15}$$

Begin Crossing

Sta. + K. - Elev.

944.33

8+50

938.7

9+00

39.1

+50

39.4

10+08

39.4

+50

39.3

11+00

39.7

11+39 Approx. of Lake Ave.

40.2

BM

9.22

935.11

OK

935.12

Lt.

Q

Rt.

$$\frac{6.1}{10}$$

$$\frac{5.6}{10}$$

$$\frac{6.2}{13}$$

$$\frac{6.1}{13}$$

$$\frac{5.2}{10}$$

$$\frac{5.9}{16}$$

$$\frac{5.8}{13}$$

$$\frac{4.9}{10}$$

$$\frac{5.6}{15}$$

$$\frac{5.6}{13}$$

$$\frac{\text{Mantole } 4.9}{10}$$

$$\frac{5.5}{15}$$

$$\frac{5.5}{12}$$

$$\frac{5.0}{10}$$

$$\frac{5.4}{16}$$

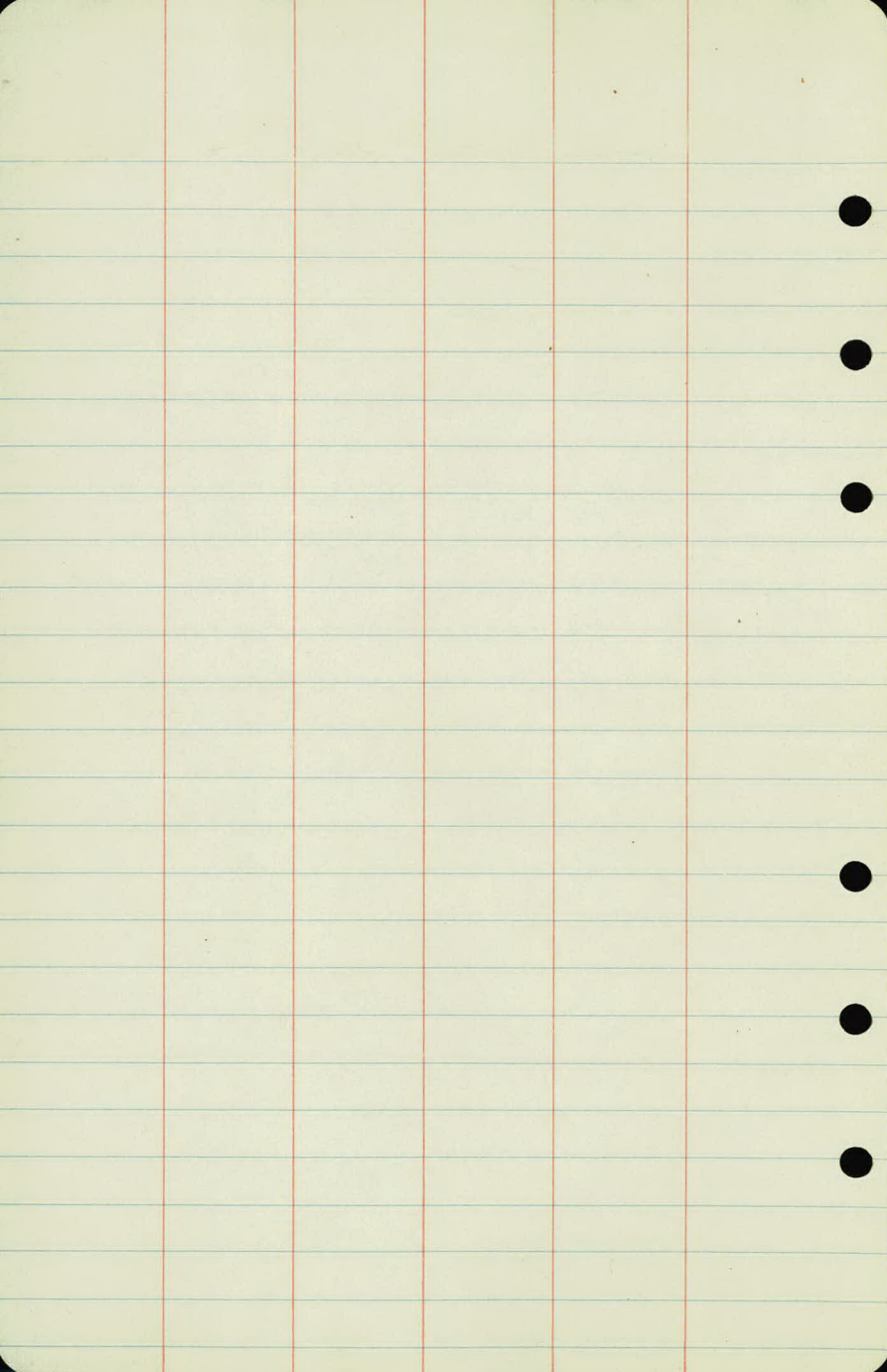
$$\frac{5.2}{12}$$

$$\frac{4.6}{10}$$

$$\frac{5.2}{16}$$

$$\frac{4.1}{10}$$

Spike in Oak 60' Rt. Sta. 29+60 Johnson St.



14th St., White Bear

From Stewart Ave. Sta. 0+00
to Lake Ave.

Note: Street now being
graded. 4/26/38

Sta.	+	π	-	Elev.
B.M.	0.12	938.42 [✓]		938.30
0+00				934.4 <u>934.3</u>
+50				341. <u>34.0</u>
1+00				33.8
+50				33.7
2+00				33.2
+50				33.1
3+00				33.0
+50				32.2
3+72	Approx to Morehead			31.8
4+00				31.2
+50				30.6
5+00				30.0

Lt.

E

Rt.

Top of Hydrant N.E. Cor. 11th & Stewart

4.0

5.3
14

4.3

5.4
14

5.6
14

4.6

5.7
14

5.9
14

4.7

5.9
14

5.7
14

5.2

5.8
14

5.3
14

5.3

6.3
14

5.7
14

5.4

5.4
16

6.1
14

6.2

6.2
14

7.2
14

6.6

7.2

7.0
16

7.7
13

7.8

8.0
11

8.6
13

8.4

8.6
16

Sta. + π - Elev.

938.42

5+50

929.6

6+00

29.4

+41

29.8

6+56

± N.P.R.R.

29.8

+71

7+00

29.4

+32

Approx ± Johnson St. 29.7

+50

29.7

8+00 → Approx ± Varney St.

30.5

T.P.

11.04

941.81

7.65

930.77

+50

31.0

9+00

31.7

Lt.

C

Rt.

61

N. Ground

$$\frac{131}{30}$$

$$\frac{95}{15}$$

$$\frac{88}{15}$$

$$\frac{91}{16}$$

N.G.

$$\frac{140}{27}$$

$$\frac{93}{12}$$

$$\frac{90}{12}$$

$$\frac{89}{16}$$

Ditch

$$\frac{103}{22}$$

$$\frac{130}{9} \quad 25.4$$

$$\frac{86}{23}$$

$$\frac{140}{23} \quad 27.4$$

12" V.T.P.

Parallel to RR

Top Rail

$$\frac{8.6}{15}$$

$$\frac{105}{8} \quad 27.5$$

$$\frac{105}{30} \quad 27.9$$

12" V.T.P.

N.G.

$$\frac{107}{11}$$

$$\frac{87}{8}$$

$$\frac{88}{15}$$

$$\frac{89}{16}$$

$$\frac{8.7}{15}$$

$$\frac{116}{19}$$

$$\frac{86}{15}$$

$$\frac{87}{15}$$

$$\frac{82}{14}$$

$$\frac{89}{16}$$

$$\frac{7.9}{15}$$

$$\frac{39}{19}$$

$$\frac{114}{14}$$

$$\frac{108}{15}$$

$$\frac{101}{17}$$

$$\frac{108}{15}$$

$$\frac{101}{15}$$

$$\frac{108}{15}$$

Sta. + π - Elev.

941.81

9+50

932.2

10+00

32.5

+50

33.1

11+00

33.4

+50

34.0

12+00

34.8

+50

35.9

13+00

36.7

+31

Approx of Lake Arc.

36.7

B.M.

13.20

928.61

928.60

Lt.

E

Rt.

62

$$\frac{103}{15}$$

$$\frac{96}{15}$$

$$\frac{103}{15}$$

$$\frac{95}{15}$$

$$\frac{93}{15}$$

$$\frac{94}{15}$$

$$\frac{95}{14}$$

$$\frac{87}{14}$$

$$\frac{95}{15}$$

$$\frac{91}{14}$$

$$\frac{84}{14}$$

$$\frac{90}{14}$$

$$\frac{84}{15}$$

$$\frac{78}{15}$$

$$\frac{84}{15}$$

N.E.

$$\frac{117}{28}$$

$$\frac{83}{15}$$

$$\frac{70}{15}$$

$$\frac{77}{14}$$

N.E.

$$\frac{100}{22}$$

$$\frac{61}{14}$$

$$\frac{59}{14}$$

$$\frac{65}{14}$$

N.E.

$$\frac{69}{17}$$

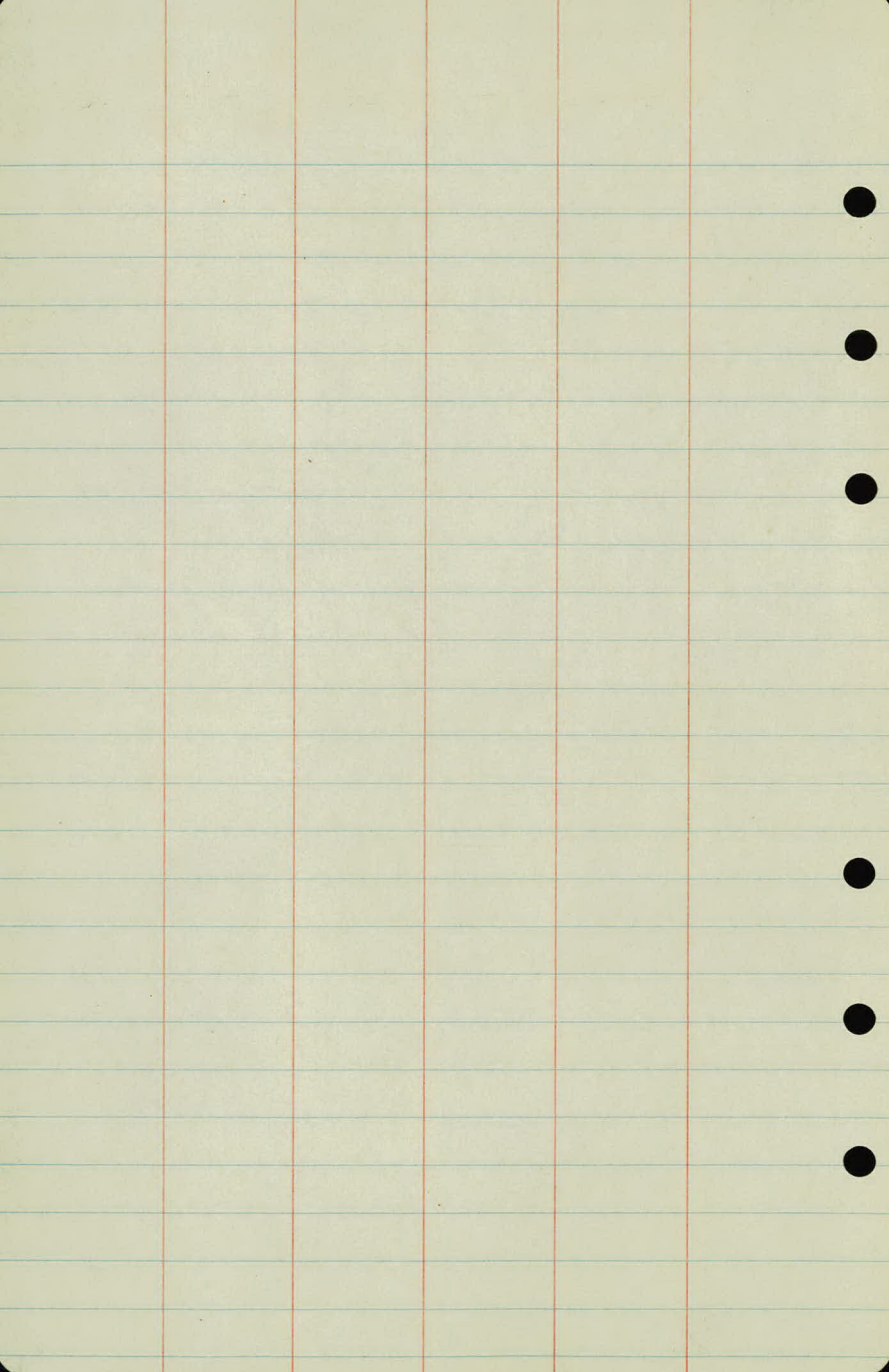
$$\frac{48}{14}$$

$$\frac{51}{14}$$

$$\frac{51}{15}$$

$$\frac{51}{14}$$

Ch. Drain Grate 10' Lt. Sta. 44+49 - 12th St. & Lake Ave.



