

BK 37 Dr. 14

OFFICE OF COUNTY ENGINEER
RAMSEY CO. MINN.

Plan Survey

Cook Str.

From 2nd Str. To 8th St.

Road Acc't. No.

Date Filed 6-11-41

File

PLAN SURVEY

COOK AVE.

2nd St. to 8th St.

Plans Completed 9/27/41

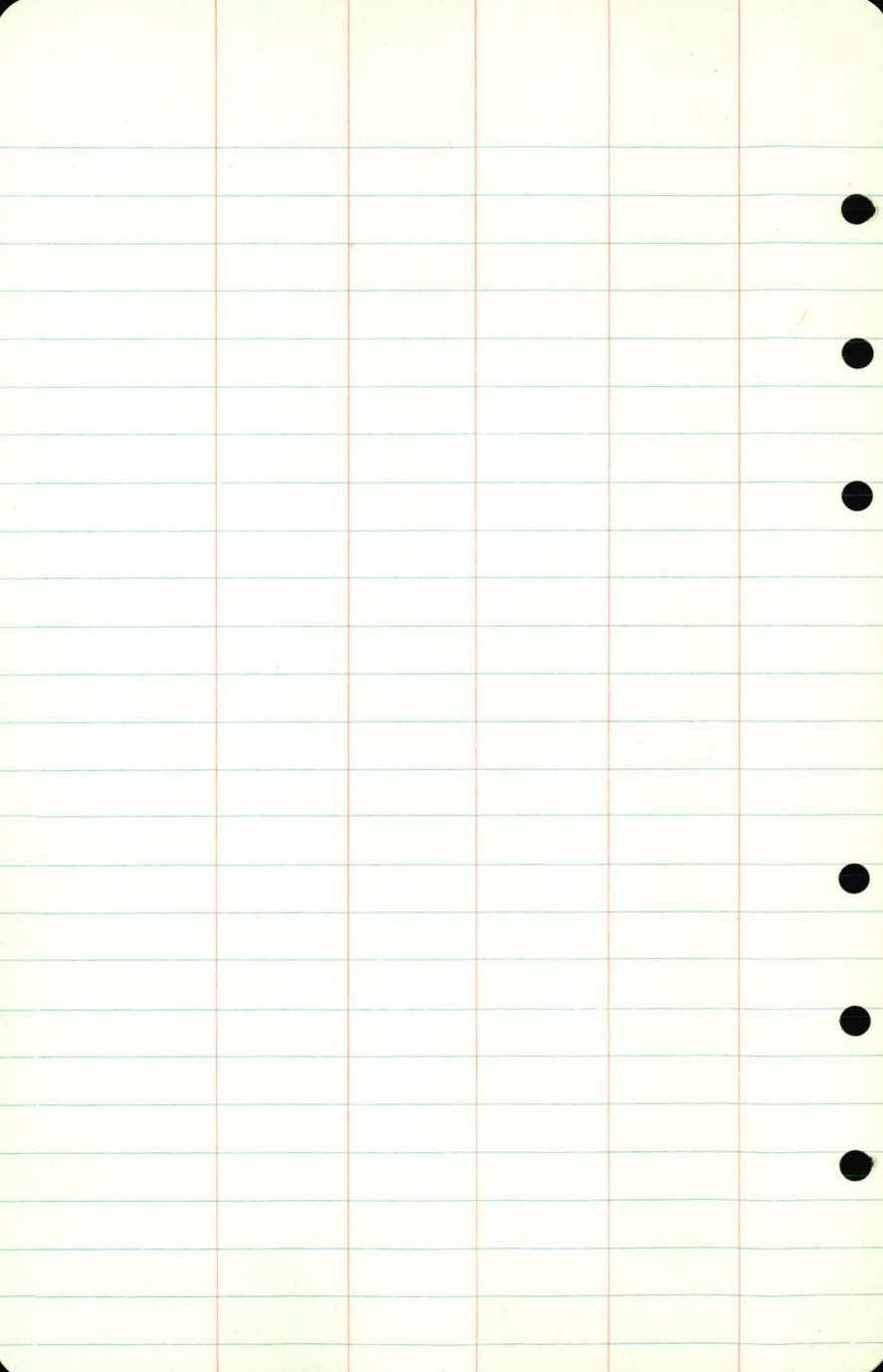
INDEX.

Align. 1-3

Topog. 4-8

Xsections 9-17

Completed 5-5-41



Alignment

$\bar{x}$ is an average of prop lines
and existing improvements.

Sta	Point	ΔLt	ΔRt
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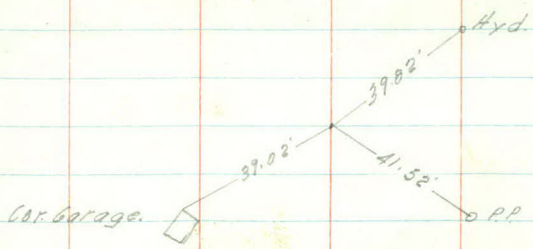
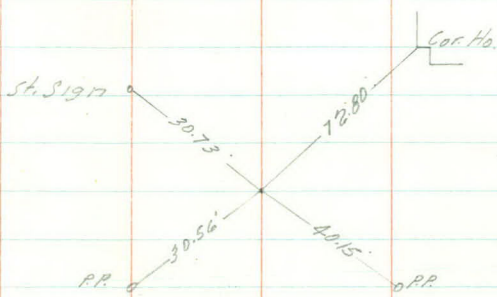
11	+40.40	P.I. = E Fifth St.	0°02'
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7	+50.67	P.O.T. = E Fourth St. between curbs.	
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3	+60.50	P.O.T. Split of Curbs Rt.	
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3	+59.97 =	P.O.T. & Third St. Split of Curb Lt.	
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0	+00 =	E Second St	
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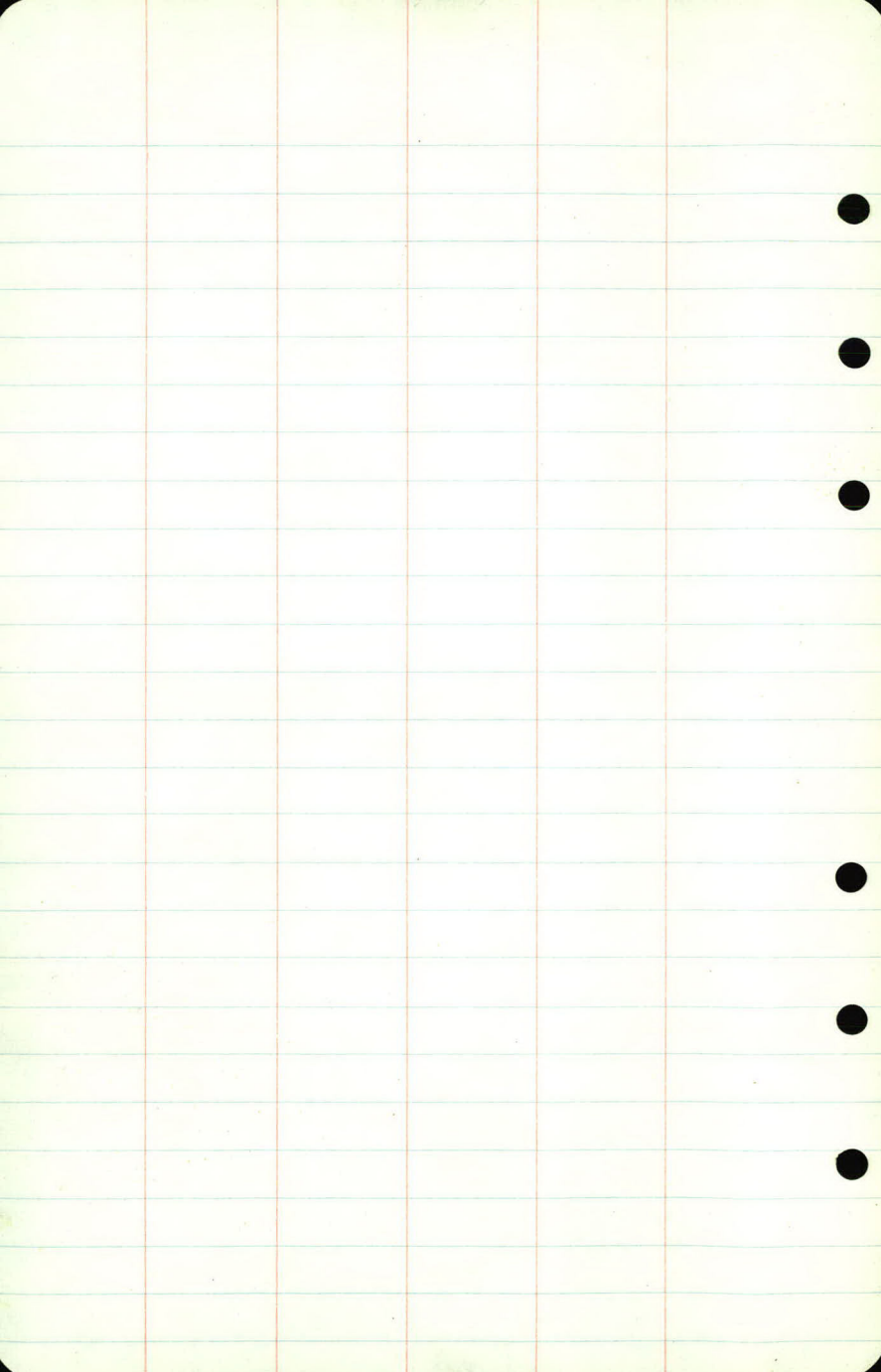
Sta	Point	Δ Lt.	Δ Rt.
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22	+29.50 = E Eighth St.		
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18	+44.69	Pt. - E Seventh St.	0° 02'
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15	+02.22	P.O.T. = E Sixth St.	
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Topography

Steel Cover
 +74-Drain Under S.W. 1' wide
 +66-R Drive
 +61-M.H.-1'
 +56-P.P.-18'

+89-2.3' wide walk-30'

+56-P.P.-20'

+23-R Drive

5 S.W.-28'-23.5' 16' 15'
 +91-R Drive

+67-R Drive

4 16' 15'
 +90-Curb Inlet +92.5-End Curb-19'
 +88.5-S.W.-19.4 Cor S.W.-277'-23.1'
 +81.3-Face Curb-24'
 +61-M.H.-23'
 +387-Face Curb-23.5'
 +32.5-Cor S.W.-28.0'-23.5' (+33-Road Top)
 +32.3-Beg. Curb S.W.-18.5'
 +36.5-Elm.-21'
 +66.8'-Elm.-21'

+98-End Curb-17.2'
 +90-P.P.-21' +96-Curb Inlet
 +85-Edges W. +89-Edge S.W.
 +79-Face Curb-32.2'
 +42.5-Face Curb-32.7'
 +39-Edge S.W.
 +32-Edge S.W.
 +25-Curb Inlet
 +23-Beg Curb-177'

3 S.W.-28.1'-23.5' 17' 17'

+91-12" Maple-23'
 +88-2" Ash-21'
 +71-3" Elm-21'
 +56-R Drive
 +47-4" Elm-21'
 +29-2" B.E.-21'
 +09-15" Maple-33'

+64-M.H. 20
 +84-2.1' wide Cane. Walk-30.8'
 +62-R Drive
 +54-P.P.-20
 +45-R Drive

2 S.W.-28.4'-23.8' 17' 17'
 +96-30" Maple-21'

+14-2.4' wide long walk-30'
 +80-P.P.-20'

+64-15" Elm-21'

+34-12" Elm-21'

+38-R Drive
 +30-P.P.-22'

1 +14-12" B.E.-21'
 S.W.-28.4'-23.8' 17' 17'

+90-15" Elm-21'

+65-8" B.E.-21'

+80-End Curb 9.15 Rad-15' same rd +33-Surface Drain-15.5'
 +23.5-Cor S.W.-23.5' +21-St. Sign 23'-Hgt-33'

0 +00

-01-M.H.-0.0 San. Sewer
 -06-M.H. storm sewer-6
 Seem to have wood cover
 1' below grade.

+92-2" Elm-22'
 +90-R DRIVE
 +62-R DRIVE
 +96-PP-21'
 +35-Shrub-20'

12 13' 14'

+72-Surface Drain-15'

+70-End-14'

+70-Cor SW-58.6-33.9-16.0'

+64-Cor SW-16.0'

+27-Surface Drain-32'

+19-PP-22' +87-8" C.M-29.6-23'

+18-End 12" C.M-18' +18.7-Cor SW-23.8'

+18.7-Cor SW-38.5'

+12.5-End 12" C.M-15'

+55-22'-23'

+18.7-Cor SW-23.8'

+39-23'-30'

+18.7-Cor SW-23.8'

+12.5-End 12" C.M-15'

+65-22'-12'

+14.5-W-15.6'

+63-Hydr-31'

+59-Surface Drain-19'

+40.5-19 H-0.3'

+27-Surface Drain-37'

+34-PP-37'

+12.5-SW-23.5'

+70-SW-15.6'

+18.7-Cor SW-23.8'

+12.5-SW-23.5'

+18.7-Cor SW-23.8'

+12.5-SW-23.5'

+18.7-Cor SW-23.8'

+12.5-SW-23.5'

11 12' 13'

+13-PP-21'

SW-28.5-24.0'

+27-15 BE-30'

+15-15 Elm-20'

+07-R DRIVE

+14-15'

+98-10 Elm-20'

+84-12 Elm-20'

+70-15 Elm-20'

+53-15 Elm-20'

10 14' 15'

+13-R DRIVE

S.W-28.4-23.9'

+12-R Drive

+14-15'

+91-PP-19'

+80-R Drive

+60-22'-31'

+14-15'

+48-R DRIVE

8 14' 14'

S.W-28.2-23.7'

+80.5-Cor SW-27.9-23.4'

+80.5-End Curb-16.8'

+74.3-Edge SW-Cor SW-29.5-22.5'

+70.6-Face Curb-20.5'

+87-Edge SW-Cor SW-29.4-23.4'

+30.5-Face Curb-17.4'

+21-Edge SW-Cor SW-27.6-23.1'

+19-Curb Inlet

+16-22.8 Curb-15.4'

S.W-27.8-23.3'

+180-Edge 8" Top

+80.5-End Curb-16.1'

+74.4-Curb 14.2'

+73-22'-30'

+65.8-Face Curb-31.3'

+30-Face Curb-31'

+20-Curb Inlet

+27-Edge SW-Cor SW-27.6-23.1'

+21-Edge SW-Cor SW-27.6-23.1'

+16-22.8 Curb-15.4'

S.W-27.8-23.3'

7 15' 15'

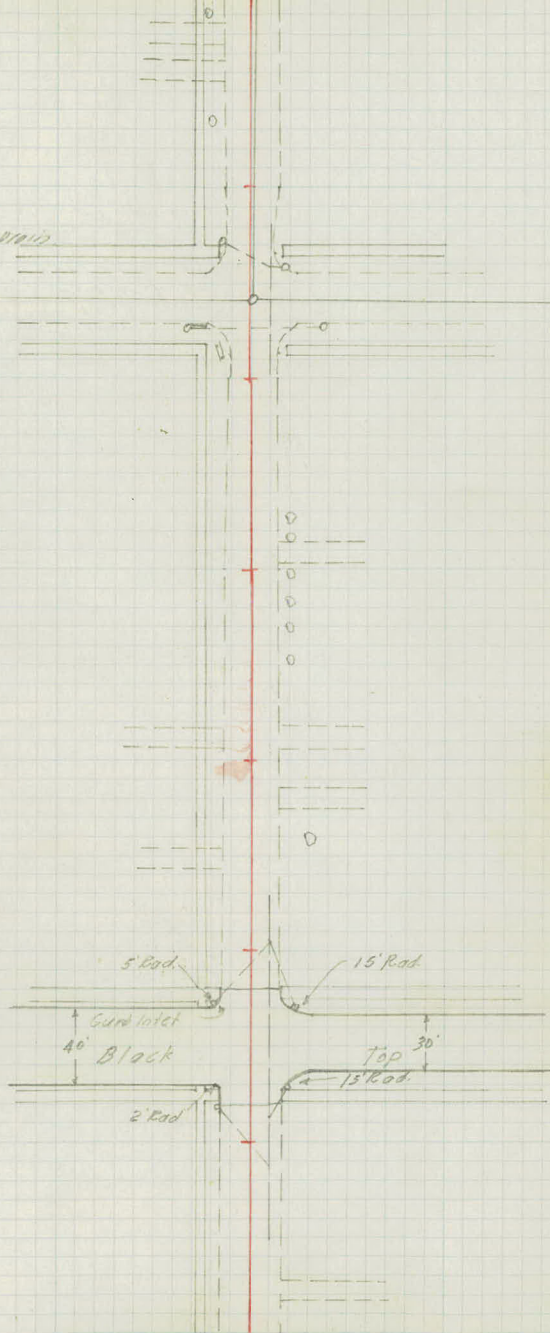
+44-PP-20'

+23-R DRIVE

6 16' 16'

S.W-28.0-23.5'

12" Concrete Apron Around Drains



+40-55000-21

+14-30" E/m-21'

13' 11' 30" Elm - 21'

+94.69 - End Gurb-15

490-edges w/ N. 4'

18 5.14-28.4-23.9' 10' 14

497-10° B.E. - 22'

+35-6 DRIVE

F10-KP-21
F13-KP-22

17 S.W. - 22.8' - 24.2' 13' 12'

f50-2 Drive

 $+43-18^{\circ}0'-23'$

+38 - F.Drive

432-CP-21
410-8-5-

7/6-20/10/10
5/10-18

16	S.W. - 29.3 - 242	12	13
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P31-R473

424-PP-22'

+30.5-SW-XS R

425-Hydr-23 Ed.-14

717 - Prairie Under - S.W.