12th St., White Bear.

From Stewart Ave. Sts.

0100 to Lake Ave.

Sta.	+	π	-	Elev.
B.M.	0.16	933.67 ✓		933.51
0+00				930.7
+50				30.3
1+00				29.9
+50				29.4
2+00				29.4
+50				29.0
3+00				29.0
+50				28.9
+75	Approx & Morehead St.			
4+00				28.7
+50				28.9
5+00				29.0
+50				28.9
	Hy. Sta. Lt. to End of grading 12.75			

Lt.

E

Rt.

64

Top of Hydrant NE Cor. Stewart & 12th.

300

27.64

Shoulder

Shoulder

Ditch

↑
↓ $\frac{37}{24}$ $\frac{38}{17}$ $\frac{34}{17}$ $\frac{36}{31}$ $\frac{47}{38}$ ↑ $\frac{65}{37}$ $\frac{40}{15}$ $\frac{38}{15}$ $\frac{37}{29}$ $\frac{54}{39}$ $\frac{32}{35}$ $\frac{41}{14}$ $\frac{41}{14}$ $\frac{38}{29}$ $\frac{59}{41}$ N.G.
 $\frac{82}{36}$ $\frac{46}{14}$ $\frac{43}{14}$ $\frac{39}{29}$ $\frac{81}{48}$ N.G.
 $\frac{56}{33}$ $\frac{48}{14}$ $\frac{47}{14}$ $\frac{40}{29}$ $\frac{53}{48}$ N.G.
 $\frac{57}{38}$ $\frac{50}{16}$ $\frac{47}{16}$ $\frac{42}{27}$ $\frac{98}{47}$ N.G.
 $\frac{95}{41}$ $\frac{51}{18}$ $\frac{48}{18}$ $\frac{44}{27}$ $\frac{99}{60}$ N.G.
 $\frac{78}{33}$ $\frac{55}{24}$ $\frac{500}{24}$ $\frac{45}{21}$ $\frac{101}{58}$ N.G.
 $\frac{73}{42}$ $\frac{56}{27}$ $\frac{48}{27}$ $\frac{45}{16}$ $\frac{105}{57}$ N.G.
 $\frac{108}{60}$ $\frac{58}{39}$ $\frac{47}{39}$ $\frac{47}{8}$ $\frac{108}{48}$ N.G.
 $\frac{110}{68}$ $\frac{61}{49}$ $\frac{48}{49}$

Shoulder

 $\frac{107}{40}$ ↓

17th or Hy. 496

Sta.	+	π	-	Elev.
		533.67		
6+50			Toe Slope	296.923.3
7+00				21.7
7+50				22.0
+35	Approx E Johnson (Not graded thro)			
8+00				22.5
+50				23.6
9+00				24.4
+20				24.7
+50				28.6
10+00				31.7
+29				31.0
T.P.	5.33	937.80 ✓	6.20	927.47 ✓
+57				26.7
+78	E N.P.R.R.			27.4

Lt.

2

Rt.

Shoulder #66

$$\frac{54}{24}$$

$$\frac{10.4}{\quad}$$

Ditch

$$\frac{11.5}{13}$$

Shoulder #66

$$\frac{54}{37}$$

Toe Slope #96

$$\frac{10.5}{14}$$

$$\frac{Ditch}{12.0}$$

H.C.

$$\frac{10.8}{18}$$

$$\frac{Ditch}{12.1}$$

$$\frac{11.7}{\quad}$$

$$\frac{12.0}{26}$$

$$\frac{Ditch}{11.8}$$

$$\frac{11.2}{\quad}$$

$$\frac{11.2}{20}$$

$$\frac{Ditch}{11.8}$$

$$\frac{10.1}{\quad}$$

$$\frac{10.1}{20}$$

$$\frac{8.4}{20}$$

$$\frac{9.3}{\quad}$$

$$\frac{9.4}{28}$$

$$\frac{9.0}{\quad}$$

$$\frac{5.0}{17}$$

$$\frac{5.1}{\quad}$$

$$\frac{5.8}{20}$$

$$\frac{2.3}{20}$$

$$\frac{2.0}{\quad}$$

$$\frac{2.5}{15}$$

$$\frac{2.7}{\quad}$$

$$\frac{6.1}{\quad}$$

Top Rail.

$$\frac{5.4}{\quad}$$

not graded

Sta. + π - Elev.

937.80

10+50

926.4

11+00

27.2

+50

26.5

+70

27.4

Begin Grading 12th Top Slope

+82

Shoulder

12+00

Approx $\pm$ Varney St.

27.8

+50

27.8

13+00

27.8

+50

27.6

14+00

27.6

+50

27.5

Lt.

E

Rt.

66

6.4 $\frac{6.4}{11}$ 5.6 $\frac{5.7}{19}$ $\frac{6.9}{20}$ 6.3 $\frac{6.3}{19}$ 5.4

N.B.	Shoulder
$\frac{8.3}{22}$	$\frac{5.8}{13}$

5.0 $\frac{5.7}{25}$

Ditch

 $\frac{8.6}{25}$ $\frac{5.2}{15}$ 5.0 $\frac{6.3}{15}$ $\frac{7.4}{25}$ $\frac{5.0}{15}$ 5.0 $\frac{5.4}{11}$ $\frac{7.8}{25}$ $\frac{5.8}{16}$ 5.2 $\frac{5.2}{7}$ $\frac{8.2}{25}$ $\frac{5.7}{17}$ 5.2 $\frac{5.5}{7}$ $\frac{8.0}{26}$ $\frac{5.7}{18}$ 5.3 $\frac{5.5}{6}$

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

		934.80		
--	--	--------	--	--

15+00				927.1
-------	--	--	--	-------

+50				27.4
-----	--	--	--	------

+79				28.4
-----	--	--	--	------

+98	Approx to Lake Ave.			28.5
-----	---------------------	--	--	------

BM.				
-----	--	--	--	--

		4.18		
--	--	------	--	--

			928.62	
--	--	--	--------	--

ote

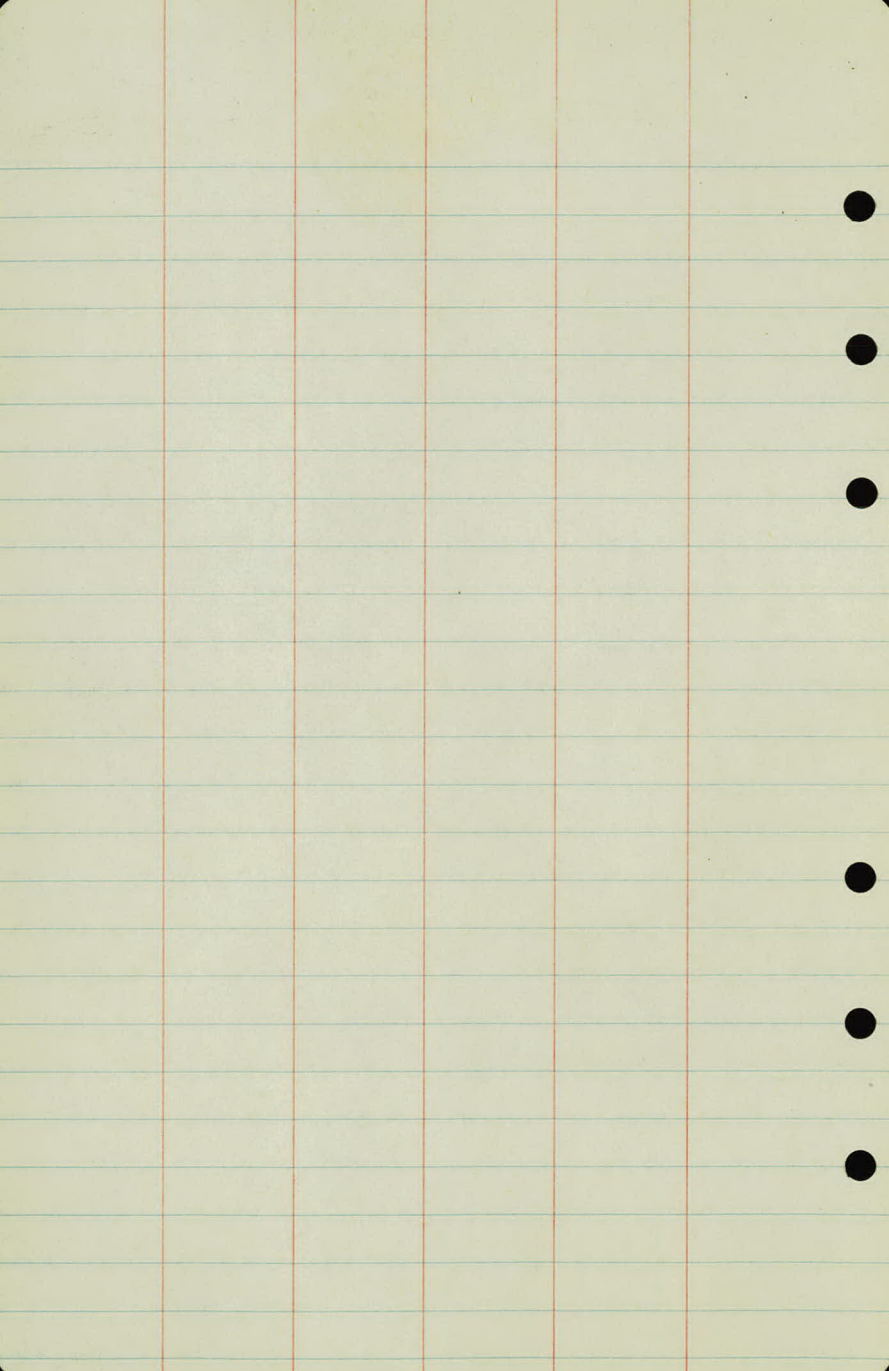
				928.60
--	--	--	--	--------

Lt.

E

Rt.

Ditch $\frac{78}{25}$ Shoulder $\frac{58}{16}$ $\frac{5.7}{}$ $\frac{59}{8}$ $\frac{50}{28}$ $\frac{5.8}{12}$ $\frac{5.4}{}$ $\frac{56}{13}$ $\frac{44}{}$ $\frac{4.3}{}$ Cto. of Drain Grate 10' to Sta. 42+49 @ 12th St & Lake Ave.