FLC-24-23

402-MH-1'

15 J.W. - 28.7-24.2

492-Ed-24

436-28-38

475-Ed-22

460-20-13

14 SW. 28.7-24.7 14' 13'

f15-k Drive

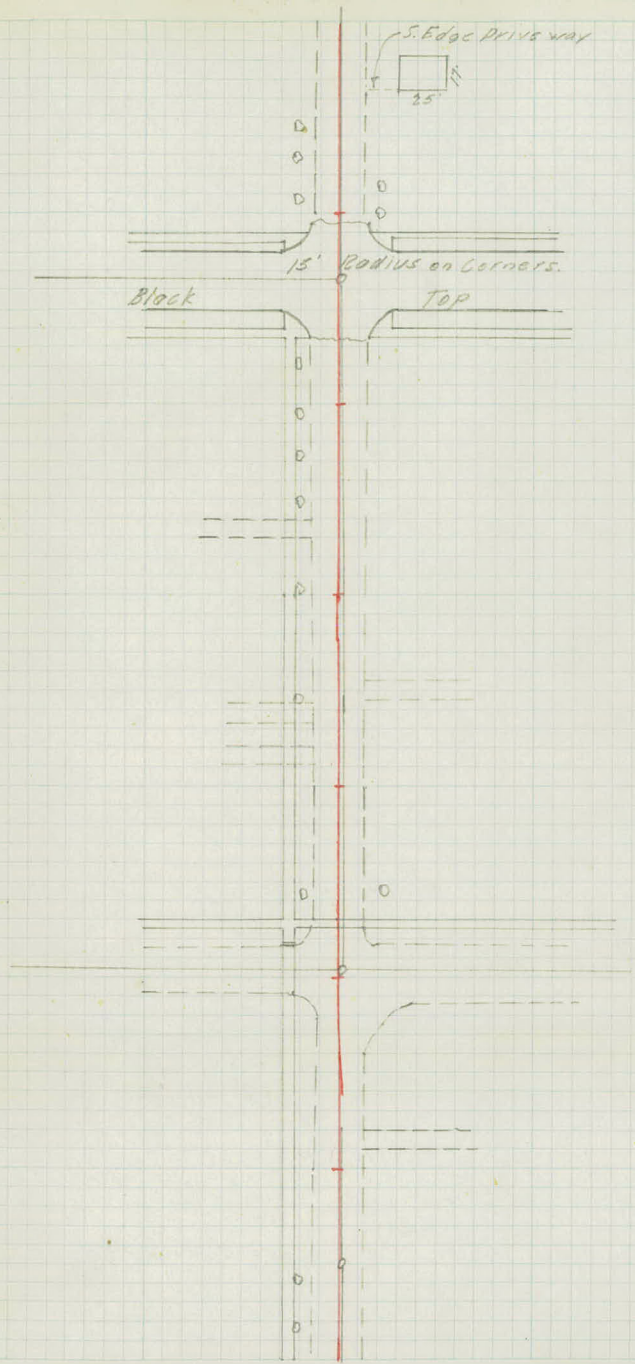
456-PP-21

453-19 H.7'

+41-2" E/m - 2'

 $+18-1^{\circ}\text{E} \text{ } 1\text{m} - 22$

13 5.41 - 28.7 - 24.2 14' 13



+41 - Shoulder Line

+25 - M.H. - 0.5'
+05 - RR - 23'

+19 - 30' 10'

12' 12'

+96 - Hyd. - 21'

+50 - E Drive

+32 - slip - 15'

12' 12'

+56 - Cor. 600 - 32.5'

+42 - E Drive
+29 - End Row Cedars - 29'
8 Trees

+05 - Beg Row Cedars - 29'

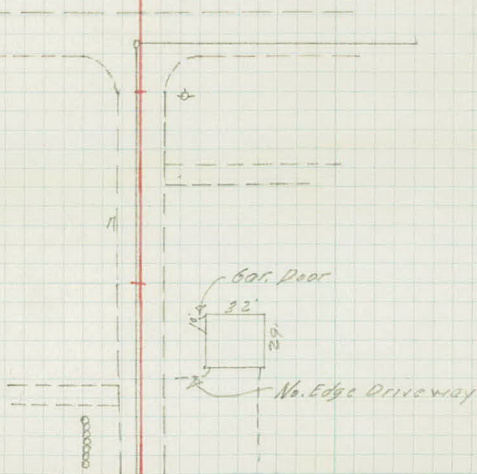
10'

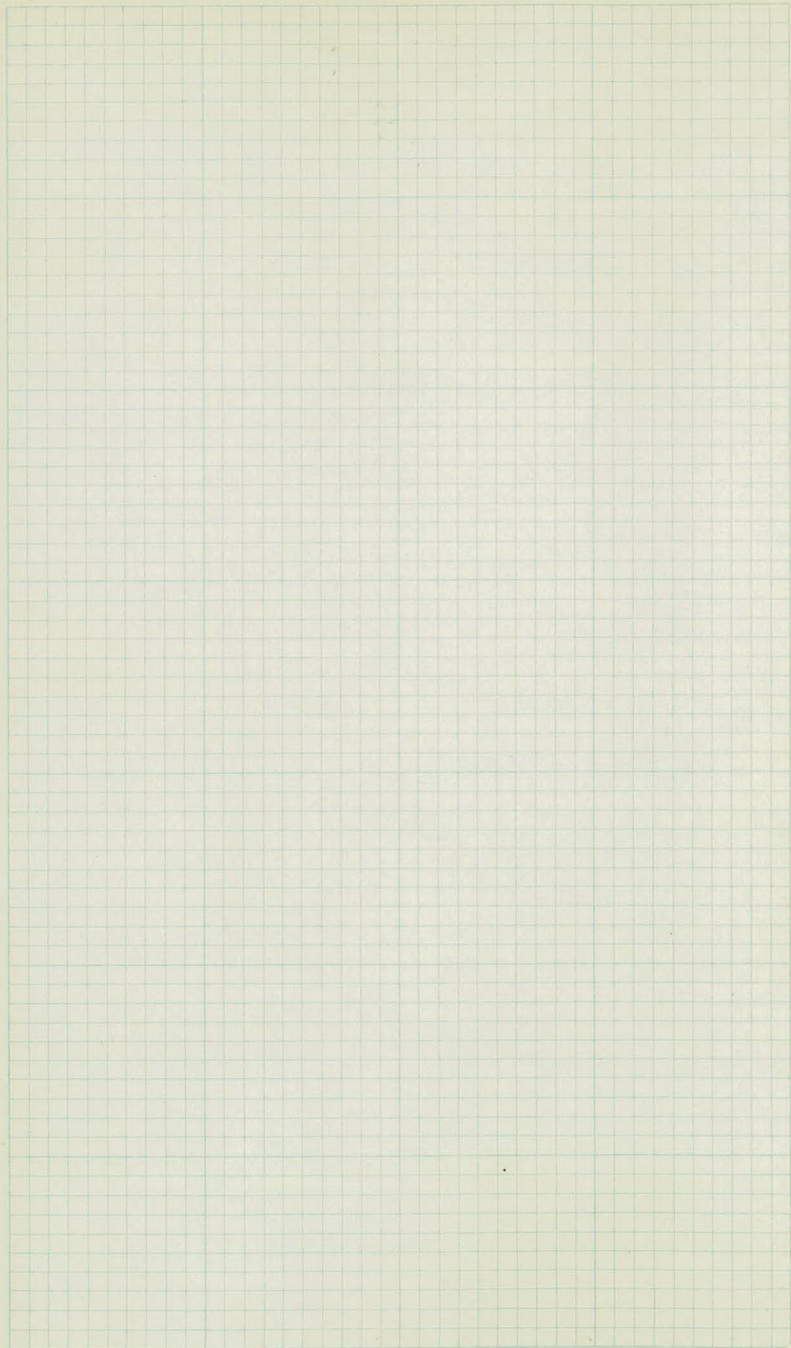
22

21

20

New grade between
12 & 8 ft.





x-sections

Sta	+	π	-	Elev
B.M.	3.05	941.95		938.90
0	+00			35.95
	+30			36.05
	+33	Surface Drain Bt.		
	+70			36.55
1				36.95
	+50			37.15
2				37.15
	+14	End Cond Walk.		
	+50			37.25
	+64	M.H.		
				37.27
3				37.35

Lt

F

Rt

Top Hyd. N.E. Cor. Cook Ave & 2nd St.

M.H.

$\frac{5.5}{50}$ $\frac{6.0}{50}$ $\frac{6.5}{50}$
 36.60 36.20 35.83 35.95
 $\frac{5.25}{28.2}$ $\frac{5.41}{28.7}$ $\frac{5.2}{20}$ $\frac{5.75}{15}$ $\frac{6.1}{15}$ $\frac{5.9}{8}$ $\frac{5.9}{15}$ $\frac{6.6}{15}$ $\frac{6.12}{15}$ $\frac{6.0}{30}$ $\frac{6.4}{50}$

35.15 31.80
 $\frac{6.80}{\text{Top}}$ $\frac{10.15}{\text{Bottom}}$

36.81

35.65
 $\frac{5.14}{28.2}$ $\frac{5.21}{28.7}$ $\frac{5.2}{19}$ $\frac{5.2}{18}$ $\frac{5.4}{10}$ $\frac{5.7}{17}$ $\frac{6.2}{18}$ $\frac{6.0}{18}$ $\frac{6.3}{30}$ $\frac{6.0}{50}$

36.95 36.25
 $\frac{5.0}{28.2}$ $\frac{5.05}{23.7}$ $\frac{5.0}{19}$ $\frac{5.7}{17}$ $\frac{5.0}{9}$ $\frac{5.4}{18}$ $\frac{6.1}{19}$ $\frac{6.0}{19}$ $\frac{5.7}{30}$ $\frac{5.5}{50}$

37.19

36.35
 $\frac{4.76}{28.2}$ $\frac{4.78}{23.7}$ $\frac{4.7}{19}$ $\frac{5.4}{17}$ $\frac{4.8}{7}$ $\frac{5.0}{17}$ $\frac{5.9}{19}$ $\frac{5.6}{19}$ $\frac{5.6}{30}$ $\frac{5.7}{50}$

37.37

37.15
 $\frac{4.58}{28.2}$ $\frac{4.50}{23.8}$ $\frac{4.5}{19}$ $\frac{5.2}{18}$ $\frac{4.8}{8}$ $\frac{5.0}{17}$ $\frac{5.8}{19}$ $\frac{5.1}{19}$ $\frac{4.8}{30}$ $\frac{4.7}{50}$

37.31

$\frac{4.64}{30}$

37.29

37.45
 $\frac{4.66}{28.2}$ $\frac{4.72}{23.8}$ $\frac{4.8}{20}$ $\frac{5.1}{19}$ $\frac{4.7}{15}$ $\frac{5.3}{18}$ $\frac{4.8}{30}$ $\frac{4.5}{30}$

37.45

30.40

$\frac{4.68}{\text{Top}}$ $\frac{11.56}{\text{Flow Line}}$

37.43

37.15
 $\frac{4.52}{28.0}$ $\frac{4.73}{23.5}$ $\frac{4.7}{19}$ $\frac{5.2}{18}$ $\frac{4.7}{8}$ $\frac{4.6}{8}$ $\frac{4.9}{17}$ $\frac{5.4}{19}$ $\frac{4.8}{19}$ $\frac{4.8}{30}$ $\frac{4.3}{50}$

Sta	+	π	-	Elev.
		941.95		
3	+23			37.45
	+25	Curb Inlet Rt.		
	+32.3			37.45
	+	Curb Inlet Lt.		
	+61	M.H.		
	+90	Curb Inlet Lt.		
	+92.5			37.55
	+96	Curb Inlet Rt.		
	+98			37.55
4	+50			37.45
5				37.35
T.P.	5.45	942.84	4.56	937.39

Lt

R

Rt

-37.49

-37.23

-37.25

446	442	46	52	48	45	46	56	472	47	45
282	235	19	18	9	7	176	176	30	50	

36.33

33.92

562
Invert

803
Flow Line

-37.41

S.W.

-37.48

454	469	53	47	45	46	56	475	447
280	185	185	8	8	185	185	50	

34.17

36.48

7.78
Flow Line

5.47
Invert

-38.01

30.58

3.94
Top

11.37
Flow Line

-34.0

36.45

7.95
Flow Line

5.50
Invert

37.37

-37.25

458	462	454	55	49	44	46	52	57	476	47	46
280	232	189	19	15	10	15	173	173	30	50	

36.33

34.07

562
Invert

7.88
Flow Line

37.47

448	458	45	53	48	44	48	54	469	47	46
280	235	19	17	12	11	17.2	17.2	30	50	

37.45

36.5

38.95

450	458	45	51	45	49	52	45	43	92	26
280	234	19	16	11	15	18	28	33	50	

37.38

38.25

40.45

457	464	46	51	46	48	51	41	37	13	07
281	233	19	17	10	15	19	25	34	50	

Sta.	+	π	-	Elev
		942.84		

5	+50			37.34
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+61 M.H.

+89 End Conc. Walk. Pt.

6				37.34
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	+50			37.54
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7				37.54
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	+16			37.34
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+19 Curb Inlet Lt

	+21			37.34
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	+27			37.24
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	+30 Curb inlet Rt			37.04
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Lt

E

Rt

37.39

$\frac{5.45}{28.0}$ $\frac{5.53}{28.6}$ $\frac{5.4}{19}$ $\frac{5.7}{17}$ $\frac{5.5}{10}$ $\frac{5.7}{16}$ $\frac{5.8}{19}$ $\frac{4.9}{24}$ $\frac{4.9}{35}$ $\frac{2.2}{35}$ 2.0

37.94 40.64

31.78

$\frac{11.06}{\text{Flow Line}}$

37.36

$\frac{5.48}{\text{Top}}$

37.01

$\frac{4.83}{30}$

37.38

37.84

$\frac{5.46}{28.0}$ $\frac{5.52}{28.4}$ $\frac{5.5}{19}$ $\frac{5.8}{17}$ $\frac{5.5}{14}$ $\frac{5.8}{30}$ $\frac{5.0}{40}$ $\frac{4.7}{40}$

37.32

38.04

$\frac{5.52}{28.0}$ $\frac{5.60}{28.5}$ $\frac{5.6}{19}$ $\frac{5.8}{17}$ $\frac{5.3}{14}$ $\frac{5.8}{30}$ $\frac{4.8}{30}$ $\frac{4.5}{30}$

37.38

37.84

$\frac{5.46}{28.7}$ $\frac{5.52}{28.3}$ $\frac{5.6}{19}$ $\frac{6.1}{16}$ $\frac{5.6}{9}$ $\frac{5.3}{15}$ $\frac{5.5}{30}$ $\frac{5.0}{30}$ $\frac{4.3}{30}$

37.40

37.26

37.84

$\frac{5.44}{27.6}$ $\frac{5.47}{28.1}$ $\frac{5.58}{15.4}$ $\frac{6.3}{15.4}$ $\frac{5.8}{11}$ $\frac{5.5}{13}$ $\frac{5.5}{30}$ $\frac{5.0}{30}$ $\frac{4.6}{30}$

34.28

37.33

$\frac{8.56}{\text{Flow Line}}$

$\frac{6.51}{\text{Invert}}$

37.44

38.10
S.W.

$\frac{5.40}{27.7}$ $\frac{5.57}{15.3}$ $\frac{6.3}{15.3}$ $\frac{6.0}{14}$ $\frac{5.5}{16.2}$ $\frac{5.7}{16.2}$ $\frac{5.18}{16.2}$ $\frac{4.74}{50}$

37.41
S.W.

37.58
S.W.

$\frac{5.43}{27.7}$ $\frac{5.57}{15.4}$ $\frac{6.0}{15.4}$ $\frac{5.6}{16.3}$ $\frac{5.73}{16.3}$ $\frac{5.26}{16.3}$ $\frac{4.85}{50}$

$\frac{36.64}{58}$
Invert

$\frac{34.58}{8.26}$
Flow Line

Sta.	+	π	-	Elev
		942.84		
7	+50.67			37.44
	+68	Corb Inlet Lt		
	+71			37.14
	+	Corb Inlet Lt		
	+14.4			37.24
	+80.5			37.44
B.M.			1.98	940.86
8				37.54
	+50			37.94
9				38.24
	+50			38.34
10				38.54
T.P.	494	943.48	4.30	938.54

Lt R Bl

54

36.93
5.91
Invert

34.59
8.25
Flow Line

57

34.44
8.40
Flow Line

36.64
6.20
Invert

37.66 S.W.
518 530 58 56 5.5 503 503
30 155 155 16.2 16.2 30

37.76 S.W.
5.08 540 58 54 55 506 4.85
280 15.4 15.4 16.0 16.0 30

37.81
37.81
37.99 S.W.

Top Hyd. N.E. Cor. Cook Ave & 4th St
37.78 506 512 5.2 56 53 59 50 50 45
283 238 16 14 14 18 29 32 L.O.

37.87
4.97 4.99 4.9 54 49 52 51 4.3 38
28.3 238 16 14 15 23 32 50

37.99
4.85 481 48 51 46 51 49 45 26 34
28.3 238 16 14 15 16 29 34 50

38.13
4.71 4.77 4.9 4.5 50 43 43 34 L.O.
28.5 240 14 15 17 26 31

38.24
4.60 4.42 4.5 4.8 4.3 4.7 4.4 4.2 34 L.O.
28.4 238 18 15 15 17 27 32

Sta	+	π	-	Elev
		943.48		
10	+50			38.48
11				38.58
	+187			38.88
	+27			38.98
	+40.4 M.H.			39.01
	+59 Surface Drain Rt.			
B.M.			1.78	941.70
	+70			38.78
	+72 Surface Drain Lt.			
12				38.58
	+50			38.58
13				38.68

Lt.

R.

Rt.

38.33

38.78

38.45

38.68

38.45

38.40

38.18

(Top)
S.D. 37.28(Top)
S.D.