(Johnson)

Varney St., White Bear

From 11th St. = 3 1/2 o'clock to 12th St.

Sta.	+	K	-	Elev.
B.M.	4.18	932.78		928.60
0+00				30.6
+50				30.1
1+00				29.7
+50				29.3
2+00				28.8
+50				28.5
3+00				28.1
+50				28.1
4+00				28.2
+50				28.1
5+00				28.1
+37	Approx	of 12 th St.		27.7

Lt.

E

Rt.

69

Ch. of Drain Grate 10' Lt. Sta. 42+45 @ 12th & Lake Sts.

2.2

$$\frac{31}{10}$$

$$\frac{27}{10}$$

$$\frac{27}{16}$$

$$\frac{36}{11}$$

$$\frac{31}{11}$$

$$\frac{33}{14}$$

Natural Ground

$$\begin{array}{r} N.G. \\ 48 \\ 6.8 \\ \hline 31 \end{array}$$

$$\frac{40}{14}$$

$$\frac{35}{14}$$

$$\frac{36}{11}$$

$$\frac{43}{10}$$

$$\frac{40}{10}$$

$$\frac{42}{10}$$

$$\begin{array}{r} N.G. \\ 48 \\ 6.8 \\ \hline 31 \end{array}$$

$$\frac{47}{10}$$

$$\frac{43}{10}$$

$$\frac{45}{10}$$

$$\frac{51}{13}$$

$$\frac{47}{13}$$

$$\frac{47}{9}$$

$$\begin{array}{r} N.G. \\ 58 \\ 19 \\ \hline \end{array}$$

$$\frac{48}{13}$$

$$\frac{47}{13}$$

$$\frac{48}{8}$$

$$\begin{array}{r} N.G. \\ 61 \\ 20 \\ \hline \end{array}$$

$$\frac{50}{14}$$

$$\frac{46}{14}$$

$$\frac{50}{9}$$

$$\begin{array}{r} N.G. \\ 62 \\ 18 \\ \hline \end{array}$$

$$\frac{51}{13}$$

$$\frac{47}{13}$$

$$\frac{55}{11}$$

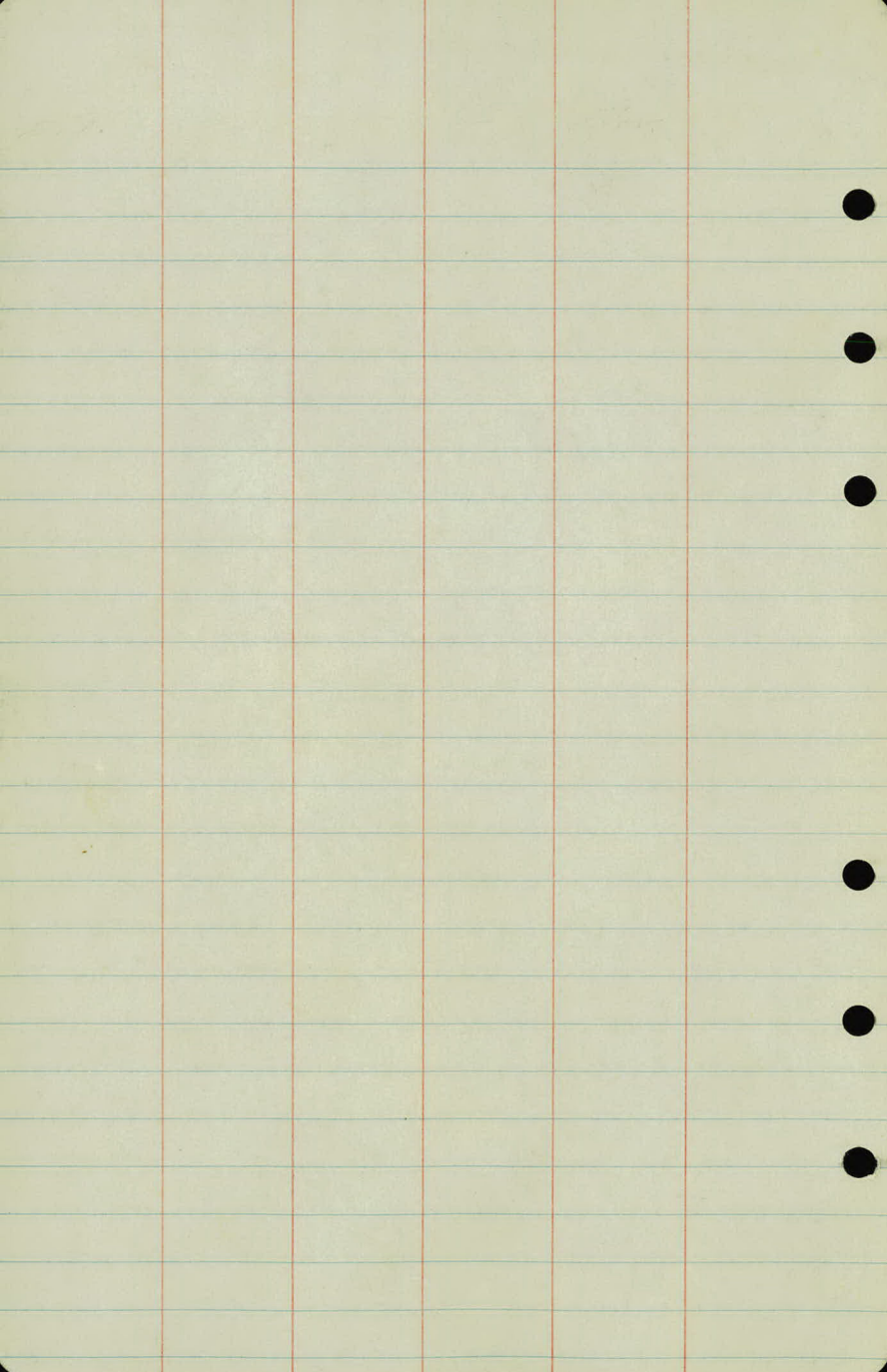
$$\frac{64}{17}$$

$$\frac{51}{10}$$

$$\frac{47}{10}$$

$$\frac{57}{14}$$

$$\frac{51}{10}$$



Johnson St. Gerburg

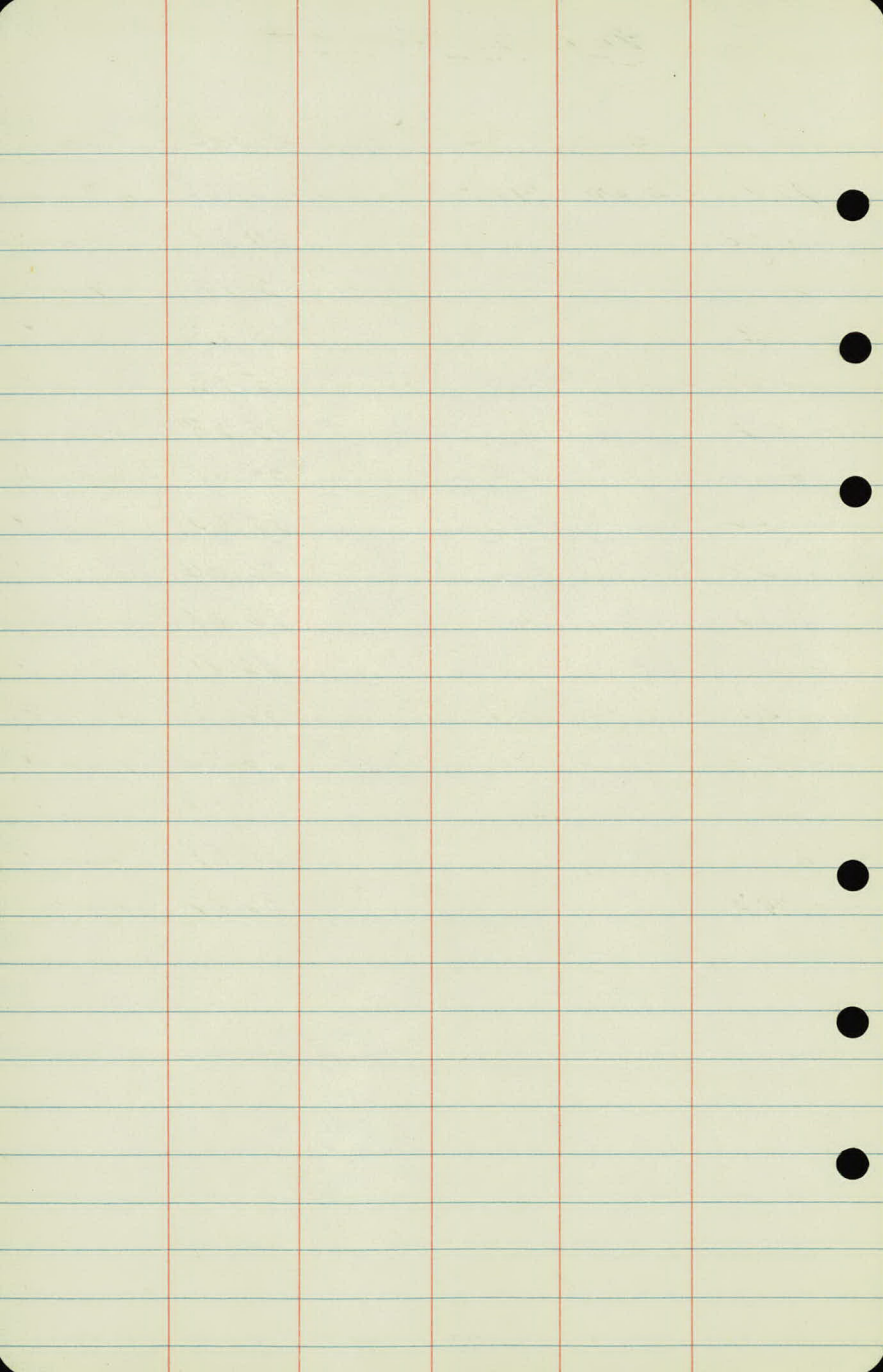
4th to 5th Left.

Stn.	+	π	-	Grade.	Red.
B.M.	+0.67	940.38	W. 12		939.76
2+76				35.49	4.89 ✓
3			4.42	35.51	4.87 ✓
+25			4.38	35.53	4.85 ✓
+50			4.46	35.56	4.82 ✓
+75			4.44	35.58	4.80 ✓
4			4.50	35.61	4.77 ✓
+25			4.50	35.63	4.75 ✓
+50			4.52	35.66	4.72 ✓
+75			4.52	35.68	4.70 ✓
5			4.50	35.71	4.67 ✓
+25			4.51	35.73	4.65 ✓
+50			4.49	35.76	4.62 ✓
+75			4.49	35.78	4.60 ✓
6			4.36	35.81	4.57 ✓
+134			4.38	35.82	4.56 ✓
		3124.32	4.36		

415 to 514 ft.