$\frac{5.9}{50}$	$\frac{5.6}{39}$	$\frac{9.3}{F.L.}$	$\frac{6.20}{32}$	$\frac{5.2}{29}$	$\frac{5.3}{17}$	$\frac{4.5}{24}$	$\frac{5.5}{37}$	$\frac{6.05}{30}$	$\frac{9.32}{F.L.}$	$\frac{5.6}{40}$	$\frac{5.6}{50}$
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M.H. 32.60

$\frac{5.2}{100}$	$\frac{5.3}{50}$	$\frac{4.7}{Top}$	$\frac{11.22}{F.L.}$	$\frac{5.2}{50}$	$\frac{5.2}{100}$
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37.51

34.18

 $\frac{3.97}{Top}$ $\frac{9.30}{Flow Line}$

Top Hyd. N.E. Cor. Cool Ave + 5th St.

$\frac{4.81}{50}$	$\frac{4.73}{28.6}$	$\frac{4.73}{16}$	$\frac{5.6}{16}$	$\frac{5.2}{11}$	$\frac{4.7}{11}$	$\frac{5.0}{15.2}$	$\frac{5.4}{27}$	$\frac{4.82}{152}$	$\frac{4.90}{30}$	$\frac{4.90}{50}$
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34.58

37.70

 $\frac{8.90}{Flow Line}$ $\frac{5.78}{Top}$

38.76

38.68

38.38

$\frac{4.72}{28.7}$	$\frac{4.71}{24.3}$	$\frac{4.9}{16}$	$\frac{5.4}{14}$	$\frac{4.9}{14}$	$\frac{5.5}{16}$	$\frac{5.1}{27}$	$\frac{4.8}{30}$	$\frac{5.1}{50}$	$\frac{4.8}{50}$
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38.76

38.68

37.98

$\frac{4.72}{28.7}$	$\frac{4.70}{24.3}$	$\frac{4.6}{16}$	$\frac{5.4}{15}$	$\frac{4.9}{14}$	$\frac{5.4}{17}$	$\frac{4.9}{28}$	$\frac{4.8}{30}$	$\frac{5.5}{50}$	$\frac{5.3}{50}$
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38.75

38.78

38.28

$\frac{4.73}{28.8}$	$\frac{4.74}{24.3}$	$\frac{4.8}{16}$	$\frac{5.2}{15}$	$\frac{4.8}{14}$	$\frac{5.3}{17}$	$\frac{4.8}{28}$	$\frac{4.7}{32}$	$\frac{5.2}{50}$	L.O.
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Sta	+	π	-	Elev
		943.48		
13	+50			39.07
P	577	944.84	4.41	939.07
14				38.64
	+50			38.94
	+72.22			39.34
15	+02.22			40.23
B.M.			1.84	943.00
	+30.5 S.V.			40.11
	+50			40.04
16				40.04
	+50			40.24
17				40.54
	+50			40.84

LT

R

RT

-39.03

(Top 19.H.) 33.28

38.88 - 37.78

4.95	4.96	4.5	5.2	4.91	10.20	5.3	4.7	4.6	5.7	5.6
28.8	24.3	17	15		FL.	15	17	27	31	50

39.20

38.94 - 38.34

5.64	5.40	5.8	6.4	6.2	6.5	6.2	5.9	6.5		1.0
28.8	24.3	19	14		15	17	27	30		

39.72

38.94 - 38.44

5.12	5.28	5.8	6.3	5.9	6.3	5.8	5.9	6.4	6.2	
28.6	24.2	16	14		14	18	27	30	40	

39.72

38.14 - 39.24

5.12	5.17	5.5	6.0	5.5	5.6	6.1	5.7	5.5		
28.7	24.2	16	13		8	20	24	50		

(Top 19.H.) 33.02

5.9	5.8	5.6	5.3	4.61	11.82	5.1	5.1	4.9	4.6	
200	150	100	50		FL.	50	100	150	200	

Top Hyd. N.E. Cor. Cook Ave &

40.10

40.44

4.83	4.74	4.73	4.40	4.45						
30	30		30	50						

40.23

40.44 - 41.24

4.61	4.66	5.0	4.8	5.2	4.5	4.4	3.6	3.6		
28.6	24	14		16	19	26	37	50		

40.28

39.74

4.54	4.58	5.1	4.8	5.2	5.1	5.1				
28.7	24.2	12		15	30	50				

40.67

39.84 - 40.04

4.17	4.28	4.6	5.0	4.6	5.0	5.0	4.8	4.6		
28.7	24.2	17	13		14	28	30	50		

40.91

40.34 - 39.54

3.93	3.90	4.7	4.3	4.8	4.6	4.5	5.3	5.7		
28.7	24.2	14		14	16	23	29	50		

41.55

40.74 - 41.24

3.29	3.35	3.5	4.4	4.0	4.4	4.1	3.6	3.7		
28.7	24.2	19	12		15	27	33	50		

Sta.	+	π	-	Elev.
		944.84		
18				41.34
T.P.	5.16	946.55	3.45	941.39
+34.69				41.65
B.M.			2.00	944.55
+34.69				41.88
+94.69				41.65
19	+10			41.55
+50				41.55
20				41.65
+50				41.65
T.P.	4.09	945.61	5.03	941.52
21				41.51
+50				41.51

Lt.

R.

Rt.

42.10

$\frac{2.74}{28.6}$ $\frac{2.75}{24.0}$ $\frac{24}{23}$ $\frac{26}{18}$ $\frac{31}{14}$ $\frac{37}{12}$ $\frac{35}{15}$ $\frac{38}{29}$ $\frac{30}{33}$ $\frac{1.7}{L.O}$

42.33

$\frac{4.30}{50}$ $\frac{4.22}{28}$ $\frac{4.62}{15}$ $\frac{5.1}{15}$ $\frac{4.9}{15}$ $\frac{5.1}{15}$ $\frac{4.63}{15}$ $\frac{4.35}{30}$ $\frac{4.41}{50}$

42.20

Top Hyd. S.E. Cor. Cook Ave. & 7th St.

(Top 44 ft)

34.12

$\frac{4.7}{50}$ $\frac{4.67}{12.43}$ $\frac{4.8}{50}$

42.55

$\frac{4.1}{50}$ $\frac{4.0}{30}$ $\frac{4.68}{15}$ $\frac{5.2}{15}$ $\frac{4.9}{15}$ $\frac{5.2}{15}$ $\frac{4.62}{15}$ $\frac{4.6}{30}$ $\frac{4.9}{50}$

42.25

42.05

$\frac{4.1}{50}$ $\frac{4.3}{30}$ $\frac{4.4}{18}$ $\frac{5.8}{14}$ $\frac{5.3}{12}$ $\frac{5.0}{8}$ $\frac{5.2}{17}$ $\frac{4.9}{30}$ $\frac{4.4}{50}$

41.55

41.35

$\frac{4.8}{50}$ $\frac{5.0}{30}$ $\frac{4.8}{17}$ $\frac{6.1}{14}$ $\frac{5.4}{10}$ $\frac{5.0}{8}$ $\frac{5.1}{12}$ $\frac{5.5}{15}$ $\frac{5.1}{30}$ $\frac{5.2}{45}$

41.65

41.35

$\frac{5.5}{50}$ $\frac{4.9}{29}$ $\frac{5.1}{17}$ $\frac{6.1}{14}$ $\frac{5.0}{11}$ $\frac{4.9}{15}$ $\frac{5.3}{30}$ $\frac{5.2}{L.O.}$

41.05

41.85

41.75

$\frac{5.4}{50}$ $\frac{5.5}{29}$ $\frac{4.7}{26}$ $\frac{4.8}{17}$ $\frac{5.7}{13}$ $\frac{5.0}{9}$ $\frac{4.7}{8}$ $\frac{4.7}{15}$ $\frac{5.5}{20}$ $\frac{4.9}{30}$ $\frac{4.8}{50}$

40.01

41.71

41.81

$\frac{5.9}{50}$ $\frac{5.6}{29}$ $\frac{5.9}{25}$ $\frac{4.9}{16}$ $\frac{5.1}{14}$ $\frac{4.3}{11}$ $\frac{4.1}{9}$ $\frac{4.1}{15}$ $\frac{4.9}{18}$ $\frac{4.1}{30}$ $\frac{3.8}{50}$

39.51

41.21

41.61

$\frac{6.4}{50}$ $\frac{6.1}{30}$ $\frac{4.4}{27}$ $\frac{4.5}{17}$ $\frac{5.3}{13}$ $\frac{4.4}{10}$ $\frac{4.1}{9}$ $\frac{4.3}{9}$ $\frac{5.1}{15}$ $\frac{4.2}{19}$ $\frac{4.0}{30}$ $\frac{3.9}{50}$

Sta	+	π	-	Elev.
		945.61		
22				41.41
+15				40.41
+25 M.H.				41.11
+29.50				41.31
B.M.			1.60	944.01

Lt.

E

Rt.

41.41

41.31

41.71

$\frac{48}{50}$	$\frac{42}{32}$	$\frac{44}{17}$	$\frac{51}{14}$	$\frac{47}{12}$	$\frac{42}{8}$	$\frac{45}{16}$	$\frac{48}{17}$	$\frac{42}{30}$	$\frac{39}{50}$
-----------------	-----------------	-----------------	-----------------	-----------------	----------------	-----------------	-----------------	-----------------	-----------------

$\frac{59}{50}$	$\frac{52}{50}$	$\frac{4.8}{50}$
-----------------	-----------------	------------------

35.16

$\frac{4.50}{\text{Top}}$	$\frac{10.45}{\text{F.L.}}$
---------------------------	-----------------------------

$\frac{6.0}{100}$	$\frac{5.0}{50}$	$\frac{4.3}{50}$	$\frac{3.6}{50}$	$\frac{2.8}{100}$
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Top Hyd. S.E. Cor Cook Ave + 8th St.

Sta.	+	π	-	Elect.
------	---	-------	---	--------

+

 π

1000

Elev.

COOK AVE.

Curp Stokes.

sta	+	π	-	grade
B.M.	2.92	941.82		938.90

0 +30

+50

+75

+25

+28

+48

+50

+75

2

+25

	Lt			rt
Grade	Grade Rod	Grade	Grade	Gr. Rod

Top Hyd N.E. Cor Cook & Second

5.62 ✓	36.20	35.83	5.99 ✓
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5.53 ✓	36.29	35.96	5.86 ✓
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5.45 ✓	36.37	36.09	5.73 ✓
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5.37 ✓	36.45	36.19	5.63 ✓
--------	-------	-------	--------

5.28 ✓	36.54	36.32	5.50 ✓
--------	-------	-------	--------

		36.33	5.49 ✓
--	--	-------	--------

		36.44	5.38 ✓
--	--	-------	--------

5.20 ✓	36.62	36.45	5.37 ✓
--------	-------	-------	--------

5.11 ✓	36.71	36.58	5.24 ✓
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5.02 ✓	36.80	36.70	5.12 ✓
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4.93 ✓	36.89	36.80	5.02 ✓
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Sta	+	π	-	Grade
-----	---	-------	---	-------

		991.82		
--	--	--------	--	--

2	+33			
---	-----	--	--	--

	+46			
--	-----	--	--	--

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

	+53			
--	-----	--	--	--

	+66			
--	-----	--	--	--

	+73			
--	-----	--	--	--

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

3				
---	--	--	--	--

		565		
--	--	-----	--	--

	+23			
--	-----	--	--	--

T.P	479	992.75	3.86	997.96
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	+90.5			
--	-------	--	--	--

4				
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6-9-41

Gr Rod	Lt Gr. Rod	Grade	Gr Grade	Gr Rod
--------	---------------	-------	-------------	--------

36.83

4.99

4.96

36.96

4.95

36.97

36.90

4.92

36.91

4.91

4.79

37.03

36.99

4.83

4.76

37.06

37.00

4.82

4.67

37.15

37.10

4.72

4.59

37.23

37.19

4.63

Top N. Edge N. H. Rim 1st Cook

37.35

37.26

5.43

37.32

37.24

5.51

sta	+	π	-	Grade
-----	---	-------	---	-------

		992.75		
--	--	--------	--	--

4	+25			
---	-----	--	--	--

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

	+57			
--	-----	--	--	--

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

	+77			
--	-----	--	--	--

	+81			
--	-----	--	--	--

5				
---	--	--	--	--

	+01			
--	-----	--	--	--

	+13			
--	-----	--	--	--

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

	+33			
--	-----	--	--	--

Gr. Rod.	Lt Gr. Rod.	Grade	Gr. Rod.	Gr. Rod.
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✓
5.50

37.25

37.19

✓
5.56

✓
5.57

37.18

37.13

✓
5.62

✓
5.59

37.16

✓
5.64

37.11

37.08

✓
5.67

✓
5.64

37.11

✓
5.65

37.10

✓
5.71

37.09

37.02

✓
5.73

37.04

36.99

✓
5.78

36.97

36.97

~~5.78~~

36.95

Sta + - Grade

942.75

5 +50 Place Curb Inlet

T.P. 3645 942.37 4025 958.725

+51

+71

+75

6

+13

+25

+33

+50

+75

+85

Gr Rod	Lt.	Gr Rod	Grade	Grade	Rt.
--------	-----	--------	-------	-------	-----

	5.85 [✓]		36.90	36.91	5.84
--	-------------------	--	-------	-------	------

Nail in T.P.

	5.47		36.90		
--	------	--	-------	--	--

	5.42		36.95		
--	------	--	-------	--	--

	5.41 [✓]		36.96	37.01	5.36 [✓]
--	-------------------	--	-------	-------	-------------------

	5.35 [✓]		37.02	37.11	5.26 [✓]
--	-------------------	--	-------	-------	-------------------

				37.16	5.21 [✓]
--	--	--	--	-------	-------------------

	5.29 [✓]		37.08	37.20	5.17 [✓]
--	-------------------	--	-------	-------	-------------------

				37.23	5.14 [✓]
--	--	--	--	-------	-------------------

	5.23 [✓]		37.14	37.30	5.07 [✓]
--	-------------------	--	-------	-------	-------------------

	5.17 [✓]		37.20	37.40	4.91 [✓]
--	-------------------	--	-------	-------	-------------------

	5.15		37.22		
--	------	--	-------	--	--

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

		942.37		
--	--	--------	--	--

7

+05

+16

+20.67

B.M.

2.27

943.13

1.50

940.87

(940.86)

+80.67

8

+25

+38

+50

+58

+70

Gr. Rod	Lt.	Gr. Rod	Grade	Grade	Lt.
---------	-----	---------	-------	-------	-----

5.06	✓	37.26	37.50	4.87	✓
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37.27

37.30 37.56

37.31 37.58

Top Hyd. N.E. Cor. Cook + 4th St

37.60 37.70

5.50	✓	37.63	37.72	5.41	✓
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5.46	✓	37.67	37.75	5.38	✓
------	---	-------	-------	------	---

37.69

5.43	✓	37.70	37.78	5.35	✓
------	---	-------	-------	------	---

37.72

37.81

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

		943.13		
--	--	--------	--	--

8	+75			
---	-----	--	--	--

	+90			
--	-----	--	--	--

9				
---	--	--	--	--

B.M.	1.45	943.15	1.43	941.70
------	------	--------	------	--------

	+02			
--	-----	--	--	--

	+03			
--	-----	--	--	--

	+22			
--	-----	--	--	--

	+23			
--	-----	--	--	--

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

B.M.				
------	--	--	--	--

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

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

	+97			
--	-----	--	--	--

Grade	LT Gr. Rod	Grade	2 Grade	RT Gr. Rod.
-------	---------------	-------	------------	----------------

	5.39 ✓	37.74	37.81	5.32 ✓
--	--------	-------	-------	--------

37.83

	5.35 ✓	37.78	37.84	5.29 ✓
--	--------	-------	-------	--------

37.85

37.78

37.87

37.81

	5.34 ✓	37.81	37.87	5.28 ✓
--	--------	-------	-------	--------

	5.30 ✓	37.85	37.90	5.25 ✓
--	--------	-------	-------	--------

	5.26 ✓	37.89	37.93	5.22 ✓
--	--------	-------	-------	--------

37.96

Sta.	+	-	Grade
		943.15	
10			
+03			
+17			
+23			
+25			
+50			
+75			
11			
+10.4			
B.M.	1.56	943.26	1.45 941.70 (941.70)
+70.4			38.10
B.M.	1.82	943.52	1.56 941.70
12			38.16

Gr. Rod.	Gr. Rod.	Grade	Grade	Gr. Rod.
	5.22 ✓	37.93	37.96	5.19 ✓
		37.93		
			37.98	
		37.96		
	5.18 ✓	37.97	37.99	5.16 ✓
	5.15 ✓	38.00	38.02	5.13 ✓
	5.11 ✓	38.04	38.05	5.10 ✓
	5.07 ✓	38.08	38.08	5.07 ✓
	5.06 ✓	38.09	38.10	5.05 ✓
Top Hyd N. E. Cor Cook + 5 th				
	5.16 ✓			
	5.36 ✓			

Sta.	+	π	-	Grade
		943.52		
12	+25			38.21
	+50			38.26
	+51			
	+71			
	+75			38.31
	+91			
13				38.36
	+25			38.41
	+50	938.46 + 0.03		38.49
		$M = 0.1275$		
	+75	38.51 + 0.13 = 38.64		38.64
14		38.56 + 0.30		38.86

Gr. Rod

Gr. Rod

Grade

Grade

Gr. Rod

5.31 ✓

5.26 ✓

38.26

38.80

5.21 ✓

38.34

5.16 ✓

5.11 ✓

5.03 ✓

4.88 ✓

4.66 ✓

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

		943.52		
--	--	--------	--	--

14	+03	38.57	+	
----	-----	-------	---	--

	+25	38.61	+ 0.51	39.12
--	-----	-------	--------	-------

	+50			39.43
--	-----	--	--	-------

	+72.22			39.70
--	--------	--	--	-------

B.M.	1.72	944.72	0.52	943.00	(943.00)
------	------	--------	------	--------	----------

15	+32.22			39.71
----	--------	--	--	-------

	+50			39.76
--	-----	--	--	-------

	+75			39.83
--	-----	--	--	-------

16				39.91
----	--	--	--	-------

	+06			
--	-----	--	--	--

	+25			39.98
--	-----	--	--	-------

	+26			
--	-----	--	--	--

Lt

4.