Sta.	+	π	-	Grade	Rod.
B.M.	0.65	940.41		939.76	
2+76				34.99	5.42 ✓
3				35.51	4.90 ✓
+25				35.53	4.88 ✓
+50				35.56	4.85 ✓
+75				35.58	4.83 ✓
4				35.61	4.80 ✓
+25				35.63	4.78 ✓
+50				35.66	4.75 ✓
+75				35.68	4.73 ✓
5				35.71	4.70 ✓
+25				35.73	4.68 ✓
+50				35.76	4.65 ✓
+75				35.78	4.63 ✓
6				35.81	4.60 ✓
+1295				35.82	4.59 ✓

Little Basin 4.37



4th to 5th Right

Sta.	+	κ	—	Grade	
B.M.	0.07	940.38	Walk Rock		939.76
2+76			4.81	34.99	5.39 ✓
3			4.60	35.56	4.82 ✓
+25			4.43	35.63	4.75 ✓
+50			4.40	35.70	4.68 ✓
+75			4.34	35.78	4.60 ✓
4			4.41	35.85	4.53 ✓
+25			4.16	35.94	4.46 ✓
+50			4.05	36.00	4.38 ✓
+75			3.94	36.07	4.31 ✓
5			3.88	36.14	4.24 ✓
+25			3.88	36.21	4.17 ✓
+50			3.76	36.29	4.09 ✓
+75			3.75	36.36	4.02 ✓
6			3.75	36.43	3.95 ✓
+13			3.70	36.46	3.92 ✓
			4.36		

Top
Catch.
Basin

5th to 6th. Left.

Sta.	+	x	-	Grade.
B.M.	334	94310		939.76
6160.5		Top Catch Basin 694	6.91	36.18
+75			6.80	36.30
7			6.56	36.54
+25			6.32	36.78
+50			6.08	37.02
+75			5.84	37.26
8			5.60	37.50
+25			5.36	37.74
+50			5.09	38.01
+75			4.81	38.29
9			4.53	38.57
+25			4.25	38.85
+50			3.97	39.13
9171.75			3.69	39.41

Catch Basin 369

5th to 6th Right.

Sta.	+	π	-	Grade	
B.M.	3.34	943.10			939.76
6+60.5		Catch Basin 688	6.94	36.18	✓
+75			6.80	36.30	✓
7			6.56	36.54	✓
+25			6.34	36.78	✓
+45			6.13	36.97	✓
+75			5.84	37.26	✓
8		Not Set	5.60	37.50	✓
8+03.73			5.55	37.55	✓
8+33.73			5.46	37.84	✓
+50			5.09	38.01	✓
+75			4.81	38.29	✓
9			4.53	38.57	✓
+25			4.25	38.85	✓
+50			3.97	39.13	✓
+77.75			3.69	39.41	✓
		Catch Basin 310			

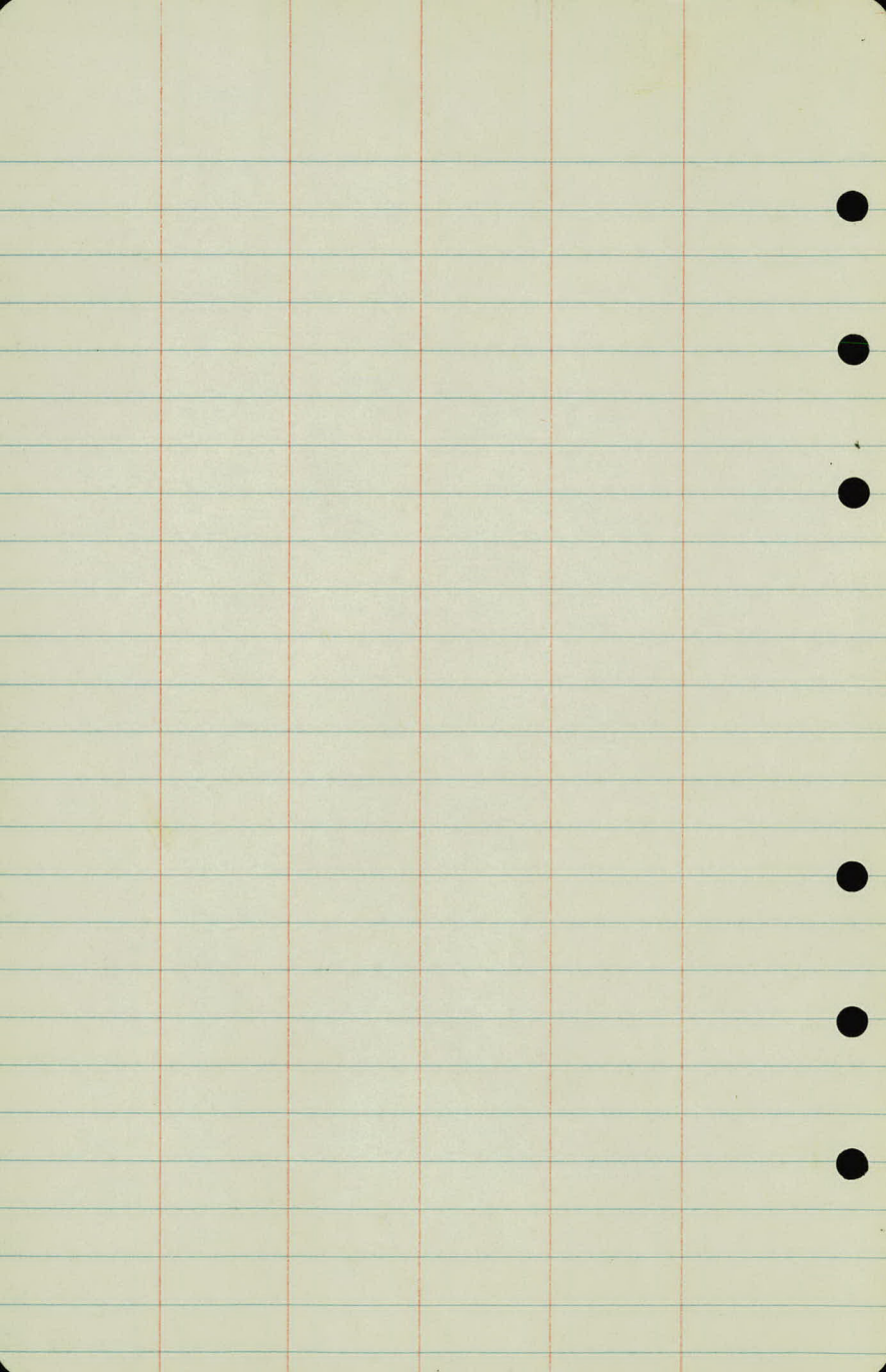
6th to 7th. Left & Rt.

Sta.	+	π	-	Elev.	
B.M.	1.92	946.02		944.10	
10+25		Catch Basin Lt 6.26 " " Rt 6.30	6.25	39.67	Left W 6.15
+50			4 6.27	39.75	" 6.05
+75			4 6.19	39.83	" 6.07
11			4 6.11	39.91	" 6.00
+25			4 6.03	39.99	" 5.91
+50			4 5.95	40.07	" 5.83
+75			4 5.87	40.15	" 5.70
12			4 5.79	40.23	" 5.57
+25			4 5.71	40.31	-
+50			4 5.63	40.39	" 5.44
+75			4 5.55	40.47	" 5.45
13			4 5.47	40.55	" 5.34
+25			4 5.39	40.63	" 5.24
+37		Catch Basin Lt 5.57 " " Rt 5.48	5.34	40.68	

	Grade			Rod	
	Lt.	Rt.		Lt.	Rt.
BM.	10.74		<u>K</u>	939.76	
2176	35.49	34.99	940.50	5.01	5.51 ✓
3	35.51	35.51		4.99 ✓	4.99 ✓
+25	35.53	35.53		4.97 ✓	4.97 ✓
+50	35.56	35.56		4.94 ✓	4.94 ✓
+75	35.58	35.58		4.92 ✓	4.92 ✓
4	35.61	35.61		4.89 ✓	4.89 ✓
+25	35.63	35.63		4.87 ✓	4.87 ✓
+50	35.66	35.66		4.84	4.84 ✓
+75	35.68	35.68		4.82	4.82 ✓
5	35.71	35.71		4.79 ✓	4.79 ✓
+25	35.73	35.73		4.77 ✓	4.77 ✓
+50	35.76	35.76		4.74 ✓	4.74 ✓
+75	35.78	35.78		4.72 ✓	4.72 ✓
6	35.81	35.81		4.69 ✓	4.69 ✓
+12.44/295	35.82	35.82		4.68 ✓	4.68

Check on Curb Grades between
4th & 5th Sts. 10/19/38

Notes were found to be O.K.
Order of Crampton



↑
No

Lot 46-47

Hub.

30.03

Lot 47-48

30.04

Hub.

30.0

30.00

Hub.

30.0

Hub.

Hub.

Lot. 48-49

30.0

Hub.

Flandreau St.

Location of lot Markers

on East Side @ North End. These
are not irons but 1"x3"x18" wood
markers.

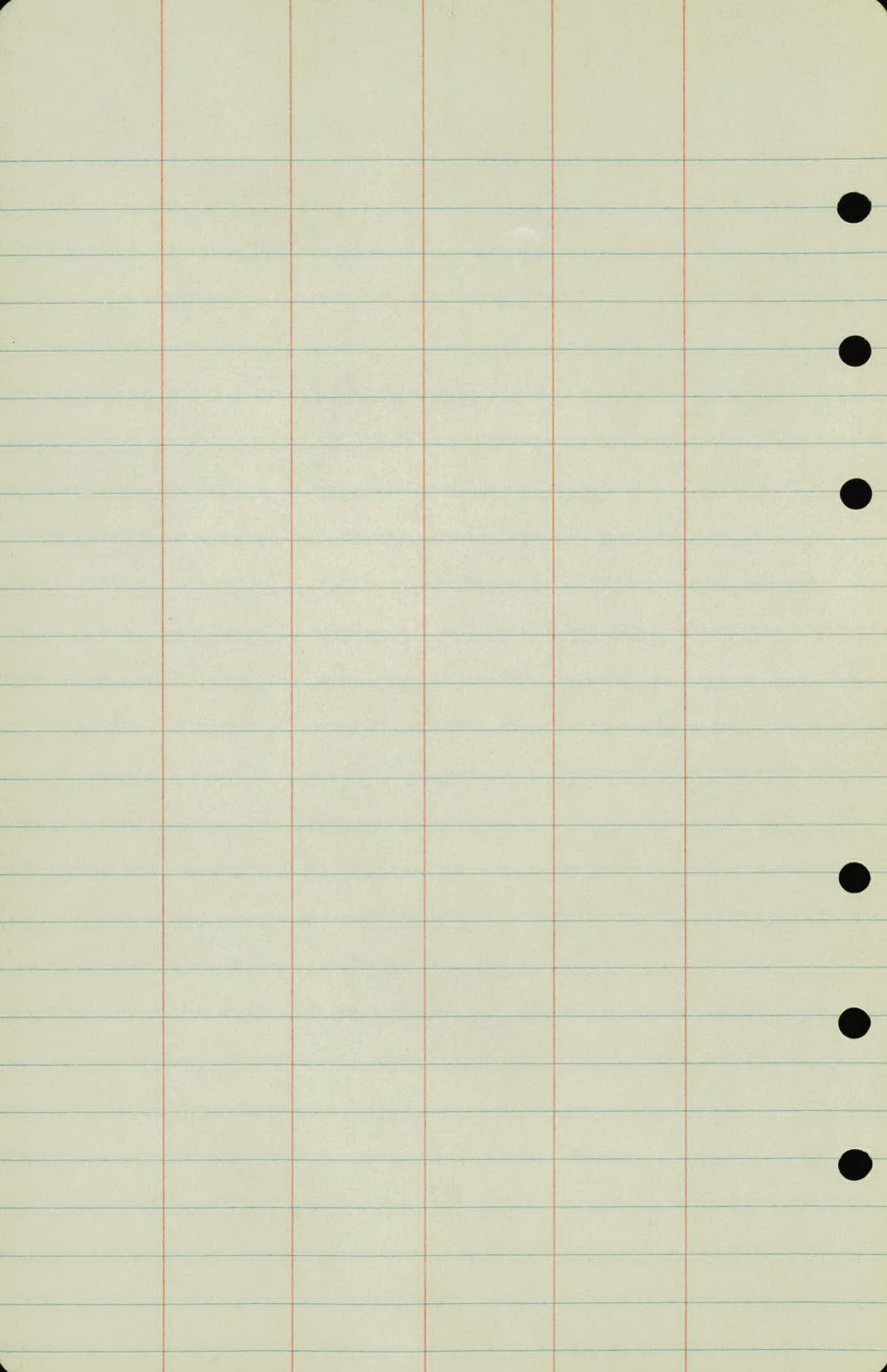
Lot 49-50

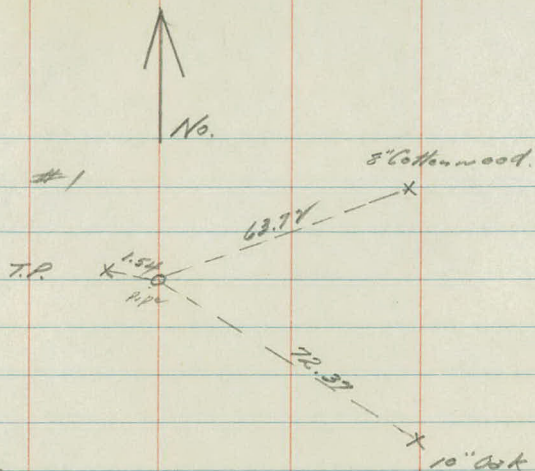
30

Hub.