pt

Gr Rod

Cor Rod

Grade

Grade

Gr Rod

38.88

4.40 ✓

39.12

4.09 ✓

3.82 ✓

Top Hyd. N.E. Cor Cook + Slats

5.01 ✓

4.96 ✓

4.89 ✓

4.81 ✓

39.93

4.74 ✓

39.99

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

94472

16 +28

+40

+48

+50

40.06

+60

+75 40.14 + 0.03

40.17

17

$M = 0.1225$
 $40.21 + 0.12 =$

40.33

+25 40.28 + 0.28

40.56

+45

+50 40.36 + 0.49

40.85

+75

41.17

Gr Rod	lt. Gr Rod	to Grade	Grade	pt. Gr Rod
--------	---------------	-------------	-------	---------------

40.00

40.03

40.06

4.66 ✓

40.09

4.55 ✓

4.39 ✓

4.16 ✓

40.53

40.79

3.87 ✓

3.55 ✓

Sta.	+	π	-	Grade
		94472		
18				41.49
	+25			41.81
	+34.69			41.93
B.M.	1.97	946.52	0.17	944.55 (944.55)
	+94.69			

19				
	+25			
	+50			
	+59			
	+75			

20				
	+25			

Gr Rod	Gr Rod	Grade	Grade	Gr Rod
--------	--------	-------	-------	--------

3.23

2.91

2.79

Top Hyd S.F. Coc Cook Ave + 7th St.

4.65	41.87	41.93	4.59
------	-------	-------	------

4.65	41.87	41.93	4.59
------	-------	-------	------

4.71	41.81	41.87	4.65
------	-------	-------	------

4.77	41.75	41.80	4.72
------	-------	-------	------

	41.78	4.74
--	-------	------

4.82	41.70
------	-------

4.88	41.64
------	-------

4.93	41.59
------	-------

Sta	+	π	-	Grade
		946.52		

20 +32

+50

+52

+61

+70

+75

+90

21

+25

+40

+50

Gr. Rod.	Gr. Rod.	Grade	Grade	Gr. Rod.
✓ 4.95		41.57		
✓ 4.99		41.53		
✓ 5.00		41.52		
			41.53	✓ 4.99
			41.51	✓ 5.01
✓ 5.05		41.47	41.50	✓ 5.02
			41.46	✓ 5.06
✓ 5.10		41.42	41.44	✓ 5.08
✓ 5.15		41.37	41.38	✓ 5.14
			41.37	✓ 5.19
✓ 5.21		41.31	41.32	✓ 5.20

Sta	+	π	-	Grade
		946.52		

21 460

475

21 19925

B.M.

2.52 944.00

(944.01)

Gr. Rod	Gr. Rod	Grade	Grade	Gr. Rod
---------	---------	-------	-------	---------

			41.30	5.22 ✓
--	--	--	-------	--------

✓ 5.26	41.26	41.26	5.26 ✓
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✓ 5.32	41.20	41.20	5.32 ✓
--------	-------	-------	--------

Top Hyd S.E. Cor Cook & 8th St

5.11

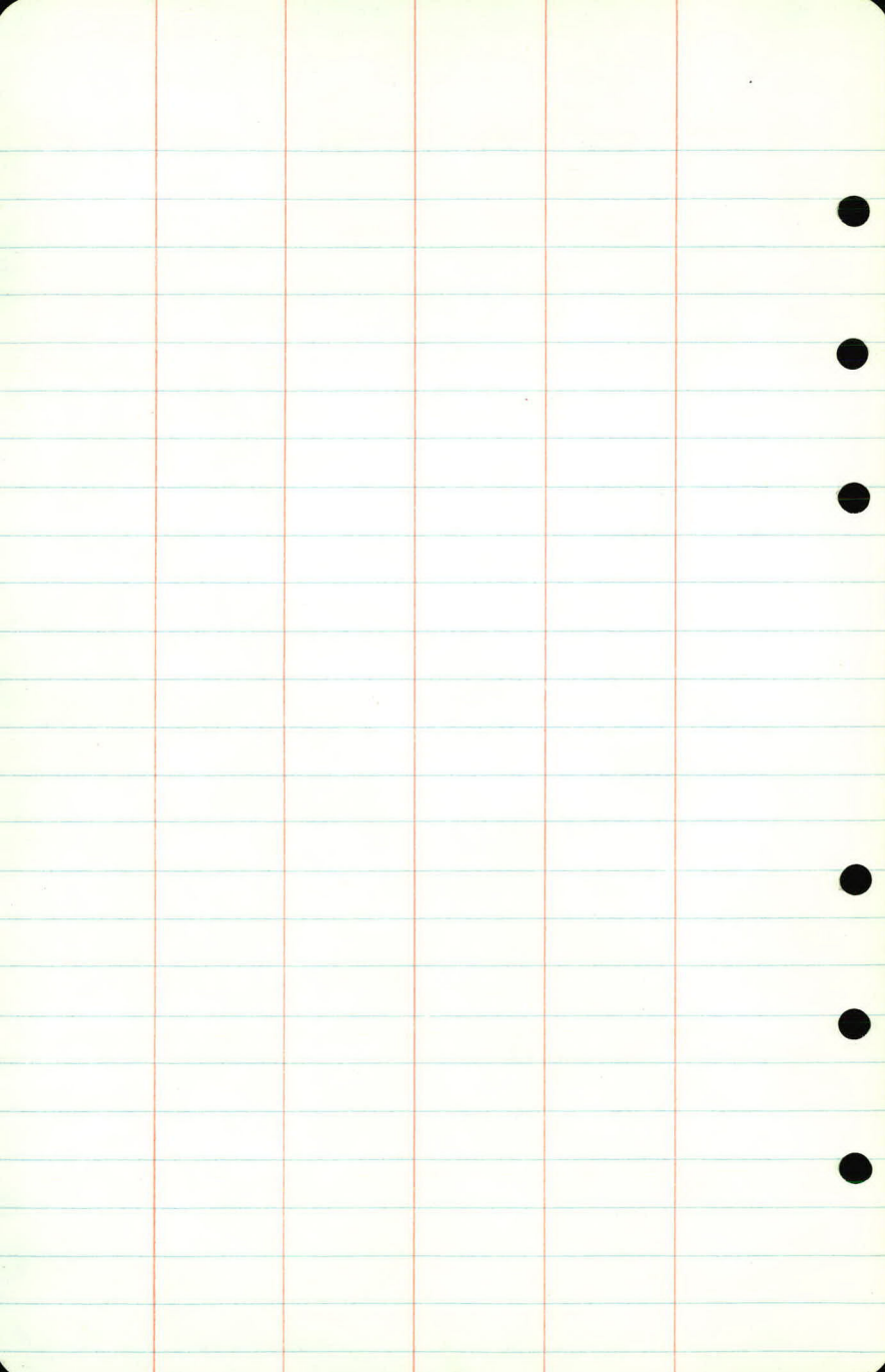
4 Rd. 5.56

4 Rd. 5.20

4 Rd. 47.5 4.90

5.39 ✓
5.46 ✓
5.53 ✓

5.25 ✓
5.18 ✓
5.11 ✓
5.12



Cook Ave.

7th St to 8th St.

Curb Change

Sta.	+	π	-	Grade
B.M.	2.12	946.67		944.55

18 +9469

19

+25

+50

+59

+75

20

+25

+32

+52

+61

7-11-41

Gr. Rod Gr. Rod. Grade Grade Gr. Rod.

Top Hyd S.E. Cor Cook Ave + 7^{1/2} St.

Gr. Rod	Gr. Rod.	Grade	Grade	Gr. Rod.
✓ 4.80	41.87	41.93	4.79 ✓	
✓ 4.82	41.85	41.90	4.77 ✓	
✓ 4.89	41.78	41.76	4.91 ✓	
✓ 4.97	41.70	41.62	5.05 ✓	
		41.58	5.09 ✓	
5.05 ✓	41.62			
5.12 ✓	41.55			
5.19 ✓	41.48			
5.21 ✓	41.46			
5.27 ✓	41.40			
		41.38	5.29 ✓	