30.0

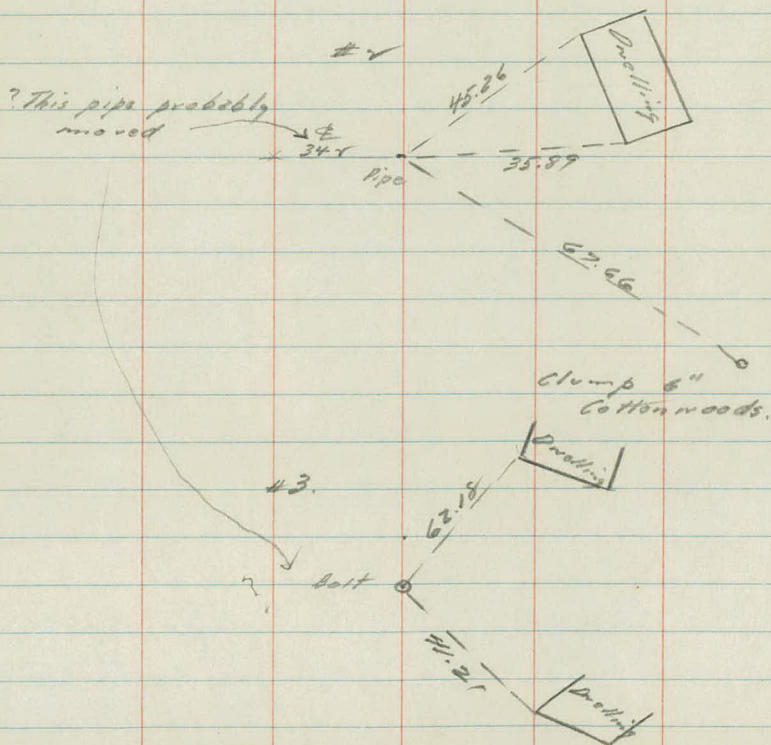
Hub.

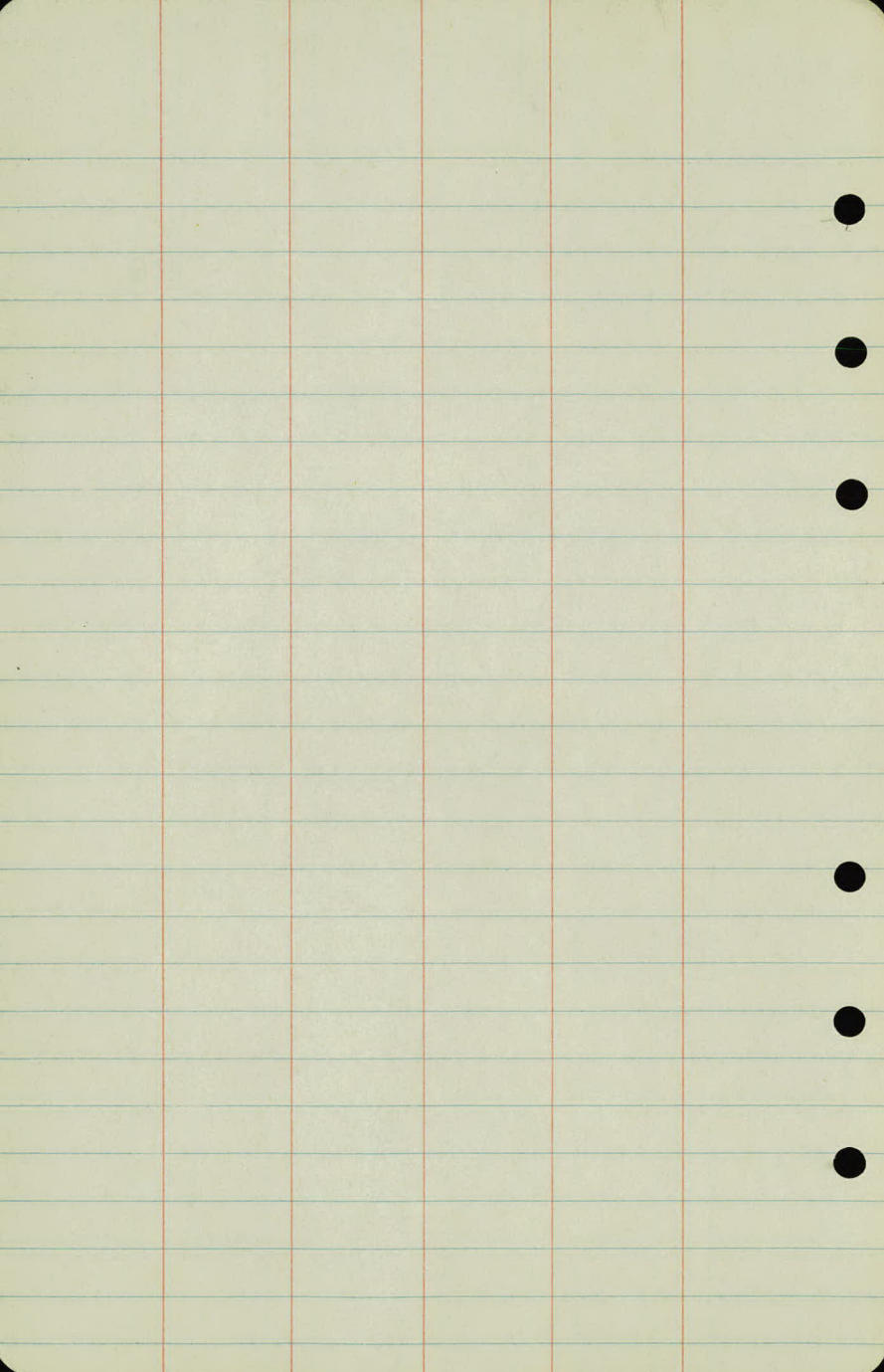




Bellaire Ave.

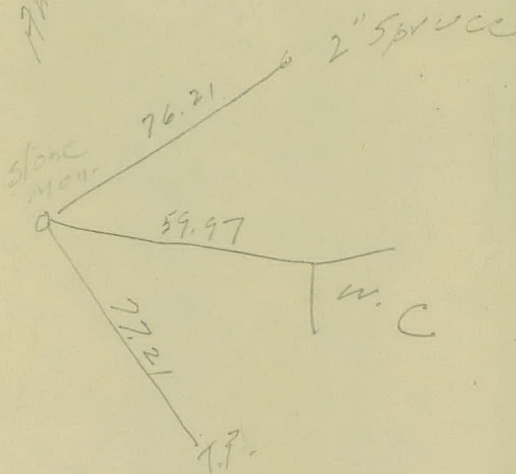
Ties to property irons. East side.
11/10/37





As to Property Measurement
Sta 23+50

Head ↑



E Levels

COOK AVE.

22^d St. to 8th St.

Approx. Chaining

Finished
2/19/40
Elev Put on W.B. Maps
N.W.

Sta	+	π	-	Elev.
B.M.	0.32	943.17		942.85
0+00			7.1	36.1
+25			7.0	36.2
+50			6.7	36.5
1			6.2	37.0
+50			6.0	37.2
2			5.9	37.3
+50			5.9	37.3
3			5.9	37.3
+61 = Approx. to 35 th St.			5.2	38.0
4			5.5	37.7
+50			5.7	37.5

2-13-41
K.A.
L.C.
C.H.

Lt.

E

Rt.

Top Hyd. N.E. Cor. 3rd St. & Stewart Ave.

= Approx E Second St.

37.4

37.4

37.8

37.7

37.8

37.7

37.9

37.4

37.6

38.0

38.4

38.7

38.9

38.8

38.6

56
362

56
300

54
250

55
200

54
150

55
100

53
50

58
30

56
100

52
150

48
200

45
250

43
300

44
350

46
375

Approx E Bonning

Approx E Stewart

Sta	+	π	-	Elev
		943.17		
5			5.8	37.4
	+50		5.7	37.5
T.P.	4.12	942.85	4.44	938.73
6			5.4	37.5
	+50		5.4	37.5
7			5.3	37.6
	+52 Approx 45 ft		5.4	37.5
B.M.			2.00	940.85
8			5.2	37.7
	+50		4.9	38.0
9			4.6	38.3
	+50		4.4	38.5
10			4.2	38.7
T.P.	4.40	943.80	3.45	939.40

H

E

Pt.

37.4

37.2

37.3

37.3

37.4

38.0

38.2

38.4

38.8

39.1

39.9

39.7

Approx to	55	57	56	56	56	55	55	49	47	45	41	38	36	32	Approx to
Bearing	362	300	250	210	150	100	50	50	100	150	200	250	300	372	Stewart

Top Hyd. N.E. Cor. Cook Ave & 4th St

Sta	+	T	-	Elev
		943.80'		
10	+50		5.2	38.6
11			5.2	38.6
	+43 Approx & 5 th St		4.8	39.0
12			5.1	38.7
B.M.	2.63	945.35	2.08	941.72
	+50		6.7	38.7
13			6.6	38.8
	+50		6.4	39.0
14			6.5	38.9
	+40		6.4	39.0
	+69		6.0	39.4
15	+04 Approx & Sixth St		5.2	40.2
B.M.			2.35	945.00

14

2

24

38.1	37.6	37.8	38.0	38.3	38.5	38.4	38.2	38.9	38.6	38.3	38.3	38.4	38.5	38.5	38.8	39.0	39.1	39.4
57	62	6.0	5.8	5.5	5.3	5.4	5.5	4.9	5.2	5.5	5.5	5.4	5.3	5.3	5.0	4.8	4.2	4.4
362	329	300	250	200	150	100	50	21	30	60	100	150	200	250	300	332	352	377

Approx R
Banning

Approx
Stewart

Top Hyd. N.E. Cor. Cook Ave. & 5th St.

Top Hyd. N.E. Cor. Cook Ave. & 6th St.

Sta	+	T	-	Elev.
		945.35'		
15	+50		5.3	40.1
16			5.3	40.1
	+50		5.2	40.2
17			4.9	40.5
	+50		4.5	40.9
18			3.9	41.5
	+50		3.7	41.7
T.P.	424	946.17'	3.42'	941.93'
	+68 Approx. 7 th St.		4.3	41.9
19			4.5	41.7
	+43		4.7	41.5
20			4.4	41.8

14

2

15

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

946.17

20	+50		4.4	41.8
----	-----	--	-----	------

21			4.6	41.6
----	--	--	-----	------

	+50		4.6	41.6
--	-----	--	-----	------

22			4.7	41.5
----	--	--	-----	------

	+17		6.0	40.2
--	-----	--	-----	------

	+31 = Approx to 85 th St		4.8	41.4
--	-------------------------------------	--	-----	------

B.M.			3.47	942.70
------	--	--	------	--------

T.P.	4.15	946.86	3.46	942.71
------	------	--------	------	--------

B.M.	3.32	945.59	4.59	942.27	(942.31) ✓
------	------	--------	------	--------	------------

B.M.	3.15	944.97	3.77	941.82	(941.83) ✓
------	------	--------	------	--------	------------

B.M.			1.78	943.19	(943.21) ✓
------	--	--	------	--------	------------

			2.14	942.83	(942.85) ✓
--	--	--	------	--------	------------

2-14-41

Lt

E

Rt

39.0

39.5

39.4

38.7

38.6

West
Part

Top East
Part

38.5
39.7

40.7

42.1

42.9

43.9

44.7

44.6

44.0

43.7

42.7

72 66 68 75 7.56 7.66 6.5 5.5 4.1 3.3 2.3 1.5 1.6 2.2 3.0 3.5
341.9 300 250 200 157 151 100 50 50 100 150 200 250 300 350 371

Approx. S.T.M. 261

Top Hyd. N.W. Cor. Long Ave. & 8th St

Stewart

Top Hyd. N.E. Cor. 7th & Stewart.

Top Hyd. N.E. Cor. 5th & Stewart.

Top Hyd. N.E. Cor. 4th & Stewart.

Top Hyd. at 3rd St & Stewart Ave.

Sta + π - Elev

E Levels

Murray St.

Elm To 5th

Sta	+	T	-	Elev.
B.M.	3.98	944.16		940.18
I.P.	3.99	942.58	5.57	938.59
B.M.	1.56	939.24	4.90	937.68
0	+00	Approx. & Elm St.	3.5	35.7
	+40		3.7	35.5
	+60		4.7	34.5
1			5.6	33.6
	+50		5.8	33.4
2			5.9	33.3
	+50		5.8	33.4
3			5.8	33.4
	+68	Approx. & 1 st St.	5.0	34.2
4			5.3	33.9

44

五

Ref

Top Hyd. E. Side Clark Ave. & 1st St.

Top Hyd. N.E. Cor. Murray Ave. & 1st St.

332

32.9

33.0

333

33.4

341

34

35.5-

 Δ
pt.
3

370

374

32.9

2

1

Q. Bats	6.0	6.0	6.3	6.2	5.9	5.9	5.8	5.1	4.5	3.7	2.2	1.8	1.3	0.1
Ensign Ave	248	230	200	150	100	71	33	50	100	150	178	200	250	300

Sta.	+	Σ	-	Elev
		939.24'		
4	+22		5.3	33.9
	+61		3.9	35.3
5			4.6	34.6
	+50		4.5	34.7
6			4.4	34.8
T.P.	4.86	939.81	4.29	934.95'
	+50		4.9	34.9
7			5.0	34.8
	+26 Approx. E. 2 nd St.		4.8	35.0
B.M.			6.45	933.36 (933.29)
	+56		5.0	34.8
B.M.			2.16	937.65
8			5.2	34.6
	+50		5.2	34.6

L^t

L

R^t

33.4

33.7

33.6

33.8

34.2

34.5

34.5

35.0

35.2

35.5

35.8

37.2

38.4

38.8

2.8018

6.4
2466.1
2266.2
2006.0
1505.5
1005.3
695.2
295.2
504.8
1004.6
1504.3
2004.0
2503.6
3003.4
3303.0
363

1.0 Miller Ave.

U.S.G.S. B.M. St. Marys Sched Yard.

Top Hyd. N.E. Cor. Murray Ave. & 22nd St.

Sta	+	π	-	Elev.
		939.81		
9			5.0	34.8
+50			5.0	34.8
10			4.9	34.9
+50			4.8	35.0
B.M.	135	940.31	0.85	938.96
+89 = Approx. of 3rd st			5.2	35.1
11			5.2	35.1
+50			5.6	34.7
12			5.9	34.4
+50			6.0	34.3
13			6.1	34.2
+50			6.0	34.3
T.P.	3.12	939.27	4.16	936.15

Lt

&

Rt

33.7 33.8 34.0 34.4 34.5 34.7 35.3 36.8 37.6 37.9 38.7 39.7

Top Hyd. N. E. Cor. Murray Ave. 630 St

Q. 8000	66	65	63	59	58	51	46	40	35	27	24	16	06	Q. Miller
Q. 6000	295	200	50	100	50	41	100	50	200	250	300	327	359	AVG.

Sta.	+	-	Elev.
			939.27.
14		4.8	34.5
+38		5.2	34.1
+76 Approx. & 4 th St.		5.2	34.1
B.M.		0.95	938.32
15		5.2	34.1
+50		5.0	34.3
16		4.9	34.4
+50		4.7	34.6
17		4.7	34.6
+50		4.6	34.7
18		4.5	34.8
+67 = Approx. & 5 th St.		3.8	35.5
T.P.		2.77	936.50.

2-15-41

Lt

R

Rt

33.7 33.4 33.5 33.8 34.1 34.4 34.8 35.2 35.7 36.1 36.5 36.9

R. Bald
Base Ave. $\frac{56}{245}$ $\frac{3.9}{200}$ $\frac{57}{150}$ $\frac{55}{100}$ $\frac{52}{50}$ $\frac{49}{50}$ $\frac{45}{100}$ $\frac{41}{150}$ $\frac{36}{200}$ $\frac{32}{250}$ $\frac{28}{300}$ $\frac{24}{357}$ R. Miller Ave.

Top Hyd. N.E. Cor. Murray Ave. & 4th St.

Nail in P.R. N. side Sth St. at Murray Ave.

Sta

+

π

-

Elev.

Levels

FIRST ST.

Clark Ave to Banning Ave.

Sta	+	π	-	E/cv
B.M.	0.55	943.40		942.85
T.P.	7.16	939.66	10.90	932.50
T.P.	7.06	944.32	2.40	937.26
T.P.	4.34	942.24	6.42	937.90
B.M.			1.94	940.30
B.M.	3.03	943.21	2.06	940.18
B.M.			2.82	940.39

0 +00 Approx to Clark Ave. 5.0 38.2

+28 5.6 37.6

+44 6.2 37.0

+76 5.3 37.9

1 5.3 37.9

+50 5.2 38.0

2 5.3 37.9

+50 5.1 38.1

2-14-41
E.P.
L.C.
K.A.D.
C.N.

Lt

C

Rt

Top Hyd. at Stewart Ave + 3rd St.

Top Hyd. N.E. Cor. Lake Ave. + Clark Ave.

Top Hyd. E. side Clark Ave. + 1st St.

Top Hyd. N.E. Cor. Clark Ave. + 1st St.

38.05
37.3

37.68
36.9

37.64
36.9

37.46
36.7

5.16 Top curb 5.53
5.9 Gutter 6.3
100 2.6

5.57 Top curb 5.75
6.3 Gutter 6.5
24 100

Drains south →

Sta	+	π	-	Elev
		943.21		
3			4.8	38.4
	+50		4.5	38.7
T.P.	3.14	943.96	2.39	940.82 ✓
4			5.1	38.9
	+50		4.7	39.3
	+75		5.0	39.0
5			4.9	39.1
	+50		4.7	39.3
	+84		5.0	39.0
6			5.4	38.6
+14	Approx. S. Banning Ave.		5.3	38.7
B.M.			1.55	942.41 ✓
B.M.	0.36	942.50	1.82	942.14 ✓
T.P.	5.85	943.75	4.60	937.90
B.M.			0.86	942.89 (942.85)

Lt

E

Rt

38.5-

38.2

38.2

38.4

38.4

38.5-

38.4

38.7

38.7

38.8

38.9

39.0

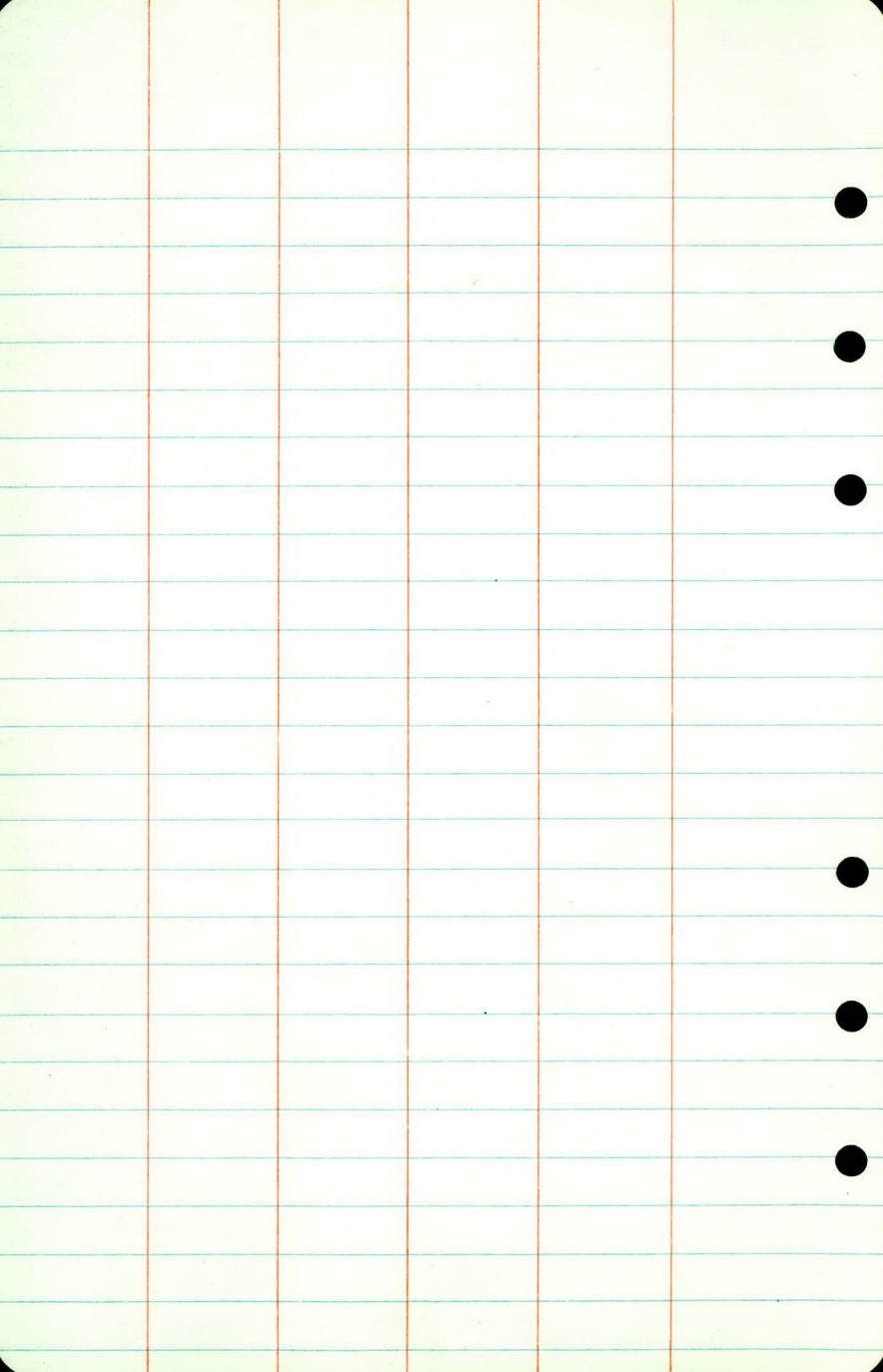
39.0

E 22nd 55 57 58 56 56 55 54 53 53 52 51 50 50 & Lake Ave.
 St 360 320 300 250 200 150 100 50 50 100 145 171 197

Top Hyd. N.E. Cor 1st St & Banning Ave.