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

		946.67		
--	--	--------	--	--

20	+75			
----	-----	--	--	--

21				
----	--	--	--	--

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

	+40			
--	-----	--	--	--

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

	+60			
--	-----	--	--	--

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

	+99.25			
--	--------	--	--	--

B.M.				
------	--	--	--	--

		2.07	944.00	
--	--	------	--------	--

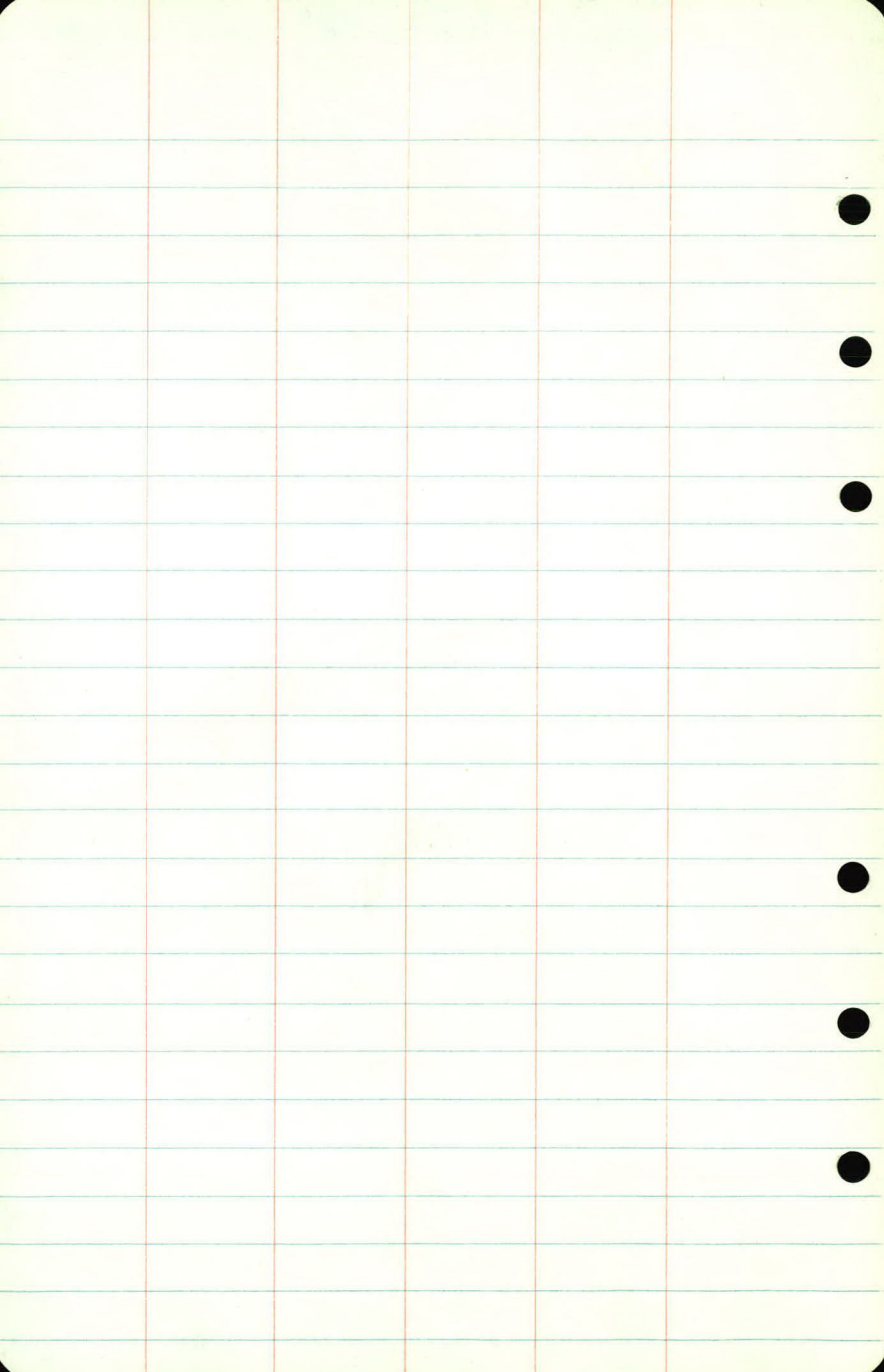
				944.01
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G.F. Rod.	Grade	Grade	G.F. Rod.
5.35 ✓	41.32	41.35	5.32 ✓
5.42 ✓	41.25	41.30	5.37 ✓
5.50 ✓	41.17	41.25	5.42 ✓
		41.22	5.45 ✓
5.57 ✓	41.10		
		41.18	5.49 ✓
5.64 ✓	41.03	41.15	5.52 ✓
5.71 ✓	40.96	41.10	5.57 ✓

Top Hyd. S.E. Cor Cook Ave. & B St.

2

10



COOK AVE

storm sewer stakes.

Sta.	+	-	Grade
B.M.			991.70

11	+61		33.33
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	+75		33.36
--	-----	--	-------

12			33.41
----	--	--	-------

	+25		33.46
--	-----	--	-------

	+50		33.51
--	-----	--	-------

	+75		33.56
--	-----	--	-------

13			33.61
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	+25		33.66
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	+50		33.71
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	+75		33.76
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14			33.81
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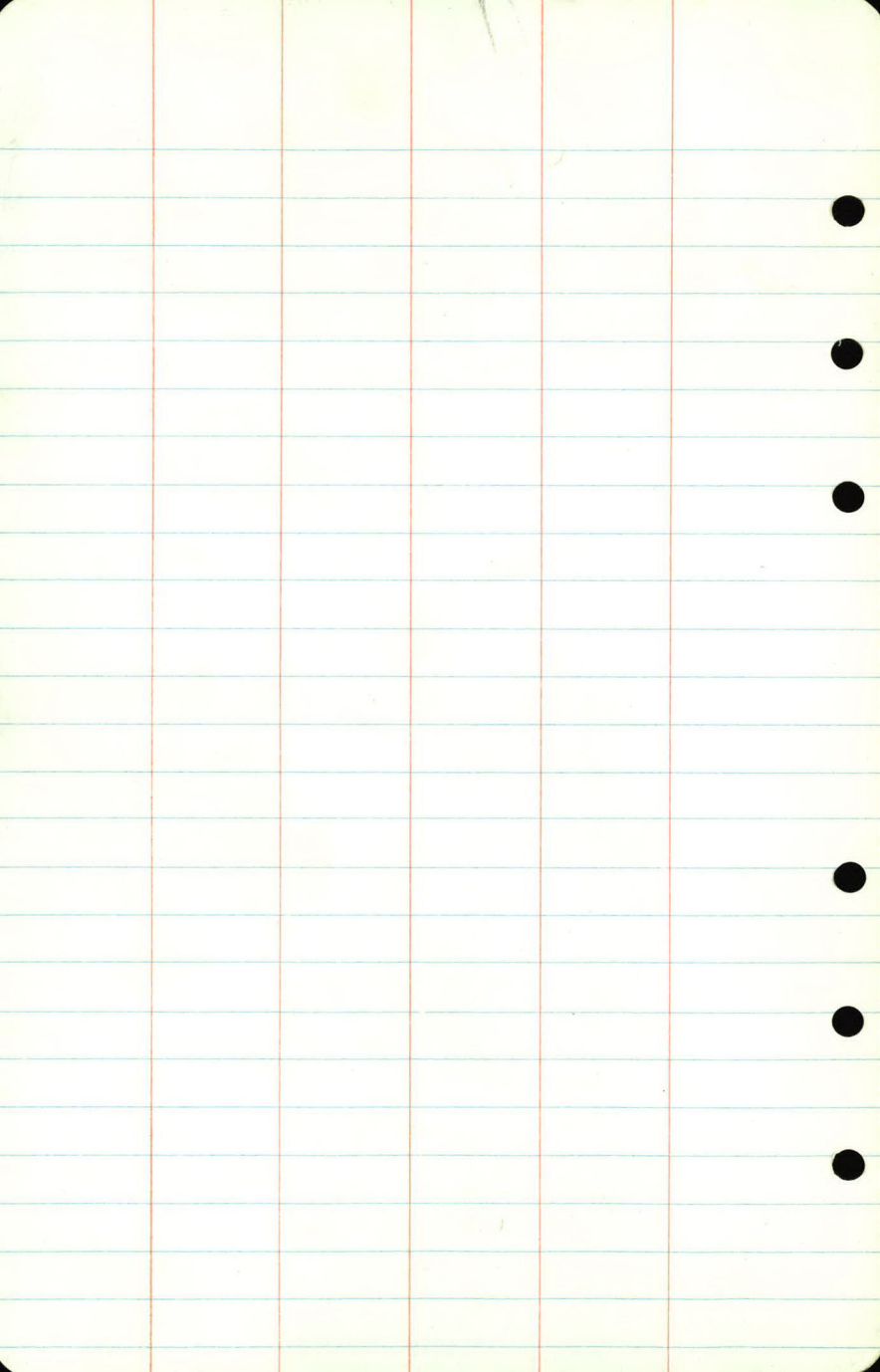
Gr Rod.

Top Hyd. N.E. $5\frac{1}{2}$ St. + Cook Ave.

Sta	+	π	-	Grade
14	+25			33.86
	+50			33.91
	+75			33.96
	+92			33.99
B.M.				743.00

Gr Bed

Top Hyd. N.E. Can Cook + G. West



586E-
Cook Ave

Grade stakes

Fifth to 8th

Sta	+	X	-	Elev
B.M	2.14	943.84		941.70
+LI				
11770				33.35
12				33.41 10.43
+50				33.51 10.33
13				33.61 10.23
+50				33.71 10.13
14				33.81 10.03
1				
+60				33.91 9.93
+722v				33.95 9.89

$\frac{1}{2}$

Top Hyd. NE. Cor Cook & Fishb

5.33
C 5.0

5.23
C 5.0

5.13
C 5.0

5.03
C 5.0

1

4.93
C 5.0

4.89

Sta	+	π	-	Elev
14+92		843.84		33.99 9.85

B.M		0.84	743.00	
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☆

4.85
05-2

Top Hyd Cook 861b