Top Hyd. N.W. Cor. 2nd & Banning Ave.

Top Hyd. N.E. Cor. 3rd & Stewart Ave.



& Levels

SIXTH ST

Banning Ave to Stewart Ave.

Sta	+	T	-	Elev.
B.M.	0.79	943.79		(943.00)
B.M.			2.83	940.96
0	+00	= Approx & Banning Ave	5.5	38.3
	+50		5.3	38.5
1			5.0	38.8
	+50		4.8	39.0
2			4.7	39.1
	+50		4.6	39.2
3			4.4	39.4
	+34		3.9	39.9
	+64	= Approx & Cook Ave.	3.6	40.2
4			4.0	39.8
B.M.	2.40	945.40	0.79	943.00
	+50		5.6	39.8

2-14-41
K.H.
L.C.
M.B.
C.M.

Lt

R

Rt

Top Hyd. N.E. Cor. Cook Ave & 6th St

Top Hyd. S.E. Cor. 6th St & Banning Ave.

4.72 nd 55	54	54	54	56	55	55	55	56	56	57	67	57	57	4.5 th St
358	300	250	200	150	100	50	50	100	150	200	250	300	345	

38.3

38.4

38.2

38.3

38.2

38.1

Sta	+	Σ	-	Elev
		945.40		
5	+00		5.5	39.9
	+50		5.2	40.2
6			5.2	40.2
	+50		5.3	40.1
7			5.2	40.2
	+36		5.2	40.2
B.M.			3.15	942.25 (942.31)
B.M.			3.60	941.80 (941.83)

14

2

21

Top Hyd. N.E. Cor 7th St & Stewart Ave.

" " " 5th St & " "

Sta.

+

 π

—

 $E/\text{eV.}$

& Levels

MILLER AVE.

Second St. to Fifth St.

Sta.	+	T	-	Elev.
B.M.	6.24	943.89		937.65

0	100 = Approx. to 2 nd St.	5.1	38.8
---	--------------------------------------	-----	------

	+26	4.9	39.0
--	-----	-----	------

	+46	5.4	38.5
--	-----	-----	------

1		5.3	38.6
---	--	-----	------

	+50	5.4	38.5
--	-----	-----	------

2		5.6	38.3
---	--	-----	------

	+50	5.3	38.6
--	-----	-----	------

3		4.8	39.1
---	--	-----	------

T.P.	4.27	943.78	4.38	939.51
------	------	--------	------	--------

	+32	4.1	39.7
--	-----	-----	------

	+59 Approx. to 3 rd St.	4.1	39.7
--	------------------------------------	-----	------

	+82	4.6	39.3
--	-----	-----	------

Cold & Windy

2-17-41

Lt

2

Rt

Top Hyd. N.E. Cor. Murray Ave. & 2nd St.

$\frac{47}{200}$ $\frac{47}{150}$ $\frac{46}{100}$ $\frac{44}{50}$

39.4
39.2
39.1
 $\frac{44}{50}$ $\frac{46}{100}$ $\frac{47}{150}$ $\frac{47}{200}$

Sta	+	π	-	Elev.
		943.78		
4			5.2	38.6
	+50		5.4	38.4
5			5.6	38.2
	+50		5.7	38.1
6			6.1	37.7
	+50		6.7	37.1
7			6.8	37.0
B.M.	1.56	942.31	3.03	940.75
	+51	Approx. E 4th St.	5.4	36.9
8			5.1	37.2
	+50		5.1	37.2
9			5.8	36.5

H

E

E.

Top Hyd. N.E. Cor 4th & Miller Ave.~~51~~
50~~51~~
50~~50~~
100~~48~~
150~~46~~
200~~45~~
250~~44~~
300~~40~~
3572. W. B. Cor
Ave.

37.2

37.3

37.5

37.7

37.8

37.9

38.3

Sta	+	π	-	Elev
		942.31		
9	+50		6.1	362
10			6.4	359
T.P.	2.38	941.00	3.69	938.62
	+50		5.1	359

11			5.0	360
----	--	--	-----	-----

+37	Approx. 5 th St.	46	364
B.M.		2.06	938.94
B.M.		4.51	936.49
B.M.		3.92	937.08

936.50

Lt.

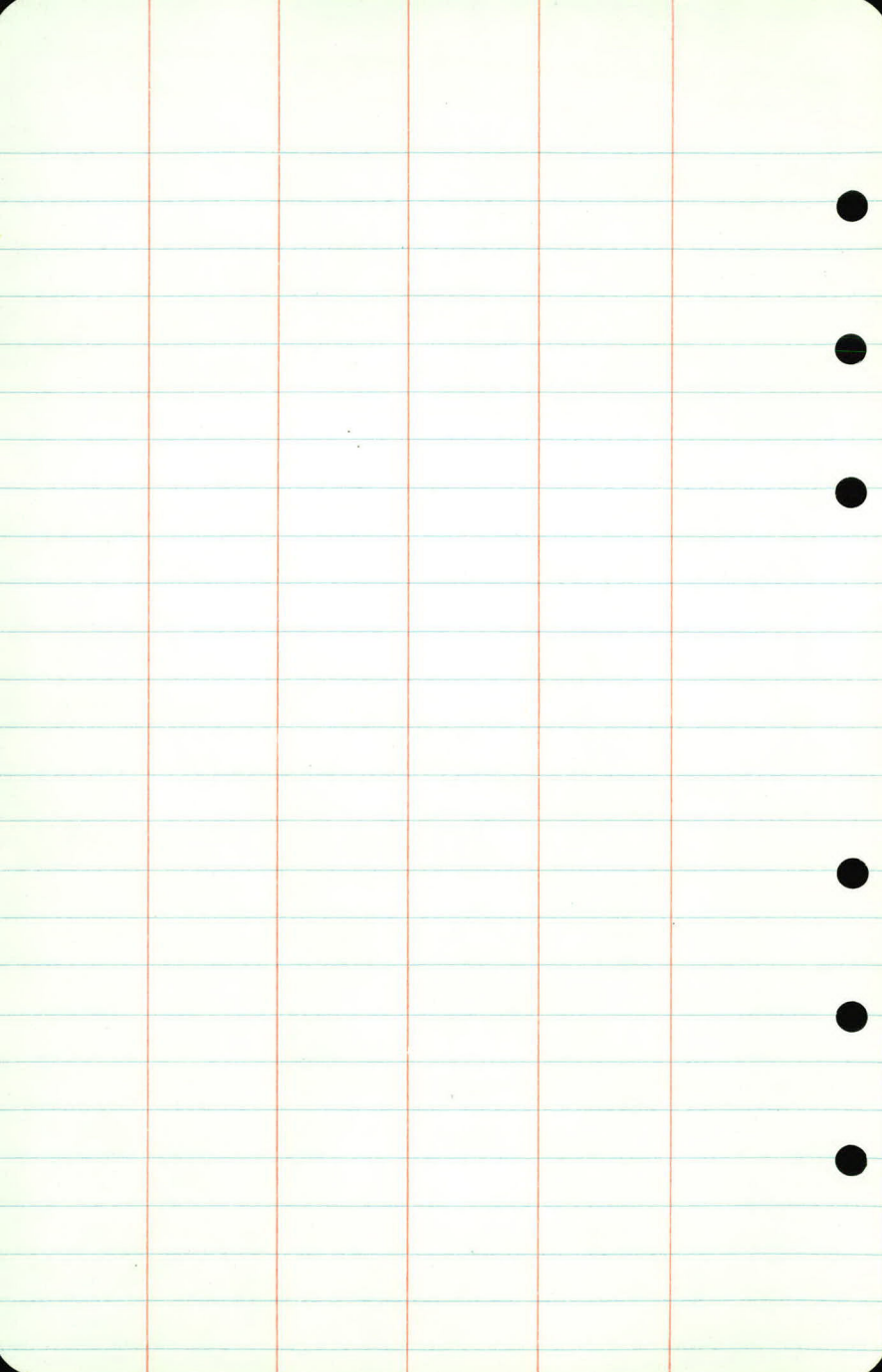
R

Lt.

Top Hyd. NW Cor. 5th St. & Miller Ave.

Nail in PP N side 5th St of Murray Ave.

Top Hyd. NE Cor. Bald Eagle Ave. & 5th St.



Fifth St

Bald Eagle Ave to

Sta.	+	T	-	Elev.
B.M.	392	941.00		937.08

0	+00 = Approx. E.B. Eagle Ave.		7.0	34.0
---	-------------------------------	--	-----	------

	+50		7.3	33.7
--	-----	--	-----	------

1			7.2	33.8
---	--	--	-----	------

	+50		7.0	34.0
--	-----	--	-----	------

2			6.4	34.6
---	--	--	-----	------

	+44 Approx. E. Murray Ave.		5.6	35.4
--	----------------------------	--	-----	------

3			5.8	35.2
---	--	--	-----	------

	+50		5.6	35.4
--	-----	--	-----	------

4			5.6	35.4
---	--	--	-----	------

	+61 Approx. E. Central Ave.		5.4	35.6
--	-----------------------------	--	-----	------

5			5.2	35.8
---	--	--	-----	------

Cold & Windy

2-17-41

Lt.

Rt.

Top Hyd. N.E. Cor. Bald Eagle Ave. & 5th St.

34.2	34.2	34.1	33.9	33.8	33.7
$\frac{68}{236}$	$\frac{68}{200}$	$\frac{68}{160}$	$\frac{69}{62}$	$\frac{71}{50}$	$\frac{71}{70}$
				$\frac{71}{125}$	$\frac{72}{165}$
				$\frac{73}{222}$	$\frac{73}{270}$

35.4	35.7	35.8	35.9	36.1
$\frac{54}{300}$	$\frac{53}{250}$	$\frac{52}{200}$	$\frac{52}{150}$	$\frac{51}{100}$
				$\frac{49}{50}$

Sta	+	π	-	Elev.
		941.00		
5	+50		5.1	35.9
6		Approx. R. Miller Ave.	4.5	36.5
	+50		4.8	36.2
7			4.5	36.5
	+50		4.6	36.4
8			4.6	36.4
T.P.	2.90	940.79	3.11	937.89
	+50		4.5	36.3
9			4.9	35.9
	+28		5.2	35.6
	+56	Approx. R. W. Bear Ave.	5.1	35.7
10			5.1	35.7

44

Ref.

360

358

35.7

35.1

358

36

36.1

37.9

$$\begin{array}{r} 4.8 \\ \hline 500 \end{array}$$
$$\frac{48}{250}$$
$$\frac{50}{200}$$
$$\begin{array}{r} 50 \\ \hline 150 \end{array}$$
$$\frac{51}{100}$$
$$\frac{52}{50}$$
$$\frac{50}{50} \mu$$
$$\begin{array}{r} 4.7 \quad 4.5 \\ 10 \overline{) 150} \end{array}$$
$$\begin{array}{r} 2 \quad 3.5 \\ \underline{} \\ 200 \end{array}$$

1

Sta.	+	Σ	-	Elev.
		940.79.		
10	+50		5.1	35.7
11			4.9	35.9
	+50		4.9	35.9
T.P.	4.04	942.28.	2.55	938.24.
B.M.			3.03	939.25.
12			6.3	36.6
	+50		5.9	36.4
13			5.0	37.3
+24	Approx. to Division Ave.		4.9	37.4
	+50		5.0	37.3
14			4.7	37.6
	+50		4.2	38.1
	+81		3.5	38.8

Lt.

Rt.

Top Hyd. N. Side 5th St. between W. Bear Ave + Division St.

37.9

37.4

37.5

37.4

37.2

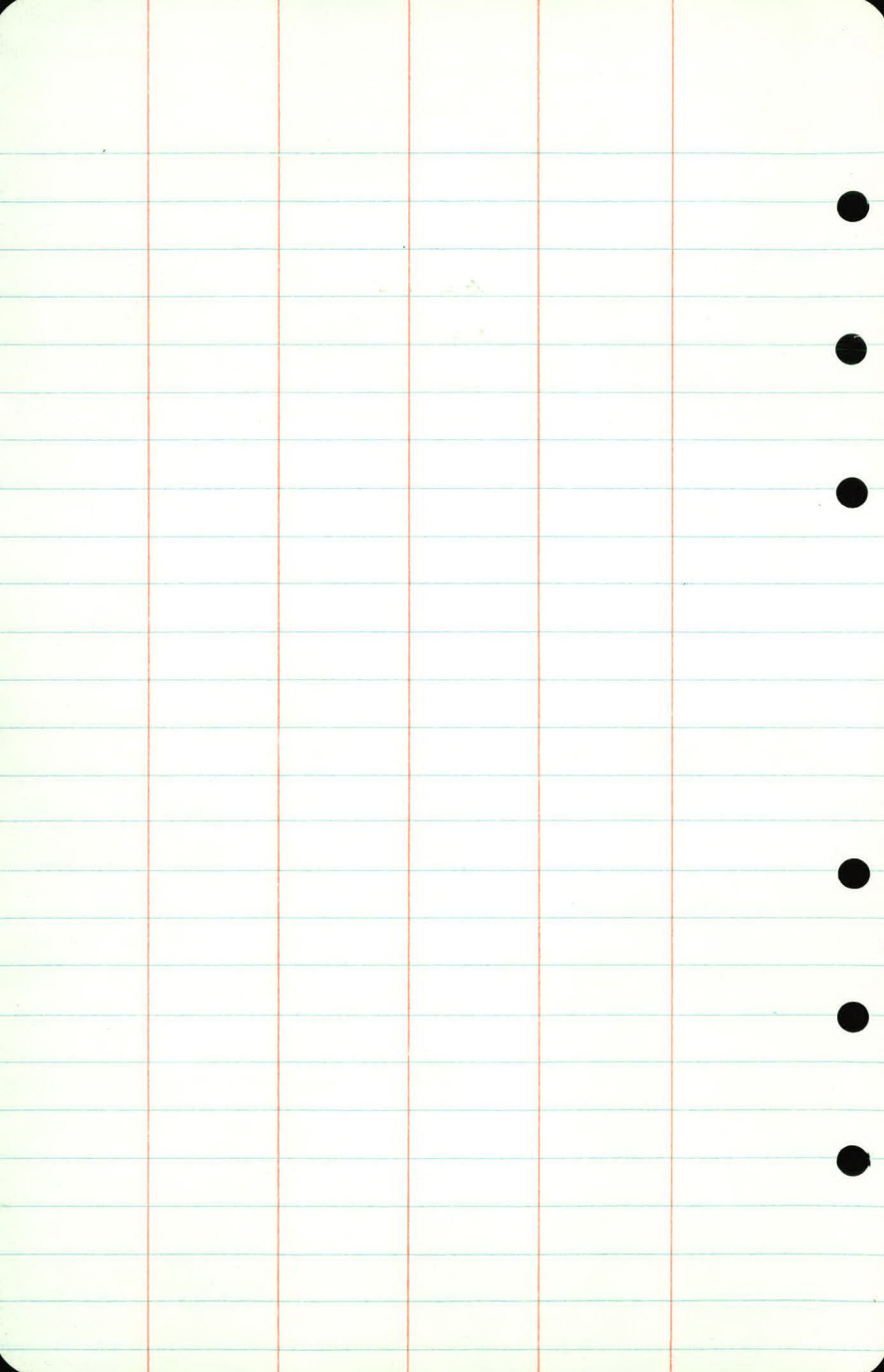
37.3

37.2

37.3

37.7

Q	4.1	4.7	4.8	4.8	4.9	4.9	5.1	5.0	5.0	5.1	5.1	5.0	4.6
6 th St.	357	300	250	200	150	100	50	50	100	150	200	250	300



E Levels

8th St.

White Bear Ave. to Long Ave.

Sta	+	π	-	Elev.
		942.28		
I.P.	3.12	942.24	3.16	939.12
B.M.	0.87	940.73	2.38	939.86
B.M.			2.41	938.32
0	+00 = Approx. & W. Bear Ave.		5.5	35.2
	+50		5.2	35.5
1			5.0	35.7
	+50		4.7	36.0
2			4.6	36.1
	+50		4.4	36.3
3			4.4	36.3
B.M.	1.70	941.56	0.87	939.86
	+70	Approx. & Division St.		36.8
			4.8	
4			5.1	36.5

Cold & Windy

2-17-41

Lt.

Rt.

From 5th St. Levels.

Top Hyd. S.E. Cor. Division Ave. & 8th St.

Top Hyd. N.E. Cor. White Bear Ave. & 8th St.

36.3 35.9 35.5 35.3 35.2 35.1 35.3 35.4 35.6 35.5 35.8
 $\frac{44}{200} \frac{48}{150} \frac{52}{100} \frac{54}{50} \frac{55}{50} \frac{56}{100} \frac{54}{150} \frac{5.3}{200} \frac{51}{250} \frac{52}{300} \frac{4.9}{365} \text{ 4.7th St.}$

37.0 36.9 36.7 36.5 36.7 36.8 37.0 37.1 37.2
 $\frac{46}{300} \frac{47}{250} \frac{49}{200} \frac{49}{150} \frac{51}{100} \frac{51}{50} \frac{51}{50} \frac{49}{100} \frac{49}{150} \frac{48}{200} \frac{46}{250} \frac{45}{300} \frac{44}{361} \text{ 4.7th St.}$

Sta	+	T	-	Elev
		941.56		
4	+50		5.2	36.4
5			5.0	36.2
	+50		4.9	36.7
6			4.9	36.7
T.P.	4.48	942.24	3.80	937.76
	+50		5.5	36.7
7		Approx R. Washington Ave.	5.1	37.1
	+50		5.1	37.1
8			4.6	37.6
T.P.	6.12	943.71	4.65	937.59
	+50		5.5	38.2
9			4.9	38.8
	+50	Approx R. Long Ave.	5.1	38.6

Lt.

Rt.

35.0

36.2

36.5

36.7

36.7

36.8

37.0

to open
Field

$\frac{7.2}{262}$

$\frac{6.0}{240}$

$\frac{5.7}{200}$

$\frac{5.5}{150}$

$\frac{5.5}{100}$

$\frac{5.5}{50}$

$\frac{5.5}{50}$

$\frac{5.4}{100}$

$\frac{5.4}{150}$

$\frac{5.2}{200}$

See plan for Elev at
7th St.

36.3

36.9

37.2

37.6

37.8

38.1

$\frac{7.4}{300}$

$\frac{6.8}{250}$

$\frac{6.5}{200}$

$\frac{6.1}{150}$

$\frac{5.9}{100}$

$\frac{5.6}{50}$

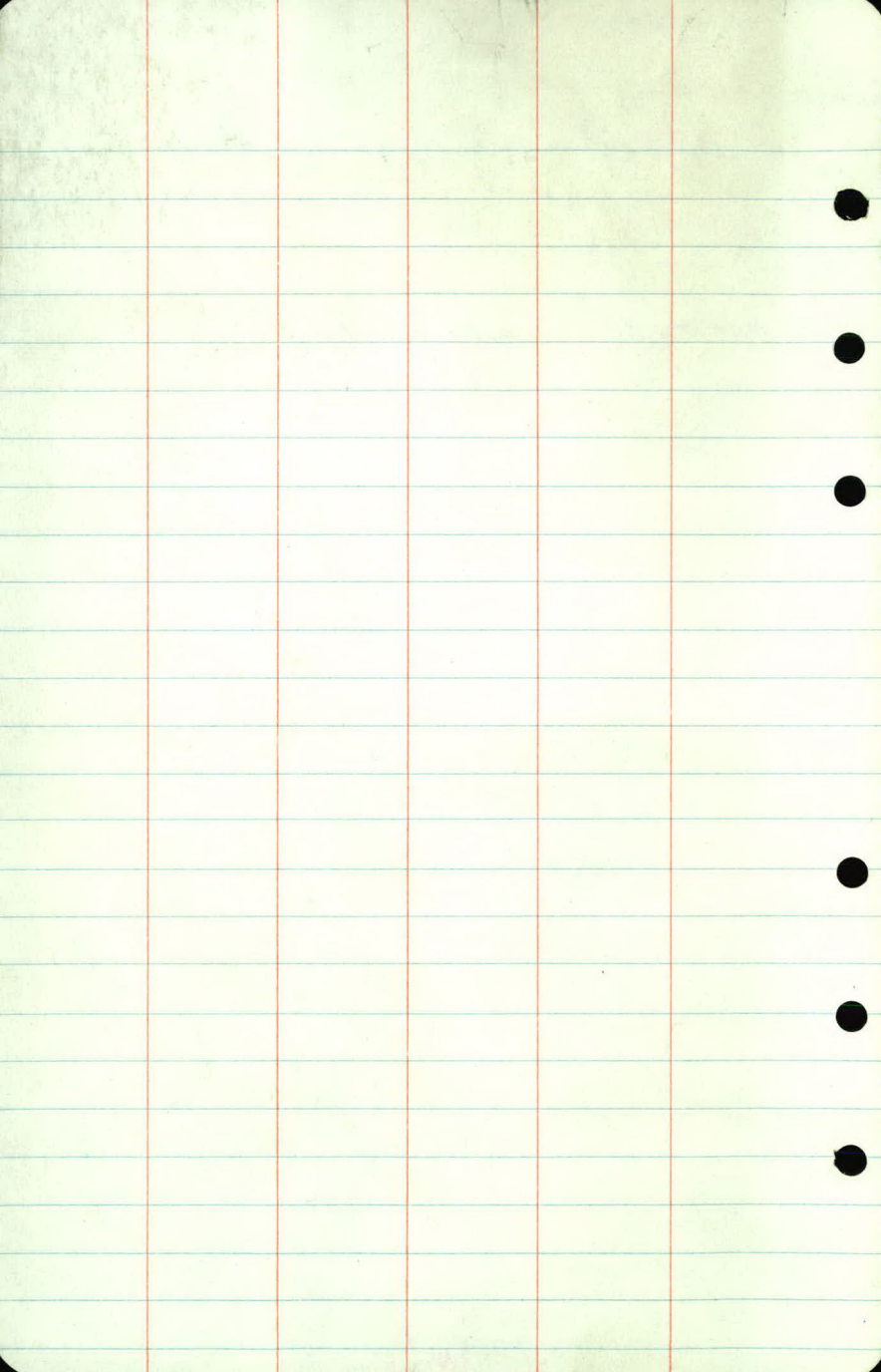
Sta.	+	π	-	Elev.
		943.71		

10 +88	Top W. Rail	5.26	38.45	
B.M.		0.93	942.78.	(942.70)

Lt

Lt

Top Hyd. NW. Cor. Long Arc. + 8th St.



OFFICE OF
RAMSEY COUNTY SURVEYOR
HARRY S. BRONSON
MAP OF WHITE BEAR LAKE

